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KENNAMETAL®

# MASTER CATALOG 2018

## VOLUME TWO | **ROTATING** TOOLS

HOLEMAKING | TAPPING | SOLID END MILLING | INDEXABLE MILLING

KENNAMETAL

# The Perfect Fusion of a Solid Carbide and an Indexable Drill

The new modular drill KenTIP™ FS covers more applications and provides better performance than any other modular system, delivering substantial cost savings and process simplifications on your shop floor.

**KenTIP™ FS**

See pages H6–H28.

Since its inception in 1938, Kennametal has understood precisely how to improve manufacturing performance and profitability — by introducing unparalleled products and services to reduce operating costs and lead times.

These 2000+ pages bring you the latest in milling and holemaking products and superior services — specifically engineered to enhance overall productivity, even in the most challenging metalworking applications.

Rely on Kennametal to significantly boost manufacturing competitiveness. To learn more, contact your Kennametal Representative or Authorized Kennametal Distributor.

Visit us at **kennametal.com**.

POWERED BY NOVO™

# Volume II • Rotating Tools

**This Catalog Consists of Two Volumes — Vol. I: Turning Tools / Vol. II: Rotating Tools**

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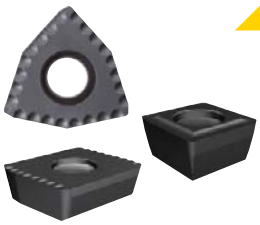
# Holemaking

## PRODUCT HIGHLIGHTS



### DRILL FIX™ DFSP™

**INDEXABLE DRILLS WITH DS AND LP INSERTS**

See section J (Volume II) for more details.

DFSP is the renamed expanded Drill Fix DFS™ indexable drilling platform. The standard diameter range is now .551–2.125" (14–55mm) in L/D ratios 2 x D, 3 x D, 4 x D, and 5 x D. The DFSP platform combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert. These indexable drills offer increased metal removal rates and high surface quality and hole straightness.

Use new DS and LP chipbreaker insert designs with Drill Fix DFSP, DFT™, and HTS indexable drills, and KSEM PLUS™ modular drills. These inserts enable excellent chip formation on low-carbon steels and other long-chipping materials.

### KENTIP™ FS

**THE PERFECT FUSION OF A SOLID CARBIDE AND AN INDEXABLE DRILL**

See section H (Volume II) for more details.

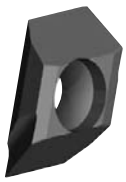
The new modular drill KenTIP FS covers more applications and provides better performance than any other modular system, delivering substantial cost savings and process simplifications on your shop floor.

- 3-point geometries, 3 high-performance grades, 3 different shank styles.
- 6–26mm diameter range.
- Up to 12 x D drilling depths.
- Applicable in steel, stainless steel, and cast iron.

### COUNTERFIX MICRO

**SMALL INSERTS THAT MAKE A BIG DIFFERENCE!**

See section H (Volume II) for more details.



New CounterFix Micro (CFM) tangential inserts offer a new way to enhance drilling, chamfering, and counterboring operations. They enable very small incremental steps on tailor-made step drills, longer tool life per edge, and improved surface finish.

CFM inserts can be used on KenTIP, KSEM™, and Drill Fix products, as well as for made-to-order indexable countersinking tools.

*CounterFix Micro will be available for KenTIP FS tailor-made drills in 2018 upon request.*

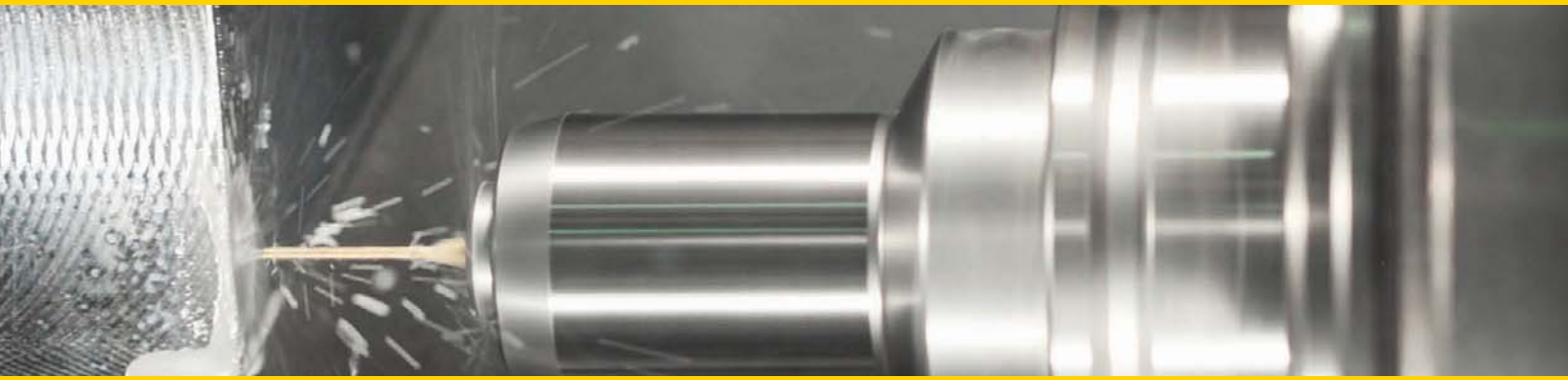
### NEW SGL DRILLS WITH THROUGH COOLANT FOR STAINLESS STEEL

See section G (Volume II) for more details.

The all-new B21_SGL series solid carbide drills are designed specifically for stainless steel applications, offering high performance and long tool life in high-temperature alloys and regular steel, also.

By combining unique Kennametal features, such as the all-new SGL-point-geometry with patented gashing, a unique flute design, and a best-in-class coating into one tool, the B21*SGL drill is the ultimate high-volume production tool.

The all-new B27_SGL series is designed specifically for deep-hole drilling up to 40 x D applications in stainless steel and high-temperature alloys.



## NEW KMH DRILLS FOR HARD MATERIALS

See section G (Volume II) for more details.

The all-new KMH solid carbide drills are engineered for hard material applications up to 65 HRC. The B94_drill series without through coolant is specifically designed to machine hardened and surface-hardened materials using flood coolant. With its 145° point angle, it is also perfectly suited as a pilot drill for the B95_drill series with through coolant and 140° point for deeper applications.

Both series come with an increased core to strengthen the drill, feature a curved cutting edge with corner chamfer to avoid chipping on the margin lands and increased tool life in these challenging materials.

## RMR™ AND RHR™ DISC-STYLE REAMERS

See section K (Volume II) for more details.

Performance, quality, and regrindability, like solid carbide reamers for diameters .5512–1.6732" (14–42,5mm).

Common reamers have single tips brazed onto a steel body. The new Kennametal RMR and RHR reamers have a solid carbide disc brazed onto the steel body. This enables more regrinds than a regular tipped reamer, reducing the cost-per-hole significantly. The new KCU05 coating holds the surface finish more than twice as long as conventional reamer coatings, depending on the workpiece material.

## GOTAP™

### MULTIPURPOSE HSS-E TAPS

See section M (Volume II) for more details.

GOtap is our multipurpose line of taps that include optimized geometries and PVD coatings capable of tapping a wide range of ductile materials, such as stainless steels, carbon and alloy steels, cast aluminum, and ductile iron. GOtap taps versatility extends beyond the part, as it can be used in a wide range of machine tools and application conditions. The new GOtap TC mulitpurpose taps enable blind-hole tapping with tension/compression holders without sizing problems due to over-feeding. The versatility of GOtap taps means lower inventory costs with no loss of productivity, consistent tool life, and high-quality thread finish.

# Solid End Milling

## PRODUCT HIGHLIGHTS

### DUO-λOCK®

See section O for more details.

Duo-Lock™ is a revolutionary new coupling for solid carbide end milling applications. This replaceable-head design combines high accuracy in runout and length repeatability with maximum stability, making it a precise and virtually unbreakable interface for challenging milling applications.

- **Up to 1 x D full slotting increases metal removal rates for significantly higher productivity.**
- **1.5 x D standard cutting edge length enables fewer passes.**
- **Cutting data and tool life comparable to high-performance solid carbide tools.**

DUO-λOCK®
by HAIMER® and Kennametal

### HARVI™ III FAMILY

See section P for more details.

HARVI III end mills are the first choice for high-temperature alloy machining, profiling, semi-finishing, and finishing. Beyond grade KCSM15™ delivers maximum metal removal rates and exceptional tool life in titanium and stainless steel, as well as excellent surface finishes.

- **Taper ball nose for complex 5-axis machining.**
- **Ball nose for 3D profiling.**
- **Square end for semi-finishing/finishing operations.**

beyond

## BEYOND™ EADE SOLID CERAMIC END MILLS

See section P for more details.

Beyond™ EADE solid ceramic end mills offer higher productivity in roughing nickel-based high-temperature alloys. With reduced machining time, EADE ceramic end mills also achieve significantly longer tool life compared to carbide tooling.

**— Beyond grade KYS40™ enables cutting speeds up to 3.300 SFM.**

beyond

## GOMILL™ GP PLATFORM

See section Q for more details.

GOmill GP tools enable plunging, slotting, and profiling, plus longer tool life, on a wide range of workpiece materials. They are designed to provide higher metal removal rates (MRR) and good surface finishes at an excellent cost-benefit ratio.

**— Roughing and finishing with one tool.**
**— Excellent cost-benefit ratio.**
**— Multilayer KC633M™ grades for longer tool life.**

# Indexable Milling

## PRODUCT HIGHLIGHTS

### MILL 4-11™ AND MILL 4-15™

See section T for more details.

The Mill 4-11™ and Mill 4-15™ series tools are specially engineered to achieve excellent surface quality and higher metal removal rates in shoulder milling applications. The unique design enables multiple passes (stepping down) with outstanding results.

Use Mill 4-11 in roughing to finishing applications in steel, cast iron, stainless steel, non-ferrous materials, and high-temp alloys. Use Mill 4-15 for roughing to finishing in steel, cast iron, stainless steel, and titanium.

### MILL 16™

See section S for more details.

The new Mill 16™ series is a tailor-made platform for rough milling of components like engine heads and blocks, housings and gear boxes in cast iron materials (CGI, DCI, GCI), and all other cast iron face milling jobs.

## KCSM40™

### NEW MILLING GRADE FOR TITANIUM MACHINING

Breakthrough indexable milling grade for roughing and semi-finishing operations in titanium and stainless steels — S40, M30 application range.

Available in these indexable milling platforms: Mill 1-10™, Mill 1-14™, Mill 1-18™, Mill 4-11™, Mill 4-15™, Dodeka™ Mini, Dodeka, Dodeka MAX™, MEGA™, KSOM™ Mini, KSOM™, KSRM™, NGE™, KSSM™ 90, KSSM8+™, Rodeka™, Stellram® 5230, Stellram 7713, and Stellram 7792.

## STELLRAM® 7792VX HIGH-FEED SERIES

See section V for more details.

The 7792VX cutter series is designed for high-feed milling applications with superior surface generation. The 7792VX cutters are designed for a wide range of applications, including facing, pocketing, ramping, helical interpolation, and plunging. They are capable of machining all materials, including steel, stainless steel, cast iron, and high-temperature and aluminum alloys.

# Turning

## PRODUCT HIGHLIGHTS

### BEYOND™ EVOLUTION™

See section C (Volume I) for more details.

Kennametal proudly introduces the Beyond™ Evolution™ platform. This innovative platform is built on simplicity and challenges today's approach to grooving and cut-off. Selecting the right tool is easy with the Beyond™ Evolution™ platform because this high-performance system is versatile and flexible. It is the first portfolio in the market to compete in all grooving and cut-off applications, with up to 35% less tooling than current competitors.

The proprietary coolant delivery system directs coolant precisely to the cutting edges underneath the chip, which is the best method for heat removal in grooving and cut-off applications.

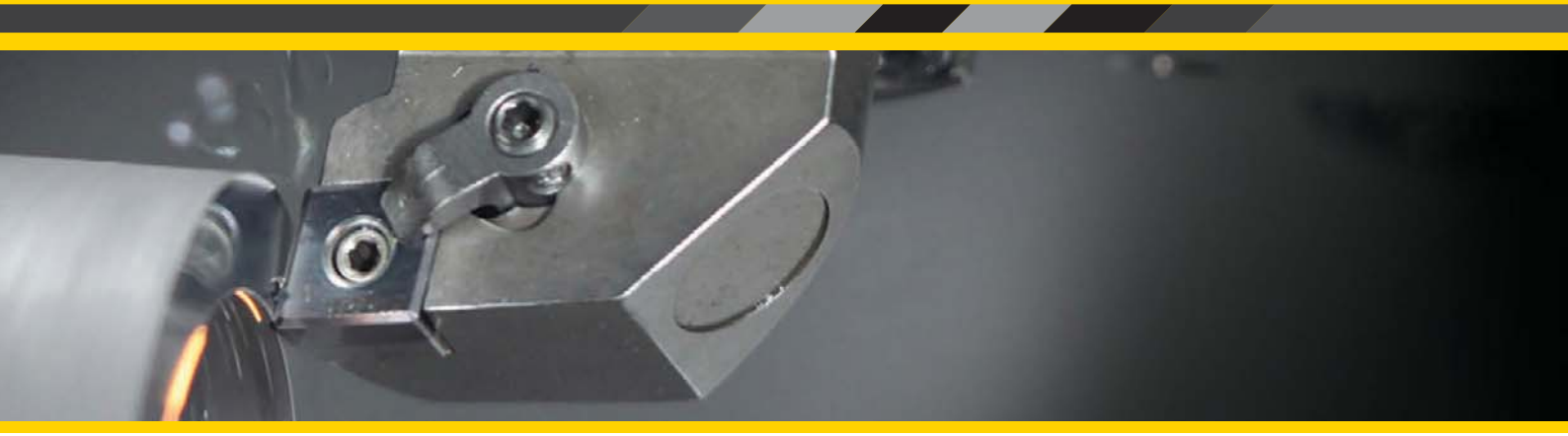
beyond™ EVOLUTION™

### BEYOND™ DRIVE™

See section B (Volume I) for more details.

Beyond™ Drive™ ISO turning inserts provide up to 50% improved insert edge utilization. The advanced surface treatment reduces coating stress and improves coating adhesion. The bronze outer layer simplifies wear detection and increases insert utilization. PVD grades KCU10™ and KCU25™ with Beyond™ technology resist the high temperatures of machining in tough alloys. Achieve up to 30–40% longer tool life for more profitability in general engineering, transportation, aerospace, energy, and earthworks markets. The PVD coating helps to maintain consistent chip control and minimize insert edge wear in turning, grooving, and cut-off operations in a wide range of materials and applications.

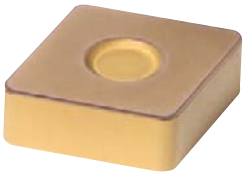
beyond™ DRIVE™



## CAST IRON TURNING WITH KBK45™

See section B (Volume I) for more details.

KBK45 is a new high-content PcBN grade designed for high-performance machining of gray cast iron, such as brake discs and fly wheels. It is designed for reducing waste of unused corners, reducing cost-per-part (CPP) by maintaining tool changes between shifts, and enhancing output by using more reliable products. KBK45 grade provides an excellent CPP value.



## HARD TURNING WITH KBH20™

See section B (Volume I) for more details.

KBH20 is the ideal PcBN hard turning grade in continuous to lightly interrupted applications with up to medium-severity interruption. The structure and different edge preparations enable tight and repeatable workpiece tolerances, excellent surface finishes, and surface integrity — even at elevated speeds.

KBH20 grade is a new substrate for applications like case-hardened components, including gears, shafts, and other drive-train components.

The nano-composite coating enhances speed capabilities and tool life. The improved edge preparation promotes longer tool life, reliable performance, and better surface finish.

# Tooling Systems

## PRODUCT HIGHLIGHTS

### ERICKSON™

Visit **kennametal.com** or **kennametal.com/novo** for more details.

Kennametal proudly offers premium quality ERICKSON™ toolholder products, so you can be sure that you're buying the best the industry has to offer. The entire portfolio — including steep taper, HSK, straight shank extensions, collets, sleeves, and accompanying products — offers high productivity, increased accuracy, and application flexibility. Designed for both manual and automatic tool changing, ERICKSON interfaces are ideally suited for most machine tools and feature a compact and rigid construction guaranteed to handle high torque and deliver optimal metal removal rates.

Machinists have relied on the ERICKSON name for more than 60 years. With one of the broadest product offerings in the industry, ERICKSON tools can be used on all types of machine tools and in applications ranging from low-speed, heavy-milling jobs to high-speed operations greater than 20,000 RPM.

### KM4X™

Visit **kennametal.com** or **kennametal.com/novo** for more details.

The KM4X spindle interface is designed for heavy-duty machining applications. It's especially suited for machining large structural components. These rotating and static tool adapters handle 3x more bending capacity than similar competitive models.

- Rigid configuration through higher clamping force.
- Design enables front-loaded spindle configurations.
- High spindle speed capability.
- Designed for use in most applications.
- Use in a wide range of high and low speeds and torques.
- Can upgrade to the KM4X system on spindles which use HSK format.
- Maintain taper contact in higher speeds.

## HYDROFORCE™ HYDRAULIC CHUCKS

Visit **kennametal.com** or **kennametal.com/novo** for more details.

Our most advanced and universal hydraulic chuck is your first choice for milling, drilling, and reaming applications. HydroForce hydraulic chucks require only two sizes for all tooling applications. Reducer sleeves are applied for all other diameters. We offer ERICKSON™ Safe-Lock™ Smart Coolant reducer sleeves, specially designed for secure clamping when used with end mills featuring Safe-Lock™ tool shanks. The special drive feature in the reducer sleeve and grooves in the tool shank prevent the end mill from spinning and pulling out of the sleeve during extreme machining conditions.

- High rigidity.
- Enables higher cutting parameters.
- Provides better surface quality.
- Up to 50% longer tool life and improved workpiece surface quality.
- More productivity at higher cutting speed.
- Consistently reliable clamping.
- No overtorque.
- No torque wrench required.
- Reduced toolholder inventory.
- Maximum flexibility.
- Minimum cost.

## NOVO™ WITH MACHINE ADAPTER ADVISOR

Visit **kennametal.com/novo** for more details.

Let the NOVO Machine Adapter Advisor help you build the right assembly. With NOVO applications, simply select a rotating tool (end mill, drill, reamer, or tap), then use the Machine Adapter Advisor to build an entire assembly from machine spindle to cutting tool with minimal data input. This new feature reduces a tool configuration build from minutes to seconds, regardless of gage length. Previously, it was a manual process to select a tool then individually filter and pick one adapter after another. Now, NOVO applications make it easy.

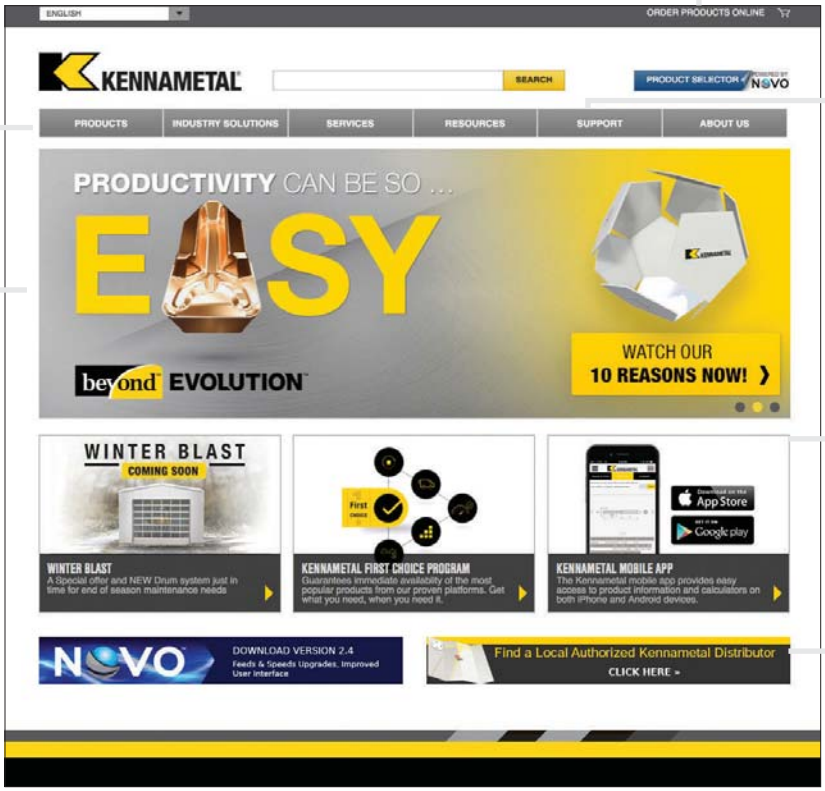
# Kennametal on the Web

kennametal.com

## FIND THE LATEST PRODUCT INFORMATION

Whether your operation is turning, milling, or holemaking, Kennametal brands are the high-performance tooling you need. We offer standard and custom solutions for a wide range of applications.

Find information about our most current campaigns and catalogs.




Register on Konnect for the full functionality of the Kennametal online ordering website.

## CONTACT US

Our customers are important to us. We want to provide you the best customer service in the industry. If you have a comment or question, please send it to us. We strive to respond to all inquiries within 24 hours.

## FIND A LOCAL AUTHORIZED DISTRIBUTOR IN YOUR AREA

Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.

# Mobile App

**The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.**

## FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

## MACHINING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

## ORDERING

Login using your Konnect credentials to complete a purchase.

## WHERE TO FIND IT

Download the free app today from iTunes® or the Google Play™ store.

ANDROID APP ON Google play

Available on the App Store

# Service and Support

## Customer Application Support (CAS)

### Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

### Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

| | |
|---|---|
| **SERVICE LEVEL EXCELLENCE** | Fast telephone response.<br>Quick technical solutions.<br>Efficient case management. |
| **SERVICES** | Operating parameters.<br>Process optimization.<br>Hardware support.<br>Tooling selection.<br>Troubleshooting. |
| **BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY** | Materials database.<br>Application calculators.<br>Tooling performance experts. |

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| China | Chinese | 400 889 2238 | k-cn.techsupport@kennametal.com |
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| USA | English | 800 835 3668 | na.techsupport@kennametal.com |

Numbers shown only serve the originating country listed.

# NOVO KNOWS SEARCH

Searching for a tool has been enhanced by Advise and Select functions from NOVO™ applications — saving you time and money.

## ADVISE

Uses a rules-based approach to provide cutting tool recommendations:

- Define Machining Feature (face milling, slotting, blind hole, etc.)
- Apply Constraint Requirements (geometric, material, tolerance, etc.)
- Set Machining Sequence (single or multi-step operations, rough then finish, etc.)
- Receive Ranked Results

## SELECT

A method of selecting cutting tools from a tree structure via a hierarchy or parametric search:

- If you know which product you are looking for, a quick search can be performed by just the catalog number or product description.
- Smart filters significantly reduce the amount of potential tooling solutions.
- After the tool is selected, NOVO also provides cutting and adaptive item options that fit with your solution.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

# Holemaking


Holemaking Introduction ..... F2–F10

Solid Carbide Drills ..... G1–G145

Modular Drills ..... H1–H133

Combination Tools ..... I1–I30

Indexable Drills ..... J1–J117

Hole Finishing ..... K1–K220

# Holemaking Products

Our latest Metalcutting Innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

For more information about the latest products and services from Kennametal, please contact your Kennametal Representative or Authorized Kennametal Distributor, or visit **kennametal.com**.

## SOLID CARBIDE DRILLS

See Section G for more details.

GOdrill™
TF Drills
Beyond™ Drills
Deep-Hole Drills
Y-TECH™ Drills
TX Drills
CFRP Drills
Flat-Bottom Drills
NEW! KMH Drills
Kenna Universal™ Drills
NC Spot Drills

## MODULAR DRILLS

See Section H for more details.

NEW! KenTIP™ FS
KenTIP™
KSEM™
KSEM PLUS™

## COMBINATION TOOLS

See Section I for more details.

BF Combination Drilling System
SEFAS™ Combination Drilling System

## INDEXABLE DRILLS

See Section J for more details.

Drill Fix™ DFR™, DFSP™, and DFT™
HTS™ Series Indexable Deep-Hole Drilling System
Indexable Drill Inserts
CTR Counterboring Tools
Counterboring Inserts

## HOLE FINISHING

See Section K for more details.

Reaming Tools
SIF™ Steerable Toolholders
Romicron™ Fine-Boring System
ModBORE™ Boring System
PCD Customized Tooling

## TAPS

See Section L and M for more details.

Beyond™ High-Performance Solid Carbide Taps
High-Performance HSS-E-PM Taps
GOtap™ Multipurpose Taps
General-Purpose Taps
High-Performance Solid Carbide Thread Mills

## Select the Correct Holemaking Solution for Your Application

### Added Value for Your Performance

**Increase of Productivity and Efficiency**

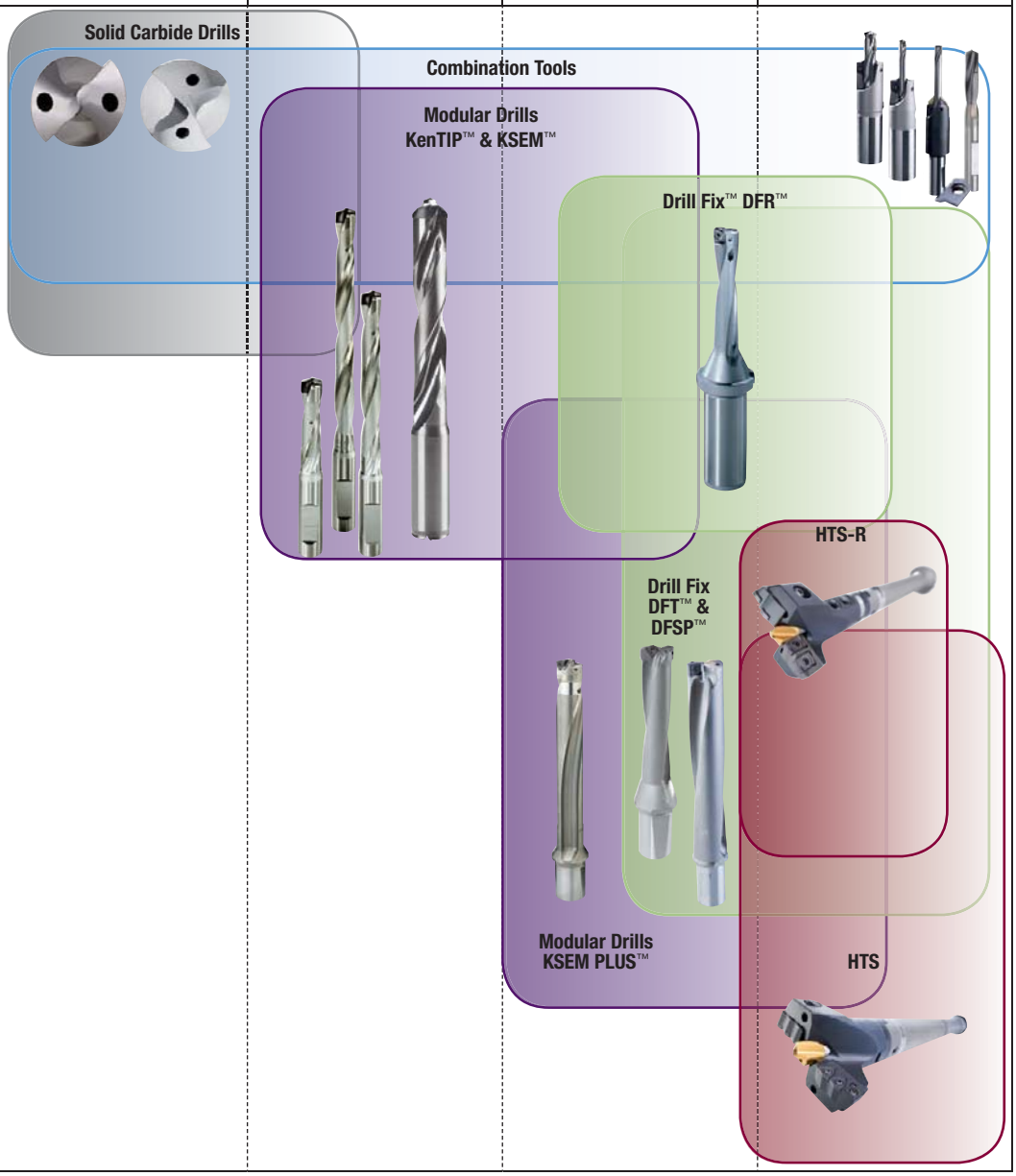
- Material and application-specific solutions.
- Maximum metal removal rates and repeatability.
- Standardized design platforms for special tools based on “proven solutions” for individual optimizations and combination tools.

**Control of Total Tooling Costs**

- High tool utilization through material and application-specific solutions.
- Process-safe regrinding service.
- Reduction of stocks through efficient modular concepts.
- Multiple platforms per application to achieve the most cost-efficient solution.

### Solid Drilling

| diameter | | hourly rate | | | |
|---|---|---|---|---|---|
| | | high to normal | normal (M/C) | normal to low | low (rough) |
| | | precision | | | |
| mm | inch | IT8 | IT9 | IT10 | IT11 |
| 1,0 | 0.0393 | | | | |
| 3,0 | 0.1181 | | | | |
| 6,0 | 0.2362 | | | | |
| 9,0 | 0.3543 | | | | |
| 12,0 | 0.4724 | | | | |
| 15,0 | 0.5906 | | | | |
| 18,0 | 0.7087 | | | | |
| 21,0 | 0.8268 | | | | |
| 24,0 | 0.9449 | | | | |
| 27,0 | 1.0630 | | | | |
| 30,0 | 1.1811 | | | | |
| 33,0 | 1.2992 | | | | |
| 36,0 | 1.4173 | | | | |
| 39,0 | 1.5354 | | | | |
| 42,0 | 1.6535 | | | | |
| 45,0 | 1.7717 | | | | |
| 48,0 | 1.8898 | | | | |
| 51,0 | 2.0079 | | | | |
| 54,0 | 2.1260 | | | | |
| 57,0 | 2.2441 | | | | |
| 60,0 | 2.3622 | | | | |
| 70,0 | 2.7559 | | | | |
| 80,0 | 3.1496 | | | | |
| 90,0 | 3.5433 | | | | |
| 100,0 | 3.9370 | | | | |
| 150,0 | 5.9055 | | | | |
| 200,0 | 7.8740 | | | | |
| 250,0 | 9.8425 | | | | |
| 270,0 | 10 | | | | |




*(continued)*

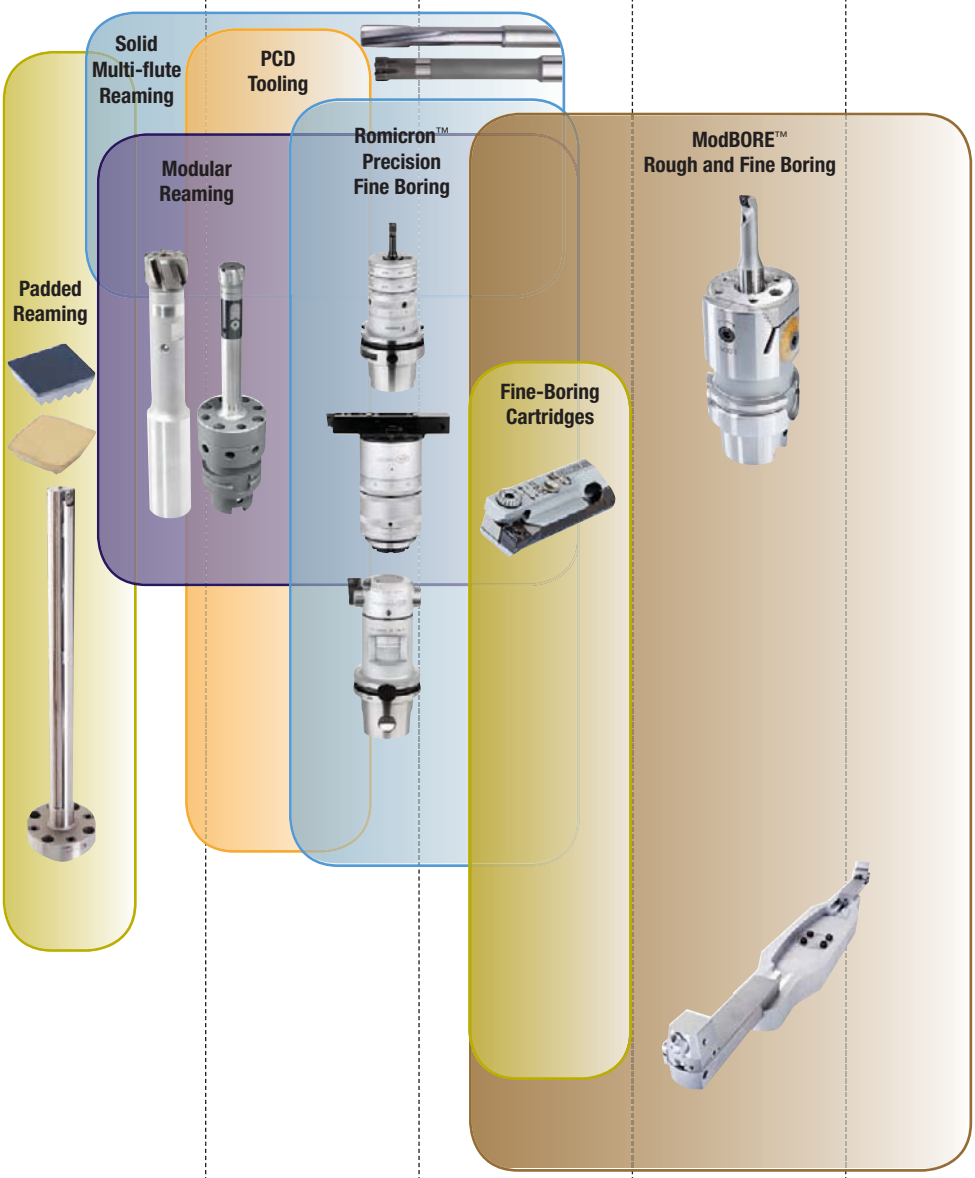
## Select the Correct Holemaking Solution for Your Application *(continued)*

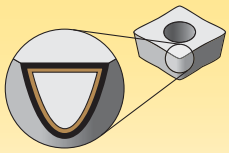
### Optimized Purchase

- Broad selection of holemaking tools.
- Integrated into a full range of cutting tools and service offers.
- Onsite service for an efficient development and implementation of machining solutions.

## Hole Finishing

| diameter | | hourly rate | | | | |
|---|---|---|---|---|---|---|
| | | | very high | high (fine) | high to normal | normal (M/C) |
| | | precision | | | | |
| mm | inch | IT5 | IT6 | IT7 | IT8 | IT9 |
| 1,0 | 0.0393 | | | | | |
| 3,0 | 0.1181 | | | | | |
| 6,0 | 0.2362 | | | | | |
| 9,0 | 0.3543 | | | | | |
| 12,0 | 0.4724 | | | | | |
| 15,0 | 0.5906 | | | | | |
| 18,0 | 0.7087 | | | | | |
| 21,0 | 0.8268 | | | | | |
| 24,0 | 0.9449 | | | | | |
| 27,0 | 1.0630 | | | | | |
| 30,0 | 1.1811 | | | | | |
| 33,0 | 1.2992 | | | | | |
| 36,0 | 1.4173 | | | | | |
| 39,0 | 1.5354 | | | | | |
| 42,0 | 1.6535 | | | | | |
| 45,0 | 1.7717 | | | | | |
| 48,0 | 1.8898 | | | | | |
| 50,0 | 1.9685 | | | | | |
| 100,0 | 3.937 | | | | | |
| 150,0 | 5.9055 | | | | | |
| 200,0 | 7.878 | | | | | |
| 250,0 | 9.8425 | | | | | |
| 300,0 | 11.811 | | | | | |
| 400,0 | 15.748 | | | | | |
| 500,0 | 19.685 | | | | | |
| 1000,0 | 39.3701 | | | | | |
| 1500,0 | 59.0551 | | | | | |
| 2000,0 | 78.7402 | | | | | |
| 2500,0 | 98.4252 | | | | | |





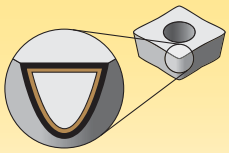
**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

wear resistance ⟷ toughness

**Solid Carbide Drill Grades**

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KN15 | **Composition:** Uncoated, highly wear-resistant fine-grain carbide.<br>**Application:** Highly polished chip flute surfaces ensure superior chip evacuation and reduce tendency for built-up edges. First choice for non-ferrous materials. | N | | | | | | | | | |
| | | S | | | | | | | | | |
| | | C | | | | | | | | | |
| KN25 | **Composition:** Uncoated, highly wear-resistant ultra-fine-grain carbide.<br>**Application:** Highly polished chip flute surfaces ensure superior chip evacuation and reduce tendency for built-up edges. First choice for deep-hole drilling of non-ferrous materials. | N | | | | | | | | | |
| K10 | **Composition:** Uncoated, highly wear-resistant fine-grain carbide with enhanced hot hardness properties.<br>**Application:** Best suited for dry and external flood coolant applications in aerospace materials like high-temperature resistant materials and wrought aluminum alloys. Due to its high wear-resistance, this grade is also applicable for cast iron machining at low to medium speeds. | K | | | | | | | | | |
| | | N | | | | | | | | | |
| | | S | | | | | | | | | |
| KCPK15 | **Composition:** Multilayered PVD TiN-TiAlN coated fine-grain carbide with superior surface finish.<br>**Application:** First choice for alloyed and high-alloyed steel and cast iron. A state-of-the-art surface condition enables superior chip evacuation and offers highest level of wear resistance at enhanced material removal rates. | P | | | | | | | | | |
| | | K | | | | | | | | | |
| KCPK20 | **Composition:** Multilayered PVD AlCrN-based coated ultra-fine-grain carbide with superior surface finish.<br>**Application:** First choice for deep-hole drilling applications in steel and cast iron. Due to the uniquely developed coating combined with the state-of-the-art surface condition, this grade offers extraordinary wear resistance and superior chip evacuation. | P | | | | | | | | | |
| | | K | | | | | | | | | |
| KCK10 | **Composition:** Multilayered PVD AlCrN-based coated fine-grain carbide with superior surface finish.<br>**Application:** First choice for cast iron. Due to the uniquely developed coating combined with the state-of-the-art surface condition, this grade offers extraordinary wear resistance in abrasive materials at elevated cutting conditions. | K | | | | | | | | | |
| KCMS15 | **Composition:** Monolayer PVD AlTiN coated fine-grain carbide with superior surface finish.<br>**Application:** First choice for stainless steel and high-temperature-resistant materials. The coating offers high hardness and excellent wear resistance as well as enhanced high-temperature properties increasing its applicability also to MQL machining of steel. | P | | | | | | | | | |
| | | M | | | | | | | | | |
| | | S | | | | | | | | | |



Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

wear resistance ← → toughness

Solid Carbide Drill Grades

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KCMS20 | **Composition:** Monolayer PVD AlTiN coated ultra-fine-grain carbide with superior surface finish.<br>**Application:** First choice for deep-hole drilling of stainless steel and high-temperature resistant materials. Due to the coating's enhanced high-temperature properties, this grade can also be applied to MQL applications in steel. | P | | | ■ | ■ | ■ | | | | |
| | | M | | | ■ | ■ | ■ | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | S | | | ■ | ■ | ■ | | | | |
| | | | | | | | | | | | |
| KCH10 | **Composition:** PVD AlTiN coated, ultra-fine-grain carbide.<br>**Application:** First choice for hardened steels >55 HRC up to 5 x D. | | | | | | | | | | |
| | | | | | | | | | | | |
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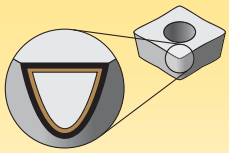
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | H | ■ | ■ | ■ | | | | | | |
| KCH15 | **Composition:** PVD AlTiN coated, fine-grain carbide.<br>**Application:** First choice for hardened steels between 48 and 55 HRC as well as case-hardened workpieces with hole depths >3 x D. | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | H | | ■ | ■ | ■ | | | | | |
| KC7315 | **Composition:** Multilayered PVD TiN-TiAlN coated fine-grain carbide<br>**Application:** Applicable for steel, cast iron, and hardened materials. This grade offers excellent wear resistance and reliability at intermediate to elevated cutting speeds. | P | | | ■ | ■ | | | | | |
| | | | | | | | | | | | |
| | | K | | | | ■ | ■ | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | H | | | | ■ | ■ | | | | |
| KC7325 | **Composition:** Multilayered PVD TiN-TiAlN coated fine-grain carbide with a TiN top layer for better wear identification.<br>**Application:** This multipurpose grade has been combined with a unique general-purpose cutting geometry to offer high versatility and reliability across all material groups at intermediate cutting conditions. | P | | | | ■ | ■ | ■ | | | |
| | | M | | | | | ■ | ■ | | | |
| | | K | | | | ■ | ■ | ■ | | | |
| | | N | | ■ | ■ | ■ | | | | | |
| | | S | | | | ■ | ■ | | | | |
| | | H | | | | ■ | ■ | | | | |
| KDF400 | **Composition:** CVD diamond coated fine-grain carbide.<br>**Application:** First choice for machining carbon-fiber reinforced polymers (CFRPs). The crystalline diamond-coated grade offers a high degree of abrasive wear resistance. Paired with sharp cutting geometries and low-axial thrust point geometries, this grade is perfectly suited to machine most CFRPs. | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | C | ■ | ■ | | | | | | | |



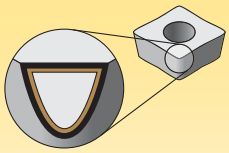
**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

wear resistance ⟷ toughness

**Modular Drill Grades**

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KCP15 | **Composition:** Monolayer PVD AlTiN coated fine-grain carbide.<br>**Application:** First choice for steel and second choice for cast iron. This AlTiN coating offers the perfect combination of enhanced high-temperature properties and optimized toughness for high-performance modular drilling applications. | P | | ■ | ■ | ■ | | | | | |
| | | K | | | ■ | ■ | ■ | | | | |
| KCP15A | **Composition:** Monolayer PVD AlTiN coated fine-grain carbide<br>**Application:** First choice for steel and second choice for cast iron. This grade consists of an updated AlTiN coating offering improved high-temperature properties on top of the proven fine-grain carbide substrate offering required toughness for modular drilling applications. | P | | ■ | ■ | ■ | | | | | |
| | | K | | | ■ | ■ | ■ | | | | |
| KC7135 | **Composition:** PVD TiCN/TiN coated medium-grain carbide with high toughness.<br>**Application:** Used for KSEM™ PC pre-centering inserts in most materials. The highly wear-resistant TiCN coating combined with a tough carbide substrate are perfectly suited to help with pre-centering operations in metastable machining conditions. | P | | | | | | | | ■ | ■ |
| | | M | | | | | | | ■ | ■ | |
| | | K | | | | | | | ■ | ■ | |
| | | S | | | | | ■ | ■ | | | |
| KC7315 | **Composition:** Multilayered PVD TiN-TiAlN coated fine-grain carbide.<br>**Application:** Applicable for steel and cast iron. This grade offers excellent wear resistance and reliability at intermediate to elevated cutting speeds. | P | | | ■ | ■ | ■ | | | | |
| | | K | | | | ■ | ■ | ■ | | | |
| KC7320 | **Composition:** Monolayer PVD AlTiN coated fine-grain carbide.<br>**Application:** First choice for stainless steel and high-temperature-resistant materials. The coating offers high hardness and excellent wear resistance as well as enhanced high-temperature properties. | M | | ■ | ■ | ■ | | | | | |
| | | S | | ■ | ■ | ■ | | | | | |
| KC7410 | **Composition:** Multilayered PVD AlCrN-based coated fine-grain carbide.<br>**Application:** First choice for cast iron. Due to the uniquely developed coating, this grade exhibits extraordinary wear resistance in abrasive materials offering the highest material removal rates. | K | ■ | ■ | ■ | ■ | | | | | |
| KCPM45 | **Composition:** Multilayered PVD TiN-TiAlN coated medium-grain carbide.<br>**Application:** Applicable for steel and cast iron. This grade offers excellent wear resistance and reliability at intermediate cutting speeds. Due to the medium-grain carbide, it offers superior chipping resistance in metastable machining conditions. | P | | | | | | ■ | ■ | ■ | ■ |
| | | M | | | | | | ■ | ■ | ■ | |

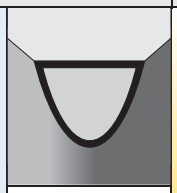
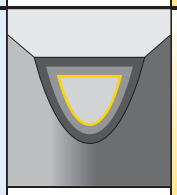
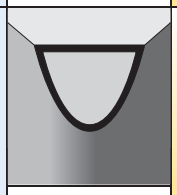
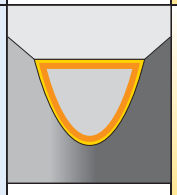
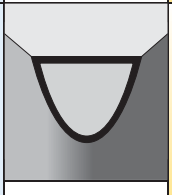
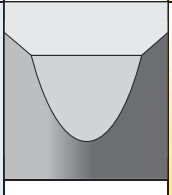


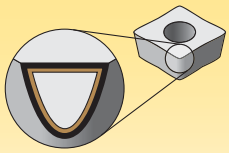
**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

**wear resistance** ◄——► **toughness**

**Modular Drill Grades**

| Coating | | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KCMS35 |  | **Composition:** Monolayer PVD AlTiN coated medium-grain carbide.<br>**Application:** Applicable for stainless steel and high-temperature resistant materials. The coating offers high hardness and excellent wear resistance as well as enhanced high-temperature properties. In combination with its tough substrate, this grade offers superior chipping resistance and is best suited for metastable machining conditions. | M | | | | | | | | | |
| | | | S | | | | | | | | | |
| KCU25 |  | **Composition:** Advanced CVD TiCN-$Al_2O_3$ coating combined with a tough carbide substrate.<br>**Application:** First choice for steel, stainless steel, and cast iron. This grade offers adequate deformation resistance, excellent edge strength, and superior wear resistance over a wide range of machining conditions for high productivity with very good reliability. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| KCU40 |  | **Composition:** Multilayered PVD TiN-TiAlN coated fine-grain carbide.<br>**Application:** First choice for high reliability in most materials. This grade should be used at medium speeds and high feeds due to sharper cutting edges. As a grade developed for high toughness applications, it withstands interruptions and provides high wear resistance for long tool life. It covers steel, stainless steel, cast iron, and high-temp alloys under certain conditions. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| | | | S | | | | | | | | | |
| KC7140 |  | **Composition:** PVD TiCN/TiN coated medium-grain carbide with high toughness.<br>**Application:** Best suited for machining of steel and stainless steel. This exceptionally tough grade is perfectly suited for metastable machining conditions offering excellent tool life. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | S | | | | | | | | | |
| KC7225 |  | **Composition:** PVD TiAlN coated fine-grain carbide with enhanced toughness.<br>**Application:** Best suited for machining of most materials. This grade offers excellent process reliability in metastable conditions due to enhanced carbide toughness. The TiAlN coating improves wear resistance for use at intermediate cutting conditions. | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| | | | N | | | | | | | | | |
| | | | S | | | | | | | | | |
| K715 |  | **Composition:** Uncoated, highly wear-resistant fine-grain carbide.<br>**Application:** For use on KenTIP™ and KSEM™ made-to-order inserts when a sharp cutting edge is needed. Non-coated, polished carbide for drilling aluminum, titanium, and non-ferrous materials. | N | | | | | | | | | |
| | | | S | | | | | | | | | |

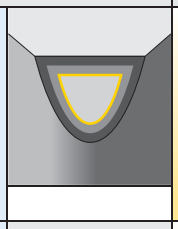
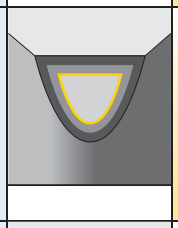
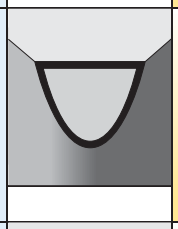
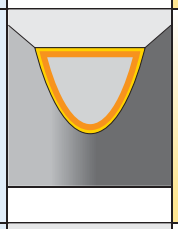
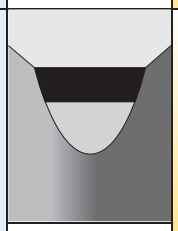


**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

**wear resistance** ⟷ **toughness**

**Indexable Drill Grades**

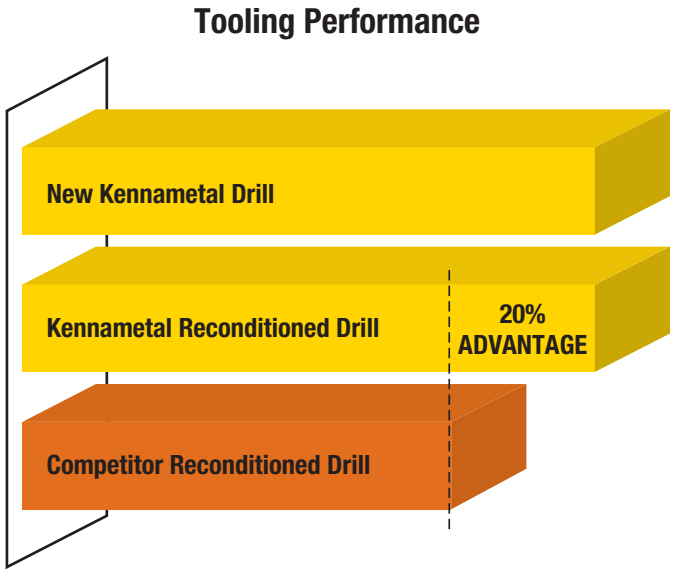
| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **KCPK10**  | **Composition:** Advanced CVD TiCN-$Al_2O_3$ coating combined with a cobalt-enriched carbide substrate.<br>**Application:** The KCPK10 grade offers a balanced combination of deformation resistance and edge toughness leading to outstanding abrasion and crater wear resistance for high-speed machining of steel and cast iron. Use for very high cutting speeds with low to medium feed rates. | P | ■ | ■ | ■ | ■ | | | | | |
| | | K | ■ | ■ | ■ | ■ | | | | | |
| **KCU25**  | **Composition:** Advanced CVD TiCN-$Al_2O_3$ coating combined with a tough carbide substrate.<br>**Application:** First choice for steel, stainless steel, and cast iron. This grade offers adequate deformation resistance, excellent edge strength, and superior wear resistance over a wide range of machining conditions for high productivity with very good reliability. | P | | | | ■ | ■ | ■ | ■ | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |
| **KCU40**  | **Composition:** Multilayered PVD TiN-TiAlN coated fine-grain carbide.<br>**Application:** First choice for high reliability in most materials. This grade should be used at medium speeds and high feeds due to sharper cutting edges. As a grade developed for high toughness applications, it withstands interruptions and provides high wear resistance for long tool life. It covers steel, stainless steel, cast iron, and high-temp alloys under certain conditions. | P | | | | | | ■ | ■ | ■ | ■ |
| | | M | | | | | ■ | ■ | ■ | ■ | |
| | | K | | | | ■ | ■ | ■ | ■ | | |
| **KC7140**  | **Composition:** PVD TiCN/TiN coated medium-grain carbide with high toughness.<br>**Application:** Best suited for machining of steel and stainless steel. This exceptionally tough grade is perfectly suited for metastable machining conditions offering excellent tool life. | P | | | | | | | ■ | ■ | ■ |
| | | M | | | | | | ■ | ■ | ■ | |
| **KD1425**  | **Composition:** A multimodal PCD grade with a range of grain sizes brazed on carbide substrate.<br>**Application:** Engineered for excellent abrasion resistance combined with good edge strength for demanding applications. An ideal choice for high-silicon aluminum alloys, MMCs, carbon fiber reinforced plastics, and other abrasive non-ferrous materials. | N | | | ■ | ■ | ■ | | | | |
| | | C | ■ | ■ | | | | | | | |

Why Reconditioning?

# Reconditioning Services

Our Reconditioning Services optimize the value of your metalcutting tools by providing like-new performance to tools on-hand. Reconditioning tools is smart for business and the environment. You save money, reduce inventory, and avoid material waste.

Customers purchase Kennametal tooling for its high performance. Why not continue receiving that same high performance after each reconditioning cycle? Kennametal can help you reduce tooling costs by more than 50% versus purchasing new tools. Taking advantage of our innovative tooling designs provides even greater savings because the reconditioned tool continues to achieve the same like-new performance as the original purchase.




*NOTE: Estimated value. Values vary based on machining conditions.*

***Kennametal keeps you performing at the highest productivity rates.***

KENNAMETAL®

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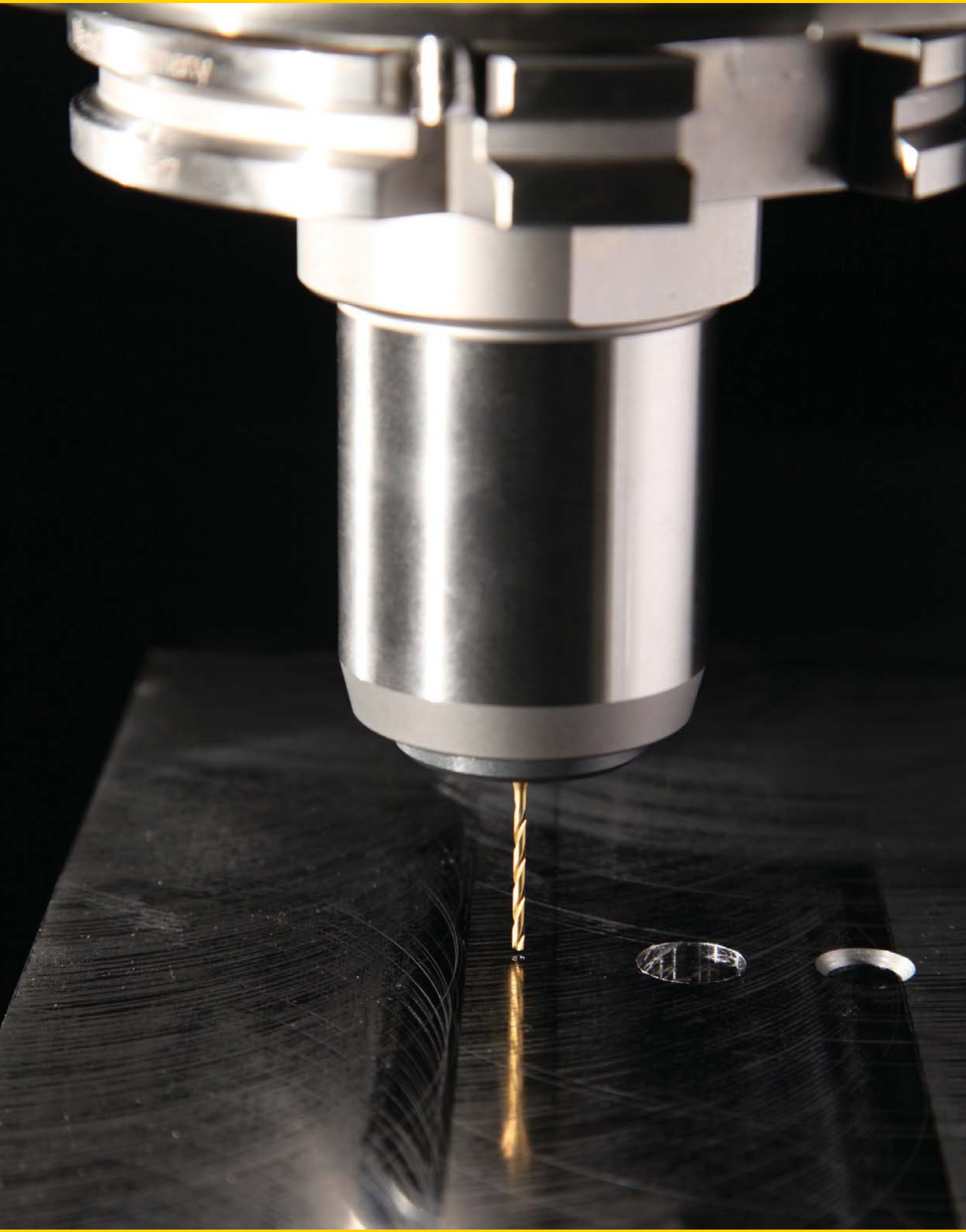

# Solid Carbide Drills

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| solid carbide drills for external coolant or dry machining | | series | grade | standard* (● first choice ○ alternate choice) P | M | K | N | C | S | H | hole tolerance | standard range: diameter range D1 mm min–max | D1 inch min–max | drilling depth L/D1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | **GOdrill™** for Multiple Materials | B04_CPG | KC7325 | ● | ● | ● | ● | | ● | ○ | IT9–IT10 | 1,0–20,0 | .0394–.7874 | 3–5 x |
| | **TF Drill** for High Metal Removal Rates | B105 | K10 | | | ● | ● | | ○ | | IT9–IT10 | 3,0–21,0 | .1130–.8101 | 5 x D |
| | **HP Drill** for Dry Applications or Flood Coolant | B221/B222_HP | KCPK15 | ● | | ● | | | | | IT9–IT10 | 3,0–21,0 | .1181–.8268 | 3–5 x |
| | **SPF Drill** for Composite (CFRP) Materials | B53_SPF | KDF400 | | | | | ● | | | IT9–IT10 | 3,2–12,7 | .1260–.5010 | 3–5 x |
| | **DAL Drill** for CFRP — Metal Stack Materials | B551_DAL | KN15 | | | | | ● | | | IT9–IT10 | 4,763–15,875 | .1875–.6250 | 3 x |
| | **NEW KMH Drill** for Hard Materials | B941 | KCH10 | ○ | | ○ | | | | ● | IT9–IT10 | 2,5–14,0 | .0984–.5512 | 3 x |
| | **KU Drill** for Universal Applications | B966/B967 | KC7315 | ● | | ● | ○ | | | | IT9–IT10 | 3,0–20,0 | .1181–.7874 | 3–5 x |
| | **NC Spot Drill 120°**<br>**NC Spot Drill 90°** | B501<br>B505 | K10<br>K10 | ●<br>● | ○<br>○ | ●<br>● | ○<br>○ | | ○<br>○ | | –<br>– | 6,0–12,0<br>6,0–20,0 | .2352–.4724<br>.2362–.7874 | 1 x D<br>1 x D |

| solid carbide drills with internal coolant channel | | series | grade | standard* (● first choice ○ alternate choice) P | M | K | N | C | S | H | hole tolerance | standard range: diameter range D1 mm min–max | D1 inch min–max | drilling depth L/D1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | **GOdrill™** for Multiple Materials | B05_CPG | KC7325 | ● | ● | ● | ● | | ● | ○ | IT9–IT10 | 1,0–20,0 | .0394–.7874 | 3–8 x |
| | **NEW SGL Drill** for Stainless Steel | B21_SGL | KCMS15 | ○ | ● | | | | ● | | IT9–IT10 | 3,0–20,5 | .1181–.8071 | 3–8 x |
| | **HP Drill** for Steel | B224/B225_HP | KCPK15 | ● | | ○ | | | | | IT9–IT10 | 3,0–21,0 | .1181–.8268 | 3–5 x |
| | **YPC Drill** for Cast Iron Materials | B25_YPC | KCK10 | | | ● | | | | | IT9–IT10 | 3,0–25,0 | .1181–.9844 | 3–8 x |
| | **SE Drill** for Steel | B256 | KC7315 | ● | | ○ | | | | | IT9–IT10 | 5,0–16,0 | .1969–.6299 | 8 x D |
|  | **Long-Length Drill** for Steel, Iron, and Stainless Steel | B269_HP | KCPK15 | ● | ○ | ○ | | | | | IT9–IT10 | 3,0–20,0 | .1181–.7874 | 12 x D |
| | **NEW Deep-Hole Drill** for Steel, Iron, and Non-Ferrous Materials for Stainless Steel and High-Temperature Alloys | B27_HPG<br>B27_HPS<br>B27_SGL | KCPK20<br>KN25<br>KCMS20 | ●<br>○ | ○<br>● | ● | ●<br>● | | ● | | IT9–IT10<br>IT9–IT10<br>IT9–IT10 | 2,4–16,0<br>2,4–16,0<br>2,4–16,0 | .0938–.6299<br>.0938–.6299<br>.0938–.6299 | 15–40 x<br>15–40 x<br>15–40 x |
| | **HPS Drill** for Non-Ferrous Materials | B28_HPS | KN15 | | | | ● | | | | IT9–IT10 | 3,0–20,0 | .1181–.7874 | 3–8 x |
| | **Y-TECH™ Drill** for High-Temperature Alloys | B29_YPL | KC7315 | ○ | ● | | | | ● | | IT9–IT10 | 3,0–21,0 | .1181–.8268 | 3–5 x |
| | **TX Drill** for Close Tolerance Holes | B411 | KF1 | | | ● | ● | | | | IT8–IT9 | 3,2–25,0 | .1250–.9843 | 5 x D |
| | **DAL Drill** for CFRP — Metal Stack Materials | B556_DAL | KN15 | | | | | ● | | | IT9–IT10 | 4,763–15,875 | .1875–.6250 | 3 x |
| | **Flat-Bottom Drill** for Flat-Bottom Applications | B707_FBG<br>B707_FBL<br>B707_FBS | KC7315<br>KCMS15<br>KN15 | ● | ● | ● | ● | | ● | | IT9–IT10<br>IT9–IT10<br>IT9–IT10 | 3,0–21,0<br>3,0–21,0<br>3,0–21,0 | .1181–.8268<br>.1181–.8268<br>.1181–.8268 | 3 x D<br>3 x D<br>3 x D |
| | **HP Step Drill** for Steel and Iron | B73_HP | KCPK15 | ● | | ● | | | | | IT9–IT10 | 3,7–19,45 | .1470–.7656 | short, long |
| | **NEW KMH Drill** for Hard Materials | B951 | KCH15 | ○ | | ○ | | | | ● | IT9–IT10 | 3,0–16,0 | .1181–.6299 | 3 x |
| | **KU-Drill** for Universal Applications | B97_ | KC7315 | ● | ○ | ● | ○ | | ○ | | IT9–IT10 | 2,4–20,0 | .0938–.7874 | 3–8 x |

*In regard to coatings, anything is possible. If a specific drill is not suitable for your workpiece material, please contact our Engineered Solutions Department for an offer about special coatings and edge preparations.

*1 Drills can be optimized for performance in specific applications. Ask your local Kennametal representative about Kennametal Custom Solutions service for special coatings, grades, or geometries to increase productivity.

*2 Step Drill Capability Guidelines: 5 steps maximum; 10 different shapes; at least 0,4mm difference in diameters; the largest diameter may not exceed the smallest diameter by more than 2x.

| custom solution range | | | ■ standard □ custom solution capabilities | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter range | | | | | | | | | | | | | | | | | | | | | | | |
| D1 mm | D1 in | drilling depth | | | | | | | | | | | | | | | | | | | | | page(s) |
| min-max | min-max | | | | | | | | | | | | | | | | | | | | | | |
| 1,0–20,0 | .0394–.7874 | 1.5–12 x | ■ | | | | ■ | | | ■ | | | □ | □ | | | | □ | ■ | ■ | □ | | G6 |
| 3,0–25,0 | .1130–1.00 | 1.5–8 x | ■ | ■ | | | ■ | | | ■ | | | □ | □ | | ■ | | □ | ■ | □ | | | G22 |
| 3,0–25,0 | .1181–1.00 | 1.5–8 x | ■ | ■ | | | ■ | | | ■ | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G36 |
| 3,0–25,0 | .1181–1.00 | 1.5–5 x | ■ | ■ | | | ■ | | | ■ | | | □ | □ | | | | □ | ■ | □ | | | G98 |
| 3,0–25,0 | .1181–1.00 | 1.5–5 x | ■ | ■ | | | ■ | □ | | ■ | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G102 |
| 2,5–20,0 | .0984–.7874 | 1.5–8 x | ■ | | | | ■ | | | ■ | | | □ | | ■ | | □ | □ | ■ | □ | | | G122 |
| 3,0–25,0 | .1181–1.00 | 1.5–8 x | ■ | ■ | | | ■ | ■ | | ■ | | | □ | □ | □ | | ■ | ■ | ■ | ■ | | | G128 |
| 6,0–20,0<br>6,0–20,0 | .2362–.7874<br>.2362–.7874 | 1 x D<br>1 x D | ■<br>■ | | | | | | | | | | | | | | | | | | | | G144 |

| custom solution range | | | ■ standard □ custom solution capabilities | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter range | | | | | | | | | | | | | | | | | | | | | | | |
| D1 mm | D1 in | drilling depth | | | | | | | | | | | | | | | | | | | | | page(s) |
| min-max | min-max | | | | | | | | | | | | | | | | | | | | | | |
| 1,0–20,0 | .0394–.7874 | 1.5–12 x | | | ■ | ■ | ■ | | | ■ | | | □ | □ | | | | □ | ■ | ■ | □ | | G14 |
| 3,0–25,0 | .1181–1.00 | 1.5–8 x | | | ■ | ■ | ■ | | | ■ | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G28 |
| 3,0–25,0 | .1181–1.00 | 1.5–5 x | | | ■ | ■ | ■ | | | ■ | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G36 |
| 3,0–25,0 | .1181–1.00 | 1.5–8 x | | | ■ | ■ | ■ | ■ | | ■ | | | □ | □ | | ■ | | ■ | ■ | □ | | | G50 |
| 3,0–25,0 | .1181–1.00 | 1.5–12 x | | | ■ | ■ | ■ | ■ | | ■ | | | □ | □ | □ | | ■ | □ | ■ | □ | | | G57 |
| 3,0–25,0 | .1181–.7874 | 1.5–12 x | | | ■ | ■ | ■ | ■ | | ■ | | | □ | □ | □ | | ■ | □ | ■ | □ | | | G60 |
| 2,4–16,0<br>2,4–16,0<br>2,4–16,0 | .0938–.6299<br>.0938–.6299<br>.0938–.6299 | 500mm<br>500mm<br>500mm | | | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | | ■<br>■<br>■ | | | | | □<br>□<br>□ | | ■<br>■<br>■ | □<br>□<br>□ | ■<br>■<br>■ | □<br>□<br>□ | | | G66 |
| 3,0–25,0 | .1181–.7874 | 3–8 x | | | ■ | ■ | ■ | | | | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G80 |
| 3,0–25,0 | .1181–1.00 | 1.5–8 x | | | ■ | ■ | ■ | ■ | | ■ | | | □ | □ | | ■ | | □ | ■ | □ | | | G86 |
| 3,0–25,0 | .1181–1.00 | 1.5–12 x | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | □ | □ | □ | | ■ | □ | ■ | □ | | | G92 |
| 3,0–25,0 | .1181–1.00 | 1.5–5 x | | | ■ | ■ | ■ | □ | | ■ | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G102 |
| 3,0–25,0<br>3,0–25,0<br>3,0–25,0 | .1181–1.00<br>.1181–1.00<br>.1181–1.00 | 1.5–8 x<br>1.5–8 x<br>1.5–8 x | | | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | | ■<br>■<br>■ | ■<br>■<br>■ | □<br>□<br>□ | □<br>□<br>□ | □<br>□<br>□ | | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | □<br>□<br>□ | | | G108 |
| 3,0–25,0 | .1181–1.00 | 1.5–8 x | | | ■ | ■ | ■ | | | | | | ■ | ■ | ■ | | □ | □ | ■ | □ | | | G116 |
| 3,0–20,0 | .1181–.7874 | 1.5–12 x | | | ■ | | ■ | □ | | ■ | | | □ | □ | ■ | | □ | □ | ■ | □ | | | G122 |
| 2,4–25,0 | .1181–1.00 | 1.5–12 x | | | ■ | ■ | ■ | ■ | | ■ | | | □ | □ | □ | | ■ | □ | ■ | ■ | | | G128 |

*3 Drill Shank Configuration Guidelines: shank diameter may be 2 “steps” larger than the standard shank in relation to the drill diameter or 1 step smaller than the standard shank. i.e. If the standard drill has 6mm shank, shank could be changed to 4mm, 8mm, or 10mm.

*4 On symmetrical 2-fluted drills the following point geometries are possible: Split point (SP*), Cone point (KM*), HP* point, SE* point, FB* point & FE* point; except for GOdrill™ which is limited to CP* point.

*5 On asymmetrical 2-fluted drills (Y-TECH™) the Cone point and HP* point are possible.

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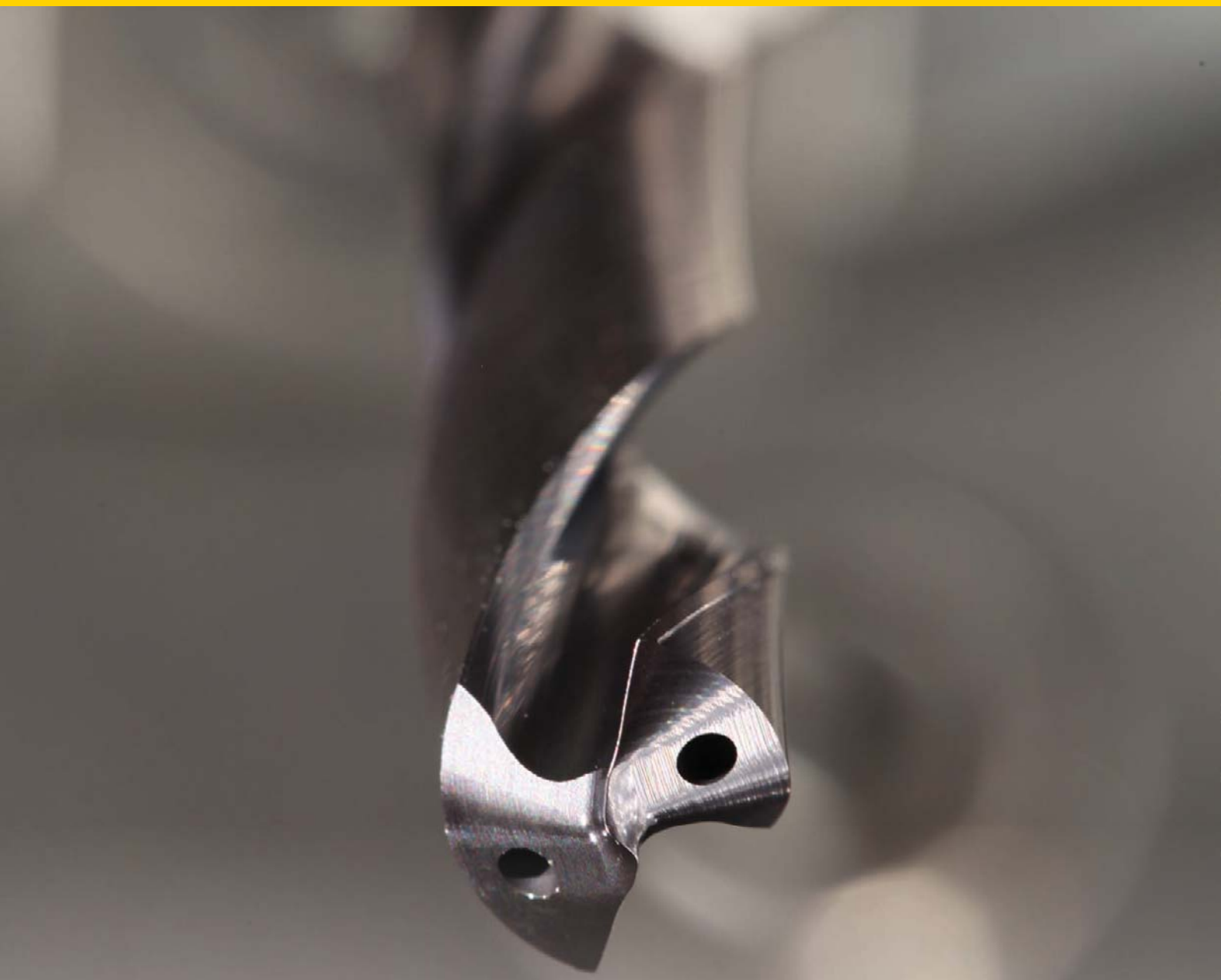


# High-Performance Solid Carbide Drills

# NOVO KNOWS SEARCH

Searching for a tool has been enhanced by Advise and Select functions from NOVO™ applications — saving you time and money.

## ADVISE

Uses a rules-based approach to provide cutting tool recommendations:

- Define Machining Feature (face milling, slotting, blind hole, etc.)
- Apply Constraint Requirements (geometric, material, tolerance, etc.)
- Set Machining Sequence (single or multi-step operations, rough then finish, etc.)
- Receive Ranked Results

## SELECT

A method of selecting cutting tools from a tree structure via a hierarchy or parametric search:

- If you know which product you are looking for, a quick search can be performed by just the catalog number or product description.
- Smart filters significantly reduce the amount of potential tooling solutions.
- After the tool is selected, NOVO also provides cutting and adaptive item options that fit with your solution.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

# Solid Carbide Drills • Recommendation Chart

Material Specific

| standard first choice = bold<br>alternate choice = regular<br>simple special = gray | through coolant | flood coolant | MQL |
|---|---|---|---|
| P — Steels | **B224*HP**<br>**B225*HP**<br>B226*HP<br>**B256** | **B221*HP**<br>**B222*HP** | **B224*HP**<br>**B225*HP**<br>B226*HP<br>**B256** |
| M — Stainless Steels | **B210*SGL**<br>**B211*SGL**<br>**B212*SGL** | | |
| K — Cast Iron | **B254*YPC**<br>**B255*YPC**<br>**B256*YPC** | B105 | **B254*YPC**<br>**B255*YPC**<br>**B256*YPC** |
| N — Non-Ferrous | **B284*HPS**<br>**B285*HPS**<br>**B286*HPS**<br>**B411** | B105 | **B284*HPS**<br>**B285*HPS**<br>**B286*HPS** |
| C1 — CFRP, CFRP/CFRP | | **B531A**<br>**B532A**<br>B533A | |
| C2 — CFRP/Non-Ferrous<br>C3 — CFRP/High-Temp<br>C4 — CFRP/Stainless Steel | B546A/**B556A**<br>B547A/B557A<br>B548A/B558A | B541A/**B551A**<br>B542A/B552A<br>B543A/B553A | B546A/**B556A**<br>B547A/B557A<br>B548A/B558A |
| S — Heat-Resistant Alloys,<br>Titanium Alloys | **B291*YPL**<br>**B292*YPL** | | |
| H — Hardened Materials | B951/**B952**/B953<br>B955/B956/B957/<br>B958/B959 | B941/**B942**/B943<br>B945/B946/B947 | |

### Application-Specific Solid Carbide Drills

Kennametal material-specific drills are targeted to end users with mass production and the need for very long tool life in a specific material, high cutting feeds and speeds, and reduced cost per part through time optimization with high metal removal rates.

Application-specific drills are designed to solve certain machining operations, such as deep-hole drilling or flat-bottom drilling, to save cycle times and costs.

HP Beyond™ Drill Series is available for different materials offering highest cutting parameters and long tool life. These ultimate high-volume production tools, such as the all-new drill for aluminum, are often platform for make-to-order or Custom Solutions.

| Application Specific | | | | Versatile |
|---|---|---|---|---|
| **dry** | **deep hole** | **flat bottom** | **drill and chamfer** | **universal** |
| **B221*HP**<br>**B222*HP** | **B269*HP**<br>**B271*HPG**<br>**B272*HPG**<br>**B273*HPG**<br>**B274*HPG**<br>**B275*HPG** | B706*FBG<br>**B707*FBG**<br>B708*FBG<br>B709*FBG | **B731*HP**<br>**B732*HP** | **B966, B967**<br>**B976, B977, B978**<br>**B041*CPG, B042*CPG**<br>**B051*CPG, B052*CPG,**<br>**B053*CPG** |
| | **B269*HP**<br>**B271*SGL**<br>**B272*SGL**<br>**B273*SGL**<br>**B274*SGL**<br>**B275*SGL** | B706*FBL<br>**B707*FBL**<br>B708*FBL<br>B709*FBL | | B966, B967<br>B976, B977, B978<br>**B041*CPG, B042*CPG**<br>**B051*CPG, B052*CPG,**<br>**B053*CPG** |
| B105 | **B269*HP**<br>**B271*HPG**<br>**B272*HPG**<br>**B273*HPG**<br>**B274*HPG**<br>**B275*HPG** | B706*FBG<br>**B707*FBG**<br>B708*FBG<br>B709*FBG | **B731*HP**<br>**B732*HP** | **B966, B967**<br>**B976, B977, B978**<br>**B041*CPG, B042*CPG**<br>**B051*CPG, B052*CPG,**<br>**B053*CPG** |
| | **B271*HPS**<br>**B272*HPS**<br>**B273*HPS**<br>**B274*HPS**<br>**B275*HPS** | B706*FBS<br>**B707*FBS**<br>B708*FBS<br>B709*FBS | | B966, B967<br>B976, B977, B978<br>B041*CPG, B042*CPG<br>B051*CPG, B052*CPG,<br>B053*CPG |
| **B531A**<br>**B532A**<br>B533A | | | | |
| B541A/**B551A**<br>B542A/B552A<br>B543A/B553A | | | | |
| | | B706*FBL<br>**B707*FBL**<br>B708*FBL<br>B709*FBL | | B966, B967<br>B976, B977, B978<br>**B041*CPG, B042*CPG**<br>**B051*CPG, B052*CPG,**<br>**B053*CPG** |
| | | | | |

### Versatile Solid Carbide Drills

Kennametal versatile drills are targeted to end users with the need for long tool life in many materials, versatility and saving time for tool changes, and reducing the capital spent on a variety of SC Drill styles on the shelf.

The GOdrill™ is a multi-material drill. It addresses drilling operations in a diameter range of .0394–.7874" (1–20mm) in a broad variety of materials and applications, such as fuel systems or medical components. Due to its very unique design, the GOdrill expands the advantages of modular drills into the small diameter range, enabling the full utilization of the drill's tool life capacity.

The Kenna Universal™ Drill is a multi-purpose drill. it is engineered to deliver superior performance in steel, cast iron, and stainless steel applications, making it ideal for small- and medium-sized shops. The universal application profile reduces tool change times and the number of drills in inventory. Covering a large spectrum of off-the-shelf diameters and a broad range of applications makes Kenna Universal Drills an excellent alternative to other high-performance products.

# Solid Carbide Drills • Dimension Tables

## Dimensions for Kennametal Solid Carbide Drills (B_Series) • Metric

| mm Ø | | DIN 6535 | | SHORT* ~3 x D | | | LONG* ~5 x D | | | EXTRA LONG** ~8 x D | | | EXTRA LONG** NEW 8 x D (SGL) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 min | D1 max | D | LS | L | L3 | L4 max | L | L3 | L4 max | L | L3 | L4 max | L | L3 | L4 max |
| 1,000 | 1,400 | 4 | 28 | 58 | 7 | 5 | 58 | 9 | 6 | 58 | 12 | 10 | – | – | – |
| 1,401 | 1,900 | 4 | 28 | 58 | 9 | 6 | 58 | 12 | 9 | 58 | 18 | 15 | – | – | – |
| 1,901 | 2,300 | 4 | 28 | 58 | 13 | 9 | 58 | 18 | 14 | 66 | 26 | 22 | – | – | – |
| 2,301 | 2,999 | 4 | 28 | 58 | 17 | 12 | 58 | 22 | 17 | 66 | 30 | 25 | – | – | – |
| 3,000 | 3,750 | 6 | 36 | 62 | 20 | 14 | 66 | 28 | 23 | 78 | 40 | 33 | 78 | 40 | 33 |
| 3,751 | 4,750 | 6 | 36 | 66 | 24 | 17 | 74 | 36 | 29 | 87 | 49 | 41 | 87 | 49 | 41 |
| 4,751 | 6,000 | 6 | 36 | 66 | 28 | 20 | 82 | 44 | 35 | 94 | 56 | 48 | 94 | 56 | 48 |
| 6,001 | 7,000 | 8 | 36 | 79 | 34 | 24 | 91 | 53 | 43 | 105 | 67 | 57 | 105 | 67 | 57 |
| 7,001 | 8,000 | 8 | 36 | 79 | 41 | 29 | 91 | 53 | 43 | 110 | 72 | 61 | 121 | 82 | 64 |
| 8,001 | 10,000 | 10 | 40 | 89 | 47 | 35 | 103 | 61 | 49 | 122 | 80 | 68 | 145 | 102 | 80 |
| 10,001 | 12,000 | 12 | 45 | 102 | 55 | 40 | 118 | 71 | 56 | 141 | 94 | 79 | 170 | 122 | 96 |
| 12,001 | 14,000 | 14 | 45 | 107 | 60 | 43 | 124 | 77 | 60 | 155 | 108 | 91 | 190 | 142 | 112 |
| 14,001 | 16,000 | 16 | 48 | 115 | 65 | 45 | 133 | 83 | 63 | 171 | 121 | 101 | 213 | 162 | 128 |
| 16,001 | 18,000 | 18 | 48 | 123 | 73 | 51 | 143 | 93 | 71 | 185 | 135 | 113 | 232 | 181 | 144 |
| 18,001 | 20,000 | 20 | 50 | 131 | 79 | 55 | 153 | 101 | 77 | 200 | 148 | 124 | 254 | 201 | 160 |
| 20,001 | 22,000 | 20 | 50 | 141 | 86 | 60 | 167 | 112 | 85 | 217 | 162 | 136 | 274 | 221 | 176 |
| 22,001 | 25,000 | 25 | 56 | 153 | 95 | 65 | 184 | 126 | 98 | 238 | 180 | 150 | 310 | 251 | 200 |

* D1<20mm to DIN 6537K
D1>20mm to factory standard
** To factory standard

NOTE: Solid Carbide Drills from Kennametal in short or regular lengths conform to DIN 6537.
Drills with long lengths conform to Kennametal factory standard.
Solid Carbide Drills with diameter D1>.787" (not DIN 6537) are also standardized to factory standard.

## Dimensions for Kennametal Solid Carbide Drills (B_Series) • Inch

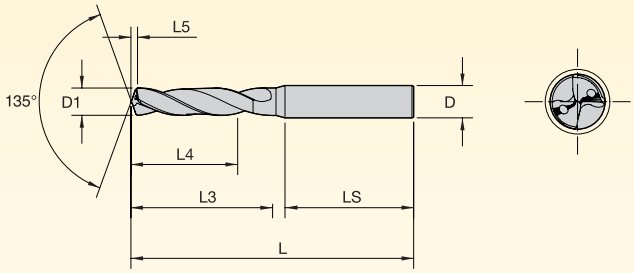
| inch Ø | | DIN 6535 | | SHORT* ~3 x D | | | LONG* ~5 x D | | | EXTRA LONG** ~8 x D | | | EXTRA LONG** NEW 8 x D (SGL) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 min | D1 max | D | LS | L | L3 | L4 max | L | L3 | L4 max | L | L3 | L4 max | L | L3 | L4 max |
| .0394 | .0551 | .1575 | 1.10 | 2.28 | .28 | .20 | 2.28 | .35 | .24 | 2.28 | .47 | .39 | – | – | – |
| .0552 | .0748 | .1575 | 1.10 | 2.28 | .35 | .24 | 2.28 | .47 | .35 | 2.28 | .71 | .59 | – | – | – |
| .0748 | .0906 | .1575 | 1.10 | 2.28 | .51 | .35 | 2.28 | .71 | .55 | 2.60 | 1.02 | .87 | – | – | – |
| .0906 | .1177 | .1575 | 1.10 | 2.28 | .67 | .47 | 2.28 | .87 | .67 | 2.60 | 1.18 | .98 | – | – | – |
| .1181 | .1476 | .2362 | 1.42 | 2.44 | .79 | .55 | 2.60 | 1.10 | .91 | 3.07 | 1.57 | 1.30 | 3.07 | 1.57 | 1.30 |
| .1477 | .1870 | .2362 | 1.42 | 2.60 | .94 | .67 | 2.91 | 1.42 | 1.14 | 3.43 | 1.93 | 1.61 | 3.43 | 1.93 | 1.61 |
| .1870 | .2362 | .2362 | 1.42 | 2.60 | 1.10 | .79 | 3.23 | 1.73 | 1.38 | 3.70 | 2.20 | 1.89 | 3.70 | 2.20 | 1.89 |
| .2363 | .2756 | .3150 | 1.42 | 3.11 | 1.34 | .94 | 3.58 | 2.09 | 1.69 | 4.13 | 2.64 | 2.24 | 4.13 | 2.64 | 2.24 |
| .2756 | .3150 | .3150 | 1.42 | 3.11 | 1.61 | 1.14 | 3.58 | 2.09 | 1.69 | 4.33 | 2.83 | 2.40 | 4.76 | 3.23 | 2.52 |
| .3150 | .3937 | .3937 | 1.57 | 3.50 | 1.85 | 1.38 | 4.06 | 2.40 | 1.93 | 4.80 | 3.15 | 2.68 | 5.71 | 4.02 | 3.15 |
| .3937 | .4724 | .4724 | 1.77 | 4.02 | 2.17 | 1.57 | 4.65 | 2.80 | 2.20 | 5.55 | 3.70 | 3.11 | 6.69 | 4.80 | 3.78 |
| .4725 | .5512 | .5512 | 1.77 | 4.21 | 2.36 | 1.69 | 4.88 | 3.03 | 2.36 | 6.10 | 4.25 | 3.58 | 7.48 | 5.59 | 4.41 |
| .5512 | .6299 | .6299 | 1.89 | 4.53 | 2.56 | 1.77 | 5.24 | 3.27 | 2.48 | 6.73 | 4.76 | 3.98 | 8.39 | 6.38 | 5.04 |
| .6300 | .7087 | .7087 | 1.89 | 4.84 | 2.87 | 2.01 | 5.63 | 3.66 | 2.80 | 7.28 | 5.32 | 4.45 | 9.13 | 7.13 | 5.67 |
| .7087 | .7874 | .7874 | 1.97 | 5.16 | 3.11 | 2.17 | 6.02 | 3.98 | 3.03 | 7.87 | 5.83 | 4.88 | 10.00 | 7.91 | 6.30 |
| .7874 | .8661 | .7874 | 1.97 | 5.55 | 3.39 | 2.36 | 6.57 | 4.41 | 3.35 | 8.54 | 6.38 | 5.35 | 10.79 | 8.70 | 6.93 |
| .8662 | .9843 | .9843 | 2.20 | 6.02 | 3.74 | 2.56 | 7.24 | 4.96 | 3.86 | 9.37 | 7.09 | 5.91 | 12.20 | 9.88 | 7.87 |

* D1<20mm to DIN 6537K
D1>20mm to factory standard
** To factory standard

## Shank designs to DIN 6535

Form HE,
2° angle
Design F

Form HA,
straight round
Design A

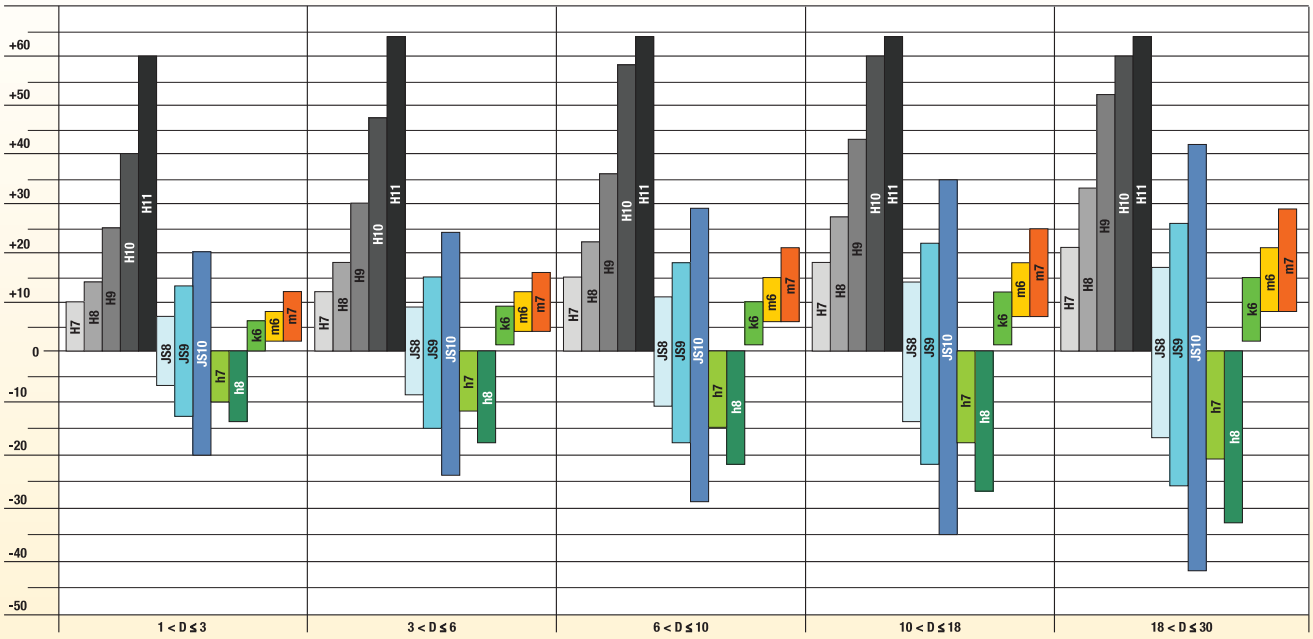



## Holemaking Drilling Portfolio • Diameter Tolerances

Hole tolerances which can be achieved with solid carbide drills are listed in the table below.
Achievable tolerances depend on the application (machining conditions, material etc.) and may deviate from the list below.
Hole accuracy might decline with increasing drill length.
Other drilling tolerances require special solid carbide drill solutions.

| drill type | drill tolerance | hole tolerance | hole tolerance (best*) | drill series |
|---|---|---|---|---|
| GO | h8 | JS10 | JS9 | B04*CPG, B05*CPG ≤ .1181" (3mm) |
| | h7 | JS9 | JS8 | B04*CPG, B05*CPG ≥ .1181" (3mm) |
| TF | m7 | H9 | H8 | B105 |
| HP/SGL | m7 | H9 | H8 | B21*SGL, B22*HP, B269*HP |
| YPC | m7 | H9 | H8 | B25*YPC |
| SE | m7 | H9 | H8 | B256 |
| HPG/SGL | h7 | JS9 | JS8 | B27*HPG, B27*KMG, B27*SGL |
| HPS | h7 | JS9 | JS8 | B27*HPS, B27*KMS |
| HPS | m7 | H9 | H8 | B28*HPS |
| Y-TECH | m7 | H9 | H8 | B29*YPL |
| BF | h7 | JS9 | JS8 | B343 |
| SPF | m7 | H10 | H9 | B53*SPF |
| TX | k6 | H8 | H7 | B41* ≤ 5 x D |
| | k6 | H9 | H8 | B41* ≥ 5 x D |
| DAL | k6 | H8 | H7 | B54*, B55* ≤ 5 x D |
| | k6 | H9 | H8 | B54*, B55* ≥ 5 x D |
| FB* | m7 | H11 | H9 | B70*FBG, B70*FBL |
| | m7 | H10 | H8 | B70*FBS |
| KMH | m7 | H9 | H8 | B94*, B95* |
| KU | m7 | H9 | H8 | B96*; B97* |

* Can be achieved in very good conditions.




**Achievable hole tolerance in µm per diameter range (mm).**
Tolerance table according to DIN EN ISO 286-1.

KENNAMETAL®

# GOdrill™

## For Multiple Materials

### Primary Application

The GOdrill platform addresses drilling operations in a diameter range of 1–20mm (.0394–.7874") in a broad variety of materials and applications such as fuel systems or medical components. Due to its very unique design, the GOdrill platform expands the advantages of modular drills into the small diameter range: high-end grades, wear-indicator coating, and new, proprietary geometries enable full utilization of the drill's tool life capacity. The GOdrill platform qualifies as a very cost-effective, throwaway-type tool in the given diameter range.

## Features and Benefits

### GOdrill Design

- Marginless design for reduced friction and heat — thus longer tool life.
- Very versatile tool works in a wide range of materials.
- Cost-effective, no regrind logistics.
- No setup.
- Throw away or recycle.
- Through-coolant option down to diameter 1mm (.0394").

### CPG Point

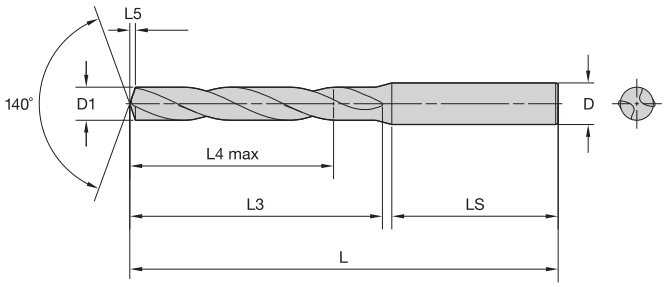
- Optimized gashing design for microdrilling ensures free flow of chips in the center of the drill.
- Excellent centering capabilities.
- Reduced axial forces.
- Good hole quality, roundness, and cylindricity for all materials.

# The high-performance solid carbide drill tailored for very small- to medium-diameter drilling applications.

## KC7325™ Grade

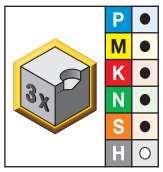
The grade contains a double coating:

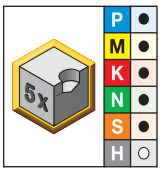
- The multilayer, TiAlN-based coating with high hot hardness enables the drill to run at high cutting speeds as well as in MQL applications.
- A TiN top layer serves as wear indicator for easier monitoring on small drills, which can be difficult to see.
- Improved visibility of wear helps to utilize the tool's full tool life capacity.



For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

## B041A/B042A • ~3 x D/~5 x D



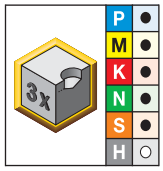



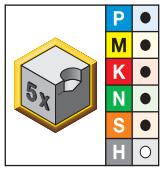

● first choice
○ alternate choice

| short • KC7325 | long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B041A01000CPG | B042A01000CPG | 1,000 | .0394 | – | – | 0,1 | 28 | 4 |
| B041A01016CPG | B042A01016CPG | 1,016 | .0400 | – | – | 0,1 | 28 | 4 |
| B041A01041CPG | B042A01041CPG | 1,041 | .0410 | – | – | 0,2 | 28 | 4 |
| B041A01067CPG | B042A01067CPG | 1,067 | .0420 | – | – | 0,2 | 28 | 4 |
| B041A01092CPG | B042A01092CPG * | 1,092 | .0430 | – | – | 0,2 | 28 | 4 |
| B041A01100CPG | B042A01100CPG | 1,100 | .0433 | – | – | 0,2 | 28 | 4 |
| B041A01181CPG | B042A01181CPG | 1,181 | .0465 | – | – | 0,2 | 28 | 4 |
| B041A01191CPG | B042A01191CPG | 1,191 | .0469 | 3/64 | – | 0,2 | 28 | 4 |
| B041A01200CPG | B042A01200CPG | 1,200 | .0472 | – | – | 0,2 | 28 | 4 |
| B041A01300CPG | B042A01300CPG | 1,300 | .0512 | – | – | 0,2 | 28 | 4 |
| B041A01321CPG | B042A01321CPG | 1,321 | .0520 | – | – | 0,2 | 28 | 4 |
| B041A01397CPG | B042A01397CPG | 1,397 | .0550 | – | – | 0,2 | 28 | 4 |
| B041A01400CPG | B042A01400CPG | 1,400 | .0551 | – | – | 0,2 | 28 | 4 |
| B041A01500CPG | B042A01500CPG | 1,500 | .0591 | – | – | 0,2 | 28 | 4 |
| B041A01600CPG | B042A01600CPG | 1,600 | .0630 | – | – | 0,2 | 28 | 4 |
| B041A01700CPG | B042A01700CPG | 1,700 | .0669 | – | – | 0,3 | 28 | 4 |
| B041A01800CPG | B042A01800CPG | 1,800 | .0709 | – | – | 0,3 | 28 | 4 |
| B041A01900CPG | B042A01900CPG | 1,900 | .0748 | – | – | 0,3 | 28 | 4 |
| B041A01984CPG | B042A01984CPG | 1,984 | .0781 | 5/64 | – | 0,3 | 28 | 4 |
| B041A02000CPG | B042A02000CPG | 2,000 | .0787 | – | – | 0,3 | 28 | 4 |
| B041A02100CPG | B042A02100CPG | 2,100 | .0827 | – | – | 0,3 | 28 | 4 |
| B041A02200CPG | B042A02200CPG | 2,200 | .0866 | – | – | 0,3 | 28 | 4 |
| B041A02300CPG | B042A02300CPG | 2,300 | .0906 | – | – | 0,4 | 28 | 4 |
| B041A02383CPG | B042A02383CPG | 2,383 | .0938 | 3/32 | – | 0,4 | 28 | 4 |
| B041A02400CPG | B042A02400CPG | 2,400 | .0945 | – | – | 0,4 | 28 | 4 |
| B041A02439CPG | B042A02439CPG | 2,439 | .0960 | – | 41 | 0,4 | 28 | 4 |
| B041A02489CPG | B042A02489CPG | 2,489 | .0980 | – | 40 | 0,4 | 28 | 4 |
| B041A02500CPG | B042A02500CPG | 2,500 | .0984 | – | – | 0,4 | 28 | 4 |
| B041A02578CPG | B042A02578CPG | 2,578 | .1015 | – | 38 | 0,4 | 28 | 4 |
| B041A02600CPG | B042A02600CPG | 2,600 | .1024 | – | – | 0,4 | 28 | 4 |
| B041A02642CPG | B042A02642CPG | 2,642 | .1040 | – | 37 | 0,4 | 28 | 4 |
| B041A02700CPG | B042A02700CPG | 2,700 | .1063 | – | – | 0,4 | 28 | 4 |

*(continued)*

*(B041A/B042A • ~3 x D/~5 x D — continued)*



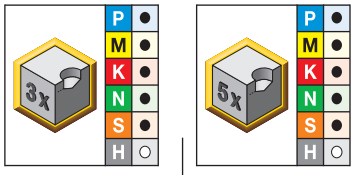




● first choice
○ alternate choice

| short • KC7325 | long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B041A02705CPG | B042A02705CPG | 2,705 | .1065 | – | 36 | 0,4 | 28 | 4 |
| B041A02779CPG | B042A02779CPG | 2,779 | .1094 | 7/64 | – | 0,4 | 28 | 4 |
| B041A02800CPG | B042A02800CPG | 2,800 | .1102 | – | – | 0,5 | 28 | 4 |
| B041A02820CPG | B042A02820CPG | 2,820 | .1110 | – | 34 | 0,5 | 28 | 4 |
| B041A02870CPG | B042A02870CPG | 2,870 | .1130 | – | 33 | 0,5 | 28 | 4 |
| B041A02900CPG | B042A02900CPG | 2,900 | .1142 | – | – | 0,5 | 28 | 4 |
| B041A02947CPG | B042A02947CPG | 2,947 | .1160 | – | 32 | 0,5 | 28 | 4 |
| B041A03000CPG | B042A03000CPG | 3,000 | .1181 | – | – | 0,5 | 36 | 6 |
| B041A03048CPG | B042A03048CPG | 3,048 | .1200 | – | 31 | 0,5 | 36 | 6 |
| B041A03100CPG | B042A03100CPG | 3,100 | .1220 | – | – | 0,5 | 36 | 6 |
| B041A03175CPG | B042A03175CPG | 3,175 | .1250 | 1/8 | – | 0,5 | 36 | 6 |
| B041A03200CPG | B042A03200CPG | 3,200 | .1260 | – | – | 0,5 | 36 | 6 |
| B041A03264CPG | B042A03264CPG | 3,264 | .1285 | – | 30 | 0,5 | 36 | 6 |
| B041A03300CPG | B042A03300CPG | 3,300 | .1299 | – | – | 0,5 | 36 | 6 |
| B041A03400CPG | B042A03400CPG | 3,400 | .1339 | – | – | 0,6 | 36 | 6 |
| B041A03455CPG | B042A03455CPG | 3,455 | .1360 | – | 29 | 0,6 | 36 | 6 |
| B041A03500CPG | B042A03500CPG | 3,500 | .1378 | – | – | 0,6 | 36 | 6 |
| B041A03571CPG | B042A03571CPG | 3,571 | .1406 | 9/64 | – | 0,6 | 36 | 6 |
| B041A03600CPG | B042A03600CPG | 3,600 | .1417 | – | – | 0,6 | 36 | 6 |
| B041A03658CPG | B042A03658CPG | 3,658 | .1440 | – | 27 | 0,6 | 36 | 6 |
| B041A03700CPG | B042A03700CPG | 3,700 | .1457 | – | – | 0,6 | 36 | 6 |
| B041A03734CPG | B042A03734CPG | 3,734 | .1470 | – | 26 | 0,6 | 36 | 6 |
| B041A03800CPG | B042A03800CPG | 3,800 | .1496 | – | – | 0,6 | 36 | 6 |
| B041A03900CPG | B042A03900CPG | 3,900 | .1535 | – | – | 0,6 | 36 | 6 |
| B041A03970CPG | B042A03970CPG | 3,970 | .1563 | 5/32 | – | 0,7 | 36 | 6 |
| B041A04000CPG | B042A04000CPG | 4,000 | .1575 | – | – | 0,7 | 36 | 6 |
| B041A04039CPG | B042A04039CPG | 4,039 | .1590 | – | 21 | 0,7 | 36 | 6 |
| B041A04090CPG | B042A04090CPG | 4,090 | .1610 | – | 20 | 0,7 | 36 | 6 |
| B041A04100CPG | B042A04100CPG | 4,100 | .1614 | – | – | 0,7 | 36 | 6 |
| B041A04200CPG | B042A04200CPG | 4,200 | .1654 | – | – | 0,7 | 36 | 6 |
| B041A04217CPG | B042A04217CPG | 4,217 | .1660 | – | 19 | 0,7 | 36 | 6 |
| B041A04300CPG | B042A04300CPG | 4,300 | .1693 | – | – | 0,7 | 36 | 6 |
| B041A04366CPG | B042A04366CPG | 4,366 | .1719 | 11/64 | – | 0,7 | 36 | 6 |
| B041A04400CPG | B042A04400CPG | 4,400 | .1732 | – | – | 0,7 | 36 | 6 |
| B041A04500CPG | B042A04500CPG | 4,500 | .1772 | – | – | 0,7 | 36 | 6 |
| B041A04600CPG | B042A04600CPG | 4,600 | .1811 | – | – | 0,8 | 36 | 6 |
| B041A04623CPG | B042A04623CPG | 4,623 | .1820 | – | 14 | 0,8 | 36 | 6 |
| B041A04700CPG | B042A04700CPG | 4,700 | .1850 | – | 13 | 0,8 | 36 | 6 |
| B041A04763CPG | B042A04763CPG | 4,763 | .1875 | 3/16 | – | 0,8 | 36 | 6 |
| B041A04800CPG | B042A04800CPG | 4,800 | .1890 | – | 12 | 0,8 | 36 | 6 |
| B041A04852CPG | B042A04852CPG | 4,852 | .1910 | – | 11 | 0,8 | 36 | 6 |
| B041A04900CPG | B042A04900CPG | 4,900 | .1929 | – | – | 0,8 | 36 | 6 |
| B041A05000CPG | B042A05000CPG | 5,000 | .1969 | – | – | 0,8 | 36 | 6 |
| B041A05100CPG | B042A05100CPG | 5,100 | .2008 | – | – | 0,8 | 36 | 6 |
| B041A05106CPG | B042A05106CPG | 5,106 | .2010 | – | 7 | 0,8 | 36 | 6 |
| B041A05159CPG | B042A05159CPG | 5,159 | .2031 | 13/64 | – | 0,9 | 36 | 6 |
| B041A05200CPG | B042A05200CPG | 5,200 | .2047 | – | – | 0,9 | 36 | 6 |
| B041A05300CPG | B042A05300CPG | 5,300 | .2087 | – | – | 0,9 | 36 | 6 |
| B041A05400CPG | B042A05400CPG | 5,400 | .2126 | – | – | 0,9 | 36 | 6 |
| B041A05410CPG | B042A05410CPG | 5,410 | .2130 | – | 3 | 0,9 | 36 | 6 |
| B041A05500CPG | B042A05500CPG | 5,500 | .2165 | – | – | 0,9 | 36 | 6 |
| B041A05558CPG | B042A05558CPG | 5,558 | .2188 | 7/32 | – | 0,9 | 36 | 6 |

*(continued)*

*(B041A/B042A • ~3 x D/~5 x D — continued)*

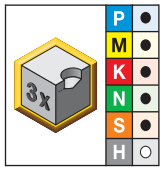


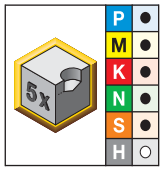

● first choice
○ alternate choice

| short • KC7325 | long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B041A05600CPG | B042A05600CPG | 5,600 | .2205 | – | – | 0,9 | 36 | 6 |
| B041A05616CPG | B042A05616CPG | 5,616 | .2211 | – | 2 | 0,9 | 36 | 6 |
| B041A05700CPG | B042A05700CPG | 5,700 | .2244 | – | – | 1,0 | 36 | 6 |
| B041A05800CPG | B042A05800CPG | 5,800 | .2283 | – | – | 1,0 | 36 | 6 |
| B041A05900CPG | B042A05900CPG | 5,900 | .2323 | – | – | 1,0 | 36 | 6 |
| B041A05954CPG | B042A05954CPG | 5,954 | .2344 | 15/64 | – | 1,0 | 36 | 6 |
| B041A06000CPG | B042A06000CPG | 6,000 | .2362 | – | – | 1,0 | 36 | 6 |
| B041A06100CPG | B042A06100CPG | 6,100 | .2402 | – | – | 1,0 | 36 | 8 |
| B041A06200CPG | B042A06200CPG | 6,200 | .2441 | – | – | 1,0 | 36 | 8 |
| B041A06300CPG | B042A06300CPG | 6,300 | .2480 | – | – | 1,1 | 36 | 8 |
| B041A06350CPG | B042A06350CPG | 6,350 | .2500 | 1/4 | E | 1,1 | 36 | 8 |
| B041A06400CPG | B042A06400CPG | 6,400 | .2520 | – | – | 1,1 | 36 | 8 |
| B041A06500CPG | B042A06500CPG | 6,500 | .2559 | – | – | 1,1 | 36 | 8 |
| B041A06528CPG | B042A06528CPG | 6,528 | .2570 | – | F | 1,1 | 36 | 8 |
| B041A06600CPG | B042A06600CPG | 6,600 | .2598 | – | – | 1,1 | 36 | 8 |
| B041A06630CPG | B042A06630CPG | 6,630 | .2610 | – | G | 1,1 | 36 | 8 |
| B041A06700CPG | B042A06700CPG | 6,700 | .2638 | – | – | 1,1 | 36 | 8 |
| B041A06746CPG | B042A06746CPG | 6,746 | .2656 | 17/64 | – | 1,1 | 36 | 8 |
| B041A06800CPG | B042A06800CPG | 6,800 | .2677 | – | – | 1,1 | 36 | 8 |
| B041A06900CPG | B042A06900CPG | 6,900 | .2717 | – | – | 1,2 | 36 | 8 |
| B041A07000CPG | B042A07000CPG | 7,000 | .2756 | – | – | 1,2 | 36 | 8 |
| B041A07100CPG | B042A07100CPG | 7,100 | .2795 | – | – | 1,2 | 36 | 8 |
| B041A07145CPG | B042A07145CPG | 7,145 | .2813 | 9/32 | – | 1,2 | 36 | 8 |
| B041A07200CPG | B042A07200CPG | 7,200 | .2835 | – | – | 1,2 | 36 | 8 |
| B041A07300CPG | B042A07300CPG | 7,300 | .2874 | – | – | 1,2 | 36 | 8 |
| B041A07400CPG | B042A07400CPG | 7,400 | .2913 | – | – | 1,3 | 36 | 8 |
| B041A07500CPG | B042A07500CPG | 7,500 | .2953 | – | – | 1,3 | 36 | 8 |
| B041A07541CPG | B042A07541CPG | 7,541 | .2969 | 19/64 | – | 1,3 | 36 | 8 |
| B041A07600CPG | B042A07600CPG | 7,600 | .2992 | – | – | 1,3 | 36 | 8 |
| B041A07700CPG | B042A07700CPG | 7,700 | .3031 | – | – | 1,3 | 36 | 8 |
| B041A07800CPG | B042A07800CPG | 7,800 | .3071 | – | – | 1,3 | 36 | 8 |
| B041A07900CPG | B042A07900CPG | 7,900 | .3110 | – | – | 1,3 | 36 | 8 |
| B041A07938CPG | B042A07938CPG | 7,938 | .3125 | 5/16 | – | 1,3 | 36 | 8 |
| B041A08000CPG | B042A08000CPG | 8,000 | .3150 | – | – | 1,4 | 36 | 8 |
| B041A08100CPG | B042A08100CPG | 8,100 | .3189 | – | – | 1,4 | 40 | 10 |
| B041A08200CPG | B042A08200CPG | 8,200 | .3228 | – | – | 1,4 | 40 | 10 |
| B041A08300CPG | B042A08300CPG | 8,300 | .3268 | – | – | 1,4 | 40 | 10 |
| B041A08334CPG | B042A08334CPG | 8,334 | .3281 | 21/64 | – | 1,4 | 40 | 10 |
| B041A08400CPG | B042A08400CPG | 8,400 | .3307 | – | – | 1,4 | 40 | 10 |
| B041A08433CPG | B042A08433CPG | 8,433 | .3320 | – | Q | 1,4 | 40 | 10 |
| B041A08500CPG | B042A08500CPG | 8,500 | .3346 | – | – | 1,4 | 40 | 10 |
| B041A08600CPG | B042A08600CPG | 8,600 | .3386 | – | – | 1,5 | 40 | 10 |
| B041A08700CPG | B042A08700CPG | 8,700 | .3425 | – | – | 1,5 | 40 | 10 |
| B041A08733CPG | B042A08733CPG | 8,733 | .3438 | 11/32 | – | 1,5 | 40 | 10 |
| B041A08800CPG | B042A08800CPG | 8,800 | .3465 | – | – | 1,5 | 40 | 10 |
| B041A08900CPG | B042A08900CPG | 8,900 | .3504 | – | – | 1,5 | 40 | 10 |
| B041A09000CPG | B042A09000CPG | 9,000 | .3543 | – | – | 1,5 | 40 | 10 |
| B041A09100CPG | B042A09100CPG | 9,100 | .3583 | – | – | 1,5 | 40 | 10 |
| B041A09129CPG | B042A09129CPG | 9,129 | .3594 | 23/64 | – | 1,6 | 40 | 10 |
| B041A09200CPG | B042A09200CPG | 9,200 | .3622 | – | – | 1,6 | 40 | 10 |
| B041A09300CPG | B042A09300CPG | 9,300 | .3661 | – | – | 1,6 | 40 | 10 |
| B041A09347CPG | B042A09347CPG | 9,347 | .3680 | – | U | 1,6 | 40 | 10 |

*(continued)*

*(B041A/B042A • ~3 x D/~5 x D — continued)*



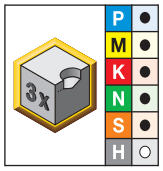



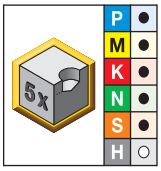

● first choice
○ alternate choice

| short • KC7325 | long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B041A09400CPG | B042A09400CPG | 9,400 | .3701 | – | – | 1,6 | 40 | 10 |
| B041A09500CPG | B042A09500CPG | 9,500 | .3740 | – | – | 1,6 | 40 | 10 |
| B041A09525CPG | B042A09525CPG | 9,525 | .3750 | 3/8 | – | 1,6 | 40 | 10 |
| B041A09600CPG | B042A09600CPG | 9,600 | .3780 | – | – | 1,6 | 40 | 10 |
| B041A09700CPG | B042A09700CPG | 9,700 | .3819 | – | – | 1,7 | 40 | 10 |
| B041A09800CPG | B042A09800CPG | 9,800 | .3858 | – | – | 1,7 | 40 | 10 |
| B041A09900CPG | B042A09900CPG | 9,900 | .3898 | – | – | 1,7 | 40 | 10 |
| B041A09921CPG | B042A09921CPG | 9,921 | .3906 | 25/64 | – | 1,7 | 40 | 10 |
| B041A10000CPG | B042A10000CPG | 10,000 | .3937 | – | – | 1,7 | 40 | 10 |
| B041A10100CPG | B042A10100CPG | 10,100 | .3976 | – | – | 1,7 | 45 | 12 |
| B041A10200CPG | B042A10200CPG | 10,200 | .4016 | – | – | 1,7 | 45 | 12 |
| B041A10300CPG | B042A10300CPG | 10,300 | .4055 | – | – | 1,8 | 45 | 12 |
| B041A10320CPG | B042A10320CPG | 10,320 | .4063 | 13/32 | – | 1,8 | 45 | 12 |
| B041A10400CPG | B042A10400CPG | 10,400 | .4094 | – | – | 1,8 | 45 | 12 |
| B041A10500CPG | B042A10500CPG | 10,500 | .4134 | – | – | 1,8 | 45 | 12 |
| B041A10600CPG | B042A10600CPG | 10,600 | .4173 | – | – | 1,8 | 45 | 12 |
| B041A10700CPG | B042A10700CPG | 10,700 | .4213 | – | – | 1,8 | 45 | 12 |
| B041A10716CPG | B042A10716CPG | 10,716 | .4219 | 27/64 | – | 1,8 | 45 | 12 |
| B041A10800CPG | B042A10800CPG | 10,800 | .4252 | – | – | 1,8 | 45 | 12 |
| B041A10900CPG | B042A10900CPG | 10,900 | .4291 | – | – | 1,9 | 45 | 12 |
| B041A11000CPG | B042A11000CPG | 11,000 | .4331 | – | – | 1,9 | 45 | 12 |
| B041A11100CPG | B042A11100CPG | 11,100 | .4370 | – | – | 1,9 | 45 | 12 |
| B041A11113CPG | B042A11113CPG | 11,113 | .4375 | 7/16 | – | 1,9 | 45 | 12 |
| B041A11200CPG | B042A11200CPG | 11,200 | .4409 | – | – | 1,9 | 45 | 12 |
| B041A11300CPG | B042A11300CPG | 11,300 | .4449 | – | – | 1,9 | 45 | 12 |
| B041A11400CPG | B042A11400CPG * | 11,400 | .4488 | – | – | 2,0 | 45 | 12 |
| B041A11500CPG | B042A11500CPG | 11,500 | .4528 | – | – | 2,0 | 45 | 12 |
| B041A11509CPG | B042A11509CPG | 11,509 | .4531 | 29/64 | – | 2,0 | 45 | 12 |
| B041A11600CPG | B042A11600CPG | 11,600 | .4567 | – | – | 2,0 | 45 | 12 |
| B041A11700CPG | B042A11700CPG | 11,700 | .4606 | – | – | 2,0 | 45 | 12 |
| B041A11800CPG | B042A11800CPG | 11,800 | .4646 | – | – | 2,0 | 45 | 12 |
| B041A11900CPG | B042A11900CPG | 11,900 | .4685 | – | – | 2,0 | 45 | 12 |
| B041A11908CPG | B042A11908CPG | 11,908 | .4688 | 15/32 | – | 2,0 | 45 | 12 |
| B041A12000CPG | B042A12000CPG | 12,000 | .4724 | – | – | 2,1 | 45 | 12 |
| B041A12100CPG | B042A12100CPG | 12,100 | .4764 | – | – | 2,1 | 45 | 14 |
| B041A12200CPG | B042A12200CPG | 12,200 | .4803 | – | – | 2,1 | 45 | 14 |
| B041A12300CPG | B042A12300CPG | 12,300 | .4843 | – | – | 2,1 | 45 | 14 |
| B041A12304CPG | B042A12304CPG | 12,304 | .4844 | 31/64 | – | 2,1 | 45 | 14 |
| B041A12400CPG | B042A12400CPG * | 12,400 | .4882 | – | – | 2,1 | 45 | 14 |
| B041A12500CPG | B042A12500CPG | 12,500 | .4921 | – | – | 2,1 | 45 | 14 |
| B041A12600CPG | B042A12600CPG | 12,600 | .4961 | – | – | 2,2 | 45 | 14 |
| B041A12700CPG | B042A12700CPG | 12,700 | .5000 | 1/2 | – | 2,2 | 45 | 14 |
| B041A12800CPG | B042A12800CPG | 12,800 | .5039 | – | – | 2,2 | 45 | 14 |
| B041A12900CPG | B042A12900CPG | 12,900 | .5079 | – | – | 2,2 | 45 | 14 |
| B041A13000CPG | B042A13000CPG | 13,000 | .5118 | – | – | 2,2 | 45 | 14 |
| B041A13096CPG | B042A13096CPG | 13,096 | .5156 | 33/64 | – | 2,3 | 45 | 14 |
| B041A13100CPG | B042A13100CPG | 13,100 | .5157 | – | – | 2,3 | 45 | 14 |
| B041A13200CPG | B042A13200CPG | 13,200 | .5197 | – | – | 2,3 | 45 | 14 |
| B041A13300CPG | B042A13300CPG | 13,300 | .5236 | – | – | 2,3 | 45 | 14 |
| B041A13400CPG | B042A13400CPG | 13,400 | .5276 | – | – | 2,3 | 45 | 14 |
| B041A13500CPG | B042A13500CPG | 13,500 | .5315 | – | – | 2,3 | 45 | 14 |
| B041A13600CPG | B042A13600CPG | 13,600 | .5354 | – | – | 2,3 | 45 | 14 |

*(continued)*

*(B041A/B042A • ~3 x D/~5 x D — continued)*



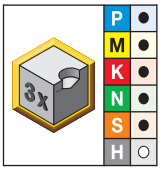

● first choice
○ alternate choice

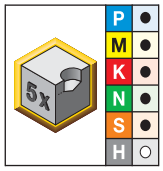
| short • KC7325 | long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B041A13700CPG | B042A13700CPG | 13,700 | .5394 | – | – | 2,4 | 45 | 14 |
| B041A13800CPG | B042A13800CPG | 13,800 | .5433 | – | – | 2,4 | 45 | 14 |
| B041A13891CPG | B042A13891CPG | 13,891 | .5469 | 35/64 | – | 2,4 | 45 | 14 |
| B041A13900CPG | B042A13900CPG | 13,900 | .5472 | – | – | 2,4 | 45 | 14 |
| B041A14000CPG | B042A14000CPG | 14,000 | .5512 | – | – | 2,4 | 45 | 14 |
| B041A14100CPG | B042A14100CPG | 14,100 | .5551 | – | – | 2,4 | 48 | 16 |
| B041A14200CPG | B042A14200CPG | 14,200 | .5591 | – | – | 2,5 | 48 | 16 |
| B041A14288CPG | B042A14288CPG | 14,288 | .5625 | 9/16 | – | 2,5 | 48 | 16 |
| B041A14300CPG | B042A14300CPG | 14,300 | .5630 | – | – | 2,5 | 48 | 16 |
| B041A14400CPG | B042A14400CPG | 14,400 | .5669 | – | – | 2,5 | 48 | 16 |
| B041A14500CPG | B042A14500CPG | 14,500 | .5709 | – | – | 2,5 | 48 | 16 |
| B041A14600CPG | B042A14600CPG | 14,600 | .5748 | – | – | 2,5 | 48 | 16 |
| B041A14684CPG | B042A14684CPG | 14,684 | .5781 | 37/64 | – | 2,5 | 48 | 16 |
| B041A14700CPG | B042A14700CPG | 14,700 | .5787 | – | – | 2,5 | 48 | 16 |
| B041A14800CPG | B042A14800CPG | 14,800 | .5827 | – | – | 2,6 | 48 | 16 |
| B041A14900CPG | B042A14900CPG | 14,900 | .5866 | – | – | 2,6 | 48 | 16 |
| B041A15000CPG | B042A15000CPG | 15,000 | .5906 | – | – | 2,6 | 48 | 16 |
| B041A15083CPG | B042A15083CPG | 15,083 | .5938 | 19/32 | – | 2,6 | 48 | 16 |
| B041A15100CPG | B042A15100CPG | 15,100 | .5945 | – | – | 2,6 | 48 | 16 |
| B041A15200CPG | B042A15200CPG | 15,200 | .5984 | – | – | 2,6 | 48 | 16 |
| B041A15300CPG | B042A15300CPG | 15,300 | .6024 | – | – | 2,6 | 48 | 16 |
| B041A15400CPG | B042A15400CPG | 15,400 | .6063 | – | – | 2,7 | 48 | 16 |
| B041A15479CPG | B042A15479CPG | 15,479 | .6094 | 39/64 | – | 2,7 | 48 | 16 |
| B041A15500CPG | B042A15500CPG | 15,500 | .6102 | – | – | 2,7 | 48 | 16 |
| B041A15600CPG | B042A15600CPG | 15,600 | .6142 | – | – | 2,7 | 48 | 16 |
| B041A15700CPG | B042A15700CPG | 15,700 | .6181 | – | – | 2,7 | 48 | 16 |
| B041A15800CPG | B042A15800CPG | 15,800 | .6220 | – | – | 2,7 | 48 | 16 |
| B041A15875CPG | B042A15875CPG | 15,875 | .6250 | 5/8 | – | 2,7 | 48 | 16 |
| B041A15900CPG | B042A15900CPG | 15,900 | .6260 | – | – | 2,8 | 48 | 16 |
| B041A16000CPG | B042A16000CPG | 16,000 | .6299 | – | – | 2,8 | 48 | 16 |
| B041A16100CPG | B042A16100CPG | 16,100 | .6339 | – | – | 2,8 | 48 | 18 |
| B041A16200CPG | B042A16200CPG | 16,200 | .6378 | – | – | 2,8 | 48 | 18 |
| B041A16271CPG | B042A16271CPG | 16,271 | .6406 | 41/64 | – | 2,8 | 48 | 18 |
| B041A16300CPG | B042A16300CPG | 16,300 | .6417 | – | – | 2,8 | 48 | 18 |
| B041A16400CPG | B042A16400CPG | 16,400 | .6457 | – | – | 2,8 | 48 | 18 |
| B041A16500CPG | B042A16500CPG | 16,500 | .6496 | – | – | 2,9 | 48 | 18 |
| B041A16600CPG | B042A16600CPG | 16,600 | .6535 | – | – | 2,9 | 48 | 18 |
| B041A16670CPG | B042A16670CPG | 16,670 | .6563 | 21/32 | – | 2,9 | 48 | 18 |
| B041A16700CPG | B042A16700CPG | 16,700 | .6575 | – | – | 2,9 | 48 | 18 |
| B041A16800CPG | B042A16800CPG | 16,800 | .6614 | – | – | 2,9 | 48 | 18 |
| B041A16900CPG | B042A16900CPG | 16,900 | .6654 | – | – | 2,9 | 48 | 18 |
| B041A17000CPG | B042A17000CPG | 17,000 | .6693 | – | – | 2,9 | 48 | 18 |
| B041A17100CPG | B042A17100CPG | 17,100 | .6732 | – | – | 3,0 | 48 | 18 |
| B041A17200CPG | B042A17200CPG | 17,200 | .6772 | – | – | 3,0 | 48 | 18 |
| B041A17300CPG | B042A17300CPG | 17,300 | .6811 | – | – | 3,0 | 48 | 18 |
| B041A17400CPG | B042A17400CPG | 17,400 | .6850 | – | – | 3,0 | 48 | 18 |
| B041A17463CPG | B042A17463CPG | 17,463 | .6875 | 11/16 | – | 3,0 | 48 | 18 |
| B041A17500CPG | B042A17500CPG | 17,500 | .6890 | – | – | 3,0 | 48 | 18 |
| B041A17600CPG | B042A17600CPG | 17,600 | .6929 | – | – | 3,1 | 48 | 18 |
| B041A17700CPG | B042A17700CPG | 17,700 | .6969 | – | – | 3,1 | 48 | 18 |
| B041A17800CPG | B042A17800CPG | 17,800 | .7008 | – | – | 3,1 | 48 | 18 |
| B041A17859CPG | B042A17859CPG | 17,859 | .7031 | 45/64 | – | 3,1 | 48 | 18 |

*(continued)*

*(B041A/B042A • ~3 x D/~5 x D — continued)*



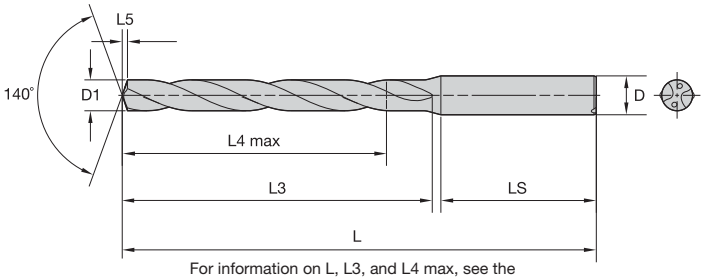


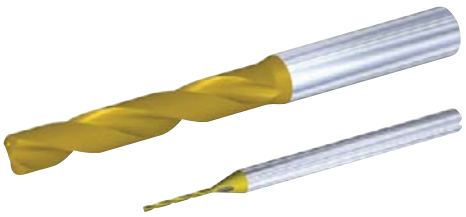

● first choice
○ alternate choice

| short • KC7325 | long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B041A17900CPG | B042A17900CPG | 17,900 | .7047 | – | – | 3,1 | 48 | 18 |
| B041A18000CPG | B042A18000CPG | 18,000 | .7087 | – | – | 3,1 | 48 | 18 |
| B041A18100CPG | B042A18100CPG | 18,100 | .7126 | – | – | 3,1 | 50 | 20 |
| B041A18200CPG | B042A18200CPG | 18,200 | .7165 | – | – | 3,2 | 50 | 20 |
| B041A18258CPG | B042A18258CPG | 18,258 | .7188 | 23/32 | – | 3,2 | 50 | 20 |
| B041A18300CPG | B042A18300CPG | 18,300 | .7205 | – | – | 3,2 | 50 | 20 |
| B041A18400CPG | B042A18400CPG | 18,400 | .7244 | – | – | 3,2 | 50 | 20 |
| B041A18500CPG | B042A18500CPG | 18,500 | .7283 | – | – | 3,2 | 50 | 20 |
| B041A18600CPG | B042A18600CPG | 18,600 | .7323 | – | – | 3,2 | 50 | 20 |
| B041A18654CPG | B042A18654CPG | 18,654 | .7344 | 47/64 | – | 3,2 | 50 | 20 |
| B041A18700CPG | B042A18700CPG | 18,700 | .7362 | – | – | 3,2 | 50 | 20 |
| B041A18800CPG | B042A18800CPG | 18,800 | .7402 | – | – | 3,3 | 50 | 20 |
| B041A18900CPG | B042A18900CPG | 18,900 | .7441 | – | – | 3,3 | 50 | 20 |
| B041A19000CPG | B042A19000CPG | 19,000 | .7480 | – | – | 3,3 | 50 | 20 |
| B041A19050CPG | B042A19050CPG | 19,050 | .7500 | 3/4 | – | 3,3 | 50 | 20 |
| B041A19100CPG | B042A19100CPG | 19,100 | .7520 | – | – | 3,3 | 50 | 20 |
| B041A19200CPG | B042A19200CPG | 19,200 | .7559 | – | – | 3,3 | 50 | 20 |
| B041A19300CPG | B042A19300CPG | 19,300 | .7598 | – | – | 3,4 | 50 | 20 |
| B041A19400CPG | B042A19400CPG | 19,400 | .7638 | – | – | 3,4 | 50 | 20 |
| B041A19500CPG | B042A19500CPG | 19,500 | .7677 | – | – | 3,4 | 50 | 20 |
| B041A19600CPG | B042A19600CPG | 19,600 | .7717 | – | – | 3,4 | 50 | 20 |
| B041A19700CPG | B042A19700CPG | 19,700 | .7756 | – | – | 3,4 | 50 | 20 |
| B041A19800CPG | B042A19800CPG | 19,800 | .7795 | – | – | 3,4 | 50 | 20 |
| B041A19900CPG | B042A19900CPG | 19,900 | .7835 | – | – | 3,5 | 50 | 20 |
| B041A20000CPG | B042A20000CPG | 20,000 | .7874 | – | – | 3,5 | 50 | 20 |

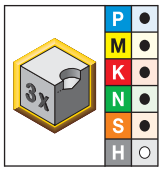
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

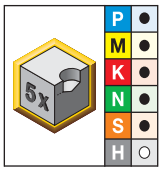


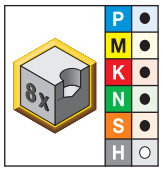

For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.



## B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D



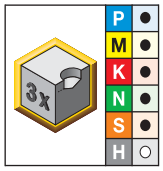

● first choice
○ alternate choice

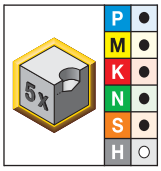
| short • KC7325 | long • KC7325 | extra long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| – | – | B053A01000CPG | 1,000 | .0394 | – | – | 0,1 | 28 | 4 |
| – | – | B053A01016CPG | 1,016 | .0400 | – | 60 | 0,1 | 28 | 4 |
| – | – | B053A01067CPG | 1,067 | .0420 | – | 58 | 0,2 | 28 | 4 |
| – | – | B053A01100CPG | 1,100 | .0433 | – | – | 0,2 | 28 | 4 |
| – | – | B053A01181CPG | 1,181 | .0465 | – | 56 | 0,2 | 28 | 4 |
| – | – | B053A01191CPG | 1,191 | .0469 | 3/64 | – | 0,2 | 28 | 4 |
| – | – | B053A01200CPG | 1,200 | .0472 | – | – | 0,2 | 28 | 4 |
| – | – | B053A01300CPG | 1,300 | .0512 | – | – | 0,2 | 28 | 4 |
| – | – | B053A01321CPG | 1,321 | .0520 | – | 55 | 0,2 | 28 | 4 |
| – | – | B053A01397CPG | 1,397 | .0550 | – | 54 | 0,2 | 28 | 4 |
| – | – | B053A01400CPG | 1,400 | .0551 | – | – | 0,2 | 28 | 4 |
| B051A01500CPG | B052A01500CPG | B053A01500CPG | 1,500 | .0591 | – | – | 0,2 | 28 | 4 |
| B051A01600CPG | B052A01600CPG | B053A01600CPG | 1,600 | .0630 | – | – | 0,2 | 28 | 4 |
| B051A01700CPG | B052A01700CPG | B053A01700CPG | 1,700 | .0669 | – | – | 0,3 | 28 | 4 |
| B051A01800CPG | B052A01800CPG | B053A01800CPG | 1,800 | .0709 | – | – | 0,3 | 28 | 4 |
| B051A01900CPG | B052A01900CPG | B053A01900CPG | 1,900 | .0748 | – | – | 0,3 | 28 | 4 |
| B051A01984CPG | B052A01984CPG | B053A01984CPG | 1,984 | .0781 | 5/64 | – | 0,3 | 28 | 4 |
| B051A02000CPG | B052A02000CPG | B053A02000CPG | 2,000 | .0787 | – | – | 0,3 | 28 | 4 |
| B051A02100CPG | B052A02100CPG | B053A02100CPG | 2,100 | .0827 | – | – | 0,3 | 28 | 4 |
| B051A02200CPG | B052A02200CPG | B053A02200CPG | 2,200 | .0866 | – | – | 0,3 | 28 | 4 |
| B051A02300CPG | B052A02300CPG | B053A02300CPG | 2,300 | .0906 | – | – | 0,4 | 28 | 4 |
| B051A02383CPG | B052A02383CPG | B053A02383CPG | 2,383 | .0938 | 3/32 | – | 0,4 | 28 | 4 |
| B051A02400CPG | B052A02400CPG | B053A02400CPG | 2,400 | .0945 | – | – | 0,4 | 28 | 4 |
| B051A02439CPG | B052A02439CPG | B053A02439CPG | 2,439 | .0960 | – | 41 | 0,4 | 28 | 4 |
| B051A02489CPG | B052A02489CPG | B053A02489CPG | 2,489 | .0980 | – | 40 | 0,4 | 28 | 4 |
| B051A02500CPG | B052A02500CPG | B053A02500CPG | 2,500 | .0984 | – | – | 0,4 | 28 | 4 |
| B051A02578CPG | B052A02578CPG | B053A02578CPG | 2,578 | .1015 | – | 38 | 0,4 | 28 | 4 |
| B051A02600CPG | B052A02600CPG | B053A02600CPG | 2,600 | .1024 | – | – | 0,4 | 28 | 4 |
| B051A02642CPG | B052A02642CPG | B053A02642CPG | 2,642 | .1040 | – | 37 | 0,4 | 28 | 4 |
| B051A02700CPG | B052A02700CPG | B053A02700CPG | 2,700 | .1063 | – | – | 0,4 | 28 | 4 |
| B051A02705CPG | B052A02705CPG | B053A02705CPG | 2,705 | .1065 | – | 36 | 0,4 | 28 | 4 |
| B051A02779CPG | B052A02779CPG | B053A02779CPG | 2,779 | .1094 | 7/64 | – | 0,4 | 28 | 4 |
| B051A02800CPG | B052A02800CPG | B053A02800CPG | 2,800 | .1102 | – | – | 0,5 | 28 | 4 |
| B051A02820CPG | B052A02820CPG | B053A02820CPG | 2,820 | .1110 | – | 34 | 0,5 | 28 | 4 |
| B051A02870CPG | B052A02870CPG | B053A02870CPG | 2,870 | .1130 | – | 33 | 0,5 | 28 | 4 |
| B051A02900CPG | B052A02900CPG | B053A02900CPG | 2,900 | .1142 | – | – | 0,5 | 28 | 4 |

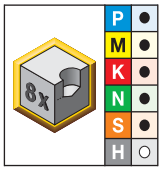
*(continued)*

*(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D — continued)*





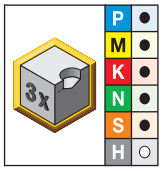



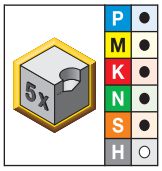

● first choice
○ alternate choice

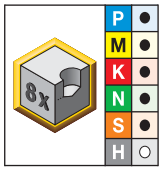
| short • KC7325 | long • KC7325 | extra long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B051A02947CPG | B052A02947CPG | B053A02947CPG | 2,947 | .1160 | – | 32 | 0,5 | 28 | 4 |
| B051A03000CPG | B052A03000CPG | B053A03000CPG | 3,000 | .1181 | – | – | 0,5 | 36 | 6 |
| B051A03048CPG | B052A03048CPG | B053A03048CPG | 3,048 | .1200 | – | 31 | 0,5 | 36 | 6 |
| B051A03100CPG | B052A03100CPG | B053A03100CPG | 3,100 | .1220 | – | – | 0,5 | 36 | 6 |
| B051A03175CPG | B052A03175CPG | B053A03175CPG | 3,175 | .1250 | 1/8 | – | 0,5 | 36 | 6 |
| B051A03200CPG | B052A03200CPG | B053A03200CPG | 3,200 | .1260 | – | – | 0,5 | 36 | 6 |
| B051A03264CPG | B052A03264CPG | B053A03264CPG | 3,264 | .1285 | – | 30 | 0,5 | 36 | 6 |
| B051A03300CPG | B052A03300CPG | B053A03300CPG | 3,300 | .1299 | – | – | 0,5 | 36 | 6 |
| B051A03400CPG | B052A03400CPG | B053A03400CPG | 3,400 | .1339 | – | – | 0,6 | 36 | 6 |
| B051A03455CPG | B052A03455CPG | B053A03455CPG | 3,455 | .1360 | – | 29 | 0,6 | 36 | 6 |
| B051A03500CPG | B052A03500CPG | B053A03500CPG | 3,500 | .1378 | – | – | 0,6 | 36 | 6 |
| B051A03571CPG | B052A03571CPG | B053A03571CPG | 3,571 | .1406 | 9/64 | – | 0,6 | 36 | 6 |
| B051A03600CPG | B052A03600CPG | B053A03600CPG | 3,600 | .1417 | – | – | 0,6 | 36 | 6 |
| B051A03658CPG | B052A03658CPG | B053A03658CPG | 3,658 | .1440 | – | 27 | 0,6 | 36 | 6 |
| B051A03700CPG | B052A03700CPG | B053A03700CPG | 3,700 | .1457 | – | – | 0,6 | 36 | 6 |
| B051A03734CPG | B052A03734CPG | B053A03734CPG | 3,734 | .1470 | – | 26 | 0,6 | 36 | 6 |
| B051A03800CPG | B052A03800CPG | B053A03800CPG | 3,800 | .1496 | – | – | 0,6 | 36 | 6 |
| B051A03900CPG | B052A03900CPG | B053A03900CPG | 3,900 | .1535 | – | – | 0,6 | 36 | 6 |
| B051A03970CPG | B052A03970CPG | B053A03970CPG | 3,970 | .1563 | 5/32 | – | 0,7 | 36 | 6 |
| B051A04000CPG | B052A04000CPG | B053A04000CPG | 4,000 | .1575 | – | – | 0,7 | 36 | 6 |
| B051A04039CPG | B052A04039CPG | B053A04039CPG | 4,039 | .1590 | – | 21 | 0,7 | 36 | 6 |
| B051A04090CPG | B052A04090CPG | B053A04090CPG | 4,090 | .1610 | – | 20 | 0,7 | 36 | 6 |
| B051A04100CPG | B052A04100CPG | B053A04100CPG | 4,100 | .1614 | – | – | 0,7 | 36 | 6 |
| B051A04200CPG | B052A04200CPG | B053A04200CPG | 4,200 | .1654 | – | – | 0,7 | 36 | 6 |
| B051A04217CPG | B052A04217CPG | B053A04217CPG | 4,217 | .1660 | – | 19 | 0,7 | 36 | 6 |
| B051A04300CPG | B052A04300CPG | B053A04300CPG | 4,300 | .1693 | – | – | 0,7 | 36 | 6 |
| B051A04366CPG | B052A04366CPG | B053A04366CPG | 4,366 | .1719 | 11/64 | – | 0,7 | 36 | 6 |
| B051A04400CPG | B052A04400CPG | B053A04400CPG | 4,400 | .1732 | – | – | 0,7 | 36 | 6 |
| B051A04500CPG | B052A04500CPG | B053A04500CPG | 4,500 | .1772 | – | – | 0,7 | 36 | 6 |
| B051A04600CPG | B052A04600CPG | B053A04600CPG | 4,600 | .1811 | – | – | 0,8 | 36 | 6 |
| B051A04623CPG | B052A04623CPG | B053A04623CPG | 4,623 | .1820 | – | 14 | 0,8 | 36 | 6 |
| B051A04700CPG | B052A04700CPG | B053A04700CPG | 4,700 | .1850 | – | 13 | 0,8 | 36 | 6 |
| B051A04763CPG | B052A04763CPG | B053A04763CPG | 4,763 | .1875 | 3/16 | – | 0,8 | 36 | 6 |
| B051A04800CPG | B052A04800CPG | B053A04800CPG | 4,800 | .1890 | – | 12 | 0,8 | 36 | 6 |
| B051A04852CPG | B052A04852CPG | B053A04852CPG | 4,852 | .1910 | – | 11 | 0,8 | 36 | 6 |
| B051A04900CPG | B052A04900CPG | B053A04900CPG | 4,900 | .1929 | – | – | 0,8 | 36 | 6 |
| B051A05000CPG | B052A05000CPG | B053A05000CPG | 5,000 | .1969 | – | – | 0,8 | 36 | 6 |
| B051A05100CPG | B052A05100CPG | B053A05100CPG | 5,100 | .2008 | – | – | 0,8 | 36 | 6 |
| B051A05106CPG | B052A05106CPG | B053A05106CPG | 5,106 | .2010 | – | 7 | 0,8 | 36 | 6 |
| B051A05159CPG | B052A05159CPG | B053A05159CPG | 5,159 | .2031 | 13/64 | – | 0,9 | 36 | 6 |
| B051A05200CPG | B052A05200CPG | B053A05200CPG | 5,200 | .2047 | – | – | 0,9 | 36 | 6 |
| B051A05300CPG | B052A05300CPG | B053A05300CPG | 5,300 | .2087 | – | – | 0,9 | 36 | 6 |
| B051A05400CPG | B052A05400CPG | B053A05400CPG | 5,400 | .2126 | – | – | 0,9 | 36 | 6 |
| B051A05410CPG | B052A05410CPG | B053A05410CPG | 5,410 | .2130 | – | 3 | 0,9 | 36 | 6 |
| B051A05500CPG | B052A05500CPG | B053A05500CPG | 5,500 | .2165 | – | – | 0,9 | 36 | 6 |
| B051A05558CPG | B052A05558CPG | B053A05558CPG | 5,558 | .2188 | 7/32 | – | 0,9 | 36 | 6 |
| B051A05600CPG | B052A05600CPG | B053A05600CPG | 5,600 | .2205 | – | – | 0,9 | 36 | 6 |
| B051A05616CPG | B052A05616CPG | B053A05616CPG | 5,616 | .2211 | – | 2 | 0,9 | 36 | 6 |
| B051A05700CPG | B052A05700CPG | B053A05700CPG | 5,700 | .2244 | – | – | 1,0 | 36 | 6 |
| B051A05800CPG | B052A05800CPG | B053A05800CPG | 5,800 | .2283 | – | – | 1,0 | 36 | 6 |
| B051A05900CPG | B052A05900CPG | B053A05900CPG | 5,900 | .2323 | – | – | 1,0 | 36 | 6 |
| B051A05954CPG | B052A05954CPG | B053A05954CPG | 5,954 | .2344 | 15/64 | – | 1,0 | 36 | 6 |

*(continued)*

*(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D — continued)*



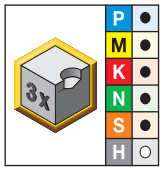



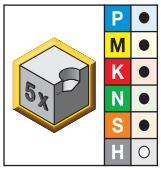

● first choice
○ alternate choice

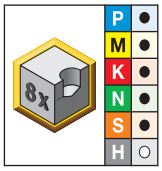
| short • KC7325 | long • KC7325 | extra long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B051A06000CPG | B052A06000CPG | B053A06000CPG | 6,000 | .2362 | — | — | 1,0 | 36 | 6 |
| B051A06100CPG | B052A06100CPG | B053A06100CPG | 6,100 | .2402 | — | — | 1,0 | 36 | 8 |
| B051A06200CPG | B052A06200CPG | B053A06200CPG | 6,200 | .2441 | — | — | 1,0 | 36 | 8 |
| B051A06300CPG | B052A06300CPG | B053A06300CPG | 6,300 | .2480 | — | — | 1,1 | 36 | 8 |
| B051A06350CPG | B052A06350CPG | B053A06350CPG | 6,350 | .2500 | 1/4 | E | 1,1 | 36 | 8 |
| B051A06400CPG | B052A06400CPG | B053A06400CPG | 6,400 | .2520 | — | — | 1,1 | 36 | 8 |
| B051A06500CPG | B052A06500CPG | B053A06500CPG | 6,500 | .2559 | — | — | 1,1 | 36 | 8 |
| B051A06528CPG | B052A06528CPG | B053A06528CPG | 6,528 | .2570 | — | F | 1,1 | 36 | 8 |
| B051A06600CPG | B052A06600CPG | B053A06600CPG | 6,600 | .2598 | — | — | 1,1 | 36 | 8 |
| B051A06630CPG | B052A06630CPG | B053A06630CPG | 6,630 | .2610 | — | G | 1,1 | 36 | 8 |
| B051A06700CPG | B052A06700CPG | B053A06700CPG | 6,700 | .2638 | — | — | 1,1 | 36 | 8 |
| B051A06746CPG | B052A06746CPG | B053A06746CPG | 6,746 | .2656 | 17/64 | — | 1,1 | 36 | 8 |
| B051A06800CPG | B052A06800CPG | B053A06800CPG | 6,800 | .2677 | — | — | 1,1 | 36 | 8 |
| B051A06900CPG | B052A06900CPG | B053A06900CPG | 6,900 | .2717 | — | — | 1,2 | 36 | 8 |
| B051A07000CPG | B052A07000CPG | B053A07000CPG | 7,000 | .2756 | — | — | 1,2 | 36 | 8 |
| B051A07100CPG | B052A07100CPG | B053A07100CPG | 7,100 | .2795 | — | — | 1,2 | 36 | 8 |
| B051A07145CPG | B052A07145CPG | B053A07145CPG | 7,145 | .2813 | 9/32 | — | 1,2 | 36 | 8 |
| B051A07200CPG | B052A07200CPG | B053A07200CPG | 7,200 | .2835 | — | — | 1,2 | 36 | 8 |
| B051A07300CPG | B052A07300CPG | B053A07300CPG | 7,300 | .2874 | — | — | 1,2 | 36 | 8 |
| B051A07400CPG | B052A07400CPG | B053A07400CPG | 7,400 | .2913 | — | — | 1,3 | 36 | 8 |
| B051A07500CPG | B052A07500CPG | B053A07500CPG | 7,500 | .2953 | — | — | 1,3 | 36 | 8 |
| B051A07541CPG | B052A07541CPG | B053A07541CPG | 7,541 | .2969 | 19/64 | — | 1,3 | 36 | 8 |
| B051A07600CPG | B052A07600CPG | B053A07600CPG | 7,600 | .2992 | — | — | 1,3 | 36 | 8 |
| B051A07700CPG | B052A07700CPG | B053A07700CPG | 7,700 | .3031 | — | — | 1,3 | 36 | 8 |
| B051A07800CPG | B052A07800CPG | B053A07800CPG | 7,800 | .3071 | — | — | 1,3 | 36 | 8 |
| B051A07900CPG | B052A07900CPG | B053A07900CPG | 7,900 | .3110 | — | — | 1,3 | 36 | 8 |
| B051A07938CPG | B052A07938CPG | B053A07938CPG | 7,938 | .3125 | 5/16 | — | 1,3 | 36 | 8 |
| B051A08000CPG | B052A08000CPG | B053A08000CPG | 8,000 | .3150 | — | — | 1,4 | 36 | 8 |
| B051A08100CPG | B052A08100CPG | B053A08100CPG | 8,100 | .3189 | — | — | 1,4 | 40 | 10 |
| B051A08200CPG | B052A08200CPG | B053A08200CPG | 8,200 | .3228 | — | — | 1,4 | 40 | 10 |
| B051A08300CPG | B052A08300CPG | B053A08300CPG | 8,300 | .3268 | — | — | 1,4 | 40 | 10 |
| B051A08334CPG | B052A08334CPG | B053A08334CPG | 8,334 | .3281 | 21/64 | — | 1,4 | 40 | 10 |
| B051A08400CPG | B052A08400CPG | B053A08400CPG | 8,400 | .3307 | — | — | 1,4 | 40 | 10 |
| B051A08433CPG | B052A08433CPG | B053A08433CPG | 8,433 | .3320 | — | Q | 1,4 | 40 | 10 |
| B051A08500CPG | B052A08500CPG | B053A08500CPG | 8,500 | .3346 | — | — | 1,4 | 40 | 10 |
| B051A08600CPG | B052A08600CPG | B053A08600CPG | 8,600 | .3386 | — | — | 1,5 | 40 | 10 |
| B051A08700CPG | B052A08700CPG | B053A08700CPG | 8,700 | .3425 | — | — | 1,5 | 40 | 10 |
| B051A08733CPG | B052A08733CPG | B053A08733CPG | 8,733 | .3438 | 11/32 | — | 1,5 | 40 | 10 |
| B051A08800CPG | B052A08800CPG | B053A08800CPG | 8,800 | .3465 | — | — | 1,5 | 40 | 10 |
| B051A08900CPG | B052A08900CPG | B053A08900CPG | 8,900 | .3504 | — | — | 1,5 | 40 | 10 |
| B051A09000CPG | B052A09000CPG | B053A09000CPG | 9,000 | .3543 | — | — | 1,5 | 40 | 10 |
| B051A09100CPG | B052A09100CPG | B053A09100CPG | 9,100 | .3583 | — | — | 1,5 | 40 | 10 |
| B051A09129CPG | B052A09129CPG | B053A09129CPG | 9,129 | .3594 | 23/64 | — | 1,6 | 40 | 10 |
| B051A09200CPG | B052A09200CPG | B053A09200CPG | 9,200 | .3622 | — | — | 1,6 | 40 | 10 |
| B051A09300CPG | B052A09300CPG | B053A09300CPG | 9,300 | .3661 | — | — | 1,6 | 40 | 10 |
| B051A09347CPG | B052A09347CPG | B053A09347CPG | 9,347 | .3680 | — | U | 1,6 | 40 | 10 |
| B051A09400CPG | B052A09400CPG | B053A09400CPG | 9,400 | .3701 | — | — | 1,6 | 40 | 10 |
| B051A09500CPG | B052A09500CPG | B053A09500CPG | 9,500 | .3740 | — | — | 1,6 | 40 | 10 |
| B051A09525CPG | B052A09525CPG | B053A09525CPG | 9,525 | .3750 | 3/8 | — | 1,6 | 40 | 10 |
| B051A09600CPG | B052A09600CPG | B053A09600CPG | 9,600 | .3780 | — | — | 1,6 | 40 | 10 |
| B051A09700CPG | B052A09700CPG | B053A09700CPG | 9,700 | .3819 | — | — | 1,7 | 40 | 10 |
| B051A09800CPG | B052A09800CPG | B053A09800CPG | 9,800 | .3858 | — | — | 1,7 | 40 | 10 |

*(continued)*

*(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D — continued)*



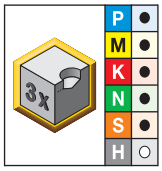



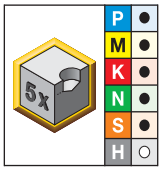

● first choice
○ alternate choice

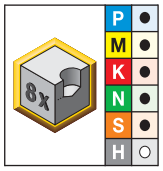
| short • KC7325 | long • KC7325 | extra long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B051A09900CPG | B052A09900CPG | B053A09900CPG | 9,900 | .3898 | – | – | 1,7 | 40 | 10 |
| B051A09921CPG | B052A09921CPG | B053A09921CPG | 9,921 | .3906 | 25/64 | – | 1,7 | 40 | 10 |
| B051A10000CPG | B052A10000CPG | B053A10000CPG | 10,000 | .3937 | – | – | 1,7 | 40 | 10 |
| B051A10100CPG | B052A10100CPG | B053A10100CPG | 10,100 | .3976 | – | – | 1,7 | 45 | 12 |
| B051A10200CPG | B052A10200CPG | B053A10200CPG | 10,200 | .4016 | – | – | 1,7 | 45 | 12 |
| B051A10300CPG | B052A10300CPG | B053A10300CPG | 10,300 | .4055 | – | – | 1,8 | 45 | 12 |
| B051A10320CPG | B052A10320CPG | B053A10320CPG | 10,320 | .4063 | 13/32 | – | 1,8 | 45 | 12 |
| B051A10400CPG | B052A10400CPG | B053A10400CPG | 10,400 | .4094 | – | – | 1,8 | 45 | 12 |
| B051A10500CPG | B052A10500CPG | B053A10500CPG | 10,500 | .4134 | – | – | 1,8 | 45 | 12 |
| B051A10600CPG | B052A10600CPG | B053A10600CPG | 10,600 | .4173 | – | – | 1,8 | 45 | 12 |
| B051A10700CPG | B052A10700CPG | B053A10700CPG | 10,700 | .4213 | – | – | 1,8 | 45 | 12 |
| B051A10716CPG | B052A10716CPG | B053A10716CPG | 10,716 | .4219 | 27/64 | – | 1,8 | 45 | 12 |
| B051A10800CPG | B052A10800CPG | B053A10800CPG | 10,800 | .4252 | – | – | 1,8 | 45 | 12 |
| B051A10900CPG | B052A10900CPG | B053A10900CPG | 10,900 | .4291 | – | – | 1,9 | 45 | 12 |
| B051A11000CPG | B052A11000CPG | B053A11000CPG | 11,000 | .4331 | – | – | 1,9 | 45 | 12 |
| B051A11100CPG | B052A11100CPG | B053A11100CPG | 11,100 | .4370 | – | – | 1,9 | 45 | 12 |
| B051A11113CPG | B052A11113CPG | B053A11113CPG | 11,113 | .4375 | 7/16 | – | 1,9 | 45 | 12 |
| B051A11200CPG | B052A11200CPG | B053A11200CPG | 11,200 | .4409 | – | – | 1,9 | 45 | 12 |
| B051A11300CPG | B052A11300CPG | B053A11300CPG | 11,300 | .4449 | – | – | 1,9 | 45 | 12 |
| B051A11400CPG | B052A11400CPG | B053A11400CPG | 11,400 | .4488 | – | – | 2,0 | 45 | 12 |
| B051A11500CPG | B052A11500CPG | B053A11500CPG | 11,500 | .4528 | – | – | 2,0 | 45 | 12 |
| B051A11509CPG | B052A11509CPG | B053A11509CPG | 11,509 | .4531 | 29/64 | – | 2,0 | 45 | 12 |
| B051A11600CPG | B052A11600CPG | B053A11600CPG | 11,600 | .4567 | – | – | 2,0 | 45 | 12 |
| B051A11700CPG | B052A11700CPG | B053A11700CPG | 11,700 | .4606 | – | – | 2,0 | 45 | 12 |
| B051A11800CPG | B052A11800CPG | B053A11800CPG | 11,800 | .4646 | – | – | 2,0 | 45 | 12 |
| B051A11900CPG | B052A11900CPG | B053A11900CPG | 11,900 | .4685 | – | – | 2,0 | 45 | 12 |
| B051A11908CPG | B052A11908CPG | B053A11908CPG | 11,908 | .4688 | 15/32 | – | 2,0 | 45 | 12 |
| B051A12000CPG | B052A12000CPG | B053A12000CPG | 12,000 | .4724 | – | – | 2,1 | 45 | 12 |
| B051A12100CPG | B052A12100CPG | B053A12100CPG | 12,100 | .4764 | – | – | 2,1 | 45 | 14 |
| B051A12200CPG | B052A12200CPG | B053A12200CPG | 12,200 | .4803 | – | – | 2,1 | 45 | 14 |
| B051A12300CPG | B052A12300CPG | B053A12300CPG | 12,300 | .4843 | – | – | 2,1 | 45 | 14 |
| B051A12304CPG | B052A12304CPG | B053A12304CPG | 12,304 | .4844 | 31/64 | – | 2,1 | 45 | 14 |
| B051A12400CPG | B052A12400CPG | B053A12400CPG | 12,400 | .4882 | – | – | 2,1 | 45 | 14 |
| B051A12500CPG | B052A12500CPG | B053A12500CPG | 12,500 | .4921 | – | – | 2,1 | 45 | 14 |
| B051A12600CPG | B052A12600CPG | B053A12600CPG | 12,600 | .4961 | – | – | 2,2 | 45 | 14 |
| B051A12700CPG | B052A12700CPG | B053A12700CPG | 12,700 | .5000 | 1/2 | – | 2,2 | 45 | 14 |
| B051A12800CPG | B052A12800CPG | B053A12800CPG | 12,800 | .5039 | – | – | 2,2 | 45 | 14 |
| B051A12900CPG | B052A12900CPG | B053A12900CPG | 12,900 | .5079 | – | – | 2,2 | 45 | 14 |
| B051A13000CPG | B052A13000CPG | B053A13000CPG | 13,000 | .5118 | – | – | 2,2 | 45 | 14 |
| B051A13096CPG | B052A13096CPG | B053A13096CPG | 13,096 | .5156 | 33/64 | – | 2,3 | 45 | 14 |
| B051A13100CPG | B052A13100CPG | B053A13100CPG | 13,100 | .5157 | – | – | 2,3 | 45 | 14 |
| B051A13200CPG | B052A13200CPG | B053A13200CPG | 13,200 | .5197 | – | – | 2,3 | 45 | 14 |
| B051A13300CPG | B052A13300CPG | B053A13300CPG | 13,300 | .5236 | – | – | 2,3 | 45 | 14 |
| B051A13400CPG | B052A13400CPG | B053A13400CPG | 13,400 | .5276 | – | – | 2,3 | 45 | 14 |
| B051A13500CPG | B052A13500CPG | B053A13500CPG | 13,500 | .5315 | – | – | 2,3 | 45 | 14 |
| B051A13600CPG | B052A13600CPG | B053A13600CPG | 13,600 | .5354 | – | – | 2,3 | 45 | 14 |
| B051A13700CPG | B052A13700CPG | B053A13700CPG | 13,700 | .5394 | – | – | 2,4 | 45 | 14 |
| B051A13800CPG | B052A13800CPG | B053A13800CPG | 13,800 | .5433 | – | – | 2,4 | 45 | 14 |
| B051A13891CPG | B052A13891CPG | B053A13891CPG | 13,891 | .5469 | 35/64 | – | 2,4 | 45 | 14 |
| B051A13900CPG | B052A13900CPG | B053A13900CPG | 13,900 | .5472 | – | – | 2,4 | 45 | 14 |
| B051A14000CPG | B052A14000CPG | B053A14000CPG | 14,000 | .5512 | – | – | 2,4 | 45 | 14 |
| B051A14100CPG | B052A14100CPG | B053A14100CPG | 14,100 | .5551 | – | – | 2,4 | 48 | 16 |

*(continued)*

*(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D — continued)*



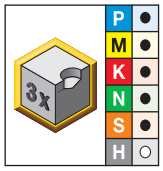



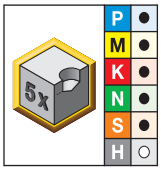

● first choice
○ alternate choice

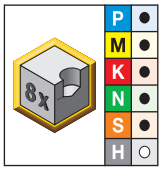
| short • KC7325 | long • KC7325 | extra long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B051A14200CPG | B052A14200CPG | B053A14200CPG | 14,200 | .5591 | – | – | 2,5 | 48 | 16 |
| B051A14288CPG | B052A14288CPG | B053A14288CPG | 14,288 | .5625 | 9/16 | – | 2,5 | 48 | 16 |
| B051A14300CPG | B052A14300CPG | B053A14300CPG | 14,300 | .5630 | – | – | 2,5 | 48 | 16 |
| B051A14400CPG | B052A14400CPG | B053A14400CPG | 14,400 | .5669 | – | – | 2,5 | 48 | 16 |
| B051A14500CPG | B052A14500CPG | B053A14500CPG | 14,500 | .5709 | – | – | 2,5 | 48 | 16 |
| B051A14600CPG | B052A14600CPG | B053A14600CPG | 14,600 | .5748 | – | – | 2,5 | 48 | 16 |
| B051A14684CPG | B052A14684CPG | B053A14684CPG | 14,684 | .5781 | 37/64 | – | 2,5 | 48 | 16 |
| B051A14700CPG | B052A14700CPG | B053A14700CPG | 14,700 | .5787 | – | – | 2,5 | 48 | 16 |
| B051A14800CPG | B052A14800CPG | B053A14800CPG | 14,800 | .5827 | – | – | 2,6 | 48 | 16 |
| B051A14900CPG | B052A14900CPG | B053A14900CPG | 14,900 | .5866 | – | – | 2,6 | 48 | 16 |
| B051A15000CPG | B052A15000CPG | B053A15000CPG | 15,000 | .5906 | – | – | 2,6 | 48 | 16 |
| B051A15083CPG | B052A15083CPG | B053A15083CPG | 15,083 | .5938 | 19/32 | – | 2,6 | 48 | 16 |
| B051A15100CPG | B052A15100CPG | B053A15100CPG | 15,100 | .5945 | – | – | 2,6 | 48 | 16 |
| B051A15200CPG | B052A15200CPG | B053A15200CPG | 15,200 | .5984 | – | – | 2,6 | 48 | 16 |
| B051A15300CPG | B052A15300CPG | B053A15300CPG | 15,300 | .6024 | – | – | 2,6 | 48 | 16 |
| B051A15400CPG | B052A15400CPG | B053A15400CPG | 15,400 | .6063 | – | – | 2,7 | 48 | 16 |
| B051A15479CPG | B052A15479CPG | B053A15479CPG | 15,479 | .6094 | 39/64 | – | 2,7 | 48 | 16 |
| B051A15500CPG | B052A15500CPG | B053A15500CPG | 15,500 | .6102 | – | – | 2,7 | 48 | 16 |
| B051A15600CPG | B052A15600CPG | B053A15600CPG | 15,600 | .6142 | – | – | 2,7 | 48 | 16 |
| B051A15700CPG | B052A15700CPG | B053A15700CPG | 15,700 | .6181 | – | – | 2,7 | 48 | 16 |
| B051A15800CPG | B052A15800CPG | B053A15800CPG | 15,800 | .6220 | – | – | 2,7 | 48 | 16 |
| B051A15875CPG | B052A15875CPG | B053A15875CPG | 15,875 | .6250 | 5/8 | – | 2,7 | 48 | 16 |
| B051A15900CPG | B052A15900CPG | B053A15900CPG | 15,900 | .6260 | – | – | 2,8 | 48 | 16 |
| B051A16000CPG | B052A16000CPG | B053A16000CPG | 16,000 | .6299 | – | – | 2,8 | 48 | 16 |
| B051A16100CPG | B052A16100CPG | B053A16100CPG | 16,100 | .6339 | – | – | 2,8 | 48 | 18 |
| B051A16200CPG | B052A16200CPG | B053A16200CPG | 16,200 | .6378 | – | – | 2,8 | 48 | 18 |
| B051A16271CPG | B052A16271CPG | B053A16271CPG | 16,271 | .6406 | 41/64 | – | 2,8 | 48 | 18 |
| B051A16300CPG | B052A16300CPG | B053A16300CPG | 16,300 | .6417 | – | – | 2,8 | 48 | 18 |
| B051A16400CPG | B052A16400CPG | B053A16400CPG | 16,400 | .6457 | – | – | 2,8 | 48 | 18 |
| B051A16500CPG | B052A16500CPG | B053A16500CPG | 16,500 | .6496 | – | – | 2,9 | 48 | 18 |
| B051A16600CPG | B052A16600CPG | B053A16600CPG | 16,600 | .6535 | – | – | 2,9 | 48 | 18 |
| B051A16670CPG | B052A16670CPG | B053A16670CPG | 16,670 | .6563 | 21/32 | – | 2,9 | 48 | 18 |
| B051A16700CPG | B052A16700CPG | B053A16700CPG | 16,700 | .6575 | – | – | 2,9 | 48 | 18 |
| B051A16800CPG | B052A16800CPG | B053A16800CPG | 16,800 | .6614 | – | – | 2,9 | 48 | 18 |
| B051A16900CPG | B052A16900CPG | B053A16900CPG | 16,900 | .6654 | – | – | 2,9 | 48 | 18 |
| B051A17000CPG | B052A17000CPG | B053A17000CPG | 17,000 | .6693 | – | – | 2,9 | 48 | 18 |
| B051A17100CPG | B052A17100CPG | B053A17100CPG | 17,100 | .6732 | – | – | 3,0 | 48 | 18 |
| B051A17200CPG | B052A17200CPG | B053A17200CPG | 17,200 | .6772 | – | – | 3,0 | 48 | 18 |
| B051A17300CPG | B052A17300CPG | B053A17300CPG | 17,300 | .6811 | – | – | 3,0 | 48 | 18 |
| B051A17400CPG | B052A17400CPG | B053A17400CPG | 17,400 | .6850 | – | – | 3,0 | 48 | 18 |
| B051A17463CPG | B052A17463CPG | B053A17463CPG | 17,463 | .6875 | 11/16 | – | 3,0 | 48 | 18 |
| B051A17500CPG | B052A17500CPG | B053A17500CPG | 17,500 | .6890 | – | – | 3,0 | 48 | 18 |
| B051A17600CPG | B052A17600CPG | B053A17600CPG | 17,600 | .6929 | – | – | 3,1 | 48 | 18 |
| B051A17700CPG | B052A17700CPG | B053A17700CPG | 17,700 | .6969 | – | – | 3,1 | 48 | 18 |
| B051A17800CPG | B052A17800CPG | B053A17800CPG | 17,800 | .7008 | – | – | 3,1 | 48 | 18 |
| B051A17859CPG | B052A17859CPG | B053A17859CPG | 17,859 | .7031 | 45/64 | – | 3,1 | 48 | 18 |
| B051A17900CPG | B052A17900CPG | B053A17900CPG | 17,900 | .7047 | – | – | 3,1 | 48 | 18 |
| B051A18000CPG | B052A18000CPG | B053A18000CPG | 18,000 | .7087 | – | – | 3,1 | 48 | 18 |
| B051A18100CPG | B052A18100CPG | B053A18100CPG | 18,100 | .7126 | – | – | 3,1 | 50 | 20 |
| B051A18200CPG | B052A18200CPG | B053A18200CPG | 18,200 | .7165 | – | – | 3,2 | 50 | 20 |
| B051A18258CPG | B052A18258CPG | B053A18258CPG | 18,258 | .7188 | 23/32 | – | 3,2 | 50 | 20 |
| B051A18300CPG | B052A18300CPG | B053A18300CPG | 18,300 | .7205 | – | – | 3,2 | 50 | 20 |

*(continued)*

*(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D — continued)*




● first choice
○ alternate choice

| short • KC7325 | long • KC7325 | extra long • KC7325 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B051A18400CPG | B052A18400CPG | B053A18400CPG | 18,400 | .7244 | — | — | 3,2 | 50 | 20 |
| B051A18500CPG | B052A18500CPG | B053A18500CPG | 18,500 | .7283 | — | — | 3,2 | 50 | 20 |
| B051A18600CPG | B052A18600CPG | B053A18600CPG | 18,600 | .7323 | — | — | 3,2 | 50 | 20 |
| B051A18654CPG | B052A18654CPG | B053A18654CPG | 18,654 | .7344 | 47/64 | — | 3,2 | 50 | 20 |
| B051A18700CPG | B052A18700CPG | B053A18700CPG | 18,700 | .7362 | — | — | 3,2 | 50 | 20 |
| B051A18800CPG | B052A18800CPG | B053A18800CPG | 18,800 | .7402 | — | — | 3,3 | 50 | 20 |
| B051A18900CPG | B052A18900CPG | B053A18900CPG | 18,900 | .7441 | — | — | 3,3 | 50 | 20 |
| B051A19000CPG | B052A19000CPG | B053A19000CPG | 19,000 | .7480 | — | — | 3,3 | 50 | 20 |
| B051A19050CPG | B052A19050CPG | B053A19050CPG | 19,050 | .7500 | 3/4 | — | 3,3 | 50 | 20 |
| B051A19100CPG | B052A19100CPG | B053A19100CPG | 19,100 | .7520 | — | — | 3,3 | 50 | 20 |
| B051A19200CPG | B052A19200CPG | B053A19200CPG | 19,200 | .7559 | — | — | 3,3 | 50 | 20 |
| B051A19300CPG | B052A19300CPG | B053A19300CPG | 19,300 | .7598 | — | — | 3,4 | 50 | 20 |
| B051A19400CPG | B052A19400CPG | B053A19400CPG | 19,400 | .7638 | — | — | 3,4 | 50 | 20 |
| B051A19500CPG | B052A19500CPG | B053A19500CPG | 19,500 | .7677 | — | — | 3,4 | 50 | 20 |
| B051A19600CPG | B052A19600CPG | B053A19600CPG | 19,600 | .7717 | — | — | 3,4 | 50 | 20 |
| B051A19700CPG | B052A19700CPG | B053A19700CPG | 19,700 | .7756 | — | — | 3,4 | 50 | 20 |
| B051A19800CPG | B052A19800CPG | B053A19800CPG | 19,800 | .7795 | — | — | 3,4 | 50 | 20 |
| B051A19900CPG | B052A19900CPG | B053A19900CPG | 19,900 | .7835 | — | — | 3,5 | 50 | 20 |
| B051A20000CPG | B052A20000CPG | B053A20000CPG | 20,000 | .7874 | — | — | 3,5 | 50 | 20 |

NOTE: GOdrills with a D1 <.0591" (1,5mm) have coolant exiting the shank.

**Tolerance • Inch**

| nominal size range | D1 tolerance | D tolerance h6 |
|---|---|---|
| .0394–.1181 | .0000/-.0006 (h8) | .0000/-.0002 |
| >.1181–.2362 | .0000/-.0005 (h7) | .0000/-.0003 |
| >.2362–.3937 | .0000/-.0006 (h7) | .0000/-.0004 |
| >.3937–.7087 | .0000/-.0007 (h7) | .0000/-.0004 |
| >.7087–.7874 | .0000/-.0008 (h7) | .0000/-.0005 |

**Tolerance • Metric**

| nominal size range | D1 tolerance | D tolerance h6 |
|---|---|---|
| 1–3 | 0,000/-0,014 (h8) | 0,000/-0,006 |
| >3–6 | 0,000/-0,012 (h7) | 0,000/-0,008 |
| >6–10 | 0,000/-0,015 (h7) | 0,000/-0,009 |
| >10–18 | 0,000/-0,018 (h7) | 0,000/-0,011 |
| >18–20 | 0,000/-0,021 (h7) | 0,000/-0,013 |

## GOdrill™ • B04_CPG Series • Grade KC7325™ • Flood Coolant • Drill Diameters 1–20mm (.0394–.7874")

| Material Group | | Cutting Speed — vc Range — m/min | | | | Metric Recommended Feed Rate (f) by Diameter | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | 1,0 | 2,0 | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 0 | 70 | **80** | 115 | mm/r | 0,03–0,08 | 0,04–0,09 | 0,05–0,11 | 0,08–0,14 | 0,09–0,19 | 0,11–0,22 | 0,13–0,26 | 0,15–0,30 | 0,19–0,36 | 0,24–0,46 |
| | 1 | 60 | **70** | 100 | mm/r | 0,04–0,09 | 0,05–0,11 | 0,06–0,13 | 0,09–0,16 | 0,11–0,22 | 0,13–0,26 | 0,15–0,31 | 0,18–0,35 | 0,22–0,42 | 0,28–0,54 |
| | 2 | 80 | **90** | 100 | mm/r | 0,04–0,09 | 0,05–0,11 | 0,06–0,13 | 0,08–0,16 | 0,12–0,22 | 0,14–0,26 | 0,17–0,31 | 0,20–0,35 | 0,24–0,42 | 0,31–0,53 |
| | 3 | 50 | **70** | 90 | mm/r | 0,05–0,11 | 0,06–0,13 | 0,07–0,15 | 0,09–0,17 | 0,13–0,23 | 0,15–0,28 | 0,19–0,33 | 0,22–0,38 | 0,26–0,47 | 0,34–0,59 |
| | 4 | 50 | **70** | 100 | mm/r | 0,04–0,12 | 0,05–0,13 | 0,06–0,15 | 0,08–0,17 | 0,12–0,23 | 0,14–0,28 | 0,17–0,33 | 0,19–0,38 | 0,23–0,47 | 0,29–0,59 |
| | 5 | 30 | **40** | 60 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,07 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,12–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| | 6 | 30 | **40** | 60 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,07 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,12–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| M | 1 | 20 | **30** | 40 | mm/r | 0,02–0,05 | 0,03–0,06 | 0,04–0,07 | 0,05–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| | 2 | 30 | **40** | 50 | mm/r | 0,02–0,06 | 0,03–0,07 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | 3 | 20 | **30** | 40 | mm/r | 0,02–0,05 | 0,03–0,06 | 0,04–0,07 | 0,06–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| K | 1 | 80 | **130** | 170 | mm/r | 0,09–0,18 | 0,10–0,20 | 0,11–0,22 | 0,12–0,24 | 0,16–0,31 | 0,20–0,38 | 0,23–0,44 | 0,25–0,49 | 0,31–0,60 | 0,38–0,74 |
| | 2 | 90 | **110** | 120 | mm/r | 0,06–0,13 | 0,08–0,15 | 0,10–0,17 | 0,12–0,19 | 0,16–0,25 | 0,20–0,31 | 0,23–0,36 | 0,25–0,40 | 0,31–0,48 | 0,38–0,60 |
| | 3 | 80 | **110** | 130 | mm/r | 0,05–0,11 | 0,06–0,13 | 0,07–0,15 | 0,09–0,19 | 0,12–0,25 | 0,14–0,30 | 0,17–0,35 | 0,19–0,40 | 0,25–0,48 | 0,30–0,60 |
| N | 1 | 90 | **230** | 270 | mm/r | 0,05–0,12 | 0,06–0,13 | 0,08–0,14 | 0,10–0,16 | 0,12–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,48 |
| | 2 | 90 | **220** | 270 | mm/r | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,44 | 0,32–0,52 |
| | 3 | 90 | **180** | 225 | mm/r | 0,10–0,13 | 0,11–0,14 | 0,12–0,14 | 0,13–0,16 | 0,14–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,44 |
| | 4 | 90 | **130** | 270 | mm/r | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,40 | 0,32–0,48 |
| S | 1 | 20 | **25** | 30 | mm/r | 0,01–0,04 | 0,02–0,05 | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 |
| | 2 | 10 | **20** | 30 | mm/r | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 3 | 20 | **25** | 40 | mm/r | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |
| | 4 | 20 | **25** | 50 | mm/r | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| H | 1 | 10 | **15** | 30 | mm/r | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 2 | 10 | **10** | 30 | mm/r | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |

| Material Group | | Cutting Speed — vc Range — SFM | | | | Inch Recommended Feed Rate (f) by Diameter | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | 3/64 .047 | 5/64 .078 | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 0 | 200 | **230** | 330 | IPR | .001–.003 | .002–.004 | .002–.004 | .003–.005 | .004–.007 | .004–.009 | .005–.010 | .006–.012 | .007–.014 | .009–.018 |
| | 1 | 200 | **230** | 330 | IPR | .002–.004 | .002–.004 | .002–.005 | .004–.006 | .004–.009 | .005–.010 | .006–.012 | .007–.014 | .009–.017 | .011–.021 |
| | 2 | 260 | **300** | 330 | IPR | .002–.004 | .002–.004 | .002–.005 | .003–.006 | .005–.009 | .006–.010 | .007–.012 | .008–.014 | .009–.017 | .012–.021 |
| | 3 | 160 | **230** | 300 | IPR | .002–.004 | .002–.005 | .003–.006 | .004–.007 | .005–.009 | .006–.011 | .008–.013 | .009–.015 | .010–.019 | .013–.023 |
| | 4 | 160 | **230** | 330 | IPR | .002–.005 | .002–.005 | .002–.006 | .003–.007 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.019 | .011–.023 |
| | 5 | 100 | **130** | 200 | IPR | .001–.002 | .002–.002 | .002–.003 | .002–.004 | .003–.006 | .004–.007 | .005–.009 | .006–.009 | .007–.013 | .009–.016 |
| | 6 | 100 | **130** | 200 | IPR | .001–.002 | .002–.002 | .002–.003 | .002–.004 | .003–.006 | .004–.007 | .005–.009 | .006–.009 | .007–.013 | .009–.016 |
| M | 1 | 70 | **100** | 130 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 |
| | 2 | 100 | **130** | 160 | IPR | .001–.002 | .001–.003 | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 |
| | 3 | 70 | **100** | 130 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 |
| K | 1 | 260 | **430** | 560 | IPR | .004–.007 | .004–.008 | .004–.009 | .005–.009 | .006–.012 | .008–.015 | .009–.017 | .010–.019 | .012–.024 | .015–.029 |
| | 2 | 300 | **360** | 390 | IPR | .002–.005 | .003–.006 | .004–.007 | .005–.008 | .006–.010 | .008–.012 | .009–.014 | .010–.016 | .012–.019 | .015–.024 |
| | 3 | 260 | **360** | 430 | IPR | .002–.004 | .002–.005 | .003–.006 | .004–.008 | .005–.010 | .006–.012 | .007–.014 | .008–.016 | .010–.019 | .012–.024 |
| N | 1 | 300 | **750** | 890 | IPR | .002–.005 | .002–.005 | .003–.006 | .004–.006 | .005–.008 | .006–.009 | .008–.011 | .009–.013 | .011–.016 | .013–.019 |
| | 2 | 300 | **720** | 890 | IPR | .002–.003 | .002–.005 | .003–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.013 | .009–.014 | .011–.017 | .013–.021 |
| | 3 | 300 | **590** | 740 | IPR | .004–.005 | .004–.006 | .005–.006 | .005–.006 | .006–.008 | .006–.009 | .008–.011 | .009–.013 | .011–.016 | .013–.017 |
| | 4 | 300 | **430** | 890 | IPR | .002–.003 | .002–.005 | .003–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.013 | .009–.014 | .011–.016 | .013–.019 |
| S | 1 | 70 | **80** | 100 | IPR | .000–.002 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.005 | .004–.005 | .004–.006 | .005–.006 | .006–.007 |
| | 2 | 30 | **70** | 100 | IPR | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| | 3 | 70 | **80** | 130 | IPR | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .003–.004 | .004–.005 | .004–.006 |
| | 4 | 70 | **80** | 160 | IPR | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| H | 1 | 30 | **50** | 100 | IPR | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| | 2 | 30 | **30** | 100 | IPR | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .003–.004 | .004–.005 | .004–.006 |

## GOdrill™ • B05_CPG Series • Grade KC7325™ • Through Coolant • Drill Diameters 1–20mm (.0394–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | 1,0 | 2,0 | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 70 | 80 | 115 | mm/r | | 0,03–0,08 | 0,04–0,09 | 0,05–0,11 | 0,08–0,14 | 0,09–0,19 | 0,11–0,22 | 0,13–0,26 | 0,15–0,30 | 0,19–0,36 | 0,24–0,46 |
| | 1 | 70 | 100 | 140 | mm/r | | 0,04–0,09 | 0,05–0,12 | 0,07–0,14 | 0,08–0,16 | 0,11–0,22 | 0,13–0,26 | 0,15–0,31 | 0,18–0,35 | 0,22–0,42 | 0,28–0,54 |
| | 2 | 90 | 120 | 140 | mm/r | | 0,04–0,09 | 0,05–0,12 | 0,07–0,14 | 0,08–0,16 | 0,12–0,22 | 0,14–0,26 | 0,17–0,31 | 0,20–0,35 | 0,24–0,42 | 0,31–0,53 |
| | 3 | 60 | 80 | 100 | mm/r | | 0,05–0,10 | 0,06–0,13 | 0,08–0,15 | 0,09–0,17 | 0,13–0,23 | 0,15–0,28 | 0,19–0,33 | 0,22–0,38 | 0,26–0,47 | 0,34–0,59 |
| | 4 | 50 | 80 | 100 | mm/r | | 0,05–0,10 | 0,06–0,13 | 0,07–0,15 | 0,08–0,17 | 0,12–0,23 | 0,14–0,28 | 0,17–0,33 | 0,19–0,38 | 0,23–0,47 | 0,29–0,59 |
| | 5 | 40 | 50 | 70 | mm/r | | 0,03–0,05 | 0,04–0,06 | 0,05–0,07 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,12–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| | 6 | 40 | 50 | 70 | mm/r | | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,13–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| M | 1 | 20 | 30 | 40 | mm/r | | 0,02–0,05 | 0,03–0,06 | 0,04–0,07 | 0,05–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| | 2 | 30 | 40 | 50 | mm/r | | 0,02–0,06 | 0,03–0,07 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | 3 | 20 | 30 | 40 | mm/r | | 0,02–0,05 | 0,03–0,06 | 0,04–0,07 | 0,05–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| K | 1 | 80 | 120 | 170 | mm/r | | 0,08–0,16 | 0,09–0,17 | 0,11–0,22 | 0,12–0,24 | 0,16–0,31 | 0,20–0,38 | 0,23–0,44 | 0,25–0,49 | 0,31–0,60 | 0,38–0,74 |
| | 2 | 80 | 110 | 140 | mm/r | | 0,10–0,14 | 0,11–0,15 | 0,12–0,16 | 0,13–0,19 | 0,16–0,25 | 0,20–0,31 | 0,23–0,36 | 0,25–0,40 | 0,31–0,48 | 0,38–0,60 |
| | 3 | 80 | 100 | 130 | mm/r | | 0,05–0,13 | 0,07–0,15 | 0,08–0,17 | 0,09–0,19 | 0,12–0,25 | 0,14–0,30 | 0,17–0,35 | 0,19–0,40 | 0,24–0,48 | 0,30–0,60 |
| N | 1 | 90 | 230 | 315 | mm/r | | 0,05–0,12 | 0,06–0,13 | 0,08–0,14 | 0,10–0,16 | 0,12–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,48 |
| | 2 | 90 | 225 | 270 | mm/r | | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,44 | 0,32–0,52 |
| | 3 | 90 | 180 | 270 | mm/r | | 0,10–0,13 | 0,11–0,14 | 0,12–0,14 | 0,13–0,16 | 0,14–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,44 |
| | 4 | 90 | 135 | 180 | mm/r | | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,40 | 0,32–0,48 |
| S | 1 | 10 | 25 | 30 | mm/r | | 0,01–0,04 | 0,02–0,05 | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 |
| | 2 | 10 | 20 | 25 | mm/r | | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 3 | 10 | 25 | 30 | mm/r | | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |
| | 4 | 10 | 25 | 40 | mm/r | | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| H | 1 | 10 | 15 | 30 | mm/r | | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 2 | 10 | 10 | 30 | mm/r | | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | 3/64 .047 | 5/64 .078 | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 230 | 260 | 380 | IPR | | .001–.003 | .002–.004 | .002–.004 | .003–.005 | .004–.007 | .004–.009 | .005–.010 | .006–.012 | .007–.014 | .009–.018 |
| | 1 | 230 | 330 | 460 | IPR | | .002–.004 | .002–.005 | .003–.006 | .003–.006 | .004–.009 | .005–.010 | .006–.012 | .007–.014 | .009–.017 | .011–.021 |
| | 2 | 300 | 390 | 460 | IPR | | .002–.004 | .002–.005 | .003–.006 | .003–.006 | .005–.009 | .006–.010 | .007–.012 | .008–.014 | .009–.017 | .012–.021 |
| | 3 | 200 | 260 | 330 | IPR | | .002–.004 | .002–.005 | .003–.006 | .004–.007 | .005–.009 | .006–.011 | .008–.013 | .009–.015 | .010–.019 | .013–.023 |
| | 4 | 160 | 260 | 330 | IPR | | .002–.004 | .002–.005 | .003–.006 | .003–.007 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.019 | .011–.023 |
| | 5 | 130 | 160 | 230 | IPR | | .001–.002 | .002–.002 | .002–.003 | .002–.004 | .003–.006 | .004–.007 | .005–.009 | .006–.009 | .007–.013 | .009–.016 |
| | 6 | 130 | 160 | 230 | IPR | | .001–.002 | .002–.002 | .002–.003 | .002–.004 | .003–.006 | .004–.007 | .005–.009 | .006–.009 | .007–.013 | .009–.016 |
| M | 1 | 70 | 100 | 130 | IPR | | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 |
| | 2 | 100 | 130 | 160 | IPR | | .001–.002 | .001–.003 | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 |
| | 3 | 70 | 100 | 130 | IPR | | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 |
| K | 1 | 260 | 390 | 560 | IPR | | .003–.006 | .004–.007 | .004–.009 | .005–.009 | .006–.012 | .008–.015 | .009–.017 | .010–.019 | .012–.024 | .015–.029 |
| | 2 | 260 | 360 | 460 | IPR | | .004–.006 | .004–.006 | .005–.006 | .005–.008 | .006–.010 | .008–.012 | .009–.014 | .010–.016 | .012–.019 | .015–.024 |
| | 3 | 260 | 330 | 430 | IPR | | .002–.005 | .003–.006 | .003–.007 | .004–.008 | .005–.010 | .006–.012 | .007–.014 | .008–.016 | .009–.019 | .012–.024 |
| N | 1 | 300 | 750 | 1030 | IPR | | .002–.005 | .002–.005 | .003–.006 | .004–.006 | .005–.008 | .006–.009 | .008–.011 | .009–.013 | .011–.016 | .013–.019 |
| | 2 | 300 | 740 | 890 | IPR | | .002–.003 | .002–.005 | .003–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.013 | .009–.014 | .011–.017 | .013–.021 |
| | 3 | 300 | 590 | 890 | IPR | | .004–.005 | .004–.006 | .005–.006 | .005–.006 | .006–.008 | .006–.009 | .008–.011 | .009–.013 | .011–.016 | .013–.017 |
| | 4 | 300 | 440 | 590 | IPR | | .002–.003 | .002–.005 | .003–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.013 | .009–.014 | .011–.016 | .013–.019 |
| S | 1 | 30 | 80 | 100 | IPR | | .000–.002 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.005 | .004–.005 | .004–.006 | .005–.006 | .006–.007 |
| | 2 | 30 | 70 | 80 | IPR | | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| | 3 | 30 | 80 | 100 | IPR | | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .003–.004 | .004–.005 | .004–.006 |
| | 4 | 30 | 80 | 130 | IPR | | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| H | 1 | 30 | 50 | 100 | IPR | | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| | 2 | 30 | 30 | 100 | IPR | | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .003–.004 | .004–.005 | .004–.006 |

# TF Drill for High Metal Removal Rates

### Primary Application

B105 solid carbide drills are ideal for high metal removal rates and excellent hole quality in short chipping materials such as gray cast iron, ductile iron, and aluminum as well as in short-hole titanium applications.

## Features and Benefits

### Three Cutting Edges

- Higher feed rates than with two-edged drills.

### Three Spacious Flutes

- Rapid chip evacuation.
- Three-margin lands deliver better hole quality and straightness than two-flute drills.

### Wear-Resistant Carbide Grade

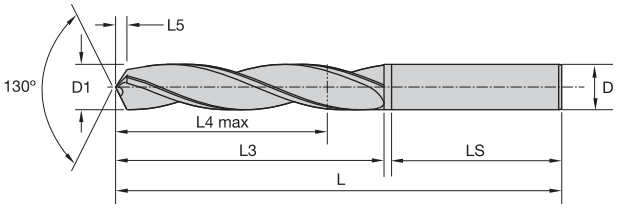
- High tool life in abrasive materials such as cast iron and aluminum die cast alloys.

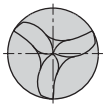
## Uncoated K10™ Grade

- The uncoated grade helps to prevent built-up edge in drilling aluminum and high-temp alloys.

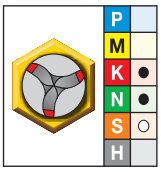
## Customization

- Intermediate diameters available as engineered solutions.
- Length variations and step drills available as custom solutions.



## B105 • ~5 x D

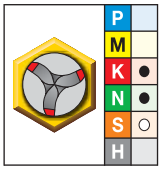



● first choice
○ alternate choice

| K10 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B105A03000** | 3,000 | .1181 | – | – | 66 | 28 | 23 | 0,7 | 36 | 6 |
| **B105A03100** | 3,100 | .1220 | – | – | 66 | 28 | 23 | 0,8 | 36 | 6 |
| **B105A03200** | 3,200 | .1260 | – | – | 66 | 28 | 23 | 0,8 | 36 | 6 |
| **B105A03300** | 3,300 | .1299 | – | – | 66 | 28 | 23 | 0,8 | 36 | 6 |
| **B105A03400** | 3,400 | .1339 | – | – | 66 | 28 | 23 | 0,8 | 36 | 6 |
| **B105A03500** | 3,500 | .1378 | – | – | 66 | 28 | 23 | 0,9 | 36 | 6 |
| **B105A03600** | 3,600 | .1417 | – | – | 66 | 28 | 23 | 0,9 | 36 | 6 |
| **B105A03700** | 3,700 | .1457 | – | – | 66 | 28 | 23 | 0,9 | 36 | 6 |
| **B105A03800** | 3,800 | .1496 | – | – | 74 | 36 | 29 | 0,9 | 36 | 6 |
| **B105A03900** | 3,900 | .1535 | – | – | 74 | 36 | 29 | 1,0 | 36 | 6 |
| **B105A04000** | 4,000 | .1575 | – | – | 74 | 36 | 29 | 1,0 | 36 | 6 |
| **B105A04100** | 4,100 | .1614 | – | – | 74 | 36 | 29 | 1,0 | 36 | 6 |
| **B105A04200** | 4,200 | .1654 | – | – | 74 | 36 | 29 | 1,0 | 36 | 6 |
| **B105A04300** | 4,300 | .1693 | – | – | 74 | 36 | 29 | 1,1 | 36 | 6 |
| **B105A04500** | 4,500 | .1772 | – | – | 74 | 36 | 29 | 1,1 | 36 | 6 |
| **B105A04600** | 4,600 | .1811 | – | – | 74 | 36 | 29 | 1,1 | 36 | 6 |
| **B105A04650** | 4,650 | .1831 | – | – | 74 | 36 | 29 | 1,2 | 36 | 6 |
| **B105A04700** | 4,700 | .1850 | – | 13 | 74 | 36 | 29 | 1,2 | 36 | 6 |
| **B105A04800** | 4,800 | .1890 | – | 12 | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B105A04900** | 4,900 | .1929 | – | – | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B105A05000** | 5,000 | .1969 | – | – | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B105A05100** | 5,100 | .2008 | – | – | 82 | 44 | 35 | 1,3 | 36 | 6 |
| **B105A05200** | 5,200 | .2047 | – | – | 82 | 44 | 35 | 1,3 | 36 | 6 |
| **B105A05400** | 5,400 | .2126 | – | – | 82 | 44 | 35 | 1,3 | 36 | 6 |
| **B105A05500** | 5,500 | .2165 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B105A05550** | 5,550 | .2185 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B105A05600** | 5,600 | .2205 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B105A05700** | 5,700 | .2244 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B105A05800** | 5,800 | .2283 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B105A06000** | 6,000 | .2362 | – | – | 82 | 44 | 35 | 1,5 | 36 | 6 |
| **B105A06100** | 6,100 | .2402 | – | – | 91 | 53 | 43 | 1,5 | 36 | 8 |
| **B105A06200** | 6,200 | .2441 | – | – | 91 | 53 | 43 | 1,5 | 36 | 8 |
| **B105A06300** | 6,300 | .2480 | – | – | 91 | 53 | 43 | 1,6 | 36 | 8 |
| **B105A06350** | 6,350 | .2500 | 1/4 | – | 91 | 53 | 43 | 1,6 | 36 | 8 |
| **B105A06400** | 6,400 | .2520 | – | – | 91 | 53 | 43 | 1,6 | 36 | 8 |
| **B105A06500** | 6,500 | .2559 | – | – | 91 | 53 | 43 | 1,6 | 36 | 8 |

*(continued)*

*(B105 • ~5 x D — continued)*

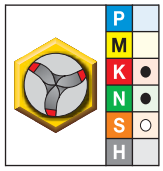



● first choice
○ alternate choice

| K10 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B105A06600** | 6,600 | .2598 | – | – | 91 | 53 | 43 | 1,6 | 36 | 8 |
| **B105A06700** | 6,700 | .2638 | – | – | 91 | 53 | 43 | 1,7 | 36 | 8 |
| **B105A06800** | 6,800 | .2677 | – | – | 91 | 53 | 43 | 1,7 | 36 | 8 |
| **B105A07000** | 7,000 | .2756 | – | – | 91 | 53 | 43 | 1,7 | 36 | 8 |
| **B105A07100** | 7,100 | .2795 | – | – | 91 | 53 | 43 | 1,8 | 36 | 8 |
| **B105A07400** | 7,400 | .2913 | – | – | 91 | 53 | 43 | 1,8 | 36 | 8 |
| **B105A07500** | 7,500 | .2953 | – | – | 91 | 53 | 43 | 1,9 | 36 | 8 |
| **B105A07600** | 7,600 | .2992 | – | – | 91 | 53 | 43 | 1,9 | 36 | 8 |
| **B105A07800** | 7,800 | .3071 | – | – | 91 | 53 | 43 | 1,9 | 36 | 8 |
| **B105A08000** | 8,000 | .3150 | – | – | 91 | 53 | 43 | 2,0 | 36 | 8 |
| **B105A08100** | 8,100 | .3189 | – | – | 103 | 61 | 49 | 2,0 | 40 | 10 |
| **B105A08200** | 8,200 | .3228 | – | – | 103 | 61 | 49 | 2,0 | 40 | 10 |
| **B105A08300** | 8,300 | .3268 | – | – | 103 | 61 | 49 | 2,1 | 40 | 10 |
| **B105A08400** | 8,400 | .3307 | – | – | 103 | 61 | 49 | 2,1 | 40 | 10 |
| **B105A08500** | 8,500 | .3346 | – | – | 103 | 61 | 49 | 2,1 | 40 | 10 |
| **B105A08600** | 8,600 | .3386 | – | – | 103 | 61 | 49 | 2,1 | 40 | 10 |
| **B105A08700** | 8,700 | .3425 | – | – | 103 | 61 | 49 | 2,2 | 40 | 10 |
| **B105A08800** | 8,800 | .3465 | – | – | 103 | 61 | 49 | 2,2 | 40 | 10 |
| **B105A09000** | 9,000 | .3543 | – | – | 103 | 61 | 49 | 2,2 | 40 | 10 |
| **B105A09100** | 9,100 | .3583 | – | – | 103 | 61 | 49 | 2,3 | 40 | 10 |
| **B105A09300** | 9,300 | .3661 | – | – | 103 | 61 | 49 | 2,3 | 40 | 10 |
| **B105A09500** | 9,500 | .3740 | – | – | 103 | 61 | 49 | 2,4 | 40 | 10 |
| **B105A09700** | 9,700 | .3819 | – | – | 103 | 61 | 49 | 2,4 | 40 | 10 |
| **B105A09800** | 9,800 | .3858 | – | – | 103 | 61 | 49 | 2,4 | 40 | 10 |
| **B105A10000** | 10,000 | .3937 | – | – | 103 | 61 | 49 | 2,5 | 40 | 10 |
| **B105A10100** | 10,100 | .3976 | – | – | 118 | 71 | 56 | 2,5 | 45 | 12 |
| **B105A10200** | 10,200 | .4016 | – | – | 118 | 71 | 56 | 2,5 | 45 | 12 |
| **B105A10300** | 10,300 | .4055 | – | – | 118 | 71 | 56 | 2,6 | 45 | 12 |
| **B105A10400** | 10,400 | .4094 | – | – | 118 | 71 | 56 | 2,6 | 45 | 12 |
| **B105A10500** | 10,500 | .4134 | – | – | 118 | 71 | 56 | 2,6 | 45 | 12 |
| **B105A10700** | 10,700 | .4213 | – | – | 118 | 71 | 56 | 2,7 | 45 | 12 |
| **B105A10800** | 10,800 | .4252 | – | – | 118 | 71 | 56 | 2,7 | 45 | 12 |
| **B105A11000** | 11,000 | .4331 | – | – | 118 | 71 | 56 | 2,7 | 45 | 12 |
| **B105A11100** | 11,100 | .4370 | – | – | 118 | 71 | 56 | 2,8 | 45 | 12 |
| **B105A11200** | 11,200 | .4409 | – | – | 118 | 71 | 56 | 2,8 | 45 | 12 |
| **B105A11500** | 11,500 | .4528 | – | – | 118 | 71 | 56 | 2,9 | 45 | 12 |
| **B105A11700** | 11,700 | .4606 | – | – | 118 | 71 | 56 | 2,9 | 45 | 12 |
| **B105A11800** | 11,800 | .4646 | – | – | 118 | 71 | 56 | 2,9 | 45 | 12 |
| **B105A12000** | 12,000 | .4724 | – | – | 118 | 71 | 56 | 3,0 | 45 | 12 |
| **B105A12100** | 12,100 | .4764 | – | – | 124 | 77 | 60 | 3,0 | 45 | 14 |
| **B105A12500** | 12,500 | .4921 | – | – | 124 | 77 | 60 | 3,1 | 45 | 14 |
| **B105A12700** | 12,700 | .5000 | 1/2 | – | 124 | 77 | 60 | 3,2 | 45 | 14 |
| **B105A12800** | 12,800 | .5039 | – | – | 124 | 77 | 60 | 3,2 | 45 | 14 |
| **B105A13000** | 13,000 | .5118 | – | – | 124 | 77 | 60 | 3,2 | 45 | 14 |
| **B105A13100** | 13,100 | .5157 | – | – | 124 | 77 | 60 | 3,3 | 45 | 14 |
| **B105A13500** | 13,500 | .5315 | – | – | 124 | 77 | 60 | 3,4 | 45 | 14 |
| **B105A13800** | 13,800 | .5433 | – | – | 124 | 77 | 60 | 3,4 | 45 | 14 |
| **B105A14000** | 14,000 | .5512 | – | – | 124 | 77 | 60 | 3,5 | 45 | 14 |

*(continued)*

*(B105 • ~5 x D — continued)*




● first choice
○ alternate choice

| K10 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B105A14200** | 14,200 | .5591 | — | — | 133 | 83 | 63 | 3,5 | 48 | 16 |
| **B105A14500** | 14,500 | .5709 | — | — | 133 | 83 | 63 | 3,6 | 48 | 16 |
| **B105A15000** | 15,000 | .5906 | — | — | 133 | 83 | 63 | 3,7 | 48 | 16 |
| **B105A15100** | 15,100 | .5945 | — | — | 133 | 83 | 63 | 3,8 | 48 | 16 |
| **B105A15500** | 15,500 | .6102 | — | — | 133 | 83 | 63 | 3,9 | 48 | 16 |
| **B105A15800** | 15,800 | .6220 | — | — | 133 | 83 | 63 | 3,9 | 48 | 16 |
| **B105A16000** | 16,000 | .6299 | — | — | 133 | 83 | 63 | 4,0 | 48 | 16 |
| **B105A16500** | 16,500 | .6496 | — | — | 143 | 93 | 71 | 4,1 | 48 | 18 |
| **B105A17000** | 17,000 | .6693 | — | — | 143 | 93 | 71 | 4,2 | 48 | 18 |
| **B105A17500** | 17,500 | .6890 | — | — | 143 | 93 | 71 | 4,4 | 48 | 18 |
| **B105A18000** | 18,000 | .7087 | — | — | 143 | 93 | 71 | 4,5 | 48 | 18 |
| **B105A18500** | 18,500 | .7283 | — | — | 153 | 101 | 77 | 4,6 | 50 | 20 |
| **B105A19000** | 19,000 | .7480 | — | — | 153 | 101 | 77 | 4,7 | 50 | 20 |
| **B105A19500** | 19,500 | .7677 | — | — | 153 | 101 | 77 | 4,9 | 50 | 20 |
| **B105A20000** | 20,000 | .7874 | — | — | 153 | 101 | 77 | 5,0 | 50 | 20 |
| **B105A20500** | 20,500 | .8071 | — | — | 167 | 112 | 85 | 5,1 | 50 | 20 |
| **B105A21000** | 21,000 | .8268 | — | — | 167 | 112 | 85 | 5,2 | 50 | 20 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

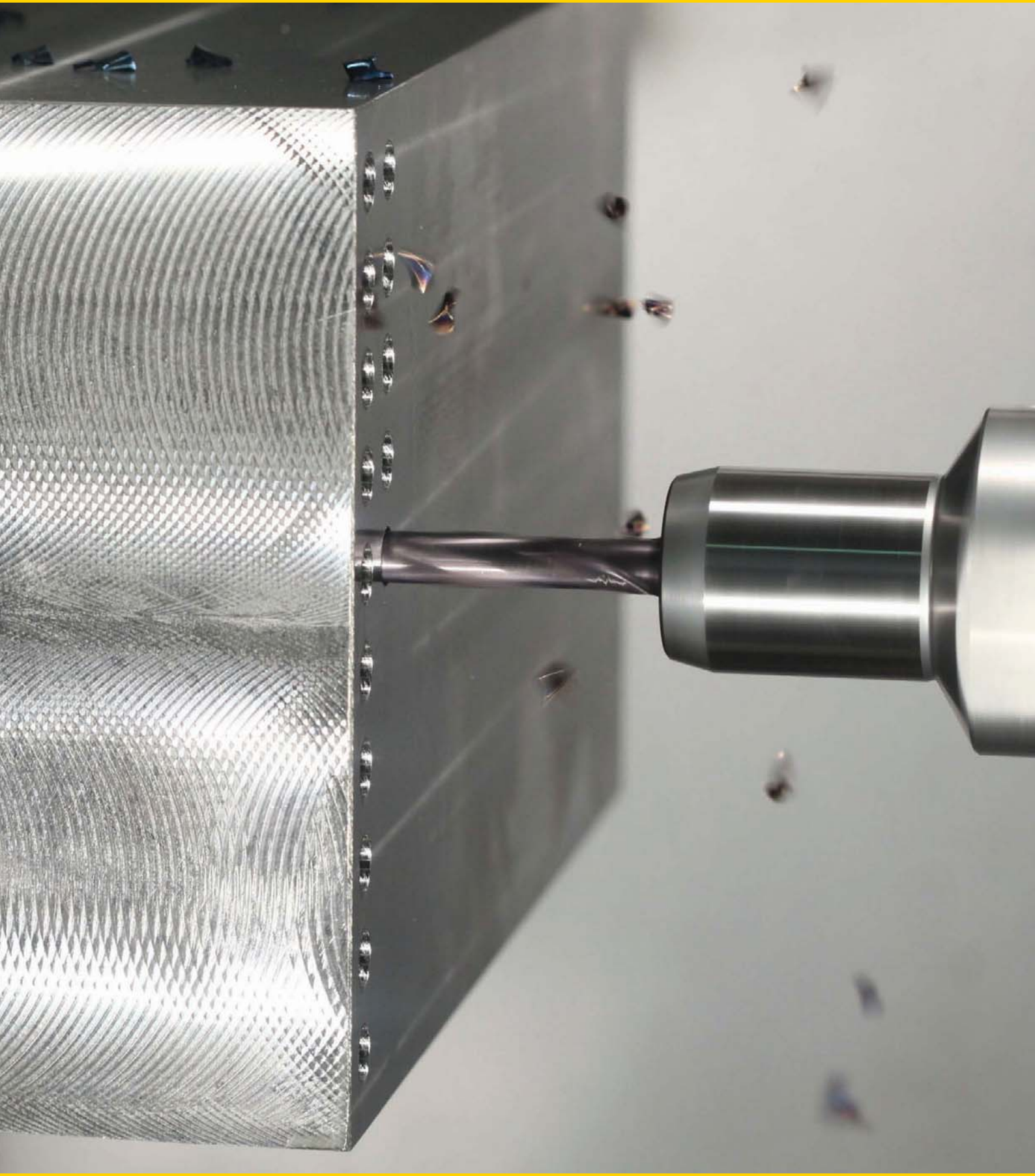
## Application Data

### TF Drills • B105 Series • Grade K10™ • Flood Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 1 | 60 | **85** | 110 | mm/r | 0,11–0,20 | 0,12–0,20 | 0,16–0,28 | 0,20–0,35 | 0,22–0,42 | 0,24–0,50 | 0,28–0,61 | 0,30–0,68 |
| K | 2 | 70 | **70** | 90 | mm/r | 0,11–0,20 | 0,12–0,20 | 0,16–0,28 | 0,20–0,35 | 0,22–0,42 | 0,24–0,50 | 0,28–0,61 | 0,30–0,68 |
| K | 3 | 50 | **50** | 70 | mm/r | 0,09–0,18 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,02–0,40 | 0,22–0,48 | 0,26–0,59 | 0,28–0,66 |
| N | 1 | 100 | **210** | 410 | mm/r | 0,09–0,15 | 0,10–0,20 | 0,18–0,33 | 0,20–0,38 | 0,25–0,43 | 0,03–0,51 | 0,43–0,58 | 0,64–0,79 |
| N | 2 | 100 | **250** | 250 | mm/r | 0,10–0,19 | 0,12–0,21 | 0,18–0,33 | 0,25–0,42 | 0,30–0,50 | 0,35–0,58 | 0,44–0,74 | 0,52–0,88 |
| N | 3 | 100 | **180** | 400 | mm/r | 0,09–0,16 | 0,10–0,20 | 0,12–0,26 | 0,16–0,36 | 0,20–0,40 | 0,24–0,45 | 0,30–0,50 | 0,34–0,60 |
| N | 4 | 60 | **170** | 250 | mm/r | 0,08–0,15 | 0,13–0,18 | 0,18–0,33 | 0,20–0,36 | 0,23–0,38 | 0,33–0,46 | 0,38–0,48 | 0,58–0,76 |
| S | 4 | 20 | **20** | 50 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,07–0,09 | 0,09–0,12 | 0,11–0,15 | 0,13–0,18 | 0,17–0,24 | 0,22–0,30 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 1 | 200 | **280** | 360 | IPR | .004–.008 | .005–.008 | .006–.011 | .008–.014 | .009–.017 | .009–.020 | .011–.024 | .012–.027 |
| K | 2 | 230 | **230** | 300 | IPR | .004–.008 | .005–.008 | .006–.011 | .008–.014 | .009–.017 | .009–.020 | .011–.024 | .012–.027 |
| K | 3 | 160 | **160** | 230 | IPR | .004–.007 | .004–.007 | .006–.010 | .007–.013 | .001–.016 | .009–.019 | .010–.023 | .011–.026 |
| N | 1 | 330 | **690** | 1340 | IPR | .004–.006 | .004–.008 | .007–.013 | .008–.015 | .010–.017 | .001–.020 | .017–.023 | .025–.031 |
| N | 2 | 330 | **820** | 820 | IPR | .004–.008 | .005–.008 | .007–.013 | .010–.017 | .012–.020 | .014–.023 | .017–.029 | .021–.035 |
| N | 3 | 330 | **590** | 1310 | IPR | .004–.006 | .004–.008 | .005–.010 | .006–.014 | .008–.016 | .009–.018 | .012–.020 | .013–.024 |
| N | 4 | 200 | **560** | 820 | IPR | .003–.006 | .005–.007 | .007–.013 | .008–.014 | .009–.015 | .013–.018 | .015–.019 | .023–.030 |
| S | 4 | 70 | **70** | 160 | IPR | .001–.002 | .002–.003 | .003–.004 | .004–.005 | .004–.006 | .005–.007 | .007–.009 | .009–.012 |

KENNAMETAL®



# New SGL Drills with Through Coolant for Stainless Steel

## Primary Application

The all-new B21_SGL series solid carbide drills are designed specifically for stainless steel applications, offering high performance and long tool life in high-temperature alloys and regular steel, also.

By combining unique Kennametal features, such as the all-new SGL-point-geometry with patented gashing, a unique flute design, and a best-in-class coating into one tool, the B21*SGL drill is the ultimate high-volume production tool.

## Features and Benefits

### New SGL Point Design

- Improved web thinning and patented gashing which migrates in a straight cutting edge, enables high cutting parameters (feeds).
- Creates controlled chips, which lead to a reliable performance.
- Improved centering capabilities for better positioning accuracy and improved hole quality.

### Unique Flute Design

- Large chip-flute cross-section and small web diameter improve the chip evacuation and the capability to drill deeper holes in difficult-to-machine materials.
- The highly-polished surface ensures superior chip evacuation, even when low-pressure coolant is applied.

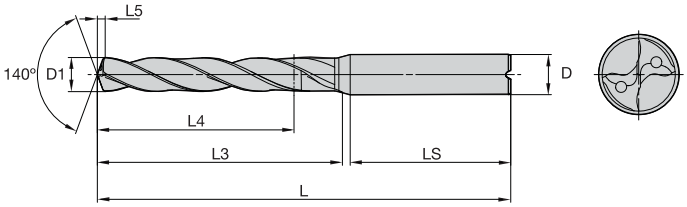
### New KCMS15™ Beyond Grade

- A monolayer PVD AlTiN-coated fine-grain carbide with superior surface finish.
- First choice for stainless steel and high-temperature resistant materials for longer tool life.
- The coating offers high hardness and excellent abrasive and adhesive wear resistance, as well as enhanced high-temperature properties, increasing its applicability, also, to MQL machining of steel.

# Specifically for stainless steel applications.

## Customization

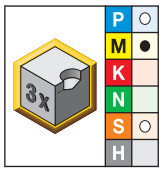
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as custom solutions.
- High step diameter ratios and very complex step drill geometries are not recommended for austenitic stainless steel.
- Using Kennametal slim line hydraulic chucks is recommended if workpiece contours need to be bypassed.

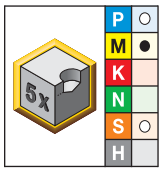


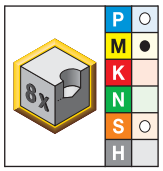

For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

beyond

## B210/B211/B212_SGL • ~3 x D/~5 x D/~8 x D



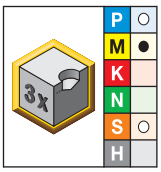

● first choice
○ alternate choice

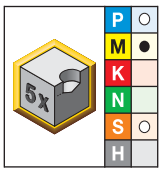
| short • KCMS15 | long • KCMS15 | extra long • KCMS15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B210Z02500SGL | – | – | 2,500 | .0984 | – | – | 0,4 | 28 | 3 |
| B210A03000SGL | B211A03000SGL | B212A03000SGL | 3,000 | .1181 | – | – | 0,4 | 36 | 6 |
| B210A03048SGL | B211A03048SGL | – | 3,048 | .1200 | – | 31 | 0,5 | 36 | 6 |
| – | B211A03100SGL | – | 3,100 | .1220 | – | – | 0,5 | 36 | 6 |
| B210A03175SGL | B211A03175SGL | B212A03175SGL | 3,175 | .1250 | 1/8 | – | 0,5 | 36 | 6 |
| B210A03200SGL | B211A03200SGL | B212A03200SGL | 3,200 | .1260 | – | – | 0,5 | 36 | 6 |
| B210A03264SGL | – | B212A03264SGL | 3,264 | .1285 | – | 30 | 0,5 | 36 | 6 |
| B210A03300SGL | B211A03300SGL | B212A03300SGL | 3,300 | .1299 | – | – | 0,5 | 36 | 6 |
| B210A03400SGL | B211A03400SGL | – | 3,400 | .1339 | – | – | 0,5 | 36 | 6 |
| B210A03455SGL | B211A03455SGL | B212A03455SGL | 3,455 | .1360 | – | – | 0,5 | 36 | 6 |
| B210A03500SGL | B211A03500SGL | B212A03500SGL | 3,500 | .1378 | – | – | 0,5 | 36 | 6 |
| – | B211A03571SGL | B212A03571SGL | 3,571 | .1406 | 9/64 | – | 0,5 | 36 | 6 |
| – | B211A03600SGL | – | 3,600 | .1417 | – | – | 0,5 | 36 | 6 |
| – | B211A03658SGL | B212A03658SGL | 3,658 | .1440 | – | – | 0,5 | 36 | 6 |
| – | B211A03700SGL | B212A03700SGL | 3,700 | .1457 | – | – | 0,5 | 36 | 6 |
| B210A03700SGL | – | – | 3,700 | .1457 | – | – | 0,6 | 36 | 6 |
| – | B211A03734SGL | – | 3,734 | .1470 | – | 26 | 0,6 | 36 | 6 |
| B210A03800SGL | B211A03800SGL | B212A03800SGL | 3,800 | .1496 | – | – | 0,6 | 36 | 6 |
| – | B211A03861SGL | – | 3,861 | .1520 | – | 24 | 0,6 | 36 | 6 |
| – | B211A03900SGL | – | 3,900 | .1535 | – | – | 0,6 | 36 | 6 |
| B210A04000SGL | B211A04000SGL | B212A04000SGL | 4,000 | .1575 | – | – | 0,6 | 36 | 6 |
| – | B211A04039SGL | B212A04039SGL | 4,039 | .1590 | – | – | 0,6 | 36 | 6 |
| B210A04100SGL | B211A04100SGL | B212A04100SGL | 4,100 | .1614 | – | – | 0,6 | 36 | 6 |
| B210A04200SGL | B211A04200SGL | B212A04200SGL | 4,200 | .1654 | – | – | 0,6 | 36 | 6 |
| – | B211A04217SGL | – | 4,217 | .1660 | – | – | 0,6 | 36 | 6 |
| B210A04300SGL | B211A04300SGL | B212A04300SGL | 4,300 | .1693 | – | – | 0,6 | 36 | 6 |
| – | B211A04366SGL | B212A04366SGL | 4,366 | .1719 | – | – | 0,6 | 36 | 6 |
| B210A04366SGL | – | – | 4,366 | .1719 | – | – | 0,7 | 36 | 6 |
| – | B211A04400SGL | – | 4,400 | .1732 | – | – | 0,7 | 36 | 6 |
| B210A04500SGL | B211A04500SGL | B212A04500SGL | 4,500 | .1772 | – | – | 0,7 | 36 | 6 |
| – | B211A04600SGL | – | 4,600 | .1811 | – | – | 0,7 | 36 | 6 |
| B210A04700SGL | B211A04700SGL | B212A04700SGL | 4,700 | .1850 | – | – | 0,7 | 36 | 6 |

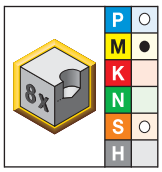
*(continued)*

*(B210/B211/B212_SGL • ~3 x D/~5 x D/~8 x D — continued)*





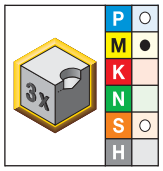



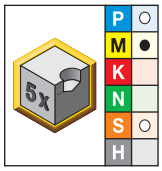

● first choice
○ alternate choice

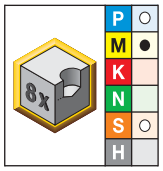
| short • KCMS15 | long • KCMS15 | extra long • KCMS15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| – | B211A04763SGL | – | 4,763 | .1875 | 3/16 | – | 0,7 | 36 | 6 |
| B210A04800SGL | B211A04800SGL | B212A04800SGL | 4,800 | .1890 | – | – | 0,7 | 36 | 6 |
| – | B211A04852SGL | B212A04852SGL | 4,852 | .1910 | – | – | 0,7 | 36 | 6 |
| B210A04900SGL | B211A04900SGL | – | 4,900 | .1929 | – | – | 0,7 | 36 | 6 |
| B210A05000SGL | B211A05000SGL | B212A05000SGL | 5,000 | .1969 | – | – | 0,7 | 36 | 6 |
| B210A05100SGL | B211A05100SGL | B212A05100SGL | 5,100 | .2008 | – | – | 0,8 | 36 | 6 |
| B210A05106SGL | B211A05106SGL | – | 5,106 | .2010 | – | – | 0,8 | 36 | 6 |
| B210A05159SGL | B211A05159SGL | – | 5,159 | .2031 | – | – | 0,8 | 36 | 6 |
| B210A05200SGL | B211A05200SGL | B212A05200SGL | 5,200 | .2047 | – | – | 0,8 | 36 | 6 |
| B210A05300SGL | B211A05300SGL | – | 5,300 | .2087 | – | – | 0,8 | 36 | 6 |
| B210A05400SGL | B211A05400SGL | – | 5,400 | .2126 | – | – | 0,8 | 36 | 6 |
| B210A05500SGL | B211A05500SGL | B212A05500SGL | 5,500 | .2165 | – | – | 0,8 | 36 | 6 |
| – | B211A05558SGL | – | 5,558 | .2188 | – | – | 0,8 | 36 | 6 |
| – | B211A05600SGL | – | 5,600 | .2205 | – | – | 0,8 | 36 | 6 |
| B210A05616SGL | – | – | 5,616 | .2211 | – | 2 | 0,8 | 36 | 6 |
| – | B211A05700SGL | – | 5,700 | .2244 | – | – | 0,8 | 36 | 6 |
| B210A05800SGL | B211A05800SGL | B212A05800SGL | 5,800 | .2283 | – | – | 0,9 | 36 | 6 |
| – | B211A05900SGL | – | 5,900 | .2323 | – | – | 0,9 | 36 | 6 |
| B210A05954SGL | B211A05954SGL | – | 5,954 | .2344 | 15/64 | – | 0,9 | 36 | 6 |
| B210A06000SGL | B211A06000SGL | B212A06000SGL | 6,000 | .2362 | – | – | 0,9 | 36 | 6 |
| B210A06100SGL | B211A06100SGL | – | 6,100 | .2402 | – | – | 0,9 | 36 | 8 |
| B210A06200SGL | B211A06200SGL | – | 6,200 | .2441 | – | – | 0,9 | 36 | 8 |
| B210A06300SGL | B211A06300SGL | – | 6,300 | .2480 | – | – | 0,9 | 36 | 8 |
| B210A06350SGL | B211A06350SGL | B212A06350SGL | 6,350 | .2500 | 1/4 | – | 0,9 | 36 | 8 |
| – | B211A06400SGL | – | 6,400 | .2520 | – | – | 0,9 | 36 | 8 |
| B210A06400SGL | – | – | 6,400 | .2520 | – | – | 1,0 | 36 | 8 |
| B210A06500SGL | B211A06500SGL | B212A06500SGL | 6,500 | .2559 | – | – | 1,0 | 36 | 8 |
| – | B211A06600SGL | – | 6,600 | .2598 | – | – | 1,0 | 36 | 8 |
| – | B211A06630SGL | B212A06630SGL | 6,630 | .2610 | – | – | 1,0 | 36 | 8 |
| B210A06700SGL | B211A06700SGL | – | 6,700 | .2638 | – | – | 1,0 | 36 | 8 |
| B210A06800SGL | B211A06800SGL | B212A06800SGL | 6,800 | .2677 | – | – | 1,0 | 36 | 8 |
| B210A06900SGL | B211A06900SGL | – | 6,900 | .2717 | – | – | 1,0 | 36 | 8 |
| B210A07000SGL | B211A07000SGL | B212A07000SGL | 7,000 | .2756 | – | – | 1,0 | 36 | 8 |
| B210A07100SGL | B211A07100SGL | – | 7,100 | .2795 | – | – | 1,1 | 36 | 8 |
| B210A07145SGL | – | – | 7,145 | .2813 | 9/32 | – | 1,1 | 36 | 8 |
| – | B211A07200SGL | – | 7,200 | .2835 | – | – | 1,1 | 36 | 8 |
| – | B211A07300SGL | – | 7,300 | .2874 | – | – | 1,1 | 36 | 8 |
| B210A07400SGL | B211A07400SGL | – | 7,400 | .2913 | – | – | 1,1 | 36 | 8 |
| B210A07500SGL | B211A07500SGL | – | 7,500 | .2953 | – | – | 1,1 | 36 | 8 |
| – | – | B212A07500SGL | 7,500 | .2953 | – | – | 1,1 | 74 | 8 |
| – | B211A07600SGL | – | 7,600 | .2992 | – | – | 1,1 | 36 | 8 |
| – | B211A07700SGL | – | 7,700 | .3031 | – | – | 1,1 | 36 | 8 |
| B210A07800SGL | B211A07800SGL | B212A07800SGL | 7,800 | .3071 | – | – | 1,2 | 36 | 8 |
| – | B211A07900SGL | – | 7,900 | .3110 | – | – | 1,2 | 36 | 8 |
| B210A07938SGL | B211A07938SGL | – | 7,938 | .3125 | 5/16 | – | 1,2 | 36 | 8 |
| B210A08000SGL | B211A08000SGL | B212A08000SGL | 8,000 | .3150 | – | – | 1,2 | 36 | 8 |
| B210A08100SGL | B211A08100SGL | – | 8,100 | .3189 | – | – | 1,2 | 40 | 10 |
| B210A08200SGL | B211A08200SGL | – | 8,200 | .3228 | – | – | 1,2 | 40 | 10 |
| B210A08400SGL | B211A08400SGL | B212A08400SGL | 8,400 | .3307 | – | – | 1,2 | 40 | 10 |
| B210A08433SGL | – | – | 8,433 | .3320 | – | – | 1,3 | 40 | 10 |
| B210A08500SGL | B211A08500SGL | B212A08500SGL | 8,500 | .3346 | – | – | 1,3 | 40 | 10 |
| B210A08600SGL | B211A08600SGL | – | 8,600 | .3386 | – | – | 1,3 | 40 | 10 |

*(continued)*

*(B210/B211/B212_SGL • ~3 x D/~5 x D/~8 x D — continued)*



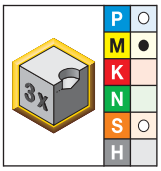



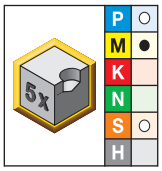

● first choice
○ alternate choice

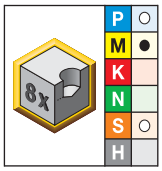
| short • KCMS15 | long • KCMS15 | extra long • KCMS15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B210A08700SGL | B211A08700SGL | – | 8,700 | .3425 | – | – | 1,3 | 40 | 10 |
| B210A08800SGL | B211A08800SGL | B212A08800SGL | 8,800 | .3465 | – | – | 1,3 | 40 | 10 |
| – | B211A08900SGL | – | 8,900 | .3504 | – | – | 1,3 | 40 | 10 |
| B210A09000SGL | B211A09000SGL | B212A09000SGL | 9,000 | .3543 | – | – | 1,3 | 40 | 10 |
| B210A09093SGL | – | – | 9,093 | .3580 | – | – | 1,4 | 40 | 10 |
| – | B211A09100SGL | – | 9,100 | .3583 | – | – | 1,3 | 40 | 10 |
| – | B211A09200SGL | – | 9,200 | .3622 | – | – | 1,4 | 40 | 10 |
| – | B211A09300SGL | – | 9,300 | .3661 | – | – | 1,4 | 40 | 10 |
| – | B211A09400SGL | – | 9,400 | .3701 | – | – | 1,4 | 40 | 10 |
| B210A09500SGL | B211A09500SGL | B212A09500SGL | 9,500 | .3740 | – | – | 1,4 | 40 | 10 |
| – | B211A09525SGL | – | 9,525 | .3750 | 3/8 | – | 1,4 | 40 | 10 |
| – | B211A09600SGL | – | 9,600 | .3780 | – | – | 1,4 | 40 | 10 |
| B210A09700SGL | B211A09700SGL | – | 9,700 | .3819 | – | – | 1,4 | 40 | 10 |
| B210A09800SGL | B211A09800SGL | – | 9,800 | .3858 | – | – | 1,5 | 40 | 10 |
| – | B211A09900SGL | – | 9,900 | .3898 | – | – | 1,5 | 40 | 10 |
| B210A09921SGL | – | – | 9,921 | .3906 | 25/64 | – | 1,5 | 40 | 10 |
| B210A10000SGL | B211A10000SGL | B212A10000SGL | 10,000 | .3937 | – | – | 1,5 | 40 | 10 |
| – | B211A10100SGL | – | 10,100 | .3976 | – | – | 1,5 | 45 | 12 |
| B210A10200SGL | B211A10200SGL | B212A10200SGL | 10,200 | .4016 | – | – | 1,5 | 45 | 12 |
| – | B211A10300SGL | – | 10,300 | .4055 | – | – | 1,5 | 45 | 12 |
| B210A10400SGL | B211A10400SGL | – | 10,400 | .4094 | – | – | 1,5 | 45 | 12 |
| B210A10500SGL | B211A10500SGL | B212A10500SGL | 10,500 | .4134 | – | – | 1,6 | 45 | 12 |
| – | B211A10700SGL | – | 10,700 | .4213 | – | – | 1,6 | 45 | 12 |
| B210A10716SGL | – | – | 10,716 | .4219 | – | – | 1,6 | 45 | 12 |
| B210A10800SGL | B211A10800SGL | – | 10,800 | .4252 | – | – | 1,6 | 45 | 12 |
| B210A11000SGL | B211A11000SGL | B212A11000SGL | 11,000 | .4331 | – | – | 1,6 | 45 | 12 |
| – | B211A11100SGL | – | 11,100 | .4370 | – | – | 1,6 | 45 | 12 |
| – | B211A11113SGL | – | 11,113 | .4375 | 7/16 | – | 1,6 | 45 | 12 |
| B210A11200SGL | B211A11200SGL | – | 11,200 | .4409 | – | – | 1,7 | 45 | 12 |
| – | B211A11400SGL | – | 11,400 | .4488 | – | – | 1,7 | 45 | 12 |
| B210A11500SGL | B211A11500SGL | – | 11,500 | .4528 | – | – | 1,7 | 45 | 12 |
| B210A11509SGL | – | – | 11,509 | .4531 | – | – | 1,7 | 45 | 12 |
| – | B211A11700SGL | – | 11,700 | .4606 | – | – | 1,7 | 45 | 12 |
| – | B211A11800SGL | B212A11800SGL | 11,800 | .4646 | – | – | 1,7 | 45 | 12 |
| B210A12000SGL | B211A12000SGL | B212A12000SGL | 12,000 | .4724 | – | – | 1,8 | 45 | 12 |
| – | B211A12100SGL | – | 12,100 | .4764 | – | – | 1,8 | 45 | 14 |
| B210A12200SGL | B211A12200SGL | – | 12,200 | .4803 | – | – | 1,8 | 45 | 14 |
| – | B211A12300SGL | – | 12,300 | .4843 | – | – | 1,8 | 45 | 14 |
| B210A12304SGL | – | – | 12,304 | .4844 | 31/64 | – | 1,8 | 45 | 14 |
| B210A12500SGL | B211A12500SGL | B212A12500SGL | 12,500 | .4921 | – | – | 1,9 | 45 | 14 |
| B210A12700SGL | B211A12700SGL | – | 12,700 | .5000 | 1/2 | – | 1,9 | 45 | 14 |
| B210A12800SGL | B211A12800SGL | – | 12,800 | .5039 | – | – | 1,9 | 45 | 14 |
| – | B211A12900SGL | – | 12,900 | .5079 | – | – | 1,9 | 45 | 14 |
| B210A13000SGL | B211A13000SGL | B212A13000SGL | 13,000 | .5118 | – | – | 1,9 | 45 | 14 |
| – | B211A13100SGL | – | 13,100 | .5157 | – | – | 1,9 | 45 | 14 |
| – | B211A13200SGL | – | 13,200 | .5197 | – | – | 2,0 | 45 | 14 |
| – | B211A13300SGL | – | 13,300 | .5236 | – | – | 2,0 | 45 | 14 |
| B210A13495SGL | – | – | 13,495 | .5313 | 17/32 | – | 2,0 | 45 | 14 |
| B210A13500SGL | B211A13500SGL | B212A13500SGL | 13,500 | .5315 | – | – | 2,0 | 45 | 14 |
| – | B211A13800SGL | – | 13,800 | .5433 | – | – | 2,0 | 45 | 14 |
| B210A14000SGL | B211A14000SGL | B212A14000SGL | 14,000 | .5512 | – | – | 2,1 | 45 | 14 |
| B210A14100SGL | B211A14100SGL | – | 14,100 | .5551 | – | – | 2,1 | 48 | 16 |

*(continued)*

*(B210/B211/B212_SGL • ~3 x D/~5 x D/~8 x D — continued)*




● first choice
○ alternate choice

| short • KCMS15 | long • KCMS15 | extra long • KCMS15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B210A14200SGL | – | – | 14,200 | .5591 | – | – | 2,1 | 48 | 16 |
| – | B211A14300SGL | – | 14,300 | .5630 | – | – | 2,1 | 48 | 16 |
| – | B211A14400SGL | – | 14,400 | .5669 | – | – | 2,1 | 48 | 16 |
| – | B211A14500SGL | – | 14,500 | .5709 | – | – | 2,1 | 48 | 16 |
| B210A14500SGL | – | – | 14,500 | .5709 | – | – | 2,2 | 48 | 16 |
| – | B211A14600SGL | – | 14,600 | .5748 | – | – | 2,2 | 48 | 16 |
| – | B211A14800SGL | – | 14,800 | .5827 | – | – | 2,2 | 48 | 16 |
| B210A15000SGL | B211A15000SGL | – | 15,000 | .5906 | – | – | 2,2 | 48 | 16 |
| – | B211A15100SGL | – | 15,100 | .5945 | – | – | 2,2 | 48 | 16 |
| – | B211A15300SGL | – | 15,300 | .6024 | – | – | 2,3 | 48 | 16 |
| B210A15500SGL | B211A15500SGL | – | 15,500 | .6102 | – | – | 2,3 | 48 | 16 |
| – | B211A15700SGL | – | 15,700 | .6181 | – | – | 2,3 | 48 | 16 |
| B210A15875SGL | B211A15875SGL | – | 15,875 | .6250 | 5/8 | – | 2,4 | 48 | 16 |
| B210A16000SGL | B211A16000SGL | – | 16,000 | .6299 | – | – | 2,4 | 48 | 16 |
| – | B211A16100SGL | – | 16,100 | .6339 | – | – | 2,4 | 48 | 18 |
| B210A16129SGL | – | – | 16,129 | .6350 | – | – | 2,4 | 48 | 18 |
| B210A16500SGL | B211A16500SGL | – | 16,500 | .6496 | – | – | 2,4 | 48 | 18 |
| B210A16670SGL | – | – | 16,670 | .6563 | 21/32 | – | 2,5 | 48 | 18 |
| B210A17000SGL | B211A17000SGL | – | 17,000 | .6693 | – | – | 2,5 | 48 | 18 |
| B210A17500SGL | B211A17500SGL | – | 17,500 | .6890 | – | – | 2,6 | 48 | 18 |
| – | B211A17700SGL | – | 17,700 | .6969 | – | – | 2,6 | 48 | 18 |
| B210A18000SGL | B211A18000SGL | – | 18,000 | .7087 | – | – | 2,7 | 48 | 18 |
| B210A18500SGL | B211A18500SGL | – | 18,500 | .7283 | – | – | 2,7 | 50 | 20 |
| – | B211A19000SGL | – | 19,000 | .7480 | – | – | 2,8 | 50 | 20 |
| B210A19050SGL | – | – | 19,050 | .7500 | 3/4 | – | 2,8 | 50 | 20 |
| – | B211A19159SGL | – | 19,159 | .7543 | – | – | 2,8 | 50 | 20 |
| – | B211A19300SGL | – | 19,300 | .7598 | – | – | 2,9 | 50 | 20 |
| B210A19500SGL | – | – | 19,500 | .7677 | – | – | 2,9 | 50 | 20 |
| B210A20000SGL | – | – | 20,000 | .7874 | – | – | 3,0 | 50 | 20 |
| – | B211A20500SGL | – | 20,500 | .8071 | – | – | 3,0 | 50 | 20 |

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181 to .2362 | .0002/.0006 | .0000/-.0003 |
| >.2362 to .3937 | .0002/.0008 | .0000/-.0004 |
| >.3937 to .7087 | .0003/.0010 | .0000/-.0004 |
| >.7087 to 1.0000 | .0003/.0011 | .0000/-.0005 |

## HP Drills • B21_SGL Series • Grade KCMS15 • Through Coolant

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate per Rev | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 110 | **160** | 210 | mm/r | | 0,05–0,13 | 0,08–0,19 | 0,11–0,24 | 0,14–0,30 | 0,16–0,35 | 0,18–0,39 | 0,20–0,46 | 0,23–0,51 |
| | 2 | 130 | **170** | 210 | mm/r | | 0,05–0,13 | 0,08–0,17 | 0,11–0,20 | 0,14–0,24 | 0,16–0,28 | 0,18–0,32 | 0,20–0,37 | 0,23–0,41 |
| | 3 | 110 | **150** | 190 | mm/r | | 0,08–0,13 | 0,12–0,19 | 0,14–0,24 | 0,17–0,30 | 0,20–0,35 | 0,22–0,39 | 0,26–0,46 | 0,29–0,51 |
| | 4 | 80 | **120** | 150 | mm/r | | 0,08–0,12 | 0,11–0,18 | 0,12–0,23 | 0,15–0,28 | 0,17–0,33 | 0,19–0,37 | 0,22–0,43 | 0,25–0,48 |
| | 5 | 60 | **80** | 90 | mm/r | | 0,03–0,11 | 0,04–0,11 | 0,05–0,11 | 0,05–0,14 | 0,08–0,18 | 0,11–0,21 | 0,14–0,24 | 0,16–0,26 |
| | 6 | 70 | **120** | 170 | mm/r | | 0,05–0,11 | 0,08–0,14 | 0,11–0,17 | 0,13–0,21 | 0,15–0,24 | 0,17–0,27 | 0,19–0,33 | 0,22–0,36 |
| M | 1 | 60 | **80** | 90 | mm/r | | 0,05–0,14 | 0,06–0,15 | 0,08–0,17 | 0,10–0,19 | 0,12–0,21 | 0,13–0,22 | 0,16–0,25 | 0,18–0,27 |
| | 2 | 50 | **70** | 90 | mm/r | | 0,05–0,14 | 0,06–0,15 | 0,08–0,17 | 0,10–0,19 | 0,12–0,21 | 0,13–0,22 | 0,16–0,25 | 0,18–0,27 |
| | 3 | 50 | **60** | 80 | mm/r | | 0,05–0,14 | 0,06–0,15 | 0,08–0,17 | 0,10–0,19 | 0,12–0,21 | 0,13–0,22 | 0,16–0,25 | 0,18–0,27 |
| S | 1 | 10 | **20** | 30 | mm/r | | 0,03–0,08 | 0,04–0,09 | 0,05–0,11 | 0,05–0,11 | 0,08–0,14 | 0,11–0,16 | 0,14–0,19 | 0,16–0,21 |
| | 2 | 10 | **20** | 30 | mm/r | | 0,03–0,11 | 0,04–0,11 | 0,05–0,11 | 0,05–0,11 | 0,08–0,14 | 0,11–0,16 | 0,14–0,19 | 0,16–0,21 |
| | 3 | 20 | **30** | 40 | mm/r | | 0,03–0,11 | 0,04–0,11 | 0,05–0,11 | 0,05–0,11 | 0,08–0,14 | 0,11–0,16 | 0,14–0,19 | 0,16–0,21 |
| | 4 | 30 | **40** | 50 | mm/r | | 0,03–0,04 | 0,04–0,05 | 0,06–0,08 | 0,08–0,10 | 0,11–0,13 | 0,13–0,15 | 0,14–0,18 | 0,16–0,20 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate per Rev | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 360 | **520** | 690 | IPR | | .002–.005 | .003–.008 | .004–.009 | .006–.012 | .006–.014 | .007–.015 | .008–.018 | .009–.020 |
| | 2 | 430 | **560** | 690 | IPR | | .002–.005 | .003–.007 | .004–.008 | .006–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.016 |
| | 3 | 360 | **490** | 620 | IPR | | .003–.005 | .005–.008 | .006–.009 | .007–.012 | .008–.014 | .009–.015 | .010–.018 | .011–.020 |
| | 4 | 260 | **390** | 490 | IPR | | .003–.005 | .004–.007 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.017 | .010–.019 |
| | 5 | 200 | **260** | 300 | IPR | | .001–.004 | .002–.004 | .002–.004 | .002–.006 | .003–.007 | .004–.008 | .006–.009 | .006–.010 |
| | 6 | 230 | **390** | 560 | IPR | | .002–.004 | .003–.006 | .004–.007 | .005–.008 | .006–.009 | .007–.011 | .008–.013 | .009–.014 |
| M | 1 | 200 | **260** | 300 | IPR | | .002–.006 | .002–.006 | .003–.007 | .004–.008 | .005–.008 | .005–.009 | .006–.010 | .007–.011 |
| | 2 | 160 | **230** | 300 | IPR | | .002–.006 | .002–.006 | .003–.007 | .004–.008 | .005–.008 | .005–.009 | .006–.010 | .007–.011 |
| | 3 | 160 | **200** | 260 | IPR | | .002–.006 | .002–.006 | .003–.007 | .004–.008 | .005–.008 | .005–.009 | .006–.010 | .007–.011 |
| S | 1 | 30 | **70** | 100 | IPR | | .001–.003 | .002–.004 | .002–.004 | .002–.004 | .003–.006 | .004–.006 | .006–.008 | .006–.008 |
| | 2 | 30 | **70** | 100 | IPR | | .001–.004 | .002–.004 | .002–.004 | .002–.004 | .003–.006 | .004–.006 | .006–.008 | .006–.008 |
| | 3 | 70 | **100** | 130 | IPR | | .001–.004 | .002–.004 | .002–.004 | .002–.004 | .003–.006 | .004–.006 | .006–.008 | .006–.008 |
| | 4 | 100 | **130** | 160 | IPR | | .001–.002 | .002–.002 | .002–.003 | .003–.004 | .004–.005 | .005–.006 | .006–.007 | .006–.008 |

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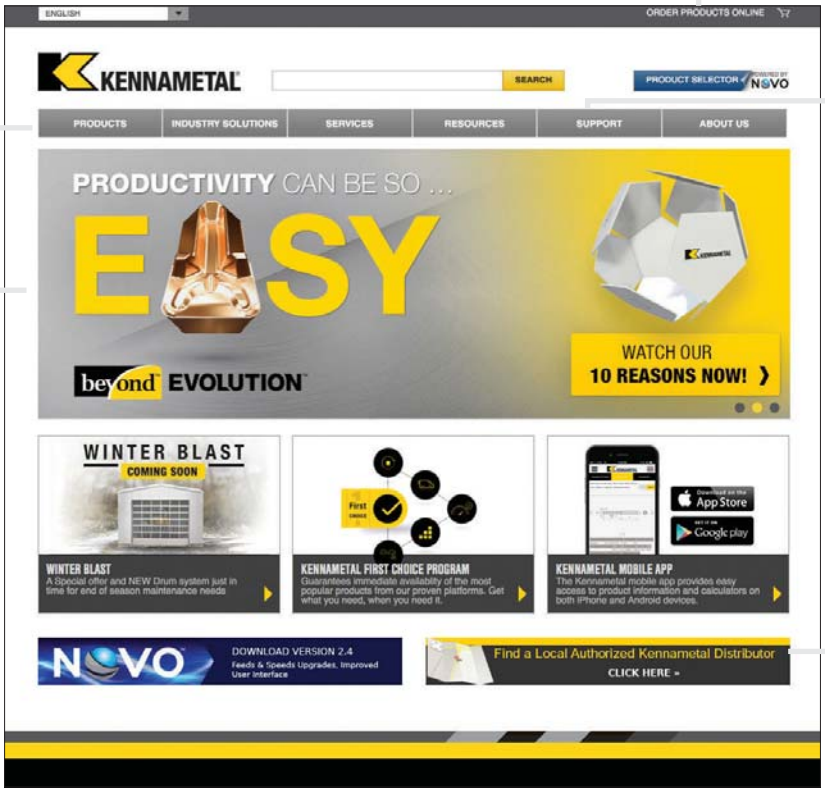


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Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.

# HP Beyond™ Drills for Steel

### Primary Application

B221_HP series solid carbide drills offer the highest metal removal rates and longest tool life in steel and iron materials when dry cutting or using external flood coolant. Dry drilling up to 5 x D possible.

B224_HP series solid carbide drills are ideal for super high-speed drilling of unalloyed and alloyed steel. Achieve 100% higher cutting speed without compromising tool life. Operate these drills with standard through coolant or MQL.

By combining unique Kennametal technologies, such as the HP-point, flute geometry, and a new Beyond grade technology into one tool, the B22_HP Beyond is the ultimate high-volume production tool.

## Features and Benefits

### HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

### Unique Flute Design

- Improved chip evacuation in dry and mid L/D drilling operations.
- Better hole surface quality.

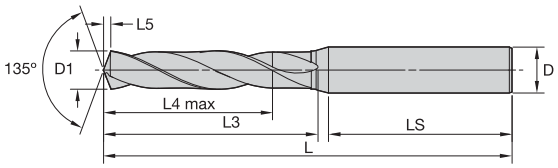
### KCPK15™ Beyond Grade

- The grade is a multilayer, TiAlN-based coating with high hot hardness. High cutting speeds enable use in MQL applications.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.
- The average metal removal rate and tool life performance improved dramatically (10–30%).

# B22_HP Beyond™ drills are the ultimate high-volume production tool.

## Customization

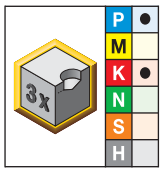
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- For holes deeper than 5 x D, internal coolant is recommended.
- Using Kennametal slim line hydraulic chucks together with standard B22_HP is recommended if workpiece contours need to be bypassed.

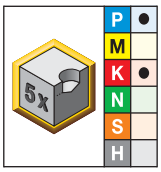


For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

beyond

## B221/B222_HP • ~3 x D/~5 x D



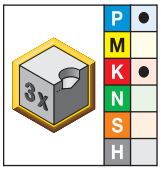



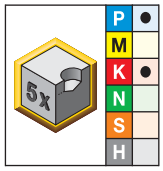

● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B221A03000HP | B222A03000HP | 3,000 | .1181 | – | – | 0,6 | 36 | 6 |
| B221A03048HP | B222A03048HP | 3,048 | .1200 | – | 31 | 0,6 | 36 | 6 |
| B221A03100HP | – | 3,100 | .1220 | – | – | 0,6 | 36 | 6 |
| B221A03175HP | B222A03175HP | 3,175 | .1250 | 1/8 | – | 0,6 | 36 | 6 |
| B221A03200HP | – | 3,200 | .1260 | – | – | 0,6 | 36 | 6 |
| B221A03264HP | B222A03264HP | 3,264 | .1285 | – | 30 | 0,6 | 36 | 6 |
| B221A03300HP | B222A03300HP | 3,300 | .1299 | – | – | 0,6 | 36 | 6 |
| B221A03400HP | – | 3,400 | .1339 | – | – | 0,6 | 36 | 6 |
| B221A03455HP | B222A03455HP | 3,455 | .1360 | – | 29 | 0,7 | 36 | 6 |
| B221A03500HP | B222A03500HP | 3,500 | .1378 | – | – | 0,7 | 36 | 6 |
| B221A03571HP | B222A03571HP | 3,571 | .1406 | 9/64 | – | 0,7 | 36 | 6 |
| B221A03600HP | – | 3,600 | .1417 | – | – | 0,7 | 36 | 6 |
| B221A03700HP | B222A03700HP | 3,700 | .1457 | – | – | 0,7 | 36 | 6 |
| B221A03734HP * | – | 3,734 | .1470 | – | 26 | 0,7 | 36 | 6 |
| B221A03800HP | B222A03800HP | 3,800 | .1496 | – | – | 0,7 | 36 | 6 |
| B221A03900HP | – | 3,900 | .1535 | – | – | 0,7 | 36 | 6 |
| B221A03970HP | B222A03970HP | 3,970 | .1563 | 5/32 | – | 0,7 | 36 | 6 |
| B221A04000HP | B222A04000HP | 4,000 | .1575 | – | – | 0,8 | 36 | 6 |
| B221A04039HP | – | 4,039 | .1590 | – | 21 | 0,8 | 36 | 6 |
| B221A04090HP | – | 4,090 | .1610 | – | 20 | 0,8 | 36 | 6 |
| B221A04100HP | – | 4,100 | .1614 | – | – | 0,8 | 36 | 6 |
| B221A04200HP | B222A04200HP | 4,200 | .1654 | – | – | 0,8 | 36 | 6 |
| B221A04217HP * | – | 4,217 | .1660 | – | 19 | 0,8 | 36 | 6 |
| B221A04300HP | – | 4,300 | .1693 | – | – | 0,8 | 36 | 6 |
| B221A04366HP | B222A04366HP | 4,366 | .1719 | 11/64 | – | 0,8 | 36 | 6 |
| B221A04400HP | – | 4,400 | .1732 | – | – | 0,8 | 36 | 6 |
| B221A04500HP | B222A04500HP | 4,500 | .1772 | – | – | 0,8 | 36 | 6 |
| B221A04600HP | B222A04600HP | 4,600 | .1811 | – | – | 0,9 | 36 | 6 |
| B221A04623HP * | – | 4,623 | .1820 | – | 14 | 0,9 | 36 | 6 |
| B221A04700HP | – | 4,700 | .1850 | – | 13 | 0,9 | 36 | 6 |
| B221A04763HP | B222A04763HP | 4,763 | .1875 | 3/16 | – | 0,9 | 36 | 6 |
| B221A04800HP | B222A04800HP | 4,800 | .1890 | – | 12 | 0,9 | 36 | 6 |
| B221A04852HP | – | 4,852 | .1910 | – | 11 | 0,9 | 36 | 6 |
| B221A04900HP | – | 4,900 | .1929 | – | – | 0,9 | 36 | 6 |
| B221A05000HP | B222A05000HP | 5,000 | .1969 | – | – | 0,9 | 36 | 6 |
| B221A05100HP | B222A05100HP | 5,100 | .2008 | – | – | 1,0 | 36 | 6 |
| B221A05106HP | B222A05106HP | 5,106 | .2010 | – | 7 | 1,0 | 36 | 6 |
| B221A05159HP | B222A05159HP | 5,159 | .2031 | 13/64 | – | 1,0 | 36 | 6 |
| B221A05200HP | – | 5,200 | .2047 | – | – | 1,0 | 36 | 6 |
| B221A05300HP | – | 5,300 | .2087 | – | – | 1,0 | 36 | 6 |

*(continued)*

*(B221/B222_HP • ~3 x D/~5 x D — continued)*



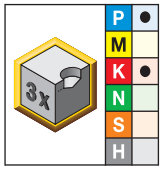



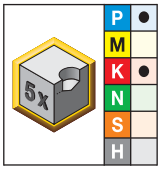

● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B221A05400HP | – | 5,400 | .2126 | – | – | 1,0 | 36 | 6 |
| B221A05410HP * | B222A05410HP * | 5,410 | .2130 | – | 3 | 1,0 | 36 | 6 |
| B221A05500HP | B222A05500HP | 5,500 | .2165 | – | – | 1,0 | 36 | 6 |
| B221A05558HP | B222A05558HP * | 5,558 | .2188 | 7/32 | – | 1,0 | 36 | 6 |
| B221A05600HP | – | 5,600 | .2205 | – | – | 1,1 | 36 | 6 |
| B221A05616HP * | – | 5,616 | .2211 | – | 2 | 1,1 | 36 | 6 |
| B221A05700HP | – | 5,700 | .2244 | – | – | 1,1 | 36 | 6 |
| B221A05800HP | B222A05800HP | 5,800 | .2283 | – | – | 1,1 | 36 | 6 |
| B221A05900HP | – | 5,900 | .2323 | – | – | 1,1 | 36 | 6 |
| – | B222A05954HP | 5,954 | .2344 | 15/64 | – | 1,1 | 36 | 6 |
| B221A06000HP | B222A06000HP | 6,000 | .2362 | – | – | 1,1 | 36 | 6 |
| B221A06100HP | – | 6,100 | .2402 | – | – | 1,1 | 36 | 8 |
| B221A06200HP | – | 6,200 | .2441 | – | – | 1,2 | 36 | 8 |
| B221A06300HP | – | 6,300 | .2480 | – | – | 1,2 | 36 | 8 |
| B221A06350HP | B222A06350HP | 6,350 | .2500 | 1/4 | – | 1,2 | 36 | 8 |
| B221A06400HP | – | 6,400 | .2520 | – | – | 1,2 | 36 | 8 |
| B221A06500HP | B222A06500HP | 6,500 | .2559 | – | – | 1,2 | 36 | 8 |
| B221A06528HP | B222A06528HP | 6,528 | .2570 | – | – | 1,2 | 36 | 8 |
| B221A06600HP | – | 6,600 | .2598 | – | – | 1,2 | 36 | 8 |
| B221A06630HP * | – | 6,630 | .2610 | – | – | 1,2 | 36 | 8 |
| B221A06700HP | B222A06700HP | 6,700 | .2638 | – | – | 1,3 | 36 | 8 |
| B221A06746HP | B222A06746HP | 6,746 | .2656 | 17/64 | – | 1,3 | 36 | 8 |
| B221A06800HP | B222A06800HP | 6,800 | .2677 | – | – | 1,3 | 36 | 8 |
| B221A06900HP | – | 6,900 | .2717 | – | – | 1,3 | 36 | 8 |
| B221A07000HP | B222A07000HP | 7,000 | .2756 | – | – | 1,3 | 36 | 8 |
| B221A07100HP | – | 7,100 | .2795 | – | – | 1,3 | 36 | 8 |
| B221A07145HP * | B222A07145HP | 7,145 | .2813 | 9/32 | – | 1,3 | 36 | 8 |
| B221A07200HP | – | 7,200 | .2835 | – | – | 1,3 | 36 | 8 |
| B221A07300HP | – | 7,300 | .2874 | – | – | 1,4 | 36 | 8 |
| B221A07400HP | – | 7,400 | .2913 | – | – | 1,4 | 36 | 8 |
| B221A07500HP | B222A07500HP | 7,500 | .2953 | – | – | 1,4 | 36 | 8 |
| B221A07541HP * | B222A07541HP | 7,541 | .2969 | 19/64 | – | 1,4 | 36 | 8 |
| B221A07600HP * | – | 7,600 | .2992 | – | – | 1,4 | 36 | 8 |
| B221A07700HP | – | 7,700 | .3031 | – | – | 1,4 | 36 | 8 |
| B221A07800HP | B222A07800HP | 7,800 | .3071 | – | – | 1,5 | 36 | 8 |
| B221A07900HP | – | 7,900 | .3110 | – | – | 1,5 | 36 | 8 |
| B221A07938HP | B222A07938HP | 7,938 | .3125 | 5/16 | – | 1,5 | 36 | 8 |
| B221A08000HP | B222A08000HP | 8,000 | .3150 | – | – | 1,5 | 36 | 8 |
| B221A08100HP | – | 8,100 | .3189 | – | – | 1,5 | 40 | 10 |
| B221A08200HP | B222A08200HP | 8,200 | .3228 | – | – | 1,5 | 40 | 10 |
| B221A08300HP | – | 8,300 | .3268 | – | – | 1,6 | 40 | 10 |
| B221A08334HP | B222A08334HP | 8,334 | .3281 | 21/64 | – | 1,6 | 40 | 10 |
| B221A08400HP | – | 8,400 | .3307 | – | – | 1,6 | 40 | 10 |
| B221A08433HP * | B222A08433HP | 8,433 | .3320 | – | – | 1,6 | 40 | 10 |
| B221A08500HP | B222A08500HP | 8,500 | .3346 | – | – | 1,6 | 40 | 10 |
| B221A08600HP | – | 8,600 | .3386 | – | – | 1,6 | 40 | 10 |
| B221A08700HP | – | 8,700 | .3425 | – | – | 1,6 | 40 | 10 |
| B221A08733HP * | B222A08733HP | 8,733 | .3438 | 11/32 | – | 1,6 | 40 | 10 |
| B221A08800HP | B222A08800HP | 8,800 | .3465 | – | – | 1,6 | 40 | 10 |
| B221A08900HP | – | 8,900 | .3504 | – | – | 1,7 | 40 | 10 |
| B221A09000HP | B222A09000HP | 9,000 | .3543 | – | – | 1,7 | 40 | 10 |
| B221A09100HP | – | 9,100 | .3583 | – | – | 1,7 | 40 | 10 |

*(continued)*

*(B221/B222_HP • ~3 x D/~5 x D — continued)*



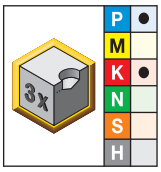



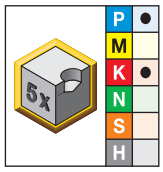

● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B221A09129HP | B222A09129HP | 9,129 | .3594 | 23/64 | – | 1,7 | 40 | 10 |
| B221A09200HP | – | 9,200 | .3622 | – | – | 1,7 | 40 | 10 |
| B221A09300HP | B222A09300HP | 9,300 | .3661 | – | – | 1,7 | 40 | 10 |
| B221A09347HP | – | 9,347 | .3680 | – | – | 1,7 | 40 | 10 |
| B221A09400HP | – | 9,400 | .3701 | – | – | 1,8 | 40 | 10 |
| B221A09500HP | B222A09500HP | 9,500 | .3740 | – | – | 1,8 | 40 | 10 |
| B221A09525HP | B222A09525HP | 9,525 | .3750 | 3/8 | – | 1,8 | 40 | 10 |
| B221A09600HP | – | 9,600 | .3780 | – | – | 1,8 | 40 | 10 |
| B221A09700HP | – | 9,700 | .3819 | – | – | 1,8 | 40 | 10 |
| B221A09800HP | B222A09800HP | 9,800 | .3858 | – | – | 1,8 | 40 | 10 |
| B221A09900HP | – | 9,900 | .3898 | – | – | 1,8 | 40 | 10 |
| B221A09921HP | B222A09921HP | 9,921 | .3906 | 25/64 | – | 1,9 | 40 | 10 |
| B221A10000HP | B222A10000HP | 10,000 | .3937 | – | – | 1,9 | 40 | 10 |
| B221A10100HP | – | 10,100 | .3976 | – | – | 1,9 | 45 | 12 |
| B221A10200HP | B222A10200HP | 10,200 | .4016 | – | – | 1,9 | 45 | 12 |
| B221A10300HP | – | 10,300 | .4055 | – | – | 1,9 | 45 | 12 |
| B221A10320HP | B222A10320HP | 10,320 | .4063 | 13/32 | – | 1,9 | 45 | 12 |
| B221A10400HP | – | 10,400 | .4094 | – | – | 1,9 | 45 | 12 |
| B221A10500HP | B222A10500HP | 10,500 | .4134 | – | – | 2,0 | 45 | 12 |
| B221A10600HP | – | 10,600 | .4173 | – | – | 2,0 | 45 | 12 |
| B221A10700HP | – | 10,700 | .4213 | – | – | 2,0 | 45 | 12 |
| B221A10716HP | B222A10716HP | 10,716 | .4219 | 27/64 | – | 2,0 | 45 | 12 |
| B221A10800HP | B222A10800HP | 10,800 | .4252 | – | – | 2,0 | 45 | 12 |
| B221A10900HP * | – | 10,900 | .4291 | – | – | 2,0 | 45 | 12 |
| B221A11000HP | B222A11000HP | 11,000 | .4331 | – | – | 2,1 | 45 | 12 |
| B221A11100HP | – | 11,100 | .4370 | – | – | 2,1 | 45 | 12 |
| B221A11113HP | B222A11113HP | 11,113 | .4375 | 7/16 | – | 2,1 | 45 | 12 |
| B221A11200HP | – | 11,200 | .4409 | – | – | 2,1 | 45 | 12 |
| B221A11300HP | – | 11,300 | .4449 | – | – | 2,1 | 45 | 12 |
| B221A11400HP | – | 11,400 | .4488 | – | – | 2,1 | 45 | 12 |
| B221A11500HP | B222A11500HP | 11,500 | .4528 | – | – | 2,1 | 45 | 12 |
| B221A11509HP * | B222A11509HP | 11,509 | .4531 | 29/64 | – | 2,1 | 45 | 12 |
| B221A11600HP * | – | 11,600 | .4567 | – | – | 2,2 | 45 | 12 |
| B221A11700HP | – | 11,700 | .4606 | – | – | 2,2 | 45 | 12 |
| B221A11800HP | – | 11,800 | .4646 | – | – | 2,2 | 45 | 12 |
| B221A11900HP | – | 11,900 | .4685 | – | – | 2,2 | 45 | 12 |
| B221A11908HP | B222A11908HP | 11,908 | .4688 | 15/32 | – | 2,2 | 45 | 12 |
| B221A12000HP | B222A12000HP | 12,000 | .4724 | – | – | 2,2 | 45 | 12 |
| B221A12100HP | – | 12,100 | .4764 | – | – | 2,3 | 45 | 14 |
| B221A12200HP | – | 12,200 | .4803 | – | – | 2,3 | 45 | 14 |
| B221A12300HP | – | 12,300 | .4843 | – | – | 2,3 | 45 | 14 |
| – | B222A12304HP | 12,304 | .4844 | 31/64 | – | 2,3 | 45 | 14 |
| B221A12400HP | – | 12,400 | .4882 | – | – | 2,3 | 45 | 14 |
| B221A12500HP | B222A12500HP * | 12,500 | .4921 | – | – | 2,3 | 45 | 14 |
| B221A12600HP | – | 12,600 | .4961 | – | – | 2,3 | 45 | 14 |
| B221A12700HP | B222A12700HP | 12,700 | .5000 | 1/2 | – | 2,4 | 45 | 14 |
| B221A12800HP | – | 12,800 | .5039 | – | – | 2,4 | 45 | 14 |
| B221A12900HP | – | 12,900 | .5079 | – | – | 2,4 | 45 | 14 |
| B221A13000HP | B222A13000HP | 13,000 | .5118 | – | – | 2,4 | 45 | 14 |
| B221A13100HP | – | 13,100 | .5157 | – | – | 2,4 | 45 | 14 |
| B221A13200HP | – | 13,200 | .5197 | – | – | 2,5 | 45 | 14 |
| B221A13300HP | – | 13,300 | .5236 | – | – | 2,5 | 45 | 14 |

*(continued)*

*(B221/B222_HP • ~3 x D/~5 x D — continued)*




● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B221A13500HP | B222A13500HP | 13,500 | .5315 | – | – | 2,5 | 45 | 14 |
| B221A13600HP | – | 13,600 | .5354 | – | – | 2,5 | 45 | 14 |
| B221A13700HP | – | 13,700 | .5394 | – | – | 2,6 | 45 | 14 |
| B221A13800HP | – | 13,800 | .5433 | – | – | 2,6 | 45 | 14 |
| B221A13891HP | – | 13,891 | .5469 | 35/64 | – | 2,6 | 45 | 14 |
| B221A14000HP | B222A14000HP | 14,000 | .5512 | – | – | 2,6 | 45 | 14 |
| B221A14100HP | – | 14,100 | .5551 | – | – | 2,6 | 48 | 16 |
| B221A14200HP | – | 14,200 | .5591 | – | – | 2,6 | 48 | 16 |
| B221A14288HP | B222A14288HP | 14,288 | .5625 | 9/16 | – | 2,7 | 48 | 16 |
| B221A14300HP | – | 14,300 | .5630 | – | – | 2,7 | 48 | 16 |
| B221A14400HP | – | 14,400 | .5669 | – | – | 2,7 | 48 | 16 |
| B221A14500HP | B222A14500HP | 14,500 | .5709 | – | – | 2,7 | 48 | 16 |
| B221A14600HP | – | 14,600 | .5748 | – | – | 2,7 | 48 | 16 |
| B221A14684HP * | – | 14,684 | .5781 | 37/64 | – | 2,7 | 48 | 16 |
| B221A14700HP | – | 14,700 | .5787 | – | – | 2,7 | 48 | 16 |
| B221A14800HP | – | 14,800 | .5827 | – | – | 2,8 | 48 | 16 |
| B221A14900HP | – | 14,900 | .5866 | – | – | 2,8 | 48 | 16 |
| B221A15000HP | B222A15000HP | 15,000 | .5906 | – | – | 2,8 | 48 | 16 |
| B221A15083HP | – | 15,083 | .5938 | 19/32 | – | 2,8 | 48 | 16 |
| B221A15100HP | – | 15,100 | .5945 | – | – | 2,8 | 48 | 16 |
| B221A15200HP | – | 15,200 | .5984 | – | – | 2,8 | 48 | 16 |
| B221A15300HP | – | 15,300 | .6024 | – | – | 2,8 | 48 | 16 |
| B221A15400HP * | – | 15,400 | .6063 | – | – | 2,9 | 48 | 16 |
| B221A15479HP | – | 15,479 | .6094 | 39/64 | – | 2,9 | 48 | 16 |
| B221A15500HP | B222A15500HP | 15,500 | .6102 | – | – | 2,9 | 48 | 16 |
| B221A15600HP | – | 15,600 | .6142 | – | – | 2,9 | 48 | 16 |
| B221A15700HP | – | 15,700 | .6181 | – | – | 2,9 | 48 | 16 |
| B221A15800HP | – | 15,800 | .6220 | – | – | 2,9 | 48 | 16 |
| B221A15875HP | B222A15875HP | 15,875 | .6250 | 5/8 | – | 3,0 | 48 | 16 |
| B221A15900HP * | – | 15,900 | .6260 | – | – | 3,0 | 48 | 16 |
| B221A16000HP | B222A16000HP | 16,000 | .6299 | – | – | 3,0 | 48 | 16 |
| B221A16500HP | B222A16500HP | 16,500 | .6496 | – | – | 3,1 | 48 | 18 |
| B221A17000HP | B222A17000HP | 17,000 | .6693 | – | – | 3,2 | 48 | 18 |
| B221A17463HP | B222A17463HP | 17,463 | .6875 | 11/16 | – | 3,2 | 48 | 18 |
| B221A17500HP | B222A17500HP | 17,500 | .6890 | – | – | 3,3 | 48 | 18 |
| B221A17700HP | – | 17,700 | .6969 | – | – | 3,3 | 48 | 18 |
| B221A18000HP | B222A18000HP | 18,000 | .7087 | – | – | 3,3 | 48 | 18 |
| B221A18500HP | B222A18500HP * | 18,500 | .7283 | – | – | 3,4 | 50 | 20 |
| B221A19000HP | B222A19000HP | 19,000 | .7480 | – | – | 3,5 | 50 | 20 |
| B221A19050HP | B222A19050HP | 19,050 | .7500 | 3/4 | – | 3,5 | 50 | 20 |
| B221A19500HP | – | 19,500 | .7677 | – | – | 3,6 | 50 | 20 |
| B221A20000HP | B222A20000HP | 20,000 | .7874 | – | – | 3,7 | 50 | 20 |
| B221A20500HP | – | 20,500 | .8071 | – | – | 3,8 | 50 | 20 |
| B221A21000HP | – | 21,000 | .8268 | – | – | 3,9 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

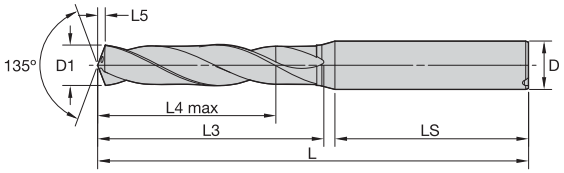
## HP Drills • B221_HP, B222_HP Series • Grade KCPK15™ • Flood Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (fz) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 0 | 80 | **110** | 170 | mm/r | 0,06–0,14 | 0,06–0,14 | 0,07–0,20 | 0,08–0,25 | 0,09–0,30 | 0,12–0,36 | 0,18–0,42 | 0,21–0,49 |
| | 1 | 70 | **110** | 150 | mm/r | 0,07–0,16 | 0,07–0,17 | 0,08–0,24 | 0,09–0,29 | 0,09–0,35 | 0,12–0,42 | 0,25–0,50 | 0,33–0,58 |
| | 2 | 90 | **120** | 160 | mm/r | 0,07–0,15 | 0,07–0,17 | 0,12–0,23 | 0,14–0,31 | 0,16–0,33 | 0,20–0,40 | 0,25–0,50 | 0,31–0,58 |
| | 3 | 60 | **90** | 120 | mm/r | 0,09–0,16 | 0,09–0,17 | 0,14–0,24 | 0,15–0,33 | 0,19–0,35 | 0,24–0,44 | 0,27–0,50 | 0,34–0,60 |
| | 4 | 50 | **80** | 120 | mm/r | 0,08–0,16 | 0,08–0,17 | 0,13–0,25 | 0,16–0,33 | 0,17–0,33 | 0,21–0,44 | 0,24–0,50 | 0,30–0,60 |
| | 6 | 50 | **80** | 120 | mm/r | 0,06–0,11 | 0,07–0,13 | 0,09–0,17 | 0,13–0,24 | 0,15–0,24 | 0,18–0,30 | 0,23–0,40 | 0,28–0,49 |
| K | 1 | 70 | **100** | 120 | mm/r | 0,11–0,21 | 0,09–0,18 | 0,14–0,28 | 0,16–0,37 | 0,20–0,40 | 0,22–0,45 | 0,28–0,58 | 0,36–0,71 |
| | 2 | 70 | **120** | 120 | mm/r | 0,11–0,19 | 0,09–0,16 | 0,14–0,23 | 0,16–0,32 | 0,19–0,32 | 0,22–0,37 | 0,28–0,47 | 0,36–0,60 |
| | 3 | 50 | **90** | 130 | mm/r | 0,08–0,17 | 0,07–0,14 | 0,12–0,25 | 0,13–0,27 | 0,16–0,29 | 0,18–0,39 | 0,25–0,48 | 0,29–0,58 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 0 | 260 | **360** | 560 | IPR | .002–.006 | .002–.006 | .003–.008 | .003–.010 | .004–.012 | .005–.014 | .007–.017 | .008–.019 |
| | 1 | 230 | **360** | 490 | IPR | .003–.006 | .003–.007 | .003–.009 | .004–.011 | .004–.014 | .005–.017 | .010–.020 | .013–.023 |
| | 2 | 300 | **390** | 520 | IPR | .003–.006 | .003–.007 | .005–.009 | .006–.012 | .006–.013 | .008–.016 | .010–.020 | .012–.023 |
| | 3 | 200 | **300** | 390 | IPR | .004–.006 | .004–.007 | .006–.009 | .006–.013 | .008–.014 | .009–.017 | .011–.020 | .013–.024 |
| | 4 | 160 | **260** | 390 | IPR | .003–.006 | .003–.007 | .005–.010 | .006–.013 | .007–.013 | .008–.017 | .009–.020 | .012–.024 |
| | 6 | 160 | **260** | 390 | IPR | .002–.004 | .003–.005 | .004–.007 | .005–.009 | .006–.009 | .007–.012 | .009–.016 | .011–.019 |
| K | 1 | 230 | **330** | 390 | IPR | .004–.008 | .004–.007 | .006–.011 | .006–.015 | .008–.016 | .009–.018 | .011–.023 | .014–.028 |
| | 2 | 230 | **390** | 390 | IPR | .004–.008 | .004–.006 | .006–.009 | .006–.013 | .008–.013 | .009–.015 | .011–.019 | .014–.024 |
| | 3 | 160 | **300** | 430 | IPR | .003–.007 | .003–.006 | .005–.010 | .005–.011 | .006–.011 | .007–.015 | .010–.019 | .011–.023 |

## HP Drills • B221HP, B222HP Series • Grade KCPK15™ • Dry Applications • Drill Diameters 3–20mm (.1181–.7874")

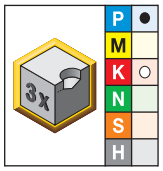
| Material Group | | Cutting Speed — vc | | | Metric | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | | | | | | | |
| | | min | Starting Value | max | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 0 | 70 | **90** | 140 | mm/r | 0,06–0,10 | 0,06–0,12 | 0,11–0,18 | 0,14–0,24 | 0,17–0,30 | 0,21–0,36 | 0,29–0,43 | 0,36–0,59 |
| | 1 | 60 | **90** | 120 | mm/r | 0,07–0,12 | 0,07–0,14 | 0,13–0,21 | 0,17–0,28 | 0,20–0,35 | 0,25–0,42 | 0,34–0,50 | 0,42–0,69 |
| | 2 | 60 | **90** | 120 | mm/r | 0,07–0,13 | 0,07–0,14 | 0,13–0,21 | 0,17–0,28 | 0,20–0,35 | 0,25–0,42 | 0,34–0,50 | 0,42–0,69 |
| | 3 | 60 | **80** | 90 | mm/r | 0,05–0,07 | 0,07–0,13 | 0,11–0,19 | 0,14–0,21 | 0,18–0,28 | 0,21–0,33 | 0,28–0,42 | 0,36–0,53 |
| | 4 | 60 | **80** | 90 | mm/r | 0,08–0,12 | 0,11–0,18 | 0,12–0,23 | 0,15–0,28 | 0,17–0,33 | 0,19–0,37 | 0,22–0,43 | 0,25–0,48 |
| | 6 | 60 | **80** | 90 | mm/r | 0,05–0,07 | 0,07–0,13 | 0,11–0,19 | 0,14–0,21 | 0,18–0,28 | 0,21–0,33 | 0,28–0,42 | 0,36–0,53 |
| Material Group | | Cutting Speed — vc | | | Inch | | | | | | | | |
| | | Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | | | | | | |
| | | min | Starting Value | max | | 0.118 | 0.157 | 0.236 | 0.315 | 0.394 | 0.472 | 0.630 | 0.787 |
| P | 0 | 230 | **300** | 460 | IPR | .002–.004 | .002–.005 | .004–.007 | .006–.009 | .007–.012 | .008–.014 | .011–.017 | .014–.023 |
| | 1 | 200 | **300** | 390 | IPR | .003–.005 | .003–.006 | .005–.008 | .007–.011 | .008–.014 | .010–.017 | .013–.020 | .017–.027 |
| | 2 | 200 | **300** | 390 | IPR | .003–.005 | .003–.006 | .005–.008 | .007–.011 | .008–.014 | .010–.017 | .013–.020 | .017–.027 |
| | 3 | 200 | **260** | 300 | IPR | .002–.003 | .003–.005 | .004–.008 | .006–.008 | .007–.011 | .008–.013 | .011–.017 | .014–.021 |
| | 4 | 200 | **260** | 300 | IPR | .003–.005 | .004–.007 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.017 | .010–.019 |
| | 6 | 200 | **260** | 300 | IPR | .002–.003 | .003–.005 | .004–.008 | .006–.008 | .007–.011 | .008–.013 | .011–.017 | .014–.021 |

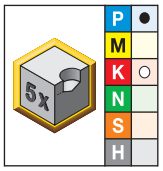


For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

beyond

## B224/B225_HP • ~3 x D/~5 x D



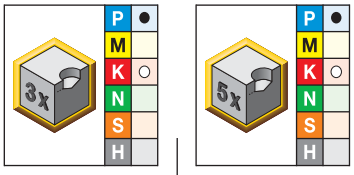

● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B224A03000HP | B225A03000HP | 3,000 | .1181 | – | – | 0,6 | 36 | 6 |
| B224A03048HP | B225A03048HP | 3,048 | .1200 | – | 31 | 0,6 | 36 | 6 |
| B224A03100HP | B225A03100HP | 3,100 | .1220 | – | – | 0,6 | 36 | 6 |
| B224A03175HP | B225A03175HP | 3,175 | .1250 | 1/8 | – | 0,6 | 36 | 6 |
| B224A03200HP | B225A03200HP | 3,200 | .1260 | – | – | 0,6 | 36 | 6 |
| B224A03264HP * | B225A03264HP | 3,264 | .1285 | – | 30 | 0,6 | 36 | 6 |
| B224A03300HP | B225A03300HP | 3,300 | .1299 | – | – | 0,6 | 36 | 6 |
| B224A03400HP | B225A03400HP | 3,400 | .1339 | – | – | 0,6 | 36 | 6 |
| B224A03455HP | B225A03455HP | 3,455 | .1360 | – | 29 | 0,7 | 36 | 6 |
| B224A03500HP | B225A03500HP | 3,500 | .1378 | – | – | 0,7 | 36 | 6 |
| – | B225A03571HP | 3,571 | .1406 | 9/64 | – | 0,7 | 36 | 6 |
| B224A03600HP | B225A03600HP | 3,600 | .1417 | – | – | 0,7 | 36 | 6 |
| B224A03658HP | – | 3,658 | .1440 | – | 27 | 0,7 | 36 | 6 |
| B224A03700HP * | B225A03700HP | 3,700 | .1457 | – | – | 0,7 | 36 | 6 |
| B224A03734HP * | – | 3,734 | .1470 | – | 26 | 0,7 | 36 | 6 |
| – | B225A03797HP | 3,797 | .1495 | – | 25 | 0,7 | 36 | 6 |
| B224A03800HP | B225A03800HP | 3,800 | .1496 | – | – | 0,7 | 36 | 6 |
| B224A03900HP | B225A03900HP | 3,900 | .1535 | – | – | 0,7 | 36 | 6 |
| B224A03970HP | B225A03970HP | 3,970 | .1563 | 5/32 | – | 0,7 | 36 | 6 |
| B224A04000HP | B225A04000HP | 4,000 | .1575 | – | – | 0,8 | 36 | 6 |
| B224A04039HP * | – | 4,039 | .1590 | – | 21 | 0,8 | 36 | 6 |
| B224A04090HP | – | 4,090 | .1610 | – | 20 | 0,8 | 36 | 6 |
| B224A04100HP | B225A04100HP | 4,100 | .1614 | – | – | 0,8 | 36 | 6 |
| B224A04200HP | B225A04200HP | 4,200 | .1654 | – | – | 0,8 | 36 | 6 |
| B224A04217HP * | – | 4,217 | .1660 | – | 19 | 0,8 | 36 | 6 |
| – | B225A04300HP | 4,300 | .1693 | – | – | 0,8 | 36 | 6 |
| B224A04366HP | B225A04366HP | 4,366 | .1719 | 11/64 | – | 0,8 | 36 | 6 |
| – | B225A04400HP | 4,400 | .1732 | – | – | 0,8 | 36 | 6 |
| B224A04496HP | B225A04496HP | 4,496 | .1770 | – | 16 | 0,8 | 36 | 6 |
| – | B225A04500HP | 4,500 | .1772 | – | – | 0,8 | 36 | 6 |
| – | B225A04600HP | 4,600 | .1811 | – | – | 0,9 | 36 | 6 |
| B224A04623HP | – | 4,623 | .1820 | – | 14 | 0,9 | 36 | 6 |
| B224A04700HP * | B225A04700HP | 4,700 | .1850 | – | 13 | 0,9 | 36 | 6 |
| B224A04763HP | B225A04763HP | 4,763 | .1875 | 3/16 | – | 0,9 | 36 | 6 |
| – | B225A04800HP | 4,800 | .1890 | – | 12 | 0,9 | 36 | 6 |
| B224A04852HP | – | 4,852 | .1910 | – | 11 | 0,9 | 36 | 6 |

*(continued)*

*(B224/B225_HP • ~3 x D/~5 x D — continued)*



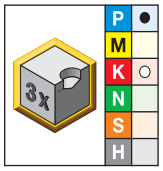


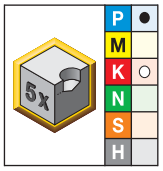

● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| – | B225A04900HP | 4,900 | .1929 | – | – | 0,9 | 36 | 6 |
| B224A05000HP | B225A05000HP | 5,000 | .1969 | – | – | 0,9 | 36 | 6 |
| B224A05050HP | – | 5,050 | .1988 | – | – | 0,9 | 36 | 6 |
| B224A05100HP | B225A05100HP | 5,100 | .2008 | – | – | 1,0 | 36 | 6 |
| B224A05106HP | B225A05106HP | 5,106 | .2010 | – | 7 | 1,0 | 36 | 6 |
| B224A05159HP | B225A05159HP | 5,159 | .2031 | 13/64 | – | 1,0 | 36 | 6 |
| – | B225A05200HP | 5,200 | .2047 | – | – | 1,0 | 36 | 6 |
| – | B225A05300HP | 5,300 | .2087 | – | – | 1,0 | 36 | 6 |
| – | B225A05400HP | 5,400 | .2126 | – | – | 1,0 | 36 | 6 |
| B224A05410HP | B225A05410HP | 5,410 | .2130 | – | 3 | 1,0 | 36 | 6 |
| B224A05500HP | B225A05500HP | 5,500 | .2165 | – | – | 1,0 | 36 | 6 |
| B224A05558HP | B225A05558HP | 5,558 | .2188 | 7/32 | – | 1,0 | 36 | 6 |
| B224A05600HP | B225A05600HP | 5,600 | .2205 | – | – | 1,1 | 36 | 6 |
| B224A05616HP * | – | 5,616 | .2211 | – | 2 | 1,1 | 36 | 6 |
| – | B225A05700HP | 5,700 | .2244 | – | – | 1,1 | 36 | 6 |
| B224A05791HP | B225A05791HP | 5,791 | .2280 | – | 1 | 1,1 | 36 | 6 |
| – | B225A05800HP | 5,800 | .2283 | – | – | 1,1 | 36 | 6 |
| – | B225A05900HP | 5,900 | .2323 | – | – | 1,1 | 36 | 6 |
| B224A05944HP * | B225A05944HP | 5,944 | .2340 | – | – | 1,1 | 36 | 6 |
| B224A05954HP * | B225A05954HP | 5,954 | .2344 | 15/64 | – | 1,1 | 36 | 6 |
| B224A06000HP | B225A06000HP | 6,000 | .2362 | – | – | 1,1 | 36 | 6 |
| – | B225A06100HP | 6,100 | .2402 | – | – | 1,1 | 36 | 8 |
| – | B225A06200HP | 6,200 | .2441 | – | – | 1,2 | 36 | 8 |
| – | B225A06300HP | 6,300 | .2480 | – | – | 1,2 | 36 | 8 |
| B224A06350HP | B225A06350HP | 6,350 | .2500 | 1/4 | – | 1,2 | 36 | 8 |
| – | B225A06400HP | 6,400 | .2520 | – | – | 1,2 | 36 | 8 |
| B224A06500HP | B225A06500HP | 6,500 | .2559 | – | – | 1,2 | 36 | 8 |
| B224A06528HP * | B225A06528HP | 6,528 | .2570 | – | – | 1,2 | 36 | 8 |
| – | B225A06600HP | 6,600 | .2598 | – | – | 1,2 | 36 | 8 |
| B224A06630HP | – | 6,630 | .2610 | – | – | 1,2 | 36 | 8 |
| B224A06700HP * | B225A06700HP | 6,700 | .2638 | – | – | 1,3 | 36 | 8 |
| B224A06746HP * | B225A06746HP | 6,746 | .2656 | 17/64 | – | 1,3 | 36 | 8 |
| B224A06800HP | B225A06800HP | 6,800 | .2677 | – | – | 1,3 | 36 | 8 |
| – | B225A06900HP | 6,900 | .2717 | – | – | 1,3 | 36 | 8 |
| B224A06909HP | B225A06909HP | 6,909 | .2720 | – | – | 1,3 | 36 | 8 |
| B224A07000HP | B225A07000HP | 7,000 | .2756 | – | – | 1,3 | 36 | 8 |
| – | B225A07100HP | 7,100 | .2795 | – | – | 1,3 | 36 | 8 |
| B224A07145HP | B225A07145HP | 7,145 | .2813 | 9/32 | – | 1,3 | 36 | 8 |
| – | B225A07200HP | 7,200 | .2835 | – | – | 1,3 | 36 | 8 |
| – | B225A07300HP | 7,300 | .2874 | – | – | 1,4 | 36 | 8 |
| B224A07366HP * | B225A07366HP | 7,366 | .2900 | – | – | 1,4 | 36 | 8 |
| B224A07400HP | B225A07400HP | 7,400 | .2913 | – | – | 1,4 | 36 | 8 |
| B224A07500HP | B225A07500HP | 7,500 | .2953 | – | – | 1,4 | 36 | 8 |
| B224A07541HP | B225A07541HP | 7,541 | .2969 | 19/64 | – | 1,4 | 36 | 8 |
| – | B225A07600HP | 7,600 | .2992 | – | – | 1,4 | 36 | 8 |
| – | B225A07700HP | 7,700 | .3031 | – | – | 1,4 | 36 | 8 |
| – | B225A07800HP | 7,800 | .3071 | – | – | 1,5 | 36 | 8 |
| – | B225A07900HP | 7,900 | .3110 | – | – | 1,5 | 36 | 8 |
| B224A07938HP | B225A07938HP | 7,938 | .3125 | 5/16 | – | 1,5 | 36 | 8 |
| B224A08000HP | B225A08000HP | 8,000 | .3150 | – | – | 1,5 | 36 | 8 |
| – | B225A08100HP | 8,100 | .3189 | – | – | 1,5 | 40 | 10 |
| B224A08200HP | B225A08200HP | 8,200 | .3228 | – | – | 1,5 | 40 | 10 |

*(continued)*

*(B224/B225_HP • ~3 x D/~5 x D — continued)*



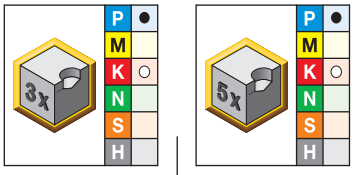




● first choice
○ alternate choice

| | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|
| short • KCPK15 | long • KCPK15 | mm | in | fraction | wire size | L5 | LS | D |
| – | B225A08300HP | 8,300 | .3268 | – | – | 1,6 | 40 | 10 |
| B224A08334HP | B225A08334HP | 8,334 | .3281 | 21/64 | – | 1,6 | 40 | 10 |
| – | B225A08400HP | 8,400 | .3307 | – | – | 1,6 | 40 | 10 |
| B224A08433HP | B225A08433HP | 8,433 | .3320 | – | – | 1,6 | 40 | 10 |
| B224A08500HP | B225A08500HP | 8,500 | .3346 | – | – | 1,6 | 40 | 10 |
| – | B225A08600HP | 8,600 | .3386 | – | – | 1,6 | 40 | 10 |
| B224A08700HP | B225A08700HP | 8,700 | .3425 | – | – | 1,6 | 40 | 10 |
| B224A08733HP | B225A08733HP | 8,733 | .3438 | 11/32 | – | 1,6 | 40 | 10 |
| B224A08800HP | B225A08800HP | 8,800 | .3465 | – | – | 1,6 | 40 | 10 |
| B224A08839HP * | B225A08839HP | 8,839 | .3480 | – | – | 1,7 | 40 | 10 |
| – | B225A08900HP | 8,900 | .3504 | – | – | 1,7 | 40 | 10 |
| B224A09000HP | B225A09000HP | 9,000 | .3543 | – | – | 1,7 | 40 | 10 |
| B224A09093HP * | B225A09093HP | 9,093 | .3580 | – | – | 1,7 | 40 | 10 |
| – | B225A09100HP | 9,100 | .3583 | – | – | 1,7 | 40 | 10 |
| B224A09129HP | B225A09129HP | 9,129 | .3594 | 23/64 | – | 1,7 | 40 | 10 |
| – | B225A09200HP | 9,200 | .3622 | – | – | 1,7 | 40 | 10 |
| – | B225A09300HP | 9,300 | .3661 | – | – | 1,7 | 40 | 10 |
| – | B225A09347HP | 9,347 | .3680 | – | – | 1,7 | 40 | 10 |
| B224A09400HP | B225A09400HP | 9,400 | .3701 | – | – | 1,8 | 40 | 10 |
| B224A09500HP | B225A09500HP | 9,500 | .3740 | – | – | 1,8 | 40 | 10 |
| B224A09525HP | B225A09525HP | 9,525 | .3750 | 3/8 | – | 1,8 | 40 | 10 |
| – | B225A09600HP | 9,600 | .3780 | – | – | 1,8 | 40 | 10 |
| – | B225A09700HP | 9,700 | .3819 | – | – | 1,8 | 40 | 10 |
| – | B225A09800HP | 9,800 | .3858 | – | – | 1,8 | 40 | 10 |
| – | B225A09900HP | 9,900 | .3898 | – | – | 1,8 | 40 | 10 |
| B224A09921HP * | B225A09921HP | 9,921 | .3906 | 25/64 | – | 1,9 | 40 | 10 |
| B224A10000HP | B225A10000HP | 10,000 | .3937 | – | – | 1,9 | 40 | 10 |
| – | B225A10100HP | 10,100 | .3976 | – | – | 1,9 | 45 | 12 |
| B224A10200HP | B225A10200HP | 10,200 | .4016 | – | – | 1,9 | 45 | 12 |
| B224A10300HP | B225A10300HP | 10,300 | .4055 | – | – | 1,9 | 45 | 12 |
| B224A10320HP | B225A10320HP | 10,320 | .4063 | 13/32 | – | 1,9 | 45 | 12 |
| B224A10400HP | B225A10400HP | 10,400 | .4094 | – | – | 1,9 | 45 | 12 |
| B224A10500HP | B225A10500HP | 10,500 | .4134 | – | – | 2,0 | 45 | 12 |
| – | B225A10600HP | 10,600 | .4173 | – | – | 2,0 | 45 | 12 |
| – | B225A10700HP | 10,700 | .4213 | – | – | 2,0 | 45 | 12 |
| B224A10716HP | B225A10716HP | 10,716 | .4219 | 27/64 | – | 2,0 | 45 | 12 |
| B224A10800HP | B225A10800HP | 10,800 | .4252 | – | – | 2,0 | 45 | 12 |
| – | B225A10900HP | 10,900 | .4291 | – | – | 2,0 | 45 | 12 |
| B224A11000HP | B225A11000HP | 11,000 | .4331 | – | – | 2,1 | 45 | 12 |
| – | B225A11100HP | 11,100 | .4370 | – | – | 2,1 | 45 | 12 |
| B224A11113HP | B225A11113HP | 11,113 | .4375 | 7/16 | – | 2,1 | 45 | 12 |
| – | B225A11200HP | 11,200 | .4409 | – | – | 2,1 | 45 | 12 |
| – | B225A11300HP | 11,300 | .4449 | – | – | 2,1 | 45 | 12 |
| – | B225A11400HP | 11,400 | .4488 | – | – | 2,1 | 45 | 12 |
| B224A11500HP | B225A11500HP | 11,500 | .4528 | – | – | 2,1 | 45 | 12 |
| B224A11509HP | B225A11509HP | 11,509 | .4531 | 29/64 | – | 2,1 | 45 | 12 |
| – | B225A11600HP | 11,600 | .4567 | – | – | 2,2 | 45 | 12 |
| – | B225A11700HP | 11,700 | .4606 | – | – | 2,2 | 45 | 12 |
| – | B225A11800HP | 11,800 | .4646 | – | – | 2,2 | 45 | 12 |
| – | B225A11900HP | 11,900 | .4685 | – | – | 2,2 | 45 | 12 |
| B224A11908HP | B225A11908HP | 11,908 | .4688 | 15/32 | – | 2,2 | 45 | 12 |
| B224A12000HP | B225A12000HP | 12,000 | .4724 | – | – | 2,2 | 45 | 12 |

*(continued)*

*(B224/B225_HP • ~3 x D/~5 x D — continued)*

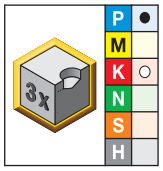


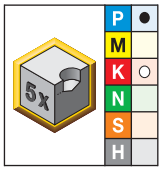

● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| – | B225A12100HP | 12,100 | .4764 | – | – | 2,3 | 45 | 14 |
| – | B225A12200HP | 12,200 | .4803 | – | – | 2,3 | 45 | 14 |
| B224A12300HP | B225A12300HP | 12,300 | .4843 | – | – | 2,3 | 45 | 14 |
| B224A12304HP * | B225A12304HP | 12,304 | .4844 | 31/64 | – | 2,3 | 45 | 14 |
| – | B225A12400HP | 12,400 | .4882 | – | – | 2,3 | 45 | 14 |
| B224A12500HP | B225A12500HP | 12,500 | .4921 | – | – | 2,3 | 45 | 14 |
| – | B225A12600HP | 12,600 | .4961 | – | – | 2,3 | 45 | 14 |
| B224A12700HP | B225A12700HP | 12,700 | .5000 | 1/2 | – | 2,4 | 45 | 14 |
| B224A12800HP * | B225A12800HP | 12,800 | .5039 | – | – | 2,4 | 45 | 14 |
| – | B225A12900HP | 12,900 | .5079 | – | – | 2,4 | 45 | 14 |
| B224A13000HP | B225A13000HP | 13,000 | .5118 | – | – | 2,4 | 45 | 14 |
| B224A13096HP * | – | 13,096 | .5156 | 33/64 | – | 2,4 | 45 | 14 |
| B224A13100HP | B225A13100HP | 13,100 | .5157 | – | – | 2,4 | 45 | 14 |
| – | B225A13200HP | 13,200 | .5197 | – | – | 2,5 | 45 | 14 |
| – | B225A13300HP | 13,300 | .5236 | – | – | 2,5 | 45 | 14 |
| – | B225A13400HP | 13,400 | .5276 | – | – | 2,5 | 45 | 14 |
| B224A13495HP | B225A13495HP | 13,495 | .5313 | 17/32 | – | 2,5 | 45 | 14 |
| B224A13500HP | B225A13500HP | 13,500 | .5315 | – | – | 2,5 | 45 | 14 |
| – | B225A13600HP | 13,600 | .5354 | – | – | 2,5 | 45 | 14 |
| – | B225A13700HP | 13,700 | .5394 | – | – | 2,6 | 45 | 14 |
| – | B225A13800HP | 13,800 | .5433 | – | – | 2,6 | 45 | 14 |
| B224A13891HP | B225A13891HP * | 13,891 | .5469 | 35/64 | – | 2,6 | 45 | 14 |
| – | B225A13900HP | 13,900 | .5472 | – | – | 2,6 | 45 | 14 |
| B224A14000HP | B225A14000HP | 14,000 | .5512 | – | – | 2,6 | 45 | 14 |
| – | B225A14100HP | 14,100 | .5551 | – | – | 2,6 | 48 | 16 |
| B224A14200HP * | B225A14200HP | 14,200 | .5591 | – | – | 2,6 | 48 | 16 |
| B224A14288HP | B225A14288HP | 14,288 | .5625 | 9/16 | – | 2,7 | 48 | 16 |
| – | B225A14300HP | 14,300 | .5630 | – | – | 2,7 | 48 | 16 |
| – | B225A14400HP | 14,400 | .5669 | – | – | 2,7 | 48 | 16 |
| B224A14500HP | B225A14500HP | 14,500 | .5709 | – | – | 2,7 | 48 | 16 |
| – | B225A14600HP | 14,600 | .5748 | – | – | 2,7 | 48 | 16 |
| B224A14684HP | B225A14684HP * | 14,684 | .5781 | 37/64 | – | 2,7 | 48 | 16 |
| – | B225A14700HP | 14,700 | .5787 | – | – | 2,7 | 48 | 16 |
| – | B225A14800HP | 14,800 | .5827 | – | – | 2,8 | 48 | 16 |
| – | B225A14900HP * | 14,900 | .5866 | – | – | 2,8 | 48 | 16 |
| – | B225A15000HP | 15,000 | .5906 | – | – | 2,8 | 48 | 16 |
| B224A15083HP * | B225A15083HP * | 15,083 | .5938 | 19/32 | – | 2,8 | 48 | 16 |
| – | B225A15100HP | 15,100 | .5945 | – | – | 2,8 | 48 | 16 |
| – | B225A15200HP | 15,200 | .5984 | – | – | 2,8 | 48 | 16 |
| – | B225A15300HP | 15,300 | .6024 | – | – | 2,8 | 48 | 16 |
| – | B225A15400HP | 15,400 | .6063 | – | – | 2,9 | 48 | 16 |
| – | B225A15479HP * | 15,479 | .6094 | 39/64 | – | 2,9 | 48 | 16 |
| B224A15500HP | B225A15500HP | 15,500 | .6102 | – | – | 2,9 | 48 | 16 |
| B224A15600HP | B225A15600HP | 15,600 | .6142 | – | – | 2,9 | 48 | 16 |
| – | B225A15700HP | 15,700 | .6181 | – | – | 2,9 | 48 | 16 |
| – | B225A15800HP | 15,800 | .6220 | – | – | 2,9 | 48 | 16 |
| B224A15875HP | B225A15875HP | 15,875 | .6250 | 5/8 | – | 3,0 | 48 | 16 |
| – | B225A15900HP * | 15,900 | .6260 | – | – | 3,0 | 48 | 16 |
| B224A16000HP | B225A16000HP | 16,000 | .6299 | – | – | 3,0 | 48 | 16 |
| – | B225A16100HP | 16,100 | .6339 | – | – | 3,0 | 48 | 18 |
| B224A16500HP | B225A16500HP | 16,500 | .6496 | – | – | 3,1 | 48 | 18 |
| – | B225A16670HP | 16,670 | .6563 | 21/32 | – | 3,1 | 48 | 18 |

*(continued)*

*(B224/B225_HP • ~3 x D/~5 x D — continued)*




● first choice
○ alternate choice

| short • KCPK15 | long • KCPK15 | D1 diameter mm | D1 diameter in | D1 diameter fraction | D1 diameter wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B224A17000HP** | **B225A17000HP** | 17,000 | .6693 | – | – | 3,2 | 48 | 18 |
| **B224A17463HP** | **B225A17463HP** | 17,463 | .6875 | 11/16 | – | 3,2 | 48 | 18 |
| **B224A17500HP** | **B225A17500HP** | 17,500 | .6890 | – | – | 3,3 | 48 | 18 |
| **–** | **B225A17700HP** | 17,700 | .6969 | – | – | 3,3 | 48 | 18 |
| **B224A18000HP** | **B225A18000HP** | 18,000 | .7087 | – | – | 3,3 | 48 | 18 |
| **–** | **B225A18500HP** | 18,500 | .7283 | – | – | 3,4 | 50 | 20 |
| **B224A19000HP** | **B225A19000HP** | 19,000 | .7480 | – | – | 3,5 | 50 | 20 |
| **B224A19050HP** * | **B225A19050HP** | 19,050 | .7500 | 3/4 | – | 3,5 | 50 | 20 |
| **–** | **B225A19200HP** | 19,200 | .7559 | – | – | 3,6 | 50 | 20 |
| **–** | **B225A19250HP** | 19,250 | .7579 | – | – | 3,6 | 50 | 20 |
| **–** | **B225A19300HP** | 19,300 | .7598 | – | – | 3,6 | 50 | 20 |
| **–** | **B225A19500HP** | 19,500 | .7677 | – | – | 3,6 | 50 | 20 |
| **B224A20000HP** | **B225A20000HP** | 20,000 | .7874 | – | – | 3,7 | 50 | 20 |
| **–** | **B225A20500HP** | 20,500 | .8071 | – | – | 3,8 | 50 | 20 |
| **–** | **B225A21000HP** | 21,000 | .8268 | – | – | 3,9 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## HP Drills • B224_HP, B225_HP Series • Grade KCPK15™ • Through Coolant or MQL (Minimum Quantity Lubricant) • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 140 | **240** | 290 | mm/r | 0,08–0,15 | 0,09–0,18 | 0,12–0,21 | 0,14–0,29 | 0,15–0,33 | 0,17–0,37 | 0,19–0,43 | 0,22–0,49 |
| P | 1 | 130 | **240** | 290 | mm/r | 0,09–0,18 | 0,11–0,21 | 0,14–0,25 | 0,16–0,34 | 0,18–0,39 | 0,20–0,43 | 0,22–0,51 | 0,26–0,58 |
| P | 2 | 190 | **230** | 270 | mm/r | 0,09–0,18 | 0,11–0,21 | 0,14–0,25 | 0,16–0,34 | 0,18–0,39 | 0,20–0,43 | 0,26–0,51 | 0,32–0,58 |
| P | 3 | 130 | **160** | 190 | mm/r | 0,10–0,18 | 0,12–0,21 | 0,14–0,26 | 0,16–0,34 | 0,19–0,39 | 0,24–0,46 | 0,27–0,51 | 0,34–0,60 |
| P | 4 | 110 | **150** | 170 | mm/r | 0,07–0,16 | 0,09–0,18 | 0,14–0,26 | 0,16–0,34 | 0,17–0,36 | 0,22–0,45 | 0,25–0,52 | 0,30–0,60 |
| P | 5 | 60 | **80** | 90 | mm/r | 0,06–0,14 | 0,08–0,16 | 0,10–0,20 | 0,14–0,25 | 0,16–0,28 | 0,18–0,32 | 0,22–0,40 | 0,26–0,48 |
| P | 6 | 110 | **150** | 190 | mm/r | 0,07–0,13 | 0,11–0,16 | 0,12–0,20 | 0,15–0,28 | 0,17–0,33 | 0,19–0,37 | 0,22–0,43 | 0,25–0,48 |
| K | 1 | 120 | **150** | 200 | mm/r | 0,08–0,11 | 0,14–0,20 | 0,20–0,28 | 0,25–0,35 | 0,29–0,40 | 0,32–0,43 | 0,36–0,50 | 0,40–0,55 |
| K | 2 | 80 | **120** | 160 | mm/r | 0,08–0,11 | 0,13–0,17 | 0,19–0,26 | 0,23–0,30 | 0,25–0,36 | 0,30–0,40 | 0,34–0,46 | 0,37–0,50 |
| K | 3 | 60 | **80** | 120 | mm/r | 0,07–0,10 | 0,10–0,14 | 0,15–0,21 | 0,19–0,26 | 0,22–0,30 | 0,24–0,33 | 0,28–0,38 | 0,30–0,41 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 460 | **790** | 950 | IPR | .003–.006 | .004–.007 | .005–.008 | .006–.011 | .006–.013 | .007–.015 | .008–.017 | .009–.019 |
| P | 1 | 430 | **790** | 950 | IPR | .004–.007 | .004–.008 | .006–.010 | .006–.013 | .007–.015 | .008–.017 | .009–.020 | .010–.023 |
| P | 2 | 620 | **750** | 890 | IPR | .004–.007 | .004–.008 | .006–.010 | .006–.013 | .007–.015 | .008–.017 | .010–.020 | .013–.023 |
| P | 3 | 430 | **520** | 620 | IPR | .004–.007 | .005–.008 | .006–.010 | .006–.013 | .008–.015 | .009–.018 | .011–.020 | .013–.024 |
| P | 4 | 360 | **490** | 560 | IPR | .003–.006 | .004–.007 | .006–.010 | .006–.013 | .007–.014 | .009–.018 | .010–.021 | .012–.024 |
| P | 5 | 200 | **260** | 300 | IPR | .002–.006 | .003–.006 | .004–.008 | .006–.010 | .006–.011 | .007–.013 | .009–.016 | .010–.019 |
| P | 6 | 360 | **490** | 620 | IPR | .003–.005 | .004–.006 | .005–.008 | .006–.011 | .007–.013 | .008–.015 | .009–.017 | .010–.019 |
| K | 1 | 390 | **490** | 660 | IPR | .003–.004 | .006–.008 | .008–.011 | .010–.014 | .011–.016 | .013–.017 | .014–.020 | .016–.022 |
| K | 2 | 260 | **390** | 520 | IPR | .003–.004 | .005–.007 | .008–.010 | .009–.012 | .010–.014 | .012–.016 | .013–.018 | .015–.020 |
| K | 3 | 200 | **260** | 390 | IPR | .003–.004 | .004–.006 | .006–.008 | .008–.010 | .009–.012 | .009–.013 | .011–.015 | .012–.016 |

# YPC Beyond™ Solid Carbide Drills with Through Coolant for Iron

beyond

## Primary Application

The B25_YPC series solid carbide drills are specifically engineered to deliver best-in-class hole quality and longest tool life in cast iron, ductile iron, CGI, and ADI. Operate these drills with standard through coolant or MQL.

The B25_YPC Beyond solid carbide drill combines unique Kennametal technologies, such as the Y-TECH™ flute spacing, the HP-point geometry, the KCK10™ Beyond grade, and the latest, proprietary post-coat treatment technology into one tool.

## Features and Benefits

### Y-TECH Technology with Uneven Flute-to-Flute Angle

- Unbalanced forces by design avoid chipping on margin lands.

### Three-Margin Lands

- Reduce pendulum motion by directing forces towards third margin for superior hole accuracy (cylindricity, constant diameter, hole straightness).

### New HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- Highest possible feed rates.

### Corner Chamfer

- Avoids breakout when drilling through holes in gray iron.
- Significantly increases tool life at elevated speeds and feeds.

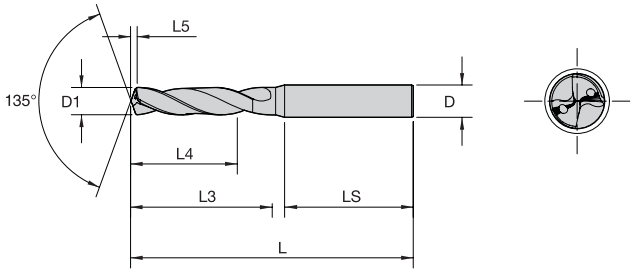
### KCK10 Beyond Grade

- The grade contains multiple layers of PVD coating offering outstanding wear resistance for the drilling of cast irons.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant or MQL is applied.

# Y-TECH™ technology for superior hole quality.

## Customization

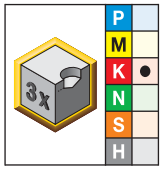
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- Using Kennametal slim line hydraulic chucks together with standard B25_YPC is recommended if workpiece contours need to be bypassed.

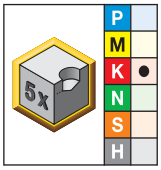


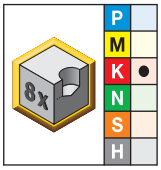
For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

beyond

## B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D



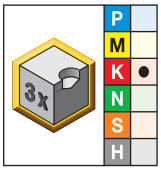



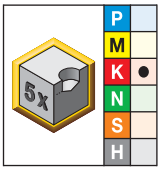

● first choice
○ alternate choice

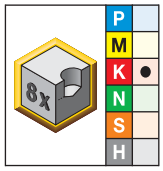
| short • KCK10 | long • KCK10 | extra long • KCK10 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B254A03000YPC | B255A03000YPC | B256A03000YPC | 3,000 | .1181 | – | – | 0,9 | 36 | 6 |
| B254A03048YPC * | B255A03048YPC | – | 3,048 | .1200 | – | 31 | 0,9 | 36 | 6 |
| – | B255A03175YPC * | B256A03175YPC | 3,175 | .1250 | 1/8 | – | 0,9 | 36 | 6 |
| B254A03200YPC | B255A03200YPC | – | 3,200 | .1260 | – | – | 0,9 | 36 | 6 |
| – | B255A03250YPC | – | 3,250 | .1280 | – | – | 0,9 | 36 | 6 |
| – | – | B256A03264YPC | 3,264 | .1285 | – | 30 | 0,9 | 36 | 6 |
| B254A03300YPC * | B255A03300YPC | – | 3,300 | .1299 | – | – | 0,9 | 36 | 6 |
| – | B255A03400YPC * | – | 3,400 | .1339 | – | – | 1,0 | 36 | 6 |
| B254A03454YPC * | – | – | 3,454 | .1360 | – | 29 | 1,0 | 36 | 6 |
| B254A03500YPC | B255A03500YPC * | B256A03500YPC | 3,500 | .1378 | – | – | 1,0 | 36 | 6 |
| B254A03600YPC * | B255A03600YPC * | – | 3,600 | .1417 | – | – | 1,0 | 36 | 6 |
| – | B255A03700YPC | B256A03700YPC * | 3,700 | .1457 | – | – | 1,0 | 36 | 6 |
| – | B255A03797YPC | – | 3,797 | .1495 | – | 25 | 1,1 | 36 | 6 |
| B254A03800YPC * | B255A03800YPC | B256A03800YPC * | 3,800 | .1496 | – | – | 1,1 | 36 | 6 |
| B254A03861YPC * | B255A03861YPC * | – | 3,861 | .1520 | – | 24 | 1,1 | 36 | 6 |
| – | B255A03970YPC * | – | 3,970 | .1563 | 5/32 | – | 1,1 | 36 | 6 |
| B254A04000YPC | B255A04000YPC | B256A04000YPC | 4,000 | .1575 | – | – | 1,1 | 36 | 6 |
| B254A04039YPC | B255A04039YPC | – | 4,039 | .1590 | – | 21 | 1,1 | 36 | 6 |
| B254A04100YPC | B255A04100YPC | B256A04100YPC | 4,100 | .1614 | – | – | 1,1 | 36 | 6 |
| B254A04200YPC | B255A04200YPC | B256A04200YPC | 4,200 | .1654 | – | – | 1,2 | 36 | 6 |
| – | B255A04217YPC | – | 4,217 | .1660 | – | 19 | 1,2 | 36 | 6 |
| – | B255A04300YPC | B256A04300YPC * | 4,300 | .1693 | – | – | 1,2 | 36 | 6 |
| – | B255A04366YPC * | B256A04366YPC * | 4,366 | .1719 | 11/64 | – | 1,2 | 36 | 6 |
| B254A04500YPC | B255A04500YPC | B256A04500YPC | 4,500 | .1772 | – | – | 1,2 | 36 | 6 |
| B254A04572YPC | B255A04572YPC | – | 4,572 | .1800 | – | 15 | 1,3 | 36 | 6 |
| – | B255A04600YPC * | – | 4,600 | .1811 | – | – | 1,3 | 36 | 6 |
| – | – | B256A04623YPC | 4,623 | .1820 | – | 14 | 1,3 | 36 | 6 |
| – | B255A04700YPC * | B256A04700YPC | 4,700 | .1850 | – | 13 | 1,3 | 36 | 6 |
| B254A04763YPC * | – | – | 4,763 | .1875 | 3/16 | – | 1,3 | 36 | 6 |
| B254A04800YPC | B255A04800YPC | B256A04800YPC | 4,800 | .1890 | – | 12 | 1,3 | 36 | 6 |
| – | – | B256A04852YPC * | 4,852 | .1910 | – | 11 | 1,3 | 36 | 6 |
| – | B255A04900YPC * | – | 4,900 | .1929 | – | – | 1,3 | 36 | 6 |

*(continued)*

*(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D — continued)*



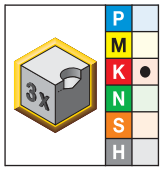



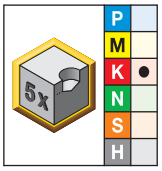

● first choice
○ alternate choice

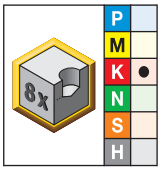
| short • KCK10 | long • KCK10 | extra long • KCK10 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B254A05000YPC | B255A05000YPC | B256A05000YPC | 5,000 | .1969 | – | – | 1,4 | 36 | 6 |
| B254A05055YPC | B255A05055YPC | – | 5,055 | .1990 | – | 8 | 1,4 | 36 | 6 |
| B254A05100YPC | B255A05100YPC | B256A05100YPC | 5,100 | .2008 | – | – | 1,4 | 36 | 6 |
| B254A05106YPC * | – | – | 5,106 | .2010 | – | 7 | 1,4 | 36 | 6 |
| – | B255A05159YPC * | – | 5,159 | .2031 | 13/64 | – | 1,4 | 36 | 6 |
| – | B255A05200YPC | B256A05200YPC * | 5,200 | .2047 | – | – | 1,4 | 36 | 6 |
| – | B255A05250YPC | – | 5,250 | .2067 | – | – | 1,4 | 36 | 6 |
| B254A05300YPC * | B255A05300YPC * | – | 5,300 | .2087 | – | – | 1,4 | 36 | 6 |
| – | B255A05400YPC * | – | 5,400 | .2126 | – | – | 1,5 | 36 | 6 |
| – | B255A05410YPC * | – | 5,410 | .2130 | – | 3 | 1,5 | 36 | 6 |
| B254A05500YPC * | B255A05500YPC | B256A05500YPC | 5,500 | .2165 | – | – | 1,5 | 36 | 6 |
| B254A05558YPC * | B255A05558YPC * | – | 5,558 | .2188 | 7/32 | – | 1,5 | 36 | 6 |
| – | B255A05600YPC | B256A05600YPC | 5,600 | .2205 | – | – | 1,5 | 36 | 6 |
| – | B255A05700YPC * | – | 5,700 | .2244 | – | – | 1,5 | 36 | 6 |
| B254A05791YPC | B255A05791YPC * | – | 5,791 | .2280 | – | 1 | 1,6 | 36 | 6 |
| B254A05800YPC | B255A05800YPC | B256A05800YPC | 5,800 | .2283 | – | – | 1,6 | 36 | 6 |
| – | – | B256A05900YPC | 5,900 | .2323 | – | – | 1,6 | 36 | 6 |
| B254A06000YPC | B255A06000YPC | B256A06000YPC | 6,000 | .2362 | – | – | 1,6 | 36 | 6 |
| B254A06100YPC * | B255A06100YPC * | – | 6,100 | .2402 | – | – | 1,6 | 36 | 8 |
| B254A06200YPC * | B255A06200YPC | B256A06200YPC | 6,200 | .2441 | – | – | 1,7 | 36 | 8 |
| – | B255A06300YPC | – | 6,300 | .2480 | – | – | 1,7 | 36 | 8 |
| – | B255A06350YPC * | B256A06350YPC | 6,350 | .2500 | 1/4 | – | 1,7 | 36 | 8 |
| – | B255A06400YPC | B256A06400YPC | 6,400 | .2520 | – | – | 1,7 | 36 | 8 |
| B254A06500YPC * | B255A06500YPC | B256A06500YPC | 6,500 | .2559 | – | – | 1,7 | 36 | 8 |
| B254A06528YPC | – | – | 6,528 | .2570 | – | – | 1,7 | 36 | 8 |
| B254A06600YPC * | B255A06600YPC | B256A06600YPC * | 6,600 | .2598 | – | – | 1,8 | 36 | 8 |
| – | B255A06630YPC | – | 6,630 | .2610 | – | – | 1,8 | 36 | 8 |
| B254A06700YPC * | B255A06700YPC * | B256A06700YPC * | 6,700 | .2638 | – | – | 1,8 | 36 | 8 |
| B254A06746YPC * | B255A06746YPC | – | 6,746 | .2656 | 17/64 | – | 1,8 | 36 | 8 |
| B254A06800YPC | B255A06800YPC | B256A06800YPC | 6,800 | .2677 | – | – | 1,8 | 36 | 8 |
| B254A06900YPC * | B255A06900YPC | – | 6,900 | .2717 | – | – | 1,8 | 36 | 8 |
| – | B255A06909YPC * | – | 6,909 | .2720 | – | – | 1,8 | 36 | 8 |
| B254A07000YPC | B255A07000YPC | B256A07000YPC | 7,000 | .2756 | – | – | 1,9 | 36 | 8 |
| B254A07100YPC * | – | – | 7,100 | .2795 | – | – | 1,9 | 36 | 8 |
| – | B255A07145YPC * | – | 7,145 | .2813 | 9/32 | – | 1,9 | 36 | 8 |
| – | B255A07200YPC | – | 7,200 | .2835 | – | – | 1,9 | 36 | 8 |
| – | – | B256A07300YPC * | 7,300 | .2874 | – | – | 1,9 | 36 | 8 |
| B254A07366YPC * | – | – | 7,366 | .2900 | – | – | 1,9 | 36 | 8 |
| – | B255A07400YPC | – | 7,400 | .2913 | – | – | 2,0 | 36 | 8 |
| B254A07493YPC * | B255A07493YPC * | – | 7,493 | .2950 | – | – | 2,0 | 36 | 8 |
| B254A07500YPC | B255A07500YPC * | B256A07500YPC | 7,500 | .2953 | – | – | 2,0 | 36 | 8 |
| – | B255A07541YPC | – | 7,541 | .2969 | 19/64 | – | 2,0 | 36 | 8 |
| B254A07600YPC * | B255A07600YPC * | B256A07600YPC | 7,600 | .2992 | – | – | 2,0 | 36 | 8 |
| – | B255A07700YPC | – | 7,700 | .3031 | – | – | 2,0 | 36 | 8 |
| B254A07800YPC | B255A07800YPC | B256A07800YPC | 7,800 | .3071 | – | – | 2,1 | 36 | 8 |
| – | B255A07900YPC | – | 7,900 | .3110 | – | – | 2,1 | 36 | 8 |
| B254A07938YPC | B255A07938YPC | – | 7,938 | .3125 | 5/16 | – | 2,1 | 36 | 8 |
| B254A08000YPC | B255A08000YPC | B256A08000YPC | 8,000 | .3150 | – | – | 2,1 | 36 | 8 |
| B254A08100YPC | B255A08100YPC * | – | 8,100 | .3189 | – | – | 2,1 | 40 | 10 |
| B254A08200YPC | B255A08200YPC | B256A08200YPC | 8,200 | .3228 | – | – | 2,1 | 40 | 10 |
| – | B255A08300YPC | B256A08300YPC | 8,300 | .3268 | – | – | 2,2 | 40 | 10 |
| B254A08334YPC * | – | – | 8,334 | .3281 | 21/64 | – | 2,2 | 40 | 10 |

*(continued)*

*(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D — continued)*



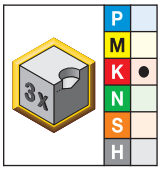

● first choice
○ alternate choice

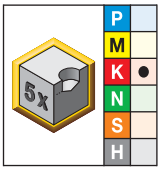
| short • KCK10 | long • KCK10 | extra long • KCK10 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B254A08400YPC | – | – | 8,400 | .3307 | – | – | 2,2 | 40 | 10 |
| B254A08433YPC * | B255A08433YPC | – | 8,433 | .3320 | – | – | 2,2 | 40 | 10 |
| B254A08500YPC | B255A08500YPC | B256A08500YPC | 8,500 | .3346 | – | – | 2,2 | 40 | 10 |
| B254A08600YPC | B255A08600YPC | B256A08600YPC | 8,600 | .3386 | – | – | 2,2 | 40 | 10 |
| B254A08700YPC | B255A08700YPC | B256A08700YPC * | 8,700 | .3425 | – | – | 2,3 | 40 | 10 |
| B254A08800YPC | B255A08800YPC | B256A08800YPC | 8,800 | .3465 | – | – | 2,3 | 40 | 10 |
| B254A08839YPC * | B255A08839YPC * | – | 8,839 | .3480 | – | – | 2,3 | 40 | 10 |
| – | B255A08900YPC * | – | 8,900 | .3504 | – | – | 2,3 | 40 | 10 |
| B254A09000YPC | B255A09000YPC | B256A09000YPC | 9,000 | .3543 | – | – | 2,3 | 40 | 10 |
| – | B255A09093YPC * | – | 9,093 | .3580 | – | – | 2,4 | 40 | 10 |
| B254A09100YPC * | B255A09100YPC | B256A09100YPC | 9,100 | .3583 | – | – | 2,4 | 40 | 10 |
| – | B255A09129YPC * | – | 9,129 | .3594 | 23/64 | – | 2,4 | 40 | 10 |
| B254A09200YPC | B255A09200YPC * | – | 9,200 | .3622 | – | – | 2,4 | 40 | 10 |
| – | B255A09300YPC | B256A09300YPC | 9,300 | .3661 | – | – | 2,4 | 40 | 10 |
| – | – | B256A09347YPC | 9,347 | .3680 | – | – | 2,4 | 40 | 10 |
| B254A09400YPC * | B255A09400YPC | – | 9,400 | .3701 | – | – | 2,4 | 40 | 10 |
| B254A09500YPC | B255A09500YPC | B256A09500YPC | 9,500 | .3740 | – | – | 2,5 | 40 | 10 |
| B254A09525YPC * | B255A09525YPC * | – | 9,525 | .3750 | 3/8 | – | 2,5 | 40 | 10 |
| – | B255A09600YPC | B256A09600YPC | 9,600 | .3780 | – | – | 2,5 | 40 | 10 |
| – | B255A09700YPC | B256A09700YPC * | 9,700 | .3819 | – | – | 2,5 | 40 | 10 |
| B254A09800YPC | B255A09800YPC * | B256A09800YPC | 9,800 | .3858 | – | – | 2,5 | 40 | 10 |
| B254A09921YPC * | B255A09921YPC | – | 9,921 | .3906 | 25/64 | – | 2,6 | 40 | 10 |
| B254A10000YPC | B255A10000YPC | B256A10000YPC | 10,000 | .3937 | – | – | 2,6 | 40 | 10 |
| B254A10200YPC | B255A10200YPC | B256A10200YPC | 10,200 | .4016 | – | – | 2,6 | 45 | 12 |
| B254A10262YPC | B255A10262YPC * | – | 10,262 | .4040 | – | – | 2,6 | 45 | 12 |
| B254A10300YPC | B255A10300YPC | B256A10300YPC | 10,300 | .4055 | – | – | 2,6 | 45 | 12 |
| B254A10320YPC | B255A10320YPC * | – | 10,320 | .4063 | 13/32 | – | 2,7 | 45 | 12 |
| – | B255A10400YPC * | B256A10400YPC | 10,400 | .4094 | – | – | 2,7 | 45 | 12 |
| B254A10490YPC * | – | – | 10,490 | .4130 | – | – | 2,7 | 45 | 12 |
| B254A10500YPC | B255A10500YPC | B256A10500YPC | 10,500 | .4134 | – | – | 2,7 | 45 | 12 |
| – | B255A10600YPC | – | 10,600 | .4173 | – | – | 2,7 | 45 | 12 |
| B254A10700YPC | – | B256A10700YPC | 10,700 | .4213 | – | – | 2,7 | 45 | 12 |
| – | B255A10716YPC | – | 10,716 | .4219 | 27/64 | – | 2,7 | 45 | 12 |
| B254A10800YPC | B255A10800YPC | B256A10800YPC | 10,800 | .4252 | – | – | 2,8 | 45 | 12 |
| – | B255A10900YPC * | – | 10,900 | .4291 | – | – | 2,8 | 45 | 12 |
| B254A11000YPC | B255A11000YPC | B256A11000YPC | 11,000 | .4331 | – | – | 2,8 | 45 | 12 |
| B254A11100YPC * | B255A11100YPC | – | 11,100 | .4370 | – | – | 2,8 | 45 | 12 |
| B254A11113YPC * | B255A11113YPC | – | 11,113 | .4375 | 7/16 | – | 2,8 | 45 | 12 |
| B254A11200YPC | B255A11200YPC | B256A11200YPC | 11,200 | .4409 | – | – | 2,9 | 45 | 12 |
| – | – | B256A11300YPC * | 11,300 | .4449 | – | – | 2,9 | 45 | 12 |
| B254A11500YPC | B255A11500YPC | B256A11500YPC | 11,500 | .4528 | – | – | 2,9 | 45 | 12 |
| – | – | B256A11600YPC | 11,600 | .4567 | – | – | 3,0 | 45 | 12 |
| – | B255A11700YPC | – | 11,700 | .4606 | – | – | 3,0 | 45 | 12 |
| B254A11800YPC | B255A11800YPC | B256A11800YPC | 11,800 | .4646 | – | – | 3,0 | 45 | 12 |
| – | B255A11900YPC | B256A11900YPC | 11,900 | .4685 | – | – | 3,0 | 45 | 12 |
| B254A11908YPC * | B255A11908YPC * | – | 11,908 | .4688 | 15/32 | – | 3,0 | 45 | 12 |
| B254A12000YPC | B255A12000YPC | B256A12000YPC | 12,000 | .4724 | – | – | 3,1 | 45 | 12 |
| – | B255A12100YPC | – | 12,100 | .4764 | – | – | 3,1 | 45 | 14 |
| B254A12200YPC | B255A12200YPC | B256A12200YPC | 12,200 | .4803 | – | – | 3,1 | 45 | 14 |
| – | B255A12251YPC | – | 12,251 | .4823 | – | – | 3,1 | 45 | 14 |
| – | B255A12300YPC * | B256A12300YPC | 12,300 | .4843 | – | – | 3,1 | 45 | 14 |
| B254A12304YPC * | B255A12304YPC * | – | 12,304 | .4844 | 31/64 | – | 3,1 | 45 | 14 |

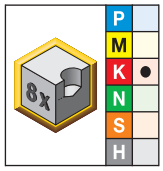
*(continued)*

*(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D — continued)*





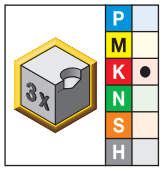



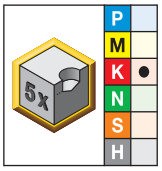

● first choice
○ alternate choice

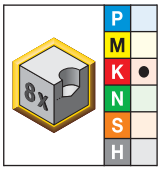
| short • KCK10 | long • KCK10 | extra long • KCK10 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| – | – | B256A12400YPC * | 12,400 | .4882 | – | – | 3,1 | 45 | 14 |
| B254A12500YPC | B255A12500YPC | B256A12500YPC | 12,500 | .4921 | – | – | 3,2 | 45 | 14 |
| – | B255A12700YPC | B256A12700YPC | 12,700 | .5000 | 1/2 | – | 3,2 | 45 | 14 |
| B254A12800YPC | – | B256A12800YPC | 12,800 | .5039 | – | – | 3,2 | 45 | 14 |
| B254A13000YPC | B255A13000YPC | B256A13000YPC | 13,000 | .5118 | – | – | 3,3 | 45 | 14 |
| – | B255A13096YPC * | B256A13096YPC | 13,096 | .5156 | 33/64 | – | 3,3 | 45 | 14 |
| B254A13100YPC | – | – | 13,100 | .5157 | – | – | 3,3 | 45 | 14 |
| B254A13200YPC | – | B256A13200YPC | 13,200 | .5197 | – | – | 3,3 | 45 | 14 |
| – | B255A13495YPC | B256A13495YPC | 13,495 | .5313 | 17/32 | – | 3,4 | 45 | 14 |
| B254A13500YPC | B255A13500YPC | B256A13500YPC | 13,500 | .5315 | – | – | 3,4 | 45 | 14 |
| – | – | B256A13700YPC | 13,700 | .5394 | – | – | 3,5 | 45 | 14 |
| B254A13800YPC | – | B256A13800YPC | 13,800 | .5433 | – | – | 3,5 | 45 | 14 |
| B254A13891YPC * | – | B256A13891YPC * | 13,891 | .5469 | 35/64 | – | 3,5 | 45 | 14 |
| B254A14000YPC | B255A14000YPC | B256A14000YPC | 14,000 | .5512 | – | – | 3,5 | 45 | 14 |
| B254A14100YPC * | B255A14100YPC * | – | 14,100 | .5551 | – | – | 3,6 | 48 | 16 |
| B254A14288YPC | B255A14288YPC | – | 14,288 | .5625 | 9/16 | – | 3,6 | 48 | 16 |
| B254A14500YPC | B255A14500YPC | B256A14500YPC | 14,500 | .5709 | – | – | 3,6 | 48 | 16 |
| – | B255A14600YPC * | – | 14,600 | .5748 | – | – | 3,7 | 48 | 16 |
| – | B255A14684YPC | B256A14684YPC * | 14,684 | .5781 | 37/64 | – | 3,7 | 48 | 16 |
| B254A14800YPC | – | B256A14800YPC | 14,800 | .5827 | – | – | 3,7 | 48 | 16 |
| B254A15000YPC | B255A15000YPC | B256A15000YPC | 15,000 | .5906 | – | – | 3,8 | 48 | 16 |
| – | B255A15083YPC | B256A15083YPC * | 15,083 | .5938 | 19/32 | – | 3,8 | 48 | 16 |
| B254A15200YPC | – | B256A15200YPC | 15,200 | .5984 | – | – | 3,8 | 48 | 16 |
| B254A15250YPC * | B255A15250YPC | – | 15,250 | .6004 | – | – | 3,8 | 48 | 16 |
| – | – | B256A15300YPC | 15,300 | .6024 | – | – | 3,8 | 48 | 16 |
| B254A15400YPC | B255A15400YPC * | – | 15,400 | .6063 | – | – | 3,9 | 48 | 16 |
| B254A15500YPC | B255A15500YPC * | B256A15500YPC | 15,500 | .6102 | – | – | 3,9 | 48 | 16 |
| B254A15800YPC | B255A15800YPC | B256A15800YPC * | 15,800 | .6220 | – | – | 4,0 | 48 | 16 |
| – | B255A15875YPC * | – | 15,875 | .6250 | 5/8 | – | 4,0 | 48 | 16 |
| B254A16000YPC | B255A16000YPC | B256A16000YPC | 16,000 | .6299 | – | – | 4,0 | 48 | 16 |
| – | B255A16300YPC | B256A16300YPC | 16,300 | .6417 | – | – | 4,1 | 48 | 18 |
| B254A16500YPC | B255A16500YPC | B256A16500YPC | 16,500 | .6496 | – | – | 4,1 | 48 | 18 |
| B254A16670YPC * | B255A16670YPC | – | 16,670 | .6563 | 21/32 | – | 4,2 | 48 | 18 |
| B254A16800YPC | B255A16800YPC | B256A16800YPC | 16,800 | .6614 | – | – | 4,2 | 48 | 18 |
| B254A17000YPC | B255A17000YPC | B256A17000YPC | 17,000 | .6693 | – | – | 4,2 | 48 | 18 |
| – | B255A17200YPC * | – | 17,200 | .6772 | – | – | 4,3 | 48 | 18 |
| B254A17463YPC * | B255A17463YPC | – | 17,463 | .6875 | 11/16 | – | 4,3 | 48 | 18 |
| B254A17500YPC | B255A17500YPC | B256A17500YPC | 17,500 | .6890 | – | – | 4,3 | 48 | 18 |
| B254A17800YPC | B255A17800YPC | B256A17800YPC | 17,800 | .7008 | – | – | 4,4 | 48 | 18 |
| B254A17859YPC * | B255A17859YPC | – | 17,859 | .7031 | 45/64 | – | 4,4 | 48 | 18 |
| B254A18000YPC | B255A18000YPC | B256A18000YPC | 18,000 | .7087 | – | – | 4,5 | 48 | 18 |
| B254A18200YPC * | – | – | 18,200 | .7165 | – | – | 4,5 | 50 | 20 |
| B254A18258YPC * | B255A18258YPC | B256A18258YPC * | 18,258 | .7188 | 23/32 | – | 4,5 | 50 | 20 |
| B254A18500YPC * | B255A18500YPC | B256A18500YPC | 18,500 | .7283 | – | – | 4,6 | 50 | 20 |
| B254A18800YPC | B255A18800YPC | B256A18800YPC | 18,800 | .7402 | – | – | 4,7 | 50 | 20 |
| B254A19000YPC | B255A19000YPC | B256A19000YPC | 19,000 | .7480 | – | – | 4,7 | 50 | 20 |
| B254A19050YPC * | – | – | 19,050 | .7500 | 3/4 | – | 4,7 | 50 | 20 |
| – | B255A19500YPC | B256A19500YPC | 19,500 | .7677 | – | – | 4,8 | 50 | 20 |
| – | B255A19700YPC | – | 19,700 | .7756 | – | – | 4,9 | 50 | 20 |
| B254A19800YPC | B255A19800YPC | B256A19800YPC | 19,800 | .7795 | – | – | 4,9 | 50 | 20 |
| B254A20000YPC | B255A20000YPC | B256A20000YPC | 20,000 | .7874 | – | – | 4,9 | 50 | 20 |
| – | B255A20500YPC | – | 20,500 | .8071 | – | – | 5,1 | 50 | 20 |

*(continued)*

*(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D — continued)*




● first choice
○ alternate choice

| short • KCK10 | long • KCK10 | extra long • KCK10 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B254A20638YPC * | B255A20638YPC | B256A20638YPC | 20,638 | .8125 | 13/16 | – | 5,1 | 50 | 20 |
| B254A21000YPC * | B255A21000YPC * | – | 21,000 | .8268 | – | – | 5,2 | 50 | 20 |
| B254A22000YPC | B255A22000YPC | B256A22000YPC | 22,000 | .8661 | – | – | 5,4 | 50 | 20 |
| B254A22225YPC * | B255A22225YPC * | B256A22225YPC * | 22,225 | .8750 | 7/8 | – | 5,5 | 56 | 25 |
| B254A23416YPC | B255A23416YPC * | – | 23,416 | .9219 | 59/64 | – | 5,7 | 56 | 25 |
| – | B255A24000YPC * | – | 24,000 | .9449 | – | – | 5,9 | 56 | 25 |
| B254A25000YPC * | B255A25000YPC * | – | 25,000 | .9843 | – | – | 6,1 | 56 | 25 |
| – | – | B256A25004YPC * | 25,004 | .9844 | 63/64 | – | 6,1 | 56 | 25 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## Application Data

### YPC Drills • B25_YPC • Grade KCK10™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | | | |
| K | 1 | 130 | **160** | 210 | mm/r | 0,12–0,22 | 0,14–0,25 | 0,16–0,32 | 0,22–0,44 | 0,30–0,46 | 0,34–0,50 | 0,38–0,62 | 0,42–0,74 |
| | 2 | 90 | **130** | 180 | mm/r | 0,12–0,22 | 0,14–0,25 | 0,16–0,32 | 0,22–0,44 | 0,30–0,46 | 0,34–0,50 | 0,38–0,62 | 0,42–0,74 |
| | 3 | 70 | **90** | 130 | mm/r | 0,11–0,17 | 0,12–0,22 | 0,22–0,34 | 0,24–0,46 | 0,26–0,48 | 0,28–0,50 | 0,30–0,62 | 0,34–0,74 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | | | |
| K | 1 | 430 | **520** | 690 | IPR | .005–.009 | .006–.010 | .006–.013 | .009–.017 | .012–.018 | .013–.020 | .015–.024 | .017–.029 |
| | 2 | 300 | **430** | 590 | IPR | .005–.009 | .006–.010 | .006–.013 | .009–.017 | .012–.018 | .013–.020 | .015–.024 | .017–.029 |
| | 3 | 230 | **300** | 430 | IPR | .004–.007 | .005–.009 | .009–.013 | .009–.018 | .010–.019 | .011–.020 | .012–.024 | .013–.029 |

# SE 4-Margin Drills with Through Coolant for Steel

## High-performance platform for mid-L/D applications in steel.

### Primary Application

B256 series solid carbide drills are the high-performance platform for mid-L/D applications in steel that require high accuracy and consistent hole straightness combined with excellent metal removal rates and long tool life.

## Features and Benefits

### SE Drill-Point Design

- Sculptured edge enables high feed rates.

### Four-Margin Lands

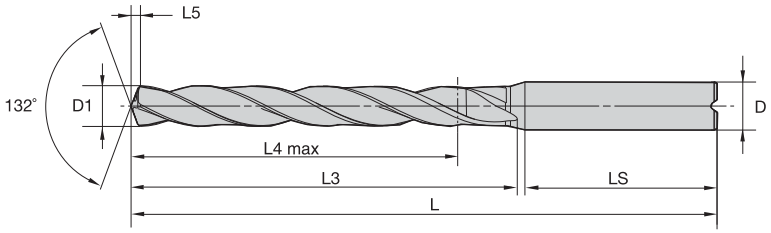
- Improves hole straightness.
- Improves hole alignment when drilling through cross holes.

### KC7315™ Grade

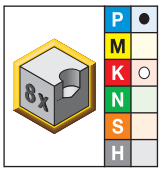
- Multilayer, TiAlN-based coating with high hot hardness allows 30% higher cutting speeds and constant tool life.
- Optimized tool surface finish ensures chip evacuation when drilling deeper holes.

### Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- For follow-up operations, such as machining screw holes in connecting rods, the point angle of the step drill for the screw head should be adjusted.



## B256 • ~8 x D




● first choice
○ alternate choice

| | D1 diameter | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| extra long • KC7315 | mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
| **B256A05000** | 5,000 | .1969 | – | – | 94 | 56 | 48 | 1,0 | 36 | 6 |
| **B256A05100** | 5,100 | .2008 | – | – | 94 | 56 | 48 | 1,0 | 36 | 6 |
| **B256A05500** | 5,500 | .2165 | – | – | 94 | 56 | 48 | 1,1 | 36 | 6 |
| **B256A05800** | 5,800 | .2283 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B256A06000** | 6,000 | .2362 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B256A06500** | 6,500 | .2559 | – | – | 105 | 67 | 57 | 1,3 | 36 | 8 |
| **B256A06800** | 6,800 | .2677 | – | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B256A07000** | 7,000 | .2756 | – | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B256A07800** | 7,800 | .3071 | – | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| **B256A08000** | 8,000 | .3150 | – | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| **B256A08400** | 8,400 | .3307 | – | – | 122 | 80 | 68 | 1,7 | 40 | 10 |
| **B256A08500** | 8,500 | .3346 | – | – | 122 | 80 | 68 | 1,7 | 40 | 10 |
| **B256A08800** | 8,800 | .3465 | – | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| **B256A09000** | 9,000 | .3543 | – | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| **B256A09500** | 9,500 | .3740 | – | – | 122 | 80 | 68 | 1,9 | 40 | 10 |
| **B256A10000** | 10,000 | .3937 | – | – | 122 | 80 | 68 | 2,0 | 40 | 10 |
| **B256A10200** | 10,200 | .4016 | – | – | 141 | 94 | 79 | 2,0 | 45 | 12 |
| **B256A10500** | 10,500 | .4134 | – | – | 141 | 94 | 79 | 2,1 | 45 | 12 |
| **B256A11000** | 11,000 | .4331 | – | – | 141 | 94 | 79 | 2,2 | 45 | 12 |
| **B256A11800** | 11,800 | .4646 | – | – | 141 | 94 | 79 | 2,3 | 45 | 12 |
| **B256A12000** | 12,000 | .4724 | – | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| **B256A12500** | 12,500 | .4921 | – | – | 155 | 108 | 91 | 2,5 | 45 | 14 |
| **B256A13000** | 13,000 | .5118 | – | – | 155 | 108 | 91 | 2,6 | 45 | 14 |
| **B256A13500** | 13,500 | .5315 | – | – | 155 | 108 | 91 | 2,7 | 45 | 14 |
| **B256A14000** | 14,000 | .5512 | – | – | 155 | 108 | 91 | 2,8 | 45 | 14 |
| **B256A15000** | 15,000 | .5906 | – | – | 171 | 121 | 101 | 3,0 | 48 | 16 |
| **B256A16000** | 16,000 | .6299 | – | – | 171 | 121 | 101 | 3,2 | 48 | 16 |

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181 to .2362 | .0002/.0006 | .0000/-.0003 |
| >.2362 to .3937 | .0002/.0008 | .0000/-.0004 |
| >.3937 to .7087 | .0003/.0010 | .0000/-.0004 |
| >.7087 to 1.0000 | .0003/.0011 | .0000/-.0005 |

## SE Drills • B256 Series • Grade KC7315™ • Through Coolant • Drill Diameters 3–20mm (.1181– .7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 0 | 130 | **145** | 200 | mm/r | 0,07–0,09 | 0,08–0,13 | 0,09–0,13 | 0,11–0,16 | 0,11–0,19 | 0,13–0,23 | 0,15–0,28 | 0,19–0,31 |
| | 1 | 120 | **145** | 175 | mm/r | 0,08–0,11 | 0,09–0,15 | 0,11–0,15 | 0,13–0,19 | 0,13–0,22 | 0,15–0,27 | 0,18–0,33 | 0,22–0,37 |
| | 2 | 80 | **100** | 120 | mm/r | 0,08–0,11 | 0,08–0,13 | 0,09–0,17 | 0,15–0,21 | 0,16–0,25 | 0,18–0,33 | 0,22–0,42 | 0,26–0,50 |
| | 3 | 80 | **90** | 120 | mm/r | 0,08–0,11 | 0,09–0,15 | 0,11–0,15 | 0,13–0,19 | 0,13–0,22 | 0,15–0,27 | 0,18–0,33 | 0,22–0,37 |
| | 4 | 60 | **70** | 80 | mm/r | 0,06–0,09 | 0,07–0,13 | 0,09–0,13 | 0,11–0,15 | 0,11–0,17 | 0,13–0,22 | 0,15–0,27 | 0,17–0,30 |
| K | 1 | 120 | **150** | 200 | mm/r | 0,08–0,11 | 0,14–0,20 | 0,20–0,28 | 0,25–0,35 | 0,29–0,40 | 0,32–0,43 | 0,36–0,50 | 0,40–0,55 |
| | 2 | 80 | **120** | 160 | mm/r | 0,08–0,11 | 0,13–0,17 | 0,19–0,26 | 0,23–0,30 | 0,25–0,36 | 0,30–0,40 | 0,34–0,46 | 0,37–0,50 |
| | 3 | 60 | **80** | 120 | mm/r | 0,07–0,10 | 0,10–0,14 | 0,15–0,21 | 0,19–0,26 | 0,22–0,30 | 0,24–0,33 | 0,28–0,38 | 0,30–0,41 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 0 | 430 | **480** | 660 | IPR | .003–.004 | .003–.005 | .004–.005 | .004–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.012 |
| | 1 | 390 | **480** | 570 | IPR | .003–.004 | .004–.006 | .004–.006 | .005–.008 | .005–.009 | .006–.011 | .007–.013 | .009–.015 |
| | 2 | 260 | **330** | 390 | IPR | .003–.004 | .003–.005 | .004–.007 | .006–.008 | .006–.010 | .007–.013 | .009–.017 | .010–.020 |
| | 3 | 260 | **300** | 390 | IPR | .003–.004 | .004–.006 | .004–.006 | .005–.008 | .005–.009 | .006–.011 | .007–.013 | .009–.015 |
| | 4 | 200 | **230** | 260 | IPR | .002–.004 | .003–.005 | .004–.005 | .004–.006 | .004–.007 | .005–.009 | .006–.011 | .007–.012 |
| K | 1 | 390 | **490** | 660 | IPR | .003–.004 | .006–.008 | .008–.011 | .010–.014 | .011–.016 | .013–.017 | .014–.020 | .016–.022 |
| | 2 | 260 | **390** | 520 | IPR | .003–.004 | .005–.007 | .008–.010 | .009–.012 | .010–.014 | .012–.016 | .013–.018 | .015–.020 |
| | 3 | 200 | **260** | 390 | IPR | .003–.004 | .004–.006 | .006–.008 | .008–.010 | .009–.012 | .009–.013 | .011–.015 | .012–.016 |

# HP Beyond™ 4-Margin Long-Length Drills with Through Coolant

### Primary Application

B269_HP series solid carbide drills are 12 x D, long-length drills, closing the gap between 8 x D drill (B256_SE) and 15 x D (B271_HP). They are designed for deep-hole applications without pilot drill in steel, cast iron, and stainless steel materials. Operate these drills with standard through coolant or MQL. The drills have a standard A-shank according to DIN 6535 HA (round cylindrical with 2mm steps).

## Features and Benefits

### Four-Margin Lands

- Improves hole straightness.
- Improves hole alignment when drilling through cross holes or inclined exits.

### HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- Eliminates the need for pilot drilling.

### Unique Flute Design

- Drastically improved chip evacuation.
- Better hole surface quality.

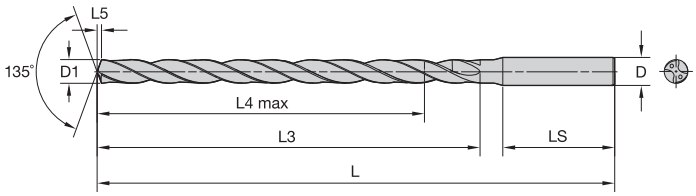
### KCPK15™ Beyond Grade

- The grade is a multilayer, TiAlN-based coating with high hot hardness. It enables highest cutting speeds and enables the use in MQL applications.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.

# Designed for deep-hole applications without pilot drill.

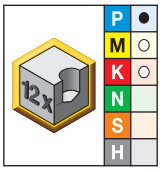
## Customization

- Intermediate diameters available as engineered solutions.
- Length variations and step drills available as engineered solutions.



beyond

## B269_HP • ~12 x D

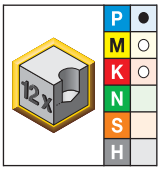



● first choice
○ alternate choice

| extra long • KCPK15 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| B269A02400KMG | 2,400 | .0945 | – | – | 75 | 42 | 35 | 0,5 | 28 | 4 |
| B269A02500KMG | 2,500 | .0984 | – | – | 75 | 42 | 35 | 0,5 | 28 | 4 |
| B269A02600KMG | 2,600 | .1024 | – | – | 75 | 42 | 35 | 0,5 | 28 | 4 |
| B269A02800KMG | 2,800 | .1102 | – | – | 75 | 43 | 36 | 0,6 | 28 | 4 |
| B269A02900KMG | 2,900 | .1142 | – | – | 75 | 43 | 36 | 0,6 | 28 | 4 |
| B269A03000HP | 3,000 | .1181 | – | – | 93 | 52 | 44 | 0,6 | 36 | 6 |
| B269A03175HP | 3,175 | .1250 | 1/8 | – | 93 | 52 | 44 | 0,6 | 36 | 6 |
| B269A03264HP | 3,264 | .1285 | – | 30 | 93 | 53 | 44 | 0,6 | 36 | 6 |
| B269A03300HP | 3,300 | .1299 | – | – | 93 | 53 | 44 | 0,6 | 36 | 6 |
| B269A03400HP * | 3,400 | .1339 | – | – | 93 | 53 | 44 | 0,6 | 36 | 6 |
| B269A03500HP | 3,500 | .1378 | – | – | 93 | 53 | 44 | 0,7 | 36 | 6 |
| B269A03600HP | 3,600 | .1417 | – | – | 93 | 54 | 45 | 0,7 | 36 | 6 |
| B269A03700HP | 3,700 | .1457 | – | – | 93 | 54 | 45 | 0,7 | 36 | 6 |
| B269A03800HP | 3,800 | .1496 | – | – | 107 | 65 | 55 | 0,7 | 36 | 6 |
| B269A03970HP | 3,970 | .1563 | 5/32 | – | 107 | 66 | 56 | 0,7 | 36 | 6 |
| B269A04000HP | 4,000 | .1575 | – | – | 107 | 66 | 56 | 0,8 | 36 | 6 |
| B269A04100HP | 4,100 | .1614 | – | – | 107 | 66 | 55 | 0,8 | 36 | 6 |
| B269A04200HP | 4,200 | .1654 | – | – | 107 | 67 | 56 | 0,8 | 36 | 6 |
| B269A04300HP | 4,300 | .1693 | – | – | 107 | 67 | 56 | 0,8 | 36 | 6 |
| B269A04500HP | 4,500 | .1772 | – | – | 107 | 67 | 56 | 0,8 | 36 | 6 |
| B269A04550HP | 4,550 | .1791 | – | – | 107 | 68 | 57 | 0,9 | 36 | 6 |
| B269A04600HP | 4,600 | .1811 | – | – | 107 | 68 | 57 | 0,9 | 36 | 6 |
| B269A04700HP | 4,700 | .1850 | – | 13 | 107 | 68 | 57 | 0,9 | 36 | 6 |
| B269A04763HP | 4,763 | .1875 | 3/16 | – | 125 | 82 | 69 | 0,9 | 36 | 6 |
| B269A04800HP | 4,800 | .1890 | – | 12 | 125 | 82 | 69 | 0,9 | 36 | 6 |
| B269A05000HP | 5,000 | .1969 | – | – | 125 | 83 | 70 | 0,9 | 36 | 6 |
| B269A05100HP | 5,100 | .2008 | – | – | 125 | 83 | 70 | 1,0 | 36 | 6 |
| B269A05200HP | 5,200 | .2047 | – | – | 125 | 83 | 70 | 1,0 | 36 | 6 |
| B269A05300HP | 5,300 | .2087 | – | – | 125 | 84 | 71 | 1,0 | 36 | 6 |
| B269A05410HP | 5,410 | .2130 | – | 3 | 125 | 84 | 71 | 1,0 | 36 | 6 |
| B269A05500HP | 5,500 | .2165 | – | – | 125 | 84 | 71 | 1,0 | 36 | 6 |
| B269A05558HP | 5,558 | .2188 | 7/32 | – | 125 | 84 | 71 | 1,0 | 36 | 6 |
| B269A05600HP | 5,600 | .2205 | – | – | 125 | 85 | 72 | 1,1 | 36 | 6 |
| B269A05700HP | 5,700 | .2244 | – | – | 125 | 85 | 72 | 1,1 | 36 | 6 |
| B269A05800HP | 5,800 | .2283 | – | – | 125 | 85 | 71 | 1,1 | 36 | 6 |
| B269A06000HP | 6,000 | .2362 | – | – | 125 | 86 | 72 | 1,1 | 36 | 6 |

*(continued)*

*(B269_HP • ~12 x D — continued)*

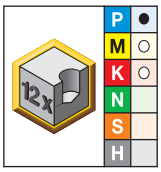



● first choice
○ alternate choice

| extra long • KCPK15 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B269A06100HP** | 6,100 | .2402 | – | – | 139 | 97 | 82 | 1,1 | 36 | 8 |
| **B269A06200HP** | 6,200 | .2441 | – | – | 139 | 97 | 82 | 1,2 | 36 | 8 |
| **B269A06350HP** | 6,350 | .2500 | 1/4 | – | 139 | 98 | 83 | 1,2 | 36 | 8 |
| **B269A06400HP** | 6,400 | .2520 | – | – | 139 | 98 | 83 | 1,2 | 36 | 8 |
| **B269A06500HP** | 6,500 | .2559 | – | – | 139 | 98 | 83 | 1,2 | 36 | 8 |
| **B269A06528HP** | 6,528 | .2570 | – | – | 139 | 98 | 83 | 1,2 | 36 | 8 |
| **B269A06600HP** | 6,600 | .2598 | – | – | 139 | 99 | 84 | 1,2 | 36 | 8 |
| **B269A06746HP** | 6,746 | .2656 | 17/64 | – | 139 | 99 | 83 | 1,3 | 36 | 8 |
| **B269A06800HP** | 6,800 | .2677 | – | – | 139 | 99 | 83 | 1,3 | 36 | 8 |
| **B269A06909HP** | 6,909 | .2720 | – | – | 139 | 100 | 84 | 1,3 | 36 | 8 |
| **B269A07000HP** | 7,000 | .2756 | – | – | 139 | 100 | 84 | 1,3 | 36 | 8 |
| **B269A07145HP** | 7,145 | .2813 | 9/32 | – | 153 | 111 | 94 | 1,3 | 36 | 8 |
| **B269A07500HP** | 7,500 | .2953 | – | – | 153 | 112 | 95 | 1,4 | 36 | 8 |
| **B269A07541HP** | 7,541 | .2969 | 19/64 | – | 153 | 112 | 95 | 1,4 | 36 | 8 |
| **B269A07700HP** | 7,700 | .3031 | – | – | 153 | 113 | 96 | 1,4 | 36 | 8 |
| **B269A07800HP** | 7,800 | .3071 | – | – | 153 | 113 | 95 | 1,5 | 36 | 8 |
| **B269A07938HP** | 7,938 | .3125 | 5/16 | – | 153 | 114 | 96 | 1,5 | 36 | 8 |
| **B269A08000HP** | 8,000 | .3150 | – | – | 153 | 114 | 96 | 1,5 | 36 | 8 |
| **B269A08100HP** | 8,100 | .3189 | – | – | 185 | 136 | 116 | 1,5 | 40 | 10 |
| **B269A08200HP** | 8,200 | .3228 | – | – | 185 | 136 | 116 | 1,5 | 40 | 10 |
| **B269A08334HP** | 8,334 | .3281 | 21/64 | – | 185 | 137 | 117 | 1,6 | 40 | 10 |
| **B269A08433HP** | 8,433 | .3320 | – | – | 185 | 137 | 117 | 1,6 | 40 | 10 |
| **B269A08500HP** | 8,500 | .3346 | – | – | 185 | 137 | 117 | 1,6 | 40 | 10 |
| **B269A08600HP** | 8,600 | .3386 | – | – | 185 | 138 | 118 | 1,6 | 40 | 10 |
| **B269A08700HP** | 8,700 | .3425 | – | – | 185 | 138 | 118 | 1,6 | 40 | 10 |
| **B269A08733HP** | 8,733 | .3438 | 11/32 | – | 185 | 138 | 117 | 1,6 | 40 | 10 |
| **B269A09000HP** | 9,000 | .3543 | – | – | 185 | 139 | 118 | 1,7 | 40 | 10 |
| **B269A09100HP** | 9,100 | .3583 | – | – | 185 | 139 | 118 | 1,7 | 40 | 10 |
| **B269A09129HP** * | 9,129 | .3594 | 23/64 | – | 185 | 139 | 118 | 1,7 | 40 | 10 |
| **B269A09500HP** | 9,500 | .3740 | – | – | 185 | 140 | 119 | 1,8 | 40 | 10 |
| **B269A09525HP** | 9,525 | .3750 | 3/8 | – | 185 | 140 | 119 | 1,8 | 40 | 10 |
| **B269A09800HP** | 9,800 | .3858 | – | – | 185 | 141 | 119 | 1,8 | 40 | 10 |
| **B269A09921HP** | 9,921 | .3906 | 25/64 | – | 185 | 142 | 120 | 1,9 | 40 | 10 |
| **B269A10000HP** | 10,000 | .3937 | – | – | 185 | 142 | 120 | 1,9 | 40 | 10 |
| **B269A10200HP** | 10,200 | .4016 | – | – | 218 | 164 | 140 | 1,9 | 45 | 12 |
| **B269A10300HP** | 10,300 | .4055 | – | – | 218 | 165 | 141 | 1,9 | 45 | 12 |
| **B269A10320HP** | 10,320 | .4063 | 13/32 | – | 218 | 165 | 141 | 1,9 | 45 | 12 |
| **B269A10400HP** | 10,400 | .4094 | – | – | 218 | 165 | 141 | 1,9 | 45 | 12 |
| **B269A10500HP** | 10,500 | .4134 | – | – | 218 | 165 | 141 | 2,0 | 45 | 12 |
| **B269A10716HP** | 10,716 | .4219 | 27/64 | – | 218 | 166 | 142 | 2,0 | 45 | 12 |
| **B269A10800HP** | 10,800 | .4252 | – | – | 218 | 166 | 141 | 2,0 | 45 | 12 |
| **B269A11000HP** | 11,000 | .4331 | – | – | 218 | 167 | 142 | 2,1 | 45 | 12 |
| **B269A11113HP** | 11,113 | .4375 | 7/16 | – | 218 | 167 | 142 | 2,1 | 45 | 12 |
| **B269A11200HP** | 11,200 | .4409 | – | – | 218 | 167 | 142 | 2,1 | 45 | 12 |
| **B269A11500HP** | 11,500 | .4528 | – | – | 218 | 168 | 143 | 2,1 | 45 | 12 |
| **B269A11800HP** | 11,800 | .4646 | – | – | 218 | 169 | 143 | 2,2 | 45 | 12 |
| **B269A12000HP** | 12,000 | .4724 | – | – | 218 | 170 | 144 | 2,2 | 45 | 12 |
| **B269A12100HP** | 12,100 | .4764 | – | – | 246 | 192 | 164 | 2,3 | 45 | 14 |
| **B269A12200HP** | 12,200 | .4803 | – | – | 246 | 192 | 164 | 2,3 | 45 | 14 |
| **B269A12304HP** | 12,304 | .4844 | 31/64 | – | 246 | 193 | 165 | 2,3 | 45 | 14 |
| **B269A12500HP** | 12,500 | .4921 | – | – | 246 | 193 | 165 | 2,3 | 45 | 14 |
| **B269A12700HP** | 12,700 | .5000 | 1/2 | – | 246 | 194 | 166 | 2,4 | 45 | 14 |

*(continued)*

*(B269_HP • ~12 x D — continued)*




● first choice
○ alternate choice

| extra long • KCPK15 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B269A13000HP** | 13,000 | .5118 | — | — | 246 | 195 | 166 | 2,4 | 45 | 14 |
| **B269A13100HP** | 13,100 | .5157 | — | — | 246 | 195 | 166 | 2,4 | 45 | 14 |
| **B269A13500HP** | 13,500 | .5315 | — | — | 246 | 196 | 167 | 2,5 | 45 | 14 |
| **B269A13800HP** * | 13,800 | .5433 | — | — | 246 | 197 | 168 | 2,6 | 45 | 14 |
| **B269A14000HP** | 14,000 | .5512 | — | — | 246 | 198 | 168 | 2,6 | 45 | 14 |
| **B269A14100HP** * | 14,100 | .5551 | — | — | 277 | 220 | 188 | 2,6 | 48 | 16 |
| **B269A14288HP** | 14,288 | .5625 | 9/16 | — | 277 | 220 | 188 | 2,7 | 48 | 16 |
| **B269A14500HP** | 14,500 | .5709 | — | — | 277 | 221 | 189 | 2,7 | 48 | 16 |
| **B269A14600HP** * | 14,600 | .5748 | — | — | 277 | 221 | 189 | 2,7 | 48 | 16 |
| **B269A14684HP** | 14,684 | .5781 | 37/64 | — | 277 | 222 | 190 | 2,7 | 48 | 16 |
| **B269A15000HP** | 15,000 | .5906 | — | — | 277 | 223 | 190 | 2,8 | 48 | 16 |
| **B269A15200HP** * | 15,200 | .5984 | — | — | 277 | 223 | 190 | 2,8 | 48 | 16 |
| **B269A15500HP** | 15,500 | .6102 | — | — | 277 | 224 | 191 | 2,9 | 48 | 16 |
| **B269A15875HP** | 15,875 | .6250 | 5/8 | — | 277 | 225 | 192 | 3,0 | 48 | 16 |
| **B269A16000HP** | 16,000 | .6299 | — | — | 277 | 226 | 192 | 3,0 | 48 | 16 |
| **B269A16500HP** | 16,500 | .6496 | — | — | 305 | 249 | 213 | 3,1 | 48 | 18 |
| **B269A17000HP** | 17,000 | .6693 | — | — | 305 | 250 | 214 | 3,2 | 48 | 18 |
| **B269A17100HP** | 17,100 | .6732 | — | — | 305 | 251 | 214 | 3,2 | 48 | 18 |
| **B269A17463HP** | 17,463 | .6875 | 11/16 | — | 305 | 252 | 215 | 3,2 | 48 | 18 |
| **B269A17500HP** | 17,500 | .6890 | — | — | 305 | 252 | 215 | 3,3 | 48 | 18 |
| **B269A17600HP** * | 17,600 | .6929 | — | — | 305 | 252 | 215 | 3,3 | 48 | 18 |
| **B269A18000HP** | 18,000 | .7087 | — | — | 305 | 253 | 216 | 3,3 | 48 | 18 |
| **B269A18500HP** | 18,500 | .7283 | — | — | 334 | 277 | 237 | 3,4 | 50 | 20 |
| **B269A18600HP** * | 18,600 | .7323 | — | — | 334 | 277 | 237 | 3,5 | 50 | 20 |
| **B269A19000HP** | 19,000 | .7480 | — | — | 334 | 278 | 238 | 3,5 | 50 | 20 |
| **B269A19050HP** | 19,050 | .7500 | 3/4 | — | 334 | 279 | 239 | 3,5 | 50 | 20 |
| **B269A19500HP** | 19,500 | .7677 | — | — | 334 | 280 | 239 | 3,6 | 50 | 20 |
| **B269A20000HP** | 20,000 | .7874 | — | — | 334 | 281 | 240 | 3,7 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## HP Drills • B269_HP Series • Grade KCPK15™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 0 | 110 | **140** | 170 | mm/r | 0,10–0,14 | 0,12–0,20 | 0,14–0,20 | 0,17–0,25 | 0,25–0,28 | 0,20–0,35 | 0,23–0,43 | 0,28–0,48 |
| | 1 | 100 | **140** | 150 | mm/r | 0,12–0,17 | 0,14–0,23 | 0,17–0,23 | 0,20–0,29 | 0,29–0,33 | 0,23–0,41 | 0,27–0,50 | 0,33–0,56 |
| | 2 | 70 | **100** | 110 | mm/r | 0,12–0,17 | 0,12–0,20 | 0,14–0,26 | 0,23–0,32 | 0,24–0,38 | 0,27–0,50 | 0,33–0,63 | 0,39–0,75 |
| | 3 | 70 | **90** | 110 | mm/r | 0,12–0,17 | 0,14–0,23 | 0,17–0,23 | 0,20–0,29 | 0,29–0,33 | 0,23–0,41 | 0,27–0,50 | 0,33–0,56 |
| | 4 | 60 | **70** | 90 | mm/r | 0,09–0,14 | 0,11–0,20 | 0,14–0,20 | 0,17–0,23 | 0,17–0,26 | 0,20–0,33 | 0,23–0,41 | 0,26–0,45 |
| | 5 | 60 | **80** | 90 | mm/r | 0,03–0,11 | 0,04–0,11 | 0,05–0,11 | 0,05–0,14 | 0,08–0,18 | 0,11–0,21 | 0,14–0,24 | 0,16–0,26 |
| | 6 | 80 | **150** | 160 | mm/r | 0,07–0,13 | 0,11–0,11 | 0,12–0,20 | 0,15–0,28 | 0,17–0,33 | 0,19–0,37 | 0,22–0,43 | 0,25–0,48 |
| M | 1 | 50 | **60** | 80 | mm/r | 0,04–0,08 | 0,06–0,13 | 0,08–0,16 | 0,10–0,18 | 0,12–0,20 | 0,13–0,22 | 0,15–0,24 | 0,18–0,28 |
| | 2 | 40 | **50** | 80 | mm/r | 0,04–0,08 | 0,06–0,13 | 0,08–0,16 | 0,10–0,18 | 0,12–0,20 | 0,13–0,22 | 0,15–0,24 | 0,18–0,28 |
| | 3 | 40 | **50** | 70 | mm/r | 0,03–0,07 | 0,05–0,10 | 0,06–0,14 | 0,08–0,16 | 0,10–0,18 | 0,12–0,20 | 0,14–0,22 | 0,16–0,26 |
| K | 1 | 90 | **150** | 150 | mm/r | 0,10–0,15 | 0,14–0,20 | 0,20–0,30 | 0,22–0,36 | 0,26–0,42 | 0,30–0,45 | 0,36–0,59 | 0,40–0,72 |
| | 2 | 80 | **120** | 120 | mm/r | 0,10–0,15 | 0,14–0,20 | 0,20–0,30 | 0,22–0,36 | 0,26–0,42 | 0,30–0,45 | 0,36–0,59 | 0,40–0,72 |
| | 3 | 80 | **80** | 140 | mm/r | 0,11–0,15 | 0,15–0,21 | 0,22–0,32 | 0,22–0,39 | 0,26–0,45 | 0,28–0,50 | 0,30–0,60 | 0,34–0,72 |

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 0 | 360 | **460** | 560 | IPR | .004–.006 | .005–.008 | .006–.008 | .007–.010 | .010–.011 | .008–.014 | .009–.017 | .011–.019 |
| | 1 | 330 | **470** | 490 | IPR | .005–.007 | .006–.009 | .007–.009 | .008–.011 | .011–.013 | .009–.016 | .011–.020 | .013–.022 |
| | 2 | 230 | **330** | 360 | IPR | .005–.007 | .005–.008 | .006–.010 | .009–.013 | .009–.015 | .011–.020 | .013–.025 | .015–.030 |
| | 3 | 230 | **300** | 360 | IPR | .005–.007 | .006–.009 | .007–.009 | .008–.011 | .011–.013 | .009–.016 | .011–.020 | .013–.022 |
| | 4 | 200 | **230** | 300 | IPR | .004–.006 | .004–.008 | .006–.008 | .007–.009 | .007–.010 | .008–.013 | .009–.016 | .010–.018 |
| | 5 | 200 | **260** | 300 | IPR | .001–.004 | .002–.004 | .002–.004 | .002–.006 | .003–.007 | .004–.008 | .006–.009 | .006–.010 |
| | 6 | 260 | **490** | 520 | IPR | .003–.005 | .004–.004 | .005–.008 | .006–.011 | .007–.013 | .008–.015 | .009–.017 | .010–.019 |
| M | 1 | 160 | **200** | 260 | IPR | .002–.003 | .002–.005 | .003–.006 | .004–.007 | .005–.008 | .005–.009 | .006–.009 | .007–.011 |
| | 2 | 130 | **160** | 260 | IPR | .002–.003 | .002–.005 | .003–.006 | .004–.007 | .005–.008 | .005–.009 | .006–.009 | .007–.011 |
| | 3 | 130 | **160** | 230 | IPR | .001–.003 | .002–.004 | .002–.006 | .003–.006 | .004–.007 | .005–.008 | .006–.009 | .006–.010 |
| K | 1 | 300 | **490** | 490 | IPR | .004–.006 | .006–.008 | .008–.012 | .009–.014 | .010–.017 | .012–.018 | .014–.023 | .016–.028 |
| | 2 | 260 | **400** | 400 | IPR | .004–.006 | .006–.008 | .008–.012 | .009–.014 | .010–.017 | .012–.018 | .014–.023 | .016–.028 |
| | 3 | 260 | **260** | 460 | IPR | .004–.006 | .006–.008 | .009–.013 | .009–.015 | .010–.018 | .011–.020 | .012–.024 | .013–.028 |

# Beyond™ HP Solid Carbide Deep-Hole Drills

## Primary Application

B27_HPG series solid carbide drills, made of the KCPK20™ grade, are the optimum platform for drilling holes up to 40 x D deep in steel and cast iron. The B27_HPG series drills deep holes up to 4x faster than conventional HSS and gun drills. The application of MQL is possible.

The B27_HPS in the new uncoated KN25™ grade offers the same advantages for drilling in non-ferrous materials, such as aluminum, copper, and brass.

The all new B27_SGL series is designed specifically for applications in stainless steel and high-temperature alloys.

The standard series is available from 2,383–16mm (.0938–.6299") diameter and in lengths from 15–40 x D. KMH-point geometry is available as a semi-standard, especially for crankshaft applications and interrupted cuts. Longer drills up to 550mm (21.65") are available as custom solution.

## Features and Benefits

### HP Drill-Point Design

- Low thrust.
- Excellent centering capabilities.
- Highest possible feed rates.

### Four-Margin Lands

- Improves hole straightness.
- Improves hole alignment when drilling through cross holes.

### Unique Flute Design

- The highly polished surface ensures superior chip evacuation even when low-pressure coolant or MQL is applied.
- Drastically improved chip evacuation.
- Better hole surface quality.

### KCPK20 Grade (B27_HPG)

- An AlCrN-TiAlN based coating on the head of the drill provides outstanding wear resistance.
- New ultra-fine-grain carbide ensures process reliability at high feed rates.

# Solid carbide deep-hole drills run up to 4x faster than conventional HSS and gun drills.

## KN25™ Grade (B27_HPS)

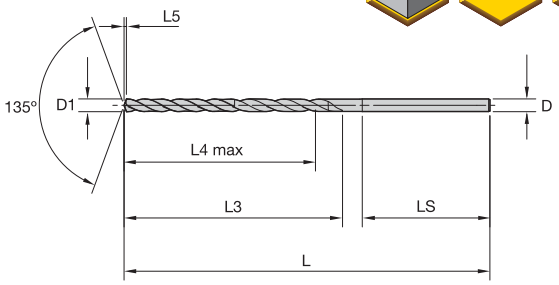
- Sharp cutting edge enables higher tool life in aluminum and other non-ferrous materials.
- The uncoated grade helps to prevent built-up edge in drilling aluminum and high-temp alloys.

## New KCMS20 Grade (B27_SGL)

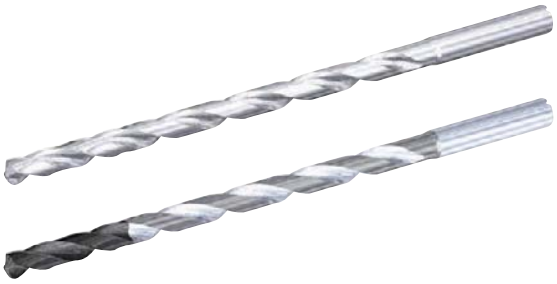
- Monolayer PVD AlTiN coated ultrafine grain carbide with superior surface finish.
- First choice for deep hole drilling of stainless steel and high-temperature resistant materials. Due to the coatings enhanced high temperature properties, this grade can also be applied for MQL applications in steel.

## Customization

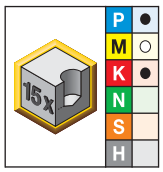
- Intermediate diameters available as semi-standards.
- Length variations, including even longer versions up to 550mm (21.65"), available as custom solutions.
- One-shot drilling of deep holes with a small step is possible.
- Maximum 2mm (.08") step range. Consult the custom solutions department for specific applications.
- Excellent surface finish and concentricity.

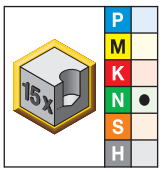


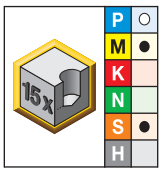

For information on L5, see B224_HP drills or B210_SGL drills.



## B271Z_HPG/HPS/SGL • 15 x D



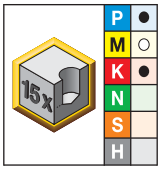

● first choice
○ alternate choice

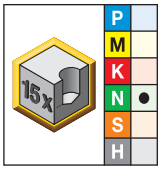
| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B271Z02383KMG | B271Z02383KMS | – | 2,383 | .0938 | 3/32 | – | 86 | 51 | 44 | 30 | 3 |
| – | B271Z02400KMS | – | 2,400 | .0945 | – | – | 86 | 51 | 44 | 30 | 3 |
| – | B271Z02439KMS | – | 2,439 | .0960 | – | 41 | 86 | 51 | 44 | 30 | 3 |
| – | B271Z02489KMS | – | 2,489 | .0980 | – | 40 | 86 | 51 | 44 | 30 | 3 |
| B271Z02500KMG | B271Z02500KMS | B271Z02500SGL | 2,500 | .0984 | – | – | 86 | 51 | 44 | 30 | 3 |
| – | B271Z02578KMS | – | 2,578 | .1015 | – | 38 | 86 | 51 | 44 | 30 | 3 |
| – | B271Z02600KMS | – | 2,600 | .1024 | – | – | 86 | 51 | 44 | 30 | 3 |
| B271Z02642KMG | – | – | 2,642 | .1040 | – | 37 | 86 | 51 | 44 | 30 | 3 |
| B271Z02705KMG | – | – | 2,705 | .1065 | – | 36 | 86 | 52 | 45 | 30 | 3 |
| B271Z02779KMG | B271Z02779KMS * | – | 2,779 | .1094 | 7/64 | – | 86 | 52 | 45 | 30 | 3 |
| – | B271Z02800KMS | – | 2,800 | .1102 | – | – | 86 | 52 | 45 | 30 | 3 |
| B271Z02820KMG * | B271Z02820KMS * | – | 2,820 | .1110 | – | 34 | 86 | 52 | 45 | 30 | 3 |
| – | B271Z02870KMS * | – | 2,870 | .1130 | – | 33 | 86 | 52 | 45 | 30 | 3 |
| – | B271Z02900KMS | – | 2,900 | .1142 | – | – | 86 | 52 | 45 | 30 | 3 |
| – | B271Z02947KMS * | – | 2,947 | .1160 | – | 32 | 86 | 52 | 45 | 30 | 3 |
| B271Z03000HPG | B271Z03000HPS | B271Z03000SGL | 3,000 | .1181 | – | – | 86 | 52 | 45 | 30 | 3 |
| B271Z03175HPG | B271Z03175HPS | B271Z03175SGL | 3,175 | .1250 | 1/8 | – | 105 | 67 | 58 | 32 | 4 |
| B271Z03200HPG | B271Z03200HPS | – | 3,200 | .1260 | – | – | 105 | 67 | 58 | 32 | 4 |
| B271Z03500HPG | B271Z03500HPS | B271Z03500SGL | 3,500 | .1378 | – | – | 105 | 68 | 59 | 32 | 4 |
| B271Z03600HPG | – | – | 3,600 | .1417 | – | – | 105 | 68 | 59 | 32 | 4 |
| B271Z03700HPG | – | – | 3,700 | .1457 | – | – | 105 | 69 | 60 | 32 | 4 |
| B271Z03970HPG | B271Z03970HPS * | B271Z03970SGL | 3,970 | .1563 | 5/32 | – | 105 | 70 | 60 | 32 | 4 |
| B271Z04000HPG | B271Z04000HPS | B271Z04000SGL | 4,000 | .1575 | – | – | 105 | 70 | 60 | 32 | 4 |
| B271Z04500HPG | B271Z04500HPS | B271Z04500SGL | 4,500 | .1772 | – | – | 124 | 85 | 74 | 34 | 5 |
| B271Z04623HPG | – | – | 4,623 | .1820 | – | 14 | 124 | 86 | 75 | 34 | 5 |
| B271Z04763HPG | B271Z04763HPS | B271Z04763SGL | 4,763 | .1875 | 3/16 | – | 124 | 86 | 75 | 34 | 5 |
| B271Z04800HPG | – | – | 4,800 | .1890 | – | 12 | 124 | 86 | 75 | 34 | 5 |
| – | – | B271Z04800SGL | 4,800 | .1890 | – | – | 124 | 86 | 75 | 34 | 5 |
| B271Z05000HPG | B271Z05000HPS | B271Z05000SGL | 5,000 | .1969 | – | – | 124 | 87 | 75 | 34 | 5 |
| B271Z05060HPG | – | – | 5,060 | .1992 | – | – | 143 | 101 | 88 | 36 | 6 |
| B271Z05260HPG | – | – | 5,260 | .2071 | – | – | 143 | 102 | 89 | 36 | 6 |
| B271Z05410HPG | – | – | 5,410 | .2130 | – | 3 | 143 | 102 | 89 | 36 | 6 |
| B271Z05500HPG | B271Z05500HPS | B271Z05500SGL | 5,500 | .2165 | – | – | 143 | 102 | 89 | 36 | 6 |
| B271Z05558HPG | – | – | 5,558 | .2188 | 7/32 | – | 143 | 102 | 89 | 36 | 6 |
| – | – | B271Z05558SGL | 5,558 | .2188 | – | – | 143 | 102 | 89 | 36 | 6 |
| B271Z05800HPG | – | – | 5,800 | .2283 | – | – | 143 | 103 | 89 | 36 | 6 |
| B271Z05900HPG | – | – | 5,900 | .2323 | – | – | 143 | 103 | 89 | 36 | 6 |
| B271Z06000HPG | B271Z06000HPS | B271Z06000SGL | 6,000 | .2362 | – | – | 143 | 104 | 90 | 36 | 6 |
| B271Z06200HPG | B271Z06200HPS | – | 6,200 | .2441 | – | – | 162 | 118 | 103 | 38 | 7 |
| B271Z06350HPG | B271Z06350HPS | B271Z06350SGL | 6,350 | .2500 | 1/4 | E | 162 | 119 | 104 | 38 | 7 |

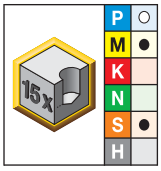
*(continued)*

*(B271Z_HPG/HPS/SGL • 15 x D — continued)*





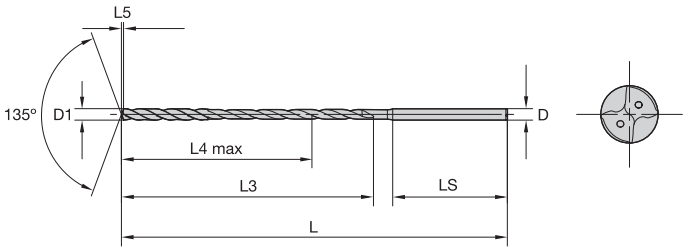




● first choice
○ alternate choice

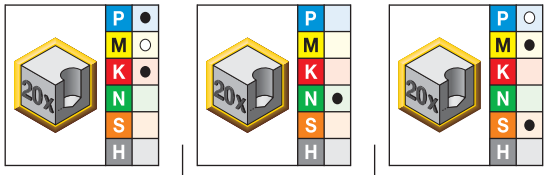
| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B271Z06500HPG | B271Z06500HPS | B271Z06500SGL | 6,500 | .2559 | — | — | 162 | 119 | 104 | 38 | 7 |
| B271Z06528HPG | — | — | 6,528 | .2570 | — | F | 162 | 119 | 104 | 38 | 7 |
| B271Z06746HPG | B271Z06746HPS | B271Z06746SGL | 6,746 | .2656 | 17/64 | — | 162 | 120 | 104 | 38 | 7 |
| B271Z06909HPG | — | — | 6,909 | .2720 | — | I | 162 | 121 | 105 | 38 | 7 |
| B271Z07000HPG | B271Z07000HPS | B271Z07000SGL | 7,000 | .2756 | — | — | 162 | 121 | 105 | 38 | 7 |
| B271Z07145HPG | B271Z07145HPS | B271Z07145SGL | 7,145 | .2813 | 9/32 | — | 181 | 135 | 118 | 40 | 8 |
| B271Z07500HPG | B271Z07500HPS | B271Z07500SGL | 7,500 | .2953 | — | — | 181 | 136 | 119 | 40 | 8 |
| B271Z07541HPG * | — | — | 7,541 | .2969 | 19/64 | — | 181 | 136 | 119 | 40 | 8 |
| B271Z07938HPG | — | B271Z07938SGL | 7,938 | .3125 | 5/16 | — | 181 | 138 | 120 | 40 | 8 |
| B271Z08000HPG | B271Z08000HPS | B271Z08000SGL | 8,000 | .3150 | — | — | 181 | 138 | 120 | 40 | 8 |
| B271Z08200HPG | — | — | 8,200 | .3228 | — | — | 200 | 152 | 133 | 42 | 9 |
| B271Z08334HPG | — | — | 8,334 | .3281 | 21/64 | — | 200 | 153 | 134 | 42 | 9 |
| B271Z08500HPG | B271Z08500HPS | B271Z08500SGL | 8,500 | .3346 | — | — | 200 | 153 | 134 | 42 | 9 |
| B271Z08733HPG | B271Z08733HPS | — | 8,733 | .3438 | 11/32 | — | 200 | 154 | 134 | 42 | 9 |
| — | — | B271Z08733SGL | 8,733 | .3438 | — | — | 200 | 154 | 134 | 42 | 9 |
| B271Z09000HPG | B271Z09000HPS | B271Z09000SGL | 9,000 | .3543 | — | — | 200 | 155 | 135 | 42 | 9 |
| B271Z09100HPG | — | — | 9,100 | .3583 | — | — | 219 | 169 | 148 | 44 | 10 |
| B271Z09200HPG * | — | — | 9,200 | .3622 | — | — | 219 | 169 | 148 | 44 | 10 |
| B271Z09500HPG | B271Z09500HPS | — | 9,500 | .3740 | — | — | 219 | 170 | 149 | 44 | 10 |
| B271Z09525HPG | B271Z09525HPS | B271Z09525SGL | 9,525 | .3750 | 3/8 | — | 219 | 170 | 149 | 44 | 10 |
| B271Z09750HPG | — | — | 9,750 | .3839 | — | — | 219 | 171 | 149 | 44 | 10 |
| B271Z10000HPG | B271Z10000HPS | B271Z10000SGL | 10,000 | .3937 | — | — | 219 | 172 | 150 | 44 | 10 |
| B271Z10200HPG | B271Z10200HPS | — | 10,200 | .4016 | — | — | 238 | 186 | 163 | 46 | 11 |
| — | — | B271Z10320SGL | 10,320 | .4063 | 13/32 | — | 238 | 187 | 164 | 46 | 11 |
| B271Z10500HPG | B271Z10500HPS | B271Z10500SGL | 10,500 | .4134 | — | — | 238 | 187 | 164 | 46 | 11 |
| B271Z10716HPG | — | — | 10,716 | .4219 | 27/64 | — | 238 | 188 | 165 | 46 | 11 |
| — | B271Z10720HPS | — | 10,720 | .4220 | — | — | 238 | 188 | 165 | 46 | 11 |
| B271Z10800HPG | — | — | 10,800 | .4252 | — | — | 238 | 188 | 164 | 46 | 11 |
| B271Z11000HPG | B271Z11000HPS | B271Z11000SGL | 11,000 | .4331 | — | — | 238 | 189 | 165 | 46 | 11 |
| — | — | B271Z11113SGL | 11,113 | .4375 | 7/16 | — | 257 | 203 | 178 | 48 | 12 |
| B271Z11500HPG | B271Z11500HPS | B271Z11500SGL | 11,500 | .4528 | — | — | 257 | 204 | 179 | 48 | 12 |
| B271Z12000HPG | B271Z12000HPS | B271Z12000SGL | 12,000 | .4724 | — | — | 257 | 206 | 180 | 48 | 12 |
| B271Z12500HPG | B271Z12500HPS | — | 12,500 | .4921 | — | — | 276 | 221 | 194 | 50 | 13 |
| B271Z12700HPG | B271Z12700HPS | B271Z12700SGL | 12,700 | .5000 | 1/2 | — | 276 | 222 | 195 | 50 | 13 |
| B271Z13000HPG | B271Z13000HPS | — | 13,000 | .5118 | — | — | 276 | 223 | 195 | 50 | 13 |
| B271Z13500HPG | B271Z13500HPS | — | 13,500 | .5315 | — | — | 295 | 238 | 209 | 52 | 14 |
| B271Z14000HPG | B271Z14000HPS | B271Z14000SGL | 14,000 | .5512 | — | — | 295 | 240 | 210 | 52 | 14 |
| B271Z14288HPG | — | — | 14,288 | .5625 | 9/16 | — | 314 | 255 | 224 | 54 | 15 |
| — | B271Z14290HPS | — | 14,290 | .5626 | — | — | 314 | 255 | 224 | 54 | 15 |
| B271Z14500HPG | — | B271Z14500SGL | 14,500 | .5709 | — | — | 314 | 255 | 224 | 54 | 15 |
| B271Z15000HPG | — | B271Z15000SGL | 15,000 | .5906 | — | — | 314 | 257 | 225 | 54 | 15 |
| B271Z15300HPG | — | — | 15,300 | .6024 | — | — | 333 | 272 | 239 | 56 | 16 |
| — | B271Z15500HPS | — | 15,500 | .6102 | — | — | 333 | 272 | 239 | 56 | 16 |
| — | B271Z15870HPS | — | 15,870 | .6248 | — | — | 333 | 273 | 240 | 56 | 16 |
| B271Z15875HPG | — | — | 15,875 | .6250 | 5/8 | — | 333 | 273 | 240 | 56 | 16 |
| B271Z16000HPG | B271Z16000HPS | B271Z16000SGL | 16,000 | .6299 | — | — | 333 | 274 | 240 | 56 | 16 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.




For information on L5, see B224_HP drills or B210_SGL drills.

## B272Z_HPG/HPS/SGL • 20 x D



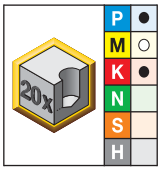

● first choice
○ alternate choice

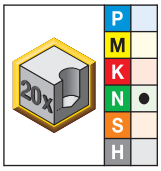
| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B272Z02383KMG | B272Z02383KMS | – | 2,383 | .0938 | 3/32 | – | 101 | 63 | 56 | 30 | 3 |
| B272Z02400KMG | B272Z02400KMS * | – | 2,400 | .0945 | – | – | 101 | 63 | 56 | 30 | 3 |
| – | B272Z02439KMS | – | 2,439 | .0960 | – | 41 | 101 | 63 | 56 | 30 | 3 |
| B272Z02489KMG | B272Z02489KMS * | – | 2,489 | .0980 | – | 40 | 101 | 63 | 56 | 30 | 3 |
| B272Z02500KMG | B272Z02500KMS | B272Z02500SGL | 2,500 | .0984 | – | – | 101 | 63 | 56 | 30 | 3 |
| B272Z02779KMG | – | – | 2,779 | .1094 | 7/64 | – | 101 | 66 | 59 | 30 | 3 |
| – | B272Z02800KMS | – | 2,800 | .1102 | – | – | 101 | 66 | 59 | 30 | 3 |
| – | B272Z02947KMS * | – | 2,947 | .1160 | – | 32 | 101 | 67 | 60 | 30 | 3 |
| B272Z03000HPG | B272Z03000HPS | B272Z03000SGL | 3,000 | .1181 | – | – | 101 | 67 | 60 | 30 | 3 |
| B272Z03175HPG | B272Z03175HPS | B272Z03175SGL | 3,175 | .1250 | 1/8 | – | 125 | 83 | 74 | 32 | 4 |
| B272Z03300HPG | B272Z03300HPS | – | 3,300 | .1299 | – | – | 125 | 84 | 75 | 32 | 4 |
| B272Z03500HPG | B272Z03500HPS | B272Z03500SGL | 3,500 | .1378 | – | – | 125 | 86 | 77 | 32 | 4 |
| B272Z03850HPG | – | – | 3,850 | .1516 | – | – | 125 | 88 | 79 | 32 | 4 |
| B272Z03970HPG | B272Z03970HPS | B272Z03970SGL | 3,970 | .1563 | 5/32 | – | 125 | 89 | 79 | 32 | 4 |
| B272Z04000HPG | B272Z04000HPS | B272Z04000SGL | 4,000 | .1575 | – | – | 125 | 90 | 80 | 32 | 4 |
| B272Z04500HPG | B272Z04500HPS | B272Z04500SGL | 4,500 | .1772 | – | – | 149 | 108 | 97 | 34 | 5 |
| B272Z04623HPG | – | – | 4,623 | .1820 | – | 14 | 149 | 109 | 98 | 34 | 5 |
| B272Z04763HPG | B272Z04763HPS | B272Z04763SGL | 4,763 | .1875 | 3/16 | – | 149 | 110 | 99 | 34 | 5 |
| – | – | B272Z04800SGL | 4,800 | .1890 | – | – | 149 | 110 | 99 | 34 | 5 |
| B272Z05000HPG | B272Z05000HPS | B272Z05000SGL | 5,000 | .1969 | – | – | 149 | 112 | 100 | 34 | 5 |
| B272Z05200HPG | – | – | 5,200 | .2047 | – | – | 173 | 127 | 114 | 36 | 6 |
| B272Z05260HPG | – | – | 5,260 | .2071 | – | – | 173 | 128 | 115 | 36 | 6 |
| B272Z05410HPG | – | – | 5,410 | .2130 | – | 3 | 173 | 129 | 116 | 36 | 6 |
| B272Z05500HPG | B272Z05500HPS | B272Z05500SGL | 5,500 | .2165 | – | – | 173 | 130 | 117 | 36 | 6 |
| B272Z05558HPG | – | – | 5,558 | .2188 | 7/32 | – | 173 | 130 | 117 | 36 | 6 |
| – | – | B272Z05558SGL | 5,558 | .2188 | – | – | 173 | 130 | 117 | 36 | 6 |
| B272Z05800HPG | – | B272Z05800SGL | 5,800 | .2283 | – | – | 173 | 132 | 118 | 36 | 6 |
| B272Z06000HPG | B272Z06000HPS | B272Z06000SGL | 6,000 | .2362 | – | – | 173 | 134 | 120 | 36 | 6 |
| B272Z06200HPG | B272Z06200HPS | – | 6,200 | .2441 | – | – | 197 | 149 | 134 | 38 | 7 |
| B272Z06350HPG | B272Z06350HPS | B272Z06350SGL | 6,350 | .2500 | 1/4 | E | 197 | 151 | 136 | 38 | 7 |
| – | B272Z06400HPS * | – | 6,400 | .2520 | – | – | 197 | 151 | 136 | 38 | 7 |
| B272Z06500HPG | B272Z06500HPS | B272Z06500SGL | 6,500 | .2559 | – | – | 197 | 152 | 137 | 38 | 7 |
| B272Z06528HPG | – | – | 6,528 | .2570 | – | F | 197 | 152 | 137 | 38 | 7 |
| B272Z06746HPG | B272Z06746HPS | B272Z06746SGL | 6,746 | .2656 | 17/64 | – | 197 | 154 | 138 | 38 | 7 |
| B272Z06800HPG | – | – | 6,800 | .2677 | – | – | 197 | 154 | 138 | 38 | 7 |
| B272Z06909HPG | – | – | 6,909 | .2720 | – | I | 197 | 155 | 139 | 38 | 7 |

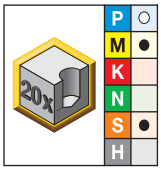
*(continued)*

*(B272Z_HPG/HPS/SGL • 20 x D — continued)*





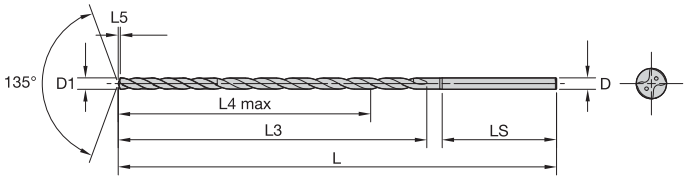




● first choice
○ alternate choice

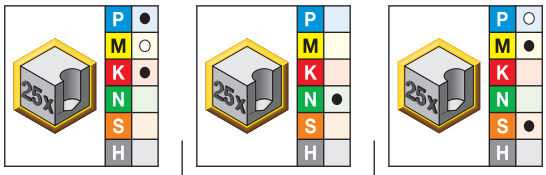
| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B272Z07000HPG | B272Z07000HPS | B272Z07000SGL | 7,000 | .2756 | — | — | 197 | 156 | 140 | 38 | 7 |
| B272Z07145HPG | B272Z07145HPS | B272Z07145SGL | 7,145 | .2813 | 9/32 | — | 221 | 171 | 154 | 40 | 8 |
| B272Z07200HPG * | — | — | 7,200 | .2835 | — | — | 221 | 171 | 154 | 40 | 8 |
| B272Z07500HPG | B272Z07500HPS | B272Z07500SGL | 7,500 | .2953 | — | — | 221 | 174 | 157 | 40 | 8 |
| B272Z07541HPG * | — | — | 7,541 | .2969 | 19/64 | — | 221 | 174 | 157 | 40 | 8 |
| B272Z07938HPG | — | B272Z07938SGL | 7,938 | .3125 | 5/16 | — | 221 | 177 | 159 | 40 | 8 |
| B272Z08000HPG | B272Z08000HPS | B272Z08000SGL | 8,000 | .3150 | — | — | 221 | 178 | 160 | 40 | 8 |
| B272Z08334HPG * | — | — | 8,334 | .3281 | 21/64 | — | 245 | 194 | 175 | 42 | 9 |
| B272Z08433HPG | — | — | 8,433 | .3320 | — | Q | 245 | 195 | 176 | 42 | 9 |
| B272Z08500HPG | B272Z08500HPS | B272Z08500SGL | 8,500 | .3346 | — | — | 245 | 196 | 177 | 42 | 9 |
| B272Z08733HPG | B272Z08733HPS | — | 8,733 | .3438 | 11/32 | — | 245 | 198 | 178 | 42 | 9 |
| — | — | B272Z08733SGL | 8,733 | .3438 | — | — | 245 | 198 | 178 | 42 | 9 |
| B272Z09000HPG | B272Z09000HPS | B272Z09000SGL | 9,000 | .3543 | — | — | 245 | 200 | 180 | 42 | 9 |
| B272Z09100HPG * | — | — | 9,100 | .3583 | — | — | 269 | 215 | 194 | 44 | 10 |
| B272Z09500HPG | — | — | 9,500 | .3740 | — | — | 269 | 218 | 197 | 44 | 10 |
| B272Z09525HPG | B272Z09525HPS | B272Z09525SGL | 9,525 | .3750 | 3/8 | — | 269 | 218 | 197 | 44 | 10 |
| B272Z09750HPG | B272Z09750HPS | — | 9,750 | .3839 | — | — | 269 | 220 | 198 | 44 | 10 |
| B272Z10000HPG | B272Z10000HPS | B272Z10000SGL | 10,000 | .3937 | — | — | 269 | 222 | 200 | 44 | 10 |
| B272Z10200HPG | B272Z10200HPS | — | 10,200 | .4016 | — | — | 293 | 237 | 214 | 46 | 11 |
| — | — | B272Z10320SGL | 10,320 | .4063 | 13/32 | — | 293 | 238 | 215 | 46 | 11 |
| B272Z10500HPG | B272Z10500HPS | B272Z10500SGL | 10,500 | .4134 | — | — | 293 | 240 | 217 | 46 | 11 |
| B272Z10716HPG | — | — | 10,716 | .4219 | 27/64 | — | 293 | 242 | 219 | 46 | 11 |
| — | — | B272Z10716SGL | 10,716 | .4219 | — | — | 293 | 242 | 219 | 46 | 11 |
| — | B272Z10720HPS | — | 10,720 | .4220 | — | — | 293 | 242 | 219 | 46 | 11 |
| B272Z11000HPG | B272Z11000HPS | B272Z11000SGL | 11,000 | .4331 | — | — | 293 | 244 | 220 | 46 | 11 |
| — | — | B272Z11113SGL | 11,113 | .4375 | 7/16 | — | 317 | 259 | 234 | 48 | 12 |
| B272Z11500HPG | B272Z11500HPS | B272Z11500SGL | 11,500 | .4528 | — | — | 317 | 262 | 237 | 48 | 12 |
| B272Z11800HPG | — | — | 11,800 | .4646 | — | — | 317 | 264 | 238 | 48 | 12 |
| B272Z12000HPG | B272Z12000HPS | B272Z12000SGL | 12,000 | .4724 | — | — | 317 | 266 | 240 | 48 | 12 |
| B272Z12500HPG | B272Z12500HPS | B272Z12500SGL | 12,500 | .4921 | — | — | 341 | 284 | 257 | 50 | 13 |
| B272Z12700HPG | B272Z12700HPS | B272Z12700SGL | 12,700 | .5000 | 1/2 | — | 341 | 285 | 258 | 50 | 13 |
| B272Z13000HPG | B272Z13000HPS | B272Z13000SGL | 13,000 | .5118 | — | — | 341 | 288 | 260 | 50 | 13 |
| B272Z13100HPG | — | — | 13,100 | .5157 | — | — | 365 | 302 | 273 | 52 | 14 |
| B272Z13500HPG | B272Z13500HPS | — | 13,500 | .5315 | — | — | 365 | 306 | 277 | 52 | 14 |
| B272Z14000HPG | B272Z14000HPS | B272Z14000SGL | 14,000 | .5512 | — | — | 365 | 310 | 280 | 52 | 14 |
| B272Z14500HPG | B272Z14500HPS | B272Z14500SGL | 14,500 | .5709 | — | — | 389 | 328 | 297 | 54 | 15 |
| B272Z15000HPG | B272Z15000HPS | B272Z15000SGL | 15,000 | .5906 | — | — | 389 | 332 | 300 | 54 | 15 |
| B272Z15500HPG | B272Z15500HPS | B272Z15500SGL | 15,500 | .6102 | — | — | 413 | 350 | 317 | 56 | 16 |
| — | B272Z15870HPS | — | 15,870 | .6248 | — | — | 413 | 353 | 320 | 56 | 16 |
| B272Z15875HPG | — | — | 15,875 | .6250 | 5/8 | — | 413 | 353 | 320 | 56 | 16 |
| B272Z16000HPG | B272Z16000HPS | B272Z16000SGL | 16,000 | .6299 | — | — | 413 | 354 | 320 | 56 | 16 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.




For information on L5, see B224_HP drills or B210_SGL drills.

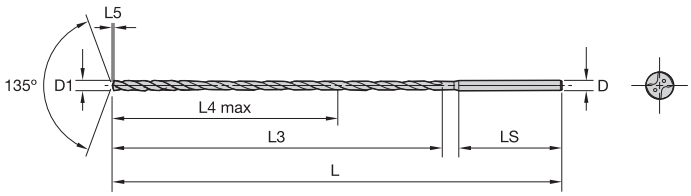
## B273Z_HPG/HPS/SGL • 25 x D




● first choice
○ alternate choice

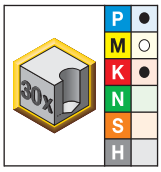
| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B273Z02383KMG | B273Z02383KMS | – | 2,383 | .0938 | 3/32 | – | 116 | 74 | 67 | 30 | 3 |
| – | B273Z02439KMS * | – | 2,439 | .0960 | – | 41 | 116 | 75 | 68 | 30 | 3 |
| B273Z02500KMG | – | B273Z02500SGL | 2,500 | .0984 | – | – | 116 | 76 | 69 | 30 | 3 |
| B273Z02600KMG * | – | – | 2,600 | .1024 | – | – | 116 | 77 | 70 | 30 | 3 |
| – | B273Z02779KMS * | – | 2,779 | .1094 | 7/64 | – | 116 | 80 | 73 | 30 | 3 |
| – | B273Z02800KMS * | – | 2,800 | .1102 | – | – | 116 | 80 | 73 | 30 | 3 |
| – | B273Z02820KMS * | – | 2,820 | .1110 | – | 34 | 116 | 80 | 73 | 30 | 3 |
| – | B273Z02870KMS * | – | 2,870 | .1130 | – | 33 | 116 | 81 | 74 | 30 | 3 |
| – | B273Z02947KMS * | – | 2,947 | .1160 | – | 32 | 116 | 82 | 75 | 30 | 3 |
| B273Z03000HPG | B273Z03000HPS | B273Z03000SGL | 3,000 | .1181 | – | – | 116 | 82 | 75 | 30 | 3 |
| B273Z03175HPG | B273Z03175HPS | B273Z03175SGL | 3,175 | .1250 | 1/8 | – | 145 | 99 | 90 | 32 | 4 |
| B273Z03500HPG * | B273Z03500HPS | B273Z03500SGL | 3,500 | .1378 | – | – | 145 | 103 | 94 | 32 | 4 |
| B273Z04000HPG | B273Z04000HPS | B273Z04000SGL | 4,000 | .1575 | – | – | 145 | 110 | 100 | 32 | 4 |
| B273Z04500HPG * | B273Z04500HPS * | B273Z04500SGL | 4,500 | .1772 | – | – | 174 | 130 | 119 | 34 | 5 |
| B273Z05000HPG | B273Z05000HPS | B273Z05000SGL | 5,000 | .1969 | – | – | 174 | 137 | 125 | 34 | 5 |
| B273Z05100HPG * | – | – | 5,100 | .2008 | – | – | 203 | 152 | 139 | 36 | 6 |
| B273Z05500HPG | B273Z05500HPS | B273Z05500SGL | 5,500 | .2165 | – | – | 203 | 157 | 144 | 36 | 6 |
| B273Z05800HPG * | – | – | 5,800 | .2283 | – | – | 203 | 161 | 147 | 36 | 6 |
| B273Z06000HPG | B273Z06000HPS | B273Z06000SGL | 6,000 | .2362 | – | – | 203 | 164 | 150 | 36 | 6 |
| B273Z06350HPG | B273Z06350HPS | – | 6,350 | .2500 | 1/4 | E | 232 | 182 | 167 | 38 | 7 |
| B273Z06500HPG * | B273Z06500HPS | B273Z06500SGL | 6,500 | .2559 | – | – | 232 | 184 | 169 | 38 | 7 |
| B273Z06746HPG | B273Z06746HPS * | – | 6,746 | .2656 | 17/64 | – | 232 | 187 | 171 | 38 | 7 |
| B273Z07000HPG | B273Z07000HPS * | B273Z07000SGL | 7,000 | .2756 | – | – | 232 | 191 | 175 | 38 | 7 |
| B273Z07500HPG | – | – | 7,500 | .2953 | – | – | 261 | 211 | 194 | 40 | 8 |
| B273Z08000HPG | B273Z08000HPS | B273Z08000SGL | 8,000 | .3150 | – | – | 261 | 218 | 200 | 40 | 8 |
| B273Z08500HPG | B273Z08500HPS * | B273Z08500SGL | 8,500 | .3346 | – | – | 290 | 238 | 219 | 42 | 9 |
| B273Z08733HPG | B273Z08733HPS * | – | 8,733 | .3438 | 11/32 | – | 290 | 241 | 221 | 42 | 9 |
| B273Z09000HPG | – | B273Z09000SGL | 9,000 | .3543 | – | – | 290 | 245 | 225 | 42 | 9 |
| – | B273Z09525HPS * | – | 9,525 | .3750 | 3/8 | – | 319 | 266 | 245 | 44 | 10 |
| B273Z10000HPG | B273Z10000HPS | B273Z10000SGL | 10,000 | .3937 | – | – | 319 | 272 | 250 | 44 | 10 |
| B273Z10200HPG | – | – | 10,200 | .4016 | – | – | 348 | 288 | 265 | 46 | 11 |
| B273Z10500HPG | B273Z10500HPS | – | 10,500 | .4134 | – | – | 348 | 292 | 269 | 46 | 11 |
| B273Z11000HPG | B273Z11000HPS | B273Z11000SGL | 11,000 | .4331 | – | – | 348 | 299 | 275 | 46 | 11 |
| B273Z11500HPG | B273Z11500HPS | – | 11,500 | .4528 | – | – | 377 | 319 | 294 | 48 | 12 |
| B273Z12000HPG | B273Z12000HPS | B273Z12000SGL | 12,000 | .4724 | – | – | 377 | 326 | 300 | 48 | 12 |
| B273Z12500HPG | B273Z12500HPS | – | 12,500 | .4921 | – | – | 406 | 346 | 319 | 50 | 13 |
| B273Z12700HPG | – | – | 12,700 | .5000 | 1/2 | – | 406 | 349 | 322 | 50 | 13 |
| B273Z13000HPG | B273Z13000HPS | B273Z13000SGL | 13,000 | .5118 | – | – | 406 | 353 | 325 | 50 | 13 |
| – | B273Z13100HPS | – | 13,100 | .5157 | – | – | 435 | 368 | 339 | 52 | 14 |
| B273Z13500HPG | – | B273Z13500SGL | 13,500 | .5315 | – | – | 435 | 373 | 344 | 52 | 14 |
| B273Z14000HPG | B273Z14000HPS | B273Z14000SGL | 14,000 | .5512 | – | – | 435 | 380 | 350 | 52 | 14 |
| B273Z14288HPG | – | – | 14,288 | .5625 | 9/16 | – | 464 | 397 | 366 | 54 | 15 |
| – | B273Z14290HPS | – | 14,290 | .5626 | – | – | 464 | 397 | 366 | 54 | 15 |
| B273Z14500HPG | B273Z14500HPS | – | 14,500 | .5709 | – | – | 464 | 400 | 369 | 54 | 15 |
| B273Z15000HPG | – | B273Z15000SGL | 15,000 | .5906 | – | – | 464 | 407 | 375 | 54 | 15 |
| B273Z16000HPG | B273Z16000HPS | B273Z16000SGL | 16,000 | .6299 | – | – | 493 | 434 | 400 | 56 | 16 |

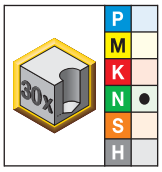
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

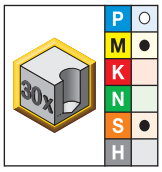



For information on L5, see B224_HP drills or B210_SGL drills.

## B274Z_HPG/HPS/SGL • 30 x D



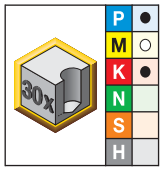



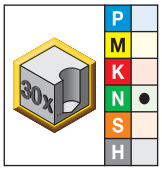

● first choice
○ alternate choice

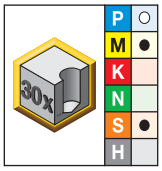
| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B274Z02383KMG | B274Z02383KMS | – | 2,383 | .0938 | 3/32 | – | 131 | 86 | 79 | 30 | 3 |
| – | B274Z02400KMS | – | 2,400 | .0945 | – | – | 131 | 87 | 80 | 30 | 3 |
| – | B274Z02439KMS * | – | 2,439 | .0960 | – | 41 | 131 | 87 | 80 | 30 | 3 |
| B274Z02500KMG | B274Z02500KMS | B274Z02500SGL | 2,500 | .0984 | – | – | 131 | 88 | 81 | 30 | 3 |
| B274Z02600KMG | B274Z02600KMS | – | 2,600 | .1024 | – | – | 131 | 90 | 83 | 30 | 3 |
| – | B274Z02642KMS * | – | 2,642 | .1040 | – | 37 | 131 | 91 | 84 | 30 | 3 |
| – | B274Z02779KMS * | – | 2,779 | .1094 | 7/64 | – | 131 | 94 | 87 | 30 | 3 |
| B274Z02800KMG | B274Z02800KMS * | – | 2,800 | .1102 | – | – | 131 | 94 | 87 | 30 | 3 |
| – | B274Z02870KMS * | – | 2,870 | .1130 | – | 33 | 131 | 95 | 88 | 30 | 3 |
| – | B274Z02900KMS * | – | 2,900 | .1142 | – | – | 131 | 96 | 89 | 30 | 3 |
| – | B274Z02947KMS * | – | 2,947 | .1160 | – | 32 | 131 | 97 | 90 | 30 | 3 |
| B274Z03000HPG | B274Z03000HPS | B274Z03000SGL | 3,000 | .1181 | – | – | 131 | 97 | 90 | 30 | 3 |
| B274Z03175HPG | B274Z03175HPS | B274Z03175SGL | 3,175 | .1250 | 1/8 | – | 165 | 115 | 106 | 32 | 4 |
| B274Z03500HPG | B274Z03500HPS | B274Z03500SGL | 3,500 | .1378 | – | – | 165 | 121 | 112 | 32 | 4 |
| B274Z03970HPG | – | B274Z03970SGL | 3,970 | .1563 | 5/32 | – | 165 | 129 | 119 | 32 | 4 |
| B274Z04000HPG | B274Z04000HPS | B274Z04000SGL | 4,000 | .1575 | – | – | 165 | 130 | 120 | 32 | 4 |
| B274Z04300HPG | – | – | 4,300 | .1693 | – | – | 199 | 149 | 138 | 34 | 5 |
| B274Z04500HPG | B274Z04500HPS | B274Z04500SGL | 4,500 | .1772 | – | – | 199 | 153 | 142 | 34 | 5 |
| B274Z04763HPG | – | B274Z04763SGL | 4,763 | .1875 | 3/16 | – | 199 | 157 | 146 | 34 | 5 |
| B274Z05000HPG | B274Z05000HPS | B274Z05000SGL | 5,000 | .1969 | – | – | 199 | 162 | 150 | 34 | 5 |
| B274Z05100HPG * | – | B274Z05100SGL | 5,100 | .2008 | – | – | 233 | 178 | 165 | 36 | 6 |
| B274Z05500HPG | B274Z05500HPS * | B274Z05500SGL | 5,500 | .2165 | – | – | 233 | 185 | 172 | 36 | 6 |
| – | – | B274Z05558SGL | 5,558 | .2188 | – | – | 233 | 186 | 173 | 36 | 6 |
| B274Z05700HPG * | – | – | 5,700 | .2244 | – | – | 233 | 188 | 175 | 36 | 6 |
| B274Z06000HPG | B274Z06000HPS | B274Z06000SGL | 6,000 | .2362 | – | – | 233 | 194 | 180 | 36 | 6 |
| B274Z06350HPG | B274Z06350HPS | B274Z06350SGL | 6,350 | .2500 | 1/4 | E | 267 | 214 | 199 | 38 | 7 |
| B274Z06500HPG | B274Z06500HPS | B274Z06500SGL | 6,500 | .2559 | – | – | 267 | 217 | 202 | 38 | 7 |
| – | B274Z06746HPS * | B274Z06746SGL | 6,746 | .2656 | 17/64 | – | 267 | 221 | 205 | 38 | 7 |
| B274Z06800HPG | – | – | 6,800 | .2677 | – | – | 267 | 222 | 206 | 38 | 7 |
| B274Z07000HPG | B274Z07000HPS | B274Z07000SGL | 7,000 | .2756 | – | – | 267 | 226 | 210 | 38 | 7 |
| – | – | B274Z07145SGL | 7,145 | .2813 | 9/32 | – | 301 | 242 | 225 | 40 | 8 |
| – | – | B274Z07500SGL | 7,500 | .2953 | – | – | 301 | 249 | 232 | 40 | 8 |

*(continued)*

*(B274Z_HPG/HPS/SGL • 30 x D — continued)*



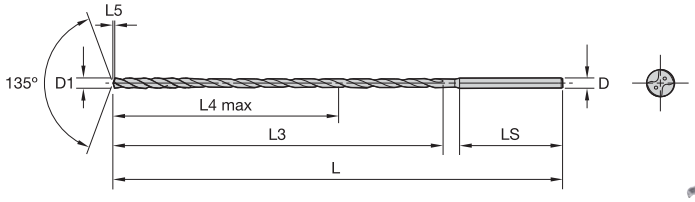




● first choice
○ alternate choice

| KCPK20 | KN25 | KCMS20 | D1 diameter mm | D1 diameter in | D1 diameter fraction | D1 diameter wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B274Z07700HPG * | — | — | 7,700 | .3031 | — | — | 301 | 252 | 235 | 40 | 8 |
| B274Z07938HPG | — | B274Z07938SGL | 7,938 | .3125 | 5/16 | — | 301 | 257 | 239 | 40 | 8 |
| B274Z08000HPG | B274Z08000HPS | B274Z08000SGL | 8,000 | .3150 | — | — | 301 | 258 | 240 | 40 | 8 |
| B274Z08334HPG | — | — | 8,334 | .3281 | 21/64 | — | 335 | 278 | 259 | 42 | 9 |
| B274Z08500HPG | B274Z08500HPS | B274Z08500SGL | 8,500 | .3346 | — | — | 335 | 281 | 262 | 42 | 9 |
| B274Z08700HPG | — | — | 8,700 | .3425 | — | — | 335 | 284 | 264 | 42 | 9 |
| — | B274Z08733HPS * | — | 8,733 | .3438 | 11/32 | — | 335 | 285 | 265 | 42 | 9 |
| — | — | B274Z08733SGL | 8,733 | .3438 | — | — | 335 | 285 | 265 | 42 | 9 |
| B274Z09000HPG | B274Z09000HPS * | B274Z09000SGL | 9,000 | .3543 | — | — | 335 | 290 | 270 | 42 | 9 |
| — | — | B274Z09129SGL | 9,129 | .3594 | 23/64 | — | 369 | 306 | 285 | 44 | 10 |
| B274Z09525HPG | B274Z09525HPS * | B274Z09525SGL | 9,525 | .3750 | 3/8 | — | 369 | 313 | 292 | 44 | 10 |
| B274Z10000HPG | B274Z10000HPS | B274Z10000SGL | 10,000 | .3937 | — | — | 369 | 322 | 300 | 44 | 10 |
| B274Z10200HPG | B274Z10200HPS | — | 10,200 | .4016 | — | — | 403 | 339 | 316 | 46 | 11 |
| B274Z10500HPG * | — | B274Z10500SGL | 10,500 | .4134 | — | — | 403 | 345 | 322 | 46 | 11 |
| B274Z10716HPG | — | — | 10,716 | .4219 | 27/64 | — | 403 | 349 | 326 | 46 | 11 |
| B274Z11000HPG | B274Z11000HPS | B274Z11000SGL | 11,000 | .4331 | — | — | 403 | 354 | 330 | 46 | 11 |
| B274Z11500HPG | B274Z11500HPS | B274Z11500SGL | 11,500 | .4528 | — | — | 437 | 377 | 352 | 48 | 12 |
| B274Z11800HPG | — | — | 11,800 | .4646 | — | — | 437 | 382 | 356 | 48 | 12 |
| B274Z12000HPG | B274Z12000HPS | B274Z12000SGL | 12,000 | .4724 | — | — | 437 | 386 | 360 | 48 | 12 |
| B274Z12500HPG | B274Z12500HPS | — | 12,500 | .4921 | — | — | 471 | 409 | 382 | 50 | 13 |
| B274Z12700HPG | — | B274Z12700SGL | 12,700 | .5000 | 1/2 | — | 471 | 412 | 385 | 50 | 13 |
| B274Z13000HPG | B274Z13000HPS | B274Z13000SGL | 13,000 | .5118 | — | — | 471 | 418 | 390 | 50 | 13 |
| B274Z13500HPG | B274Z13500HPS | B274Z13500SGL | 13,500 | .5315 | — | — | 505 | 441 | 412 | 52 | 14 |
| B274Z14000HPG | B274Z14000HPS | B274Z14000SGL | 14,000 | .5512 | — | — | 505 | 450 | 420 | 52 | 14 |
| B274Z15000HPG | B274Z15000HPS | B274Z15000SGL | 15,000 | .5906 | — | — | 539 | 482 | 450 | 54 | 15 |

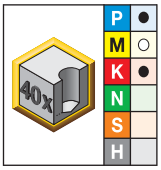
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

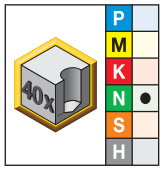


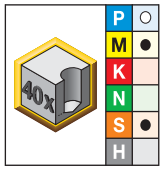

For information on L5, see B224_HP drills or B210_SGL drills.

beyond

## B275Z_HPG/HPS/SGL • 40 x D




● first choice
○ alternate choice

| KCPK20 | KN25 | KCMS20 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B275Z02500KMG | B275Z02500KMS | B275Z02500SGL | 2,500 | .0984 | – | – | 161 | 113 | 106 | 30 | 3 |
| B275Z03000KMG | B275Z03000HPS | B275Z03000SGL | 3,000 | .1181 | – | – | 161 | 127 | 120 | 30 | 3 |
| B275Z03175HPG | B275Z03175HPS | B275Z03175SGL | 3,175 | .1250 | 1/8 | – | 205 | 146 | 137 | 32 | 4 |
| B275Z03500HPG | B275Z03500HPS | B275Z03500SGL | 3,500 | .1378 | – | – | 205 | 156 | 147 | 32 | 4 |
| B275Z03571HPG | B275Z03571HPS | B275Z03571SGL | 3,571 | .1406 | 9/64 | – | 205 | 158 | 149 | 32 | 4 |
| B275Z03970HPG | B275Z03970HPS | B275Z03970SGL | 3,970 | .1563 | 5/32 | – | 205 | 169 | 159 | 32 | 4 |
| B275Z04000HPG | B275Z04000HPS | B275Z04000SGL | 4,000 | .1575 | – | – | 205 | 170 | 160 | 32 | 4 |
| B275Z04200HPG | B275Z04200HPS | B275Z04200SGL | 4,200 | .1654 | – | – | 249 | 189 | 178 | 34 | 5 |
| – | B275Z04500HPS | B275Z04500SGL | 4,500 | .1772 | – | – | 249 | 198 | 187 | 34 | 5 |
| B275Z04763HPG | B275Z04763HPS | B275Z04763SGL | 4,763 | .1875 | 3/16 | – | 249 | 205 | 194 | 34 | 5 |
| B275Z05000HPG | B275Z05000HPS | B275Z05000SGL | 5,000 | .1969 | – | – | 249 | 212 | 200 | 34 | 5 |
| B275Z05500HPG | B275Z05500HPS | B275Z05500SGL | 5,500 | .2165 | – | – | 293 | 240 | 227 | 36 | 6 |
| B275Z05558HPG | B275Z05558HPS | B275Z05558SGL | 5,558 | .2188 | – | – | 293 | 241 | 228 | 36 | 6 |
| B275Z06000HPG | B275Z06000HPS | B275Z06000SGL | 6,000 | .2362 | – | – | 293 | 254 | 240 | 36 | 6 |
| B275Z06350HPG | B275Z06350HPS | B275Z06350SGL | 6,350 | .2500 | 1/4 | E | 337 | 278 | 263 | 38 | 7 |
| B275Z06500HPG | B275Z06500HPS | B275Z06500SGL | 6,500 | .2559 | – | – | 337 | 282 | 267 | 38 | 7 |
| B275Z06800HPG | B275Z06800HPS | B275Z06800SGL | 6,800 | .2677 | – | – | 337 | 290 | 274 | 38 | 7 |
| B275Z07000HPG | B275Z07000HPS | B275Z07000SGL | 7,000 | .2756 | – | – | 337 | 296 | 280 | 38 | 7 |
| B275Z07145HPG | B275Z07145HPS | B275Z07145SGL | 7,145 | .2813 | 9/32 | – | 381 | 314 | 297 | 40 | 8 |
| B275Z07500HPG | B275Z07500HPS | B275Z07500SGL | 7,500 | .2953 | – | – | 381 | 324 | 307 | 40 | 8 |
| B275Z07938HPG | B275Z07938HPS | B275Z07938SGL | 7,938 | .3125 | 5/16 | – | 381 | 336 | 318 | 40 | 8 |
| B275Z08000HPG | B275Z08000HPS | B275Z08000SGL | 8,000 | .3150 | – | – | 381 | 338 | 320 | 40 | 8 |
| – | B275Z08500HPS | B275Z08500SGL | 8,500 | .3346 | – | – | 425 | 366 | 347 | 42 | 9 |
| B275Z08733HPG | B275Z08733HPS | B275Z08733SGL | 8,733 | .3438 | – | – | 425 | 372 | 352 | 42 | 9 |
| B275Z09000HPG | B275Z09000HPS | B275Z09000SGL | 9,000 | .3543 | – | – | 425 | 380 | 360 | 42 | 9 |
| B275Z09525HPG | B275Z09525HPS | B275Z09525SGL | 9,525 | .3750 | 3/8 | – | 469 | 408 | 387 | 44 | 10 |
| B275Z10000HPG | B275Z10000HPS | B275Z10000SGL | 10,000 | .3937 | – | – | 469 | 422 | 400 | 44 | 10 |
| B275Z10200HPG | B275Z10200HPS | B275Z10200SGL | 10,200 | .4016 | – | – | 513 | 441 | 418 | 46 | 11 |
| B275Z10320HPG | B275Z10320HPS | B275Z10320SGL | 10,320 | .4063 | 13/32 | – | 513 | 445 | 422 | 46 | 11 |
| B275Z11000HPG | B275Z11000HPS | B275Z11000SGL | 11,000 | .4331 | – | – | 513 | 464 | 440 | 46 | 11 |

**Tolerance • Metric**

| nominal size range | D1 HPG/SGL tolerance h7 | D1 HPS tolerance h8 | D tolerance h6 |
|---|---|---|---|
| 1–3 | 0,000/-0,010 | 0,000/-0,014 | 0,000/-0,006 |
| >3–6 | 0,000/-0,012 | 0,000/-0,018 | 0,000/-0,008 |
| >6–10 | 0,000/-0,015 | 0,000/-0,022 | 0,000/-0,009 |
| >10–18 | 0,000/-0,018 | 0,000/-0,027 | 0,000/-0,011 |

**Tolerance • Inch**

| nominal size range | D1 HPG/SGL tolerance h7 | D1 HPS tolerance h8 | D tolerance h6 |
|---|---|---|---|
| .0394–.1181 | .0000/-.0004 | .0000/-.0006 | .0000/-.0002 |
| >.1181–.2362 | .0000/-.0005 | .0000/-.0007 | .0000/-.0003 |
| >.2362–.3937 | .0000/-.0006 | .0000/-.0009 | .0000/-.0004 |
| >.3937–.7087 | .0000/-.0007 | .0000/-.0011 | .0000/-.0004 |

## Deep-Hole Drills • B27_HPG Series • Grade KCPK20™ • Through Coolant • Drill Diameters 3–16mm (.1181–.6300")

| Material Group | | Cutting Speed – vc Range – m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 100 | **100** | 125 | mm/r | 0,13–0,15 | 0,14–0,16 | 0,15–0,21 | 0,19–0,26 | 0,21–0,31 | 0,26–0,36 | 0,30–0,41 | 0,34–0,46 |
| | 1 | 90 | **100** | 110 | mm/r | 0,15–0,18 | 0,16–0,19 | 0,18–0,25 | 0,22–0,30 | 0,25–0,37 | 0,30–0,42 | 0,35–0,48 | 0,40–0,54 |
| | 2 | 90 | **100** | 110 | mm/r | 0,15–0,18 | 0,16–0,19 | 0,18–0,25 | 0,22–0,30 | 0,25–0,37 | 0,30–0,42 | 0,35–0,48 | 0,40–0,54 |
| | 3 | 80 | **95** | 110 | mm/r | 0,15–0,18 | 0,16–0,19 | 0,18–0,25 | 0,22–0,30 | 0,25–0,37 | 0,30–0,42 | 0,35–0,48 | 0,40–0,54 |
| | 4 | 80 | **90** | 110 | mm/r | 0,15–0,18 | 0,16–0,19 | 0,18–0,25 | 0,22–0,30 | 0,25–0,37 | 0,30–0,42 | 0,35–0,48 | 0,40–0,54 |
| | 5 | 60 | **80** | 90 | mm/r | 0,03–0,11 | 0,04–0,11 | 0,05–0,11 | 0,05–0,14 | 0,08–0,18 | 0,11–0,21 | 0,12–0,22 | 0,14–0,24 |
| | 6 | 110 | **150** | 190 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,12–0,20 | 0,15–0,28 | 0,17–0,33 | 0,19–0,37 | 0,20–0,40 | 0,22–0,43 |
| M | 1 | 40 | **50** | 60 | mm/r | 0,04–0,08 | 0,06–0,12 | 0,08–0,14 | 0,10–0,15 | 0,11–0,16 | 0,12–0,17 | 0,13–0,18 | 0,14–0,19 |
| | 2 | 30 | **40** | 50 | mm/r | 0,04–0,08 | 0,06–0,10 | 0,08–0,13 | 0,09–0,14 | 0,10–0,15 | 0,11–0,16 | 0,12–0,17 | 0,13–0,18 |
| | 3 | 30 | **40** | 50 | mm/r | 0,04–0,07 | 0,06–0,10 | 0,08–0,13 | 0,09–0,14 | 0,10–0,15 | 0,11–0,16 | 0,12–0,17 | 0,13–0,18 |
| K | 1 | 80 | **100** | 120 | mm/r | 0,15–0,19 | 0,17–0,20 | 0,19–0,26 | 0,24–0,32 | 0,27–0,40 | 0,32–0,45 | 0,38–0,52 | 0,45–0,59 |
| | 2 | 80 | **90** | 100 | mm/r | 0,15–0,18 | 0,16–0,19 | 0,18–0,25 | 0,22–0,30 | 0,25–0,37 | 0,30–0,42 | 0,35–0,48 | 0,40–0,54 |
| | 3 | 60 | **90** | 120 | mm/r | 0,15–0,18 | 0,16–0,19 | 0,18–0,25 | 0,22–0,30 | 0,25–0,37 | 0,30–0,42 | 0,35–0,48 | 0,40–0,54 |

| Material Group | | Cutting Speed – vc Range – SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 0.551 | 5/8 .625 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 330 | **330** | 410 | IPR | .005–.006 | .006–.006 | .006–.008 | .008–.010 | .008–.012 | .010–.014 | .012–.016 | .013–.018 |
| | 1 | 300 | **330** | 360 | IPR | .006–.007 | .006–.008 | .007–.010 | .009–.012 | .010–.015 | .012–.017 | .014–.019 | .016–.021 |
| | 2 | 300 | **330** | 360 | IPR | .006–.007 | .006–.008 | .007–.010 | .009–.012 | .010–.015 | .012–.017 | .014–.019 | .016–.021 |
| | 3 | 260 | **310** | 360 | IPR | .006–.007 | .006–.008 | .007–.010 | .009–.012 | .010–.015 | .012–.017 | .014–.019 | .016–.021 |
| | 4 | 260 | **300** | 360 | IPR | .006–.007 | .006–.008 | .007–.010 | .009–.012 | .010–.015 | .012–.017 | .014–.019 | .016–.021 |
| | 5 | 200 | **260** | 300 | IPR | .001–.004 | .002–.004 | .002–.004 | .002–.006 | .003–.007 | .004–.008 | .005–.009 | .006–.009 |
| | 6 | 360 | **490** | 620 | IPR | .003–.005 | .004–.004 | .005–.008 | .006–.011 | .007–.013 | .008–.015 | .008–.016 | .009–.017 |
| M | 1 | 130 | **160** | 200 | IPR | .002–.003 | .002–.005 | .003–.006 | .004–.006 | .004–.006 | .005–.007 | .005–.007 | .006–.008 |
| | 2 | 100 | **130** | 160 | IPR | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.006 | .004–.006 | .005–.007 | .005–.007 |
| | 3 | 100 | **130** | 160 | IPR | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.006 | .004–.006 | .005–.007 | .005–.007 |
| K | 1 | 260 | **330** | 390 | IPR | .006–.008 | .007–.008 | .008–.010 | .009–.013 | .011–.016 | .013–.018 | .015–.021 | .018–.023 |
| | 2 | 260 | **300** | 330 | IPR | .006–.007 | .006–.008 | .007–.010 | .009–.012 | .010–.015 | .012–.017 | .014–.019 | .016–.021 |
| | 3 | 200 | **300** | 390 | IPR | .006–.007 | .006–.008 | .007–.010 | .009–.012 | .010–.015 | .012–.017 | .014–.019 | .016–.021 |

## Deep-Hole Drills • B27_HPS Series • Grade KN25™ • Through Coolant • Drill Diameters 3–16mm (.1181–.6300")

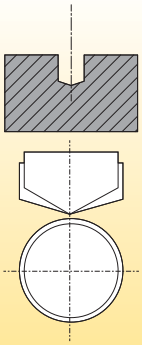
| Material Group | | Cutting Speed – vc Range – m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1 | 120 | **200** | 300 | mm/r | 0,12–0,17 | 0,13–0,18 | 0,15–0,24 | 0,19–0,29 | 0,26–0,35 | 0,31–0,40 | 0,35–0,45 | 0,41–0,51 |
| | 2 | 120 | **170** | 300 | mm/r | 0,13–0,18 | 0,14–0,19 | 0,16–0,25 | 0,20–0,30 | 0,28–0,37 | 0,33–0,42 | 0,38–0,48 | 0,44–0,54 |
| | 3 | 100 | **150** | 300 | mm/r | 0,13–0,18 | 0,14–0,19 | 0,16–0,25 | 0,20–0,30 | 0,28–0,37 | 0,33–0,42 | 0,38–0,48 | 0,44–0,54 |
| | 4 | 80 | **200** | 300 | mm/r | 0,03–0,05 | 0,03–0,06 | 0,03–0,06 | 0,04–0,06 | 0,05–0,07 | 0,05–0,08 | 0,05–0,08 | 0,06–0,09 |

| Material Group | | Cutting Speed – vc Range – SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 0.551 | 5/8 .625 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1 | 390 | **660** | 980 | IPR | .005–.007 | .005–.007 | .006–.009 | .008–.011 | .010–.014 | .012–.016 | .014–.018 | .016–.020 |
| | 2 | 390 | **560** | 980 | IPR | .005–.007 | .006–.008 | .006–.010 | .008–.012 | .011–.015 | .013–.017 | .015–.019 | .017–.021 |
| | 3 | 330 | **490** | 980 | IPR | .005–.007 | .006–.008 | .006–.010 | .008–.012 | .011–.015 | .013–.017 | .015–.019 | .017–.021 |
| | 4 | 260 | **660** | 980 | IPR | .001–.002 | .001–.002 | .001–.002 | .002–.002 | .002–.003 | .002–.003 | .002–.003 | .002–.004 |

## Deep Hole Drills • B27_SGL Series • Grade KCMS20 • Through Coolant

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate per Rev | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 5 | 60 | **80** | 90 | mm/r | | 0,03–0,06 | 0,04–0,06 | 0,05–0,06 | 0,05–0,09 | 0,08–0,13 | 0,11–0,16 | 0,12–0,17 | 0,14–0,18 |
| | 6 | 70 | **120** | 170 | mm/r | | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 | 0,18–0,22 | 0,20–0,24 |
| M | 1 | 40 | **50** | 60 | mm/r | | 0,05–0,08 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,13 | 0,11–0,14 | 0,12–0,15 |
| | 2 | 30 | **40** | 50 | mm/r | | 0,05–0,08 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,13 | 0,11–0,14 | 0,12–0,15 |
| | 3 | 30 | **40** | 50 | mm/r | | 0,05–0,08 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,13 | 0,11–0,14 | 0,12–0,15 |
| S | 1 | 20 | **30** | 40 | mm/r | | 0,09–0,12 | 0,10–0,13 | 0,11–0,14 | 0,12–0,15 | 0,13–0,16 | 0,14–0,17 | 0,15–0,18 | 0,16–0,19 |
| | 2 | 20 | **30** | 40 | mm/r | | 0,09–0,12 | 0,10–0,13 | 0,11–0,14 | 0,12–0,15 | 0,13–0,16 | 0,14–0,17 | 0,15–0,18 | 0,16–0,19 |
| | 3 | 20 | **30** | 40 | mm/r | | 0,09–0,12 | 0,10–0,13 | 0,11–0,14 | 0,12–0,15 | 0,13–0,16 | 0,14–0,17 | 0,15–0,18 | 0,16–0,19 |
| | 4 | 20 | **30** | 40 | mm/r | | 0,09–0,14 | 0,10–0,15 | 0,11–0,16 | 0,12–0,17 | 0,13–0,18 | 0,14–0,19 | 0,15–0,20 | 0,16–0,21 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate per Rev | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | .551 | 5/8 .625 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 200 | **260** | 300 | IPR | | .001-.002 | .002-.002 | .002-.002 | .002-.004 | .003-.005 | .004-.006 | .005-.007 | .006-.007 |
| | 2 | 230 | **390** | 560 | IPR | | .002–.004 | .003–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 | .007–.009 | .008–.009 |
| M | 1 | 130 | **160** | 200 | IPR | | .002-.003 | .002-.004 | .003-.004 | .003-.004 | .004-.005 | .004-.005 | .004-.006 | .005-.006 |
| | 2 | 100 | **130** | 160 | IPR | | .002–.003 | .002–.004 | .003–.004 | .003–.004 | .004–.005 | .004–.005 | .004–.006 | .005–.006 |
| | 3 | 100 | **130** | 160 | IPR | | .002-.003 | .002-.004 | .003-.004 | .003-.004 | .004-.005 | .004-.005 | .004-.006 | .005-.006 |
| S | 1 | 70 | **100** | 130 | IPR | | .004-.005 | .004-.005 | .004-.006 | .005-.006 | .005-.006 | .006-.007 | .006-.007 | .006-.008 |
| | 2 | 70 | **100** | 130 | IPR | | .004–.005 | .004–.005 | .004–.006 | .005–.006 | .005–.006 | .006–.007 | .006–.007 | .006–.008 |
| | 3 | 70 | **100** | 130 | IPR | | .004-.005 | .004-.005 | .004-.006 | .005-.006 | .005-.006 | .006-.007 | .006-.007 | .006-.008 |
| | 4 | 70 | **100** | 130 | IPR | | .004–.006 | .004–.006 | .004–.006 | .005–.007 | .005–.007 | .006–.008 | .006–.008 | .006–.008 |

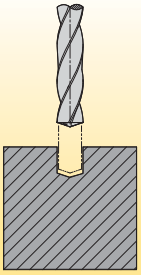


## 1) Pilot Drill Hole — IMPORTANT!

- The point angle of the pilot drill must be greater than the one of following deep-hole drill to protect its cutting corners.
- The diameter size of the pilot drill must be greater than the one of the deep-hole drill to enable easy fit and protect margin lands. The required difference in diameter is covered by design with the different position of tolerance.
- Drill Ø = nominal Ø up to nominal +.0004" (+0,010mm).
- Depth of pilot hole: minimum 2 x D.
- Deeper pilot holes are preferable.

### Recommendations:

- Use a conical (B976_) or split-point drill to pilot (do not use a HP, TX, GOdrill™ or any competitive drill).
- Check the pilot drill for wear, which can lead to premature wear on the B27_ cutting edge and possibly catastrophic failure.
- B976_ and B977_KC7315 drills with a 140° point angle are recommended. B978_ is not recommended as the point angle is 135°.
- B70_ Flat Bottom Drill with a point angle of 180° is the alternate choice, especially on inclined entries, such as on crankshafts.

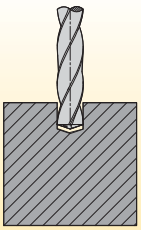


## 2) Feed B27_ into Pilot Hole

- Max 500 RPM and recommended feed rate; no rapid traverse.
- Run counter-clockwise, especially in horizontal applications to protect the cutting edge, when entering the pilot hole.
- Depth: .039" (1mm) above the bottom of pilot hole.

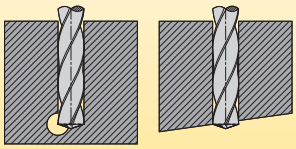
### Recommendations:

- Reduce cutting speed to minimize imbalances in machine spindle/adapter!



## 3) Drill Hole

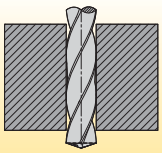
Cutting Parameters: Start recommended speed and feed rate at .039" (1mm) from the bottom of the pilot hole, clockwise.



### Recommendations:

- DO NOT PECK OR DWELL up to 30 x D!
- With long-chipping steel materials, it may be necessary to increase feed rate by 10–20% to provide optimal chip control.
- For long-chipping aluminum materials, it may be necessary to decrease feed rate and increase speed.
- Reduce feed rate on angled exits and crossholes by 50–60%.

*HP feed recommendations are usually higher than with competitive SC drills!*



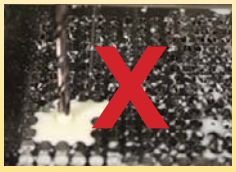
## 4) Drill Retraction

Cutting Parameters: 50–500 RPM and feed rate 2–6 m/min.

### Recommendations:

To achieve the best tool performance, we recommend using the deep-hole drill with a hydraulic chuck.

*Reduce cutting speed to minimize imbalances in machine spindle/adapter!*



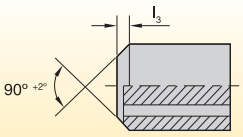
## 5) Vertical Applications

- If the pilot holes are close to each other, chips can fall into the neighboring hole.
- Do not enter a pilot hole that might contain chips with a deep hole drill to avoid chip jamming, wear, or breakage.
- If required holes are close to each other, use smart drilling strategies, make sure the pilot holes are getting properly cleaned, or switch to horizontal drilling.

*Horizontal drilling process preferred for optimum chip evacuation*

## 6) Coolant

- For increased stability, the coolant channels of the B27_ are smaller than on typical Kennametal drills.
- Steady supply of coolant delivered to the cutting edges necessary. If coolant supply is not steady or is unequal through both channels, check:
  - — Coolant filtering system.
  - — Sealing of adapter/spindle.
  - — Chips blocking the coolant hole on the drill shank.
- Make sure that the coolant supply reaches the cutting edge before drilling begins.
- Pressure by diameter: <5mm 40–50 bar maximum; >5mm 25 bar minimum.




MQL back end according to DIN 69090-3

## 7) Minimal Quantity Lubrication

- On MQL applications, make sure that the coolant is directly supplied from the chuck into the back end of the drill shank (without gap) to avoid leakage.
- Pressure should be between 1–10 bar depending on coolant hole size.
- Spray contains an amount of oil less than 50 ml/h.
- If required, the shank can be even optimized for MQL applications with enlarged 90° chamfer instead of 40°.

## 8) Shanks

- Other than normal SC drills, B27_ series have a “Z” shank, increasing with 1mm steps.
- For drills with uneven shank size, use reduction sleeves to adapt the shank to the customer's toolholder.
- The clamping force is better with increasing diameter.
- If required, DIN-shanks (even, 2mm steps) are available as custom solutions.

*Achieve the best tool performance with hydraulic chucks.*

| | 12mm hydraulic reducer sleeve | | 20mm hydraulic reducer sleeve | | 25mm hydraulic reducer sleeve | | 32mm hydraulic reducer sleeve | | .500" hydraulic reducer sleeve | | .750" hydraulic reducer sleeve | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | order number | catalog number | order number | catalog number | order number | catalog number | order number | catalog number | order number | catalog number | order number | catalog number |
| 3 | 3026450 | 12MHC030M | 3026648 | 20MHC030M | 3026662 | 25MHC030M | – | – | 2248993 | 50HC030M | 2248995 | 75HC030M |
| 4 | 3026451 | 12MHC040M | 3026649 | 20MHC040M | 3026663 | 25MHC040M | – | – | 1606050 | 50HC040M | 2248996 | 75HC040M |
| 5 | 3026452 | 12MHC050M | 3026650 | 20MHC050M | 3026664 | 25MHC050M | – | – | 2248994 | 50HC050M | 2248997 | 75HC050M |
| 6 | 3026643 | 12MHC060M | 3026651 | 20MHC060M | 3026665 | 25MHC060M | 3026675 | 32MHC060M | 1606061 | 50HC060M | 1093271 | 75HC060M |
| 7 | 3026644 | 12MHC070M | 3026652 | 20MHC070M | 3026666 | 25MHC070M | 3026676 | 32MHC070M | – | – | – | – |
| 8 | 3026645 | 12MHC080M | 3026653 | 20MHC080M | 3026667 | 25MHC080M | 3026677 | 32MHC080M | 1606062 | 50HC080M | 1093272 | 75HC080M |
| 9 | 3026646 | 12MHC090M | 3026654 | 20MHC090M | 3026668 | 25MHC090M | 3026678 | 32MHC090M | – | – | – | – |
| 10 | 3026647 | 12MHC100M | 3026655 | 20MHC100M | 3026669 | 25MHC100M | 3026679 | 32MHC100M | 1606064 | 50HC100M | 1093273 | 75HC100M |
| 11 | – | – | 3026656 | 20MHC110M | – | – | 3026680 | 32MHC110M | – | – | – | – |
| 12 | – | – | 3026657 | 20MHC120M | 3026669 | 25MHC120M | 3026681 | 32MHC120M | – | – | 1093524 | 75HC120M |
| 13 | – | – | 3026658 | 20MHC130M | – | – | 3026682 | 32MHC130M | – | – | – | – |
| 14 | – | – | 3026659 | 20MHC140M | 3026671 | 25MHC140M | 3026683 | 32MHC140M | – | – | 1093525 | 75HC140M |
| 15 | – | – | 3026660 | 20MHC150M | – | – | 3026684 | 32MHC150M | – | – | – | – |
| 16 | – | – | 3026661 | 20MHC160M | 3026672 | 25MHC160M | 3026685 | 32MHC160M | – | – | 1093526 | 75HC160M |

# HPS Beyond™ Drills for Aluminum Machining with MQL

## Primary Application

B284/B285_HPS series solid carbide drills offer the highest metal removal rates and longest tool life in aluminum and other non-ferrous materials when MQL is applied. These drills can also be used with standard through coolant.

By combining the HP-Point geometry and the new KN15™ Beyond grade with the new Kennametal polishing technology and unique flute design into one tool, the B28_HPS is the ultimate production tool for aluminum workpiece applications — even when compared to PCD solutions. This drill family is a differentiated high-end and high-performance alternative to commoditized conventional carbide or PCD straight-fluted drills.

## Features and Benefits

### HPS Drill-Point Design

- Sharp cutting edge enables higher tool life in aluminum and other non-ferrous materials.
- Low cutting forces and less built-up edge.
- HP-point enables high feed rates by progressive rake angle and excellent centering capabilities.

### Enlarged Flute Design

- Enables fast chip evacuation and high metal removal rates.

### KN15 Beyond Grade

- The highly polished surface ensures superior chip evacuation, even when MQL coolant is applied.
- Specified, uncoated 9% Co fine-grain carbide.

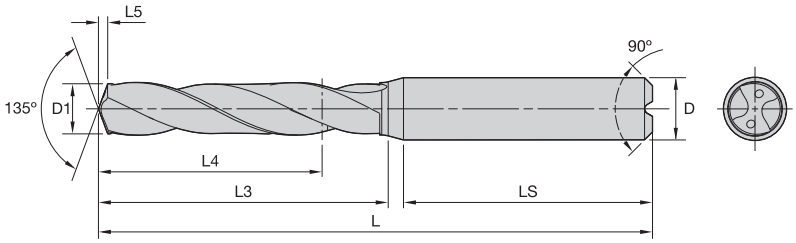
### “D” Shank Optimized for MQL Applications

- Enlarged chamfer on back end according to DIN 69090-3 (round cylindrical for MQL) to ensure optimum coolant flow without leakage.

# Much more cost-effective compared to PCD-tipped drills.

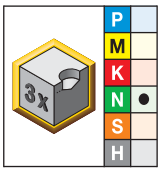
## Customization

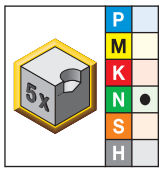
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as custom solutions.
- Using Kennametal MQL chucks together with standard B28_HPS is recommended.
- Optional coatings available for applications in aluminum with Si>9%, based on $TiB_2$ and DLC.

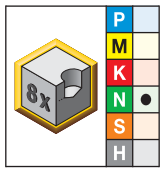


For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

## B284/B285/B286_HPS • ~3 x D/~5 x D/~8 x D



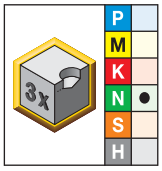



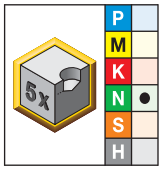

● first choice
○ alternate choice

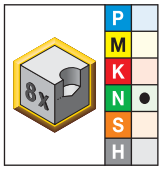
| short • KN15 | long • KN15 | extra long • KN15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B284D03000HPS | B285D03000HPS | B286D03000HPS | 3,000 | .1181 | – | – | 0,6 | 36 | 6 |
| B284D03100HPS | B285D03100HPS | B286D03100HPS | 3,100 | .1220 | – | – | 0,6 | 36 | 6 |
| B284D03175HPS | B285D03175HPS | B286D03175HPS | 3,175 | .1250 | 1/8 | – | 0,6 | 36 | 6 |
| B284D03200HPS | B285D03200HPS | B286D03200HPS | 3,200 | .1260 | – | – | 0,6 | 36 | 6 |
| B284D03264HPS | B285D03264HPS | B286D03264HPS | 3,264 | .1285 | – | 30 | 0,6 | 36 | 6 |
| B284D03300HPS | B285D03300HPS | B286D03300HPS | 3,300 | .1299 | – | – | 0,6 | 36 | 6 |
| B284D03455HPS | B285D03455HPS | B286D03455HPS | 3,455 | .1360 | – | 29 | 0,6 | 36 | 6 |
| B284D03500HPS | B285D03500HPS | B286D03500HPS | 3,500 | .1378 | – | – | 0,6 | 36 | 6 |
| B284D03571HPS | B285D03571HPS | B286D03571HPS | 3,571 | .1406 | 9/64 | – | 0,7 | 36 | 6 |
| B284D03700HPS | B285D03700HPS | B286D03700HPS | 3,700 | .1457 | – | – | 0,7 | 36 | 6 |
| B284D03734HPS | B285D03734HPS | B286D03734HPS | 3,734 | .1470 | – | 26 | 0,7 | 36 | 6 |
| B284D03900HPS | B285D03900HPS | B286D03900HPS | 3,900 | .1535 | – | – | 0,7 | 36 | 6 |
| B284D03970HPS | B285D03970HPS | B286D03970HPS | 3,970 | .1563 | 5/32 | – | 0,7 | 36 | 6 |
| B284D04000HPS | B285D04000HPS | B286D04000HPS | 4,000 | .1575 | – | – | 0,7 | 36 | 6 |
| B284D04039HPS | B285D04039HPS | B286D04039HPS | 4,039 | .1590 | – | 21 | 0,7 | 36 | 6 |
| B284D04100HPS | B285D04100HPS | B286D04100HPS | 4,100 | .1614 | – | – | 0,8 | 36 | 6 |
| B284D04200HPS | B285D04200HPS | B286D04200HPS | 4,200 | .1654 | – | – | 0,8 | 36 | 6 |
| B284D04305HPS | B285D04305HPS | B286D04305HPS | 4,305 | .1695 | – | 18 | 0,8 | 36 | 6 |
| B284D04366HPS | – | – | 4,366 | .1719 | 11/64 | – | 0,8 | 36 | 6 |
| B284D04400HPS | B285D04400HPS | B286D04400HPS | 4,400 | .1732 | – | – | 0,8 | 36 | 6 |
| B284D04500HPS | B285D04500HPS | B286D04500HPS | 4,500 | .1772 | – | – | 0,8 | 36 | 6 |
| B284D04600HPS | B285D04600HPS | B286D04600HPS | 4,600 | .1811 | – | – | 0,8 | 36 | 6 |
| B284D04700HPS | B285D04700HPS | B286D04700HPS | 4,700 | .1850 | – | 13 | 0,9 | 36 | 6 |
| B284D04763HPS | B285D04763HPS | B286D04763HPS | 4,763 | .1875 | 3/16 | – | 0,9 | 36 | 6 |
| B284D04800HPS | B285D04800HPS | B286D04800HPS | 4,800 | .1890 | – | 12 | 0,9 | 36 | 6 |
| B284D04900HPS | B285D04900HPS | B286D04900HPS | 4,900 | .1929 | – | – | 0,9 | 36 | 6 |
| B284D05000HPS | B285D05000HPS | B286D05000HPS | 5,000 | .1969 | – | – | 0,9 | 36 | 6 |
| B284D05100HPS | B285D05100HPS | B286D05100HPS | 5,100 | .2008 | – | – | 0,9 | 36 | 6 |
| B284D05106HPS | B285D05106HPS | B286D05106HPS | 5,106 | .2010 | – | 7 | 0,9 | 36 | 6 |
| B284D05159HPS | B285D05159HPS | B286D05159HPS | 5,159 | .2031 | 13/64 | – | 1,0 | 36 | 6 |
| B284D05200HPS | B285D05200HPS | B286D05200HPS | 5,200 | .2047 | – | – | 1,0 | 36 | 6 |
| B284D05300HPS | B285D05300HPS | B286D05300HPS | 5,300 | .2087 | – | – | 1,0 | 36 | 6 |
| B284D05400HPS | B285D05400HPS | B286D05400HPS | 5,400 | .2126 | – | – | 1,0 | 36 | 6 |
| B284D05410HPS | B285D05410HPS | B286D05410HPS | 5,410 | .2130 | – | 3 | 1,0 | 36 | 6 |
| B284D05500HPS | B285D05500HPS | B286D05500HPS | 5,500 | .2165 | – | – | 1,0 | 36 | 6 |
| B284D05558HPS | B285D05558HPS | B286D05558HPS | 5,558 | .2188 | 7/32 | – | 1,0 | 36 | 6 |

*(continued)*

*(B284/B285/B286_HPS • ~3 x D/~5 x D/~8 x D — continued)*



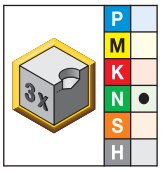



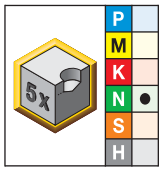

● first choice
○ alternate choice

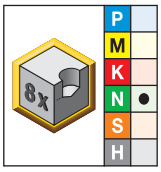
| short • KN15 | long • KN15 | extra long • KN15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B284D05600HPS | B285D05600HPS | B286D05600HPS | 5,600 | .2205 | – | – | 1,0 | 36 | 6 |
| B284D05791HPS | B285D05791HPS | B286D05791HPS | 5,791 | .2280 | – | 1 | 1,1 | 36 | 6 |
| B284D05800HPS | – | – | 5,800 | .2283 | – | – | 1,1 | 36 | 6 |
| B284D05954HPS | – | – | 5,954 | .2344 | 15/64 | – | 1,1 | 36 | 6 |
| B284D06000HPS | B285D06000HPS | B286D06000HPS | 6,000 | .2362 | – | – | 1,1 | 36 | 6 |
| B284D06200HPS | B285D06200HPS | B286D06200HPS | 6,200 | .2441 | – | – | 1,1 | 36 | 8 |
| B284D06300HPS | B285D06300HPS | B286D06300HPS | 6,300 | .2480 | – | – | 1,2 | 36 | 8 |
| B284D06350HPS | B285D06350HPS | B286D06350HPS | 6,350 | .2500 | 1/4 | – | 1,2 | 36 | 8 |
| B284D06400HPS | B285D06400HPS | B286D06400HPS | 6,400 | .2520 | – | – | 1,2 | 36 | 8 |
| B284D06500HPS | B285D06500HPS | B286D06500HPS | 6,500 | .2559 | – | – | 1,2 | 36 | 8 |
| B284D06528HPS | B285D06528HPS | B286D06528HPS | 6,528 | .2570 | – | – | 1,2 | 36 | 8 |
| B284D06600HPS | B285D06600HPS | B286D06600HPS | 6,600 | .2598 | – | – | 1,2 | 36 | 8 |
| B284D06630HPS | B285D06630HPS | B286D06630HPS | 6,630 | .2610 | – | – | 1,2 | 36 | 8 |
| B284D06700HPS | B285D06700HPS | B286D06700HPS | 6,700 | .2638 | – | – | 1,2 | 36 | 8 |
| B284D06746HPS | B285D06746HPS | B286D06746HPS | 6,746 | .2656 | 17/64 | – | 1,2 | 36 | 8 |
| B284D06800HPS | B285D06800HPS | B286D06800HPS | 6,800 | .2677 | – | – | 1,3 | 36 | 8 |
| B284D06900HPS | B285D06900HPS | B286D06900HPS | 6,900 | .2717 | – | – | 1,3 | 36 | 8 |
| B284D07000HPS | B285D07000HPS | B286D07000HPS | 7,000 | .2756 | – | – | 1,3 | 36 | 8 |
| B284D07145HPS | B285D07145HPS | B286D07145HPS | 7,145 | .2813 | 9/32 | – | 1,3 | 36 | 8 |
| B284D07300HPS | B285D07300HPS | B286D07300HPS | 7,300 | .2874 | – | – | 1,3 | 36 | 8 |
| B284D07400HPS | B285D07400HPS | B286D07400HPS | 7,400 | .2913 | – | – | 1,4 | 36 | 8 |
| B284D07500HPS | – | – | 7,500 | .2953 | – | – | 1,4 | 36 | 8 |
| B284D07541HPS | B285D07541HPS | B286D07541HPS | 7,541 | .2969 | 19/64 | – | 1,4 | 36 | 8 |
| B284D07600HPS | B285D07600HPS | B286D07600HPS | 7,600 | .2992 | – | – | 1,4 | 36 | 8 |
| B284D07700HPS | B285D07700HPS | B286D07700HPS | 7,700 | .3031 | – | – | 1,4 | 36 | 8 |
| – | B285D07800HPS | – | 7,800 | .3071 | – | – | 1,4 | 36 | 8 |
| B284D07938HPS | B285D07938HPS | B286D07938HPS | 7,938 | .3125 | 5/16 | – | 1,5 | 36 | 8 |
| B284D08000HPS | B285D08000HPS | B286D08000HPS | 8,000 | .3150 | – | – | 1,5 | 36 | 8 |
| B284D08334HPS | B285D08334HPS | B286D08334HPS | 8,334 | .3281 | 21/64 | – | 1,5 | 40 | 10 |
| B284D08400HPS | B285D08400HPS | B286D08400HPS | 8,400 | .3307 | – | – | 1,6 | 40 | 10 |
| B284D08433HPS | B285D08433HPS | B286D08433HPS | 8,433 | .3320 | – | – | 1,6 | 40 | 10 |
| B284D08500HPS | B285D08500HPS | B286D08500HPS | 8,500 | .3346 | – | – | 1,6 | 40 | 10 |
| B284D08700HPS | B285D08700HPS | B286D08700HPS | 8,700 | .3425 | – | – | 1,6 | 40 | 10 |
| B284D08733HPS | B285D08733HPS | B286D08733HPS | 8,733 | .3438 | 11/32 | – | 1,6 | 40 | 10 |
| B284D08800HPS | B285D08800HPS | B286D08800HPS | 8,800 | .3465 | – | – | 1,6 | 40 | 10 |
| B284D08900HPS | B285D08900HPS | B286D08900HPS | 8,900 | .3504 | – | – | 1,6 | 40 | 10 |
| B284D09000HPS | B285D09000HPS | B286D09000HPS | 9,000 | .3543 | – | – | 1,7 | 40 | 10 |
| B284D09100HPS | B285D09100HPS | B286D09100HPS | 9,100 | .3583 | – | – | 1,7 | 40 | 10 |
| B284D09129HPS | B285D09129HPS | B286D09129HPS | 9,129 | .3594 | 23/64 | – | 1,7 | 40 | 10 |
| B284D09300HPS | B285D09300HPS | B286D09300HPS | 9,300 | .3661 | – | – | 1,7 | 40 | 10 |
| B284D09400HPS | B285D09400HPS | B286D09400HPS | 9,400 | .3701 | – | – | 1,7 | 40 | 10 |
| B284D09500HPS | B285D09500HPS | B286D09500HPS | 9,500 | .3740 | – | – | 1,8 | 40 | 10 |
| B284D09525HPS | B285D09525HPS | B286D09525HPS | 9,525 | .3750 | 3/8 | – | 1,8 | 40 | 10 |
| B284D09900HPS | B285D09900HPS | B286D09900HPS | 9,900 | .3898 | – | – | 1,8 | 40 | 10 |
| B284D09921HPS | B285D09921HPS | B286D09921HPS | 9,921 | .3906 | 25/64 | – | 1,8 | 40 | 10 |
| B284D10000HPS | B285D10000HPS | B286D10000HPS | 10,000 | .3937 | – | – | 1,8 | 40 | 10 |
| B284D10100HPS | B285D10100HPS | B286D10100HPS | 10,100 | .3976 | – | – | 1,9 | 45 | 12 |
| B284D10200HPS | B285D10200HPS | B286D10200HPS | 10,200 | .4016 | – | – | 1,9 | 45 | 12 |
| B284D10300HPS | B285D10300HPS | B286D10300HPS | 10,300 | .4055 | – | – | 1,9 | 45 | 12 |
| B284D10320HPS | B285D10320HPS | B286D10320HPS | 10,320 | .4063 | 13/32 | – | 1,9 | 45 | 12 |
| B284D10500HPS | B285D10500HPS | B286D10500HPS | 10,500 | .4134 | – | – | 1,9 | 45 | 12 |
| B284D10600HPS | B285D10600HPS | B286D10600HPS | 10,600 | .4173 | – | – | 2,0 | 45 | 12 |

*(continued)*

*(B284/B285/B286_HPS • ~3 x D/~5 x D/~8 x D — continued)*




● first choice
○ alternate choice

| short • KN15 | long • KN15 | extra long • KN15 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B284D10716HPS | B285D10716HPS | B286D10716HPS | 10,716 | .4219 | 27/64 | — | 2,0 | 45 | 12 |
| B284D10800HPS | B285D10800HPS | B286D10800HPS | 10,800 | .4252 | — | — | 2,0 | 45 | 12 |
| B284D11000HPS | B285D11000HPS | B286D11000HPS | 11,000 | .4331 | — | — | 2,0 | 45 | 12 |
| B284D11100HPS | B285D11100HPS | B286D11100HPS | 11,100 | .4370 | — | — | 2,0 | 45 | 12 |
| B284D11113HPS | B285D11113HPS | B286D11113HPS | 11,113 | .4375 | 7/16 | — | 2,1 | 45 | 12 |
| B284D11200HPS | B285D11200HPS | B286D11200HPS | 11,200 | .4409 | — | — | 2,1 | 45 | 12 |
| B284D11300HPS | B285D11300HPS | B286D11300HPS | 11,300 | .4449 | — | — | 2,1 | 45 | 12 |
| B284D11400HPS | B285D11400HPS | B286D11400HPS | 11,400 | .4488 | — | — | 2,1 | 45 | 12 |
| B284D11500HPS | B285D11500HPS | B286D11500HPS | 11,500 | .4528 | — | — | 2,1 | 45 | 12 |
| B284D11509HPS | B285D11509HPS | B286D11509HPS | 11,509 | .4531 | 29/64 | — | 2,1 | 45 | 12 |
| B284D11800HPS | B285D11800HPS | B286D11800HPS | 11,800 | .4646 | — | — | 2,2 | 45 | 12 |
| B284D11908HPS | B285D11908HPS | B286D11908HPS | 11,908 | .4688 | 15/32 | — | 2,2 | 45 | 12 |
| B284D12000HPS | B285D12000HPS | B286D12000HPS | 12,000 | .4724 | — | — | 2,2 | 45 | 12 |
| B284D12304HPS | B285D12304HPS | B286D12304HPS | 12,304 | .4844 | 31/64 | — | 2,3 | 45 | 14 |
| B284D12500HPS | B285D12500HPS | B286D12500HPS | 12,500 | .4921 | — | — | 2,3 | 45 | 14 |
| B284D12600HPS | B285D12600HPS | B286D12600HPS | 12,600 | .4961 | — | — | 2,3 | 45 | 14 |
| B284D12700HPS | B285D12700HPS | B286D12700HPS | 12,700 | .5000 | 1/2 | — | 2,3 | 45 | 14 |
| B284D13000HPS | B285D13000HPS | B286D13000HPS | 13,000 | .5118 | — | — | 2,4 | 45 | 14 |
| B284D13096HPS | B285D13096HPS | B286D13096HPS | 13,096 | .5156 | 33/64 | — | 2,4 | 45 | 14 |
| B284D13100HPS | B285D13100HPS | B286D13100HPS | 13,100 | .5157 | — | — | 2,4 | 45 | 14 |
| B284D13300HPS | B285D13300HPS | B286D13300HPS | 13,300 | .5236 | — | — | 2,5 | 45 | 14 |
| B284D13400HPS | B285D13400HPS | B286D13400HPS | 13,400 | .5276 | — | — | 2,5 | 45 | 14 |
| B284D13500HPS | B285D13500HPS | B286D13500HPS | 13,500 | .5315 | — | — | 2,5 | 45 | 14 |
| B284D14000HPS | B285D14000HPS | B286D14000HPS | 14,000 | .5512 | — | — | 2,6 | 45 | 14 |
| B284D14200HPS | B285D14200HPS | B286D14200HPS | 14,200 | .5591 | — | — | 2,6 | 48 | 16 |
| B284D14288HPS | B285D14288HPS | B286D14288HPS | 14,288 | .5625 | 9/16 | — | 2,6 | 48 | 16 |
| B284D14500HPS | B285D14500HPS | B286D14500HPS | 14,500 | .5709 | — | — | 2,7 | 48 | 16 |
| B284D14684HPS | B285D14684HPS | B286D14684HPS | 14,684 | .5781 | 37/64 | — | 2,7 | 48 | 16 |
| B284D15000HPS | B285D15000HPS | B286D15000HPS | 15,000 | .5906 | — | — | 2,8 | 48 | 16 |
| B284D15083HPS | B285D15083HPS | B286D15083HPS | 15,083 | .5938 | 19/32 | — | 2,8 | 48 | 16 |
| B284D15100HPS | B285D15100HPS | B286D15100HPS | 15,100 | .5945 | — | — | 2,8 | 48 | 16 |
| B284D15300HPS | B285D15300HPS | B286D15300HPS | 15,300 | .6024 | — | — | 2,8 | 48 | 16 |
| B284D15400HPS | B285D15400HPS | B286D15400HPS | 15,400 | .6063 | — | — | 2,8 | 48 | 16 |
| B284D15875HPS | B285D15875HPS | B286D15875HPS | 15,875 | .6250 | 5/8 | — | 2,9 | 48 | 16 |
| B284D16000HPS | B285D16000HPS | B286D16000HPS | 16,000 | .6299 | — | — | 3,0 | 48 | 16 |
| B284D16500HPS | B285D16500HPS | B286D16500HPS | 16,500 | .6496 | — | — | 3,0 | 48 | 18 |
| B284D16670HPS | B285D16670HPS | B286D16670HPS | 16,670 | .6563 | 21/32 | — | 3,1 | 48 | 18 |
| B284D16800HPS | B285D16800HPS | B286D16800HPS | 16,800 | .6614 | — | — | 3,1 | 48 | 18 |
| B284D16900HPS | B285D16900HPS | B286D16900HPS | 16,900 | .6654 | — | — | 3,1 | 48 | 18 |
| B284D17000HPS | B285D17000HPS | B286D17000HPS | 17,000 | .6693 | — | — | 3,1 | 48 | 18 |
| B284D17300HPS | B285D17300HPS | B286D17300HPS | 17,300 | .6811 | — | — | 3,2 | 48 | 18 |
| B284D17463HPS | B285D17463HPS | B286D17463HPS | 17,463 | .6875 | 11/16 | — | 3,2 | 48 | 18 |
| B284D17500HPS | B285D17500HPS | B286D17500HPS | 17,500 | .6890 | — | — | 3,2 | 48 | 18 |
| B284D17859HPS | B285D17859HPS | B286D17859HPS | 17,859 | .7031 | 45/64 | — | 3,3 | 48 | 18 |
| B284D18000HPS | B285D18000HPS | B286D18000HPS | 18,000 | .7087 | — | — | 3,3 | 48 | 18 |
| B284D19000HPS | B285D19000HPS | B286D19000HPS | 19,000 | .7480 | — | — | 3,5 | 50 | 20 |
| B284D19050HPS | B285D19050HPS | B286D19050HPS | 19,050 | .7500 | 3/4 | — | 3,5 | 50 | 20 |
| B284D20000HPS | B285D20000HPS | B286D20000HPS | 20,000 | .7874 | — | — | 3,7 | 50 | 20 |

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## HP Drills • B28_HPS Series • Grade KN15™ • MQL and Through Coolant • Drill Diameters 3-20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1 | 120 | **230** | 450 | mm/r | 0,13–0,25 | 0,14–0,29 | 0,17–0,35 | 0,21–0,42 | 0,27–0,50 | 0,33–0,57 | 0,37–0,69 | 0,43–0,82 |
| | 2 | 120 | **220** | 350 | mm/r | 0,14–0,23 | 0,15–0,28 | 0,17–0,34 | 0,22–0,39 | 0,29–0,46 | 0,34–0,54 | 0,39–0,67 | 0,45–0,80 |
| | 3 | 100 | **180** | 400 | mm/r | 0,13–0,20 | 0,14–0,21 | 0,16–0,27 | 0,20–0,33 | 0,28–0,40 | 0,33–0,45 | 0,38–0,60 | 0,44–0,68 |
| | 4 | 100 | **130** | 300 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,26 | 0,16–0,30 | 0,18–0,34 | 0,20–0,38 | 0,24–0,42 | 0,28–0,46 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1 | 390 | **750** | **1480** | IPR | .005–.010 | .006–.011 | .007–.014 | .008–.017 | .011–.020 | .013–.022 | .015–.027 | .017–.032 |
| | 2 | 390 | **720** | **1150** | IPR | .006–.009 | .006–.011 | .007–.013 | .009–.015 | .011–.018 | .013–.021 | .015–.026 | .018–.032 |
| | 3 | 330 | **590** | **1310** | IPR | .005–.008 | .006–.008 | .006–.011 | .008–.013 | .011–.016 | .013–.018 | .015–.024 | .017–.027 |
| | 4 | 330 | **430** | **980** | IPR | .004–.007 | .005–.008 | .006–.010 | .006–.012 | .007–.013 | .008–.015 | .009–.017 | .011–.018 |

# Y-TECH™ Drills with Through Coolant for Difficult-to-Machine Materials

### Primary Application

The B29_YPL series solid carbide drills are specifically engineered to drill stainless steel, high-temp alloys, and difficult-to-machine materials.
Y-TECH drills deliver best-in-class hole quality and longest tool life in these difficult-to-machine workpiece materials.
Operate these drills with standard through coolant.

## Features and Benefits

### YPL Drill-Point Design

- Ensures good centering and chip formation.
- No jamming of chips and enables easy reconditioning.

### Uneven Flute-to-Flute Angle

- Unbalanced forces by design eliminate chipping on margin lands.

### Three-Margin Lands

- Reduce pendulum motion by directing forces towards third margin, which results in superior hole accuracy (cylindricity, constant diameter, hole straightness).

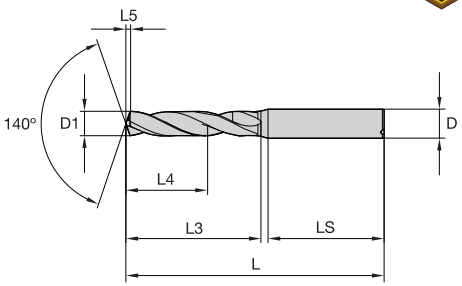
### KC7315™ Grade

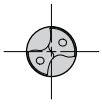
- A multilayer, TiAlN-based coating with high hot hardness enables higher cutting speeds and outstanding wear resistance.
- Optimized surface finish of the tool ensures chip evacuation in high-speed drilling applications.

# Y-TECH™ drills deliver best-in-class hole quality.

## Customization

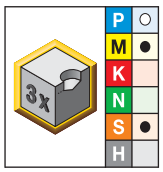
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- Using Kennametal slim line hydraulic chucks together with standard B29_YPL is recommended if workpiece contours need to be bypassed.

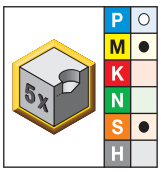


For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

## B291/B292_YPL • ~3 x D/~5 x D



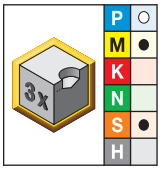

● first choice
○ alternate choice

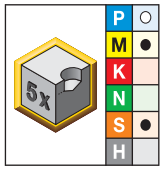
| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B291A03000YPL | B292A03000YPL | 3,000 | .1181 | – | – | 0,6 | 36 | 6 |
| B291A03100YPL | B292A03100YPL | 3,100 | .1220 | – | – | 0,6 | 36 | 6 |
| B291A03175YPL | B292A03175YPL | 3,175 | .1250 | 1/8 | – | 0,6 | 36 | 6 |
| B291A03200YPL | B292A03200YPL | 3,200 | .1260 | – | – | 0,6 | 36 | 6 |
| B291A03300YPL | B292A03300YPL | 3,300 | .1299 | – | – | 0,7 | 36 | 6 |
| B291A03400YPL | B292A03400YPL | 3,400 | .1339 | – | – | 0,7 | 36 | 6 |
| B291A03454YPL | – | 3,454 | .1360 | – | 29 | 0,7 | 36 | 6 |
| B291A03500YPL | B292A03500YPL | 3,500 | .1378 | – | – | 0,7 | 36 | 6 |
| B291A03600YPL | B292A03600YPL | 3,600 | .1417 | – | – | 0,7 | 36 | 6 |
| B291A03700YPL | B292A03700YPL | 3,700 | .1457 | – | – | 0,7 | 36 | 6 |
| B291A03800YPL | B292A03800YPL | 3,800 | .1496 | – | – | 0,8 | 36 | 6 |
| B291A03900YPL | B292A03900YPL * | 3,900 | .1535 | – | – | 0,8 | 36 | 6 |
| B291A03970YPL | B292A03970YPL | 3,970 | .1563 | 5/32 | – | 0,8 | 36 | 6 |
| B291A04000YPL | B292A04000YPL | 4,000 | .1575 | – | – | 0,8 | 36 | 6 |
| B291A04100YPL | B292A04100YPL | 4,100 | .1614 | – | – | 0,8 | 36 | 6 |
| – | B292A04200YPL | 4,200 | .1654 | – | – | 0,8 | 36 | 6 |
| B291A04300YPL | B292A04300YPL | 4,300 | .1693 | – | – | 0,8 | 36 | 6 |
| B291A04400YPL | – | 4,400 | .1732 | – | – | 0,9 | 36 | 6 |
| B291A04500YPL | B292A04500YPL | 4,500 | .1772 | – | – | 0,9 | 36 | 6 |
| – | B292A04700YPL | 4,700 | .1850 | – | 13 | 0,9 | 36 | 6 |
| B291A04763YPL | B292A04763YPL | 4,763 | .1875 | 3/16 | – | 0,9 | 36 | 6 |
| B291A04800YPL | B292A04800YPL | 4,800 | .1890 | – | 12 | 0,9 | 36 | 6 |
| B291A04851YPL | B292A04851YPL | 4,851 | .1910 | – | 11 | 0,9 | 36 | 6 |
| B291A04900YPL | – | 4,900 | .1929 | – | – | 0,9 | 36 | 6 |
| B291A04915YPL | B292A04915YPL | 4,915 | .1935 | – | 10 | 1,0 | 36 | 6 |
| B291A05000YPL | B292A05000YPL | 5,000 | .1969 | – | – | 1,0 | 36 | 6 |
| B291A05100YPL | B292A05100YPL | 5,100 | .2008 | – | – | 1,0 | 36 | 6 |
| B291A05200YPL | B292A05200YPL | 5,200 | .2047 | – | – | 1,0 | 36 | 6 |
| B291A05410YPL | B292A05410YPL | 5,410 | .2130 | – | 3 | 1,1 | 36 | 6 |
| B291A05500YPL | B292A05500YPL | 5,500 | .2165 | – | – | 1,1 | 36 | 6 |
| – | B292A05558YPL | 5,558 | .2188 | 7/32 | – | 1,1 | 36 | 6 |
| B291A05600YPL | B292A05600YPL | 5,600 | .2205 | – | – | 1,1 | 36 | 6 |
| – | B292A05800YPL | 5,800 | .2283 | – | – | 1,1 | 36 | 6 |
| B291A05900YPL | – | 5,900 | .2323 | – | – | 1,1 | 36 | 6 |
| B291A06000YPL | B292A06000YPL | 6,000 | .2362 | – | – | 1,2 | 36 | 6 |
| B291A06200YPL | B292A06200YPL | 6,200 | .2441 | – | – | 1,2 | 36 | 8 |

*(continued)*

*(B291/B292_YPL • ~3 x D/~5 x D — continued)*





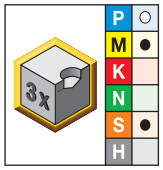



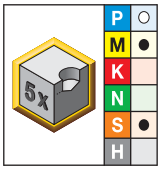

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B291A06350YPL | B292A06350YPL | 6,350 | .2500 | 1/4 | – | 1,2 | 36 | 8 |
| B291A06500YPL | B292A06500YPL | 6,500 | .2559 | – | – | 1,3 | 36 | 8 |
| – | B292A06528YPL | 6,528 | .2570 | – | – | 1,3 | 36 | 8 |
| – | B292A06600YPL | 6,600 | .2598 | – | – | 1,3 | 36 | 8 |
| – | B292A06746YPL | 6,746 | .2656 | 17/64 | – | 1,3 | 36 | 8 |
| B291A06747YPL | – | 6,747 | .2656 | 17/64 | – | 1,3 | 36 | 8 |
| B291A06800YPL | B292A06800YPL | 6,800 | .2677 | – | – | 1,3 | 36 | 8 |
| – | B292A06900YPL | 6,900 | .2717 | – | – | 1,3 | 36 | 8 |
| B291A07000YPL | B292A07000YPL | 7,000 | .2756 | – | – | 1,4 | 36 | 8 |
| – | B292A07100YPL | 7,100 | .2795 | – | – | 1,4 | 36 | 8 |
| B291A07144YPL | – | 7,144 | .2813 | 9/32 | – | 1,4 | 36 | 8 |
| – | B292A07145YPL | 7,145 | .2813 | 9/32 | – | 1,4 | 36 | 8 |
| B291A07200YPL | B292A07200YPL | 7,200 | .2835 | – | – | 1,4 | 36 | 8 |
| – | B292A07400YPL | 7,400 | .2913 | – | – | 1,4 | 36 | 8 |
| B291A07500YPL | B292A07500YPL * | 7,500 | .2953 | – | – | 1,4 | 36 | 8 |
| – | B292A07600YPL | 7,600 | .2992 | – | – | 1,5 | 36 | 8 |
| – | B292A07900YPL | 7,900 | .3110 | – | – | 1,5 | 36 | 8 |
| B291A07938YPL | B292A07938YPL | 7,938 | .3125 | 5/16 | – | 1,5 | 36 | 8 |
| B291A08000YPL | B292A08000YPL | 8,000 | .3150 | – | – | 1,5 | 36 | 8 |
| – | B292A08100YPL | 8,100 | .3189 | – | – | 1,6 | 40 | 10 |
| – | B292A08200YPL | 8,200 | .3228 | – | – | 1,6 | 40 | 10 |
| B291A08334YPL | B292A08334YPL * | 8,334 | .3281 | 21/64 | – | 1,6 | 40 | 10 |
| – | B292A08433YPL | 8,433 | .3320 | – | – | 1,6 | 40 | 10 |
| B291A08500YPL | B292A08500YPL | 8,500 | .3346 | – | – | 1,6 | 40 | 10 |
| B291A08600YPL | B292A08600YPL | 8,600 | .3386 | – | – | 1,7 | 40 | 10 |
| B291A08733YPL | B292A08733YPL | 8,733 | .3438 | 11/32 | – | 1,7 | 40 | 10 |
| B291A08800YPL | B292A08800YPL | 8,800 | .3465 | – | – | 1,7 | 40 | 10 |
| B291A08900YPL * | B292A08900YPL | 8,900 | .3504 | – | – | 1,7 | 40 | 10 |
| B291A09000YPL | B292A09000YPL | 9,000 | .3543 | – | – | 1,7 | 40 | 10 |
| B291A09129YPL | – | 9,129 | .3594 | 23/64 | – | 1,8 | 40 | 10 |
| – | B292A09130YPL | 9,130 | .3594 | 23/64 | – | 1,8 | 40 | 10 |
| – | B292A09200YPL | 9,200 | .3622 | – | – | 1,8 | 40 | 10 |
| B291A09300YPL | – | 9,300 | .3661 | – | – | 1,8 | 40 | 10 |
| – | B292A09347YPL | 9,347 | .3680 | – | – | 1,8 | 40 | 10 |
| B291A09500YPL | B292A09500YPL | 9,500 | .3740 | – | – | 1,8 | 40 | 10 |
| B291A09525YPL | B292A09525YPL | 9,525 | .3750 | 3/8 | – | 1,8 | 40 | 10 |
| – | B292A09600YPL | 9,600 | .3780 | – | – | 1,8 | 40 | 10 |
| B291A09700YPL | B292A09700YPL | 9,700 | .3819 | – | – | 1,9 | 40 | 10 |
| B291A09800YPL | B292A09800YPL | 9,800 | .3858 | – | – | 1,9 | 40 | 10 |
| B291A10000YPL | B292A10000YPL | 10,000 | .3937 | – | – | 1,9 | 40 | 10 |
| – | B292A10100YPL | 10,100 | .3976 | – | – | 1,9 | 45 | 12 |
| B291A10200YPL | B292A10200YPL | 10,200 | .4016 | – | – | 2,0 | 45 | 12 |
| B291A10320YPL | B292A10320YPL | 10,320 | .4063 | 13/32 | – | 2,0 | 45 | 12 |
| B291A10500YPL | B292A10500YPL | 10,500 | .4134 | – | – | 2,0 | 45 | 12 |
| B291A10716YPL | B292A10716YPL | 10,716 | .4219 | 27/64 | – | 2,0 | 45 | 12 |
| B291A11000YPL | B292A11000YPL | 11,000 | .4331 | – | – | 2,1 | 45 | 12 |
| – | B292A11112YPL | 11,112 | .4375 | 7/16 | – | 2,1 | 45 | 12 |
| B291A11113YPL | – | 11,113 | .4375 | 7/16 | – | 2,1 | 45 | 12 |
| B291A11500YPL | B292A11500YPL * | 11,500 | .4528 | – | – | 2,2 | 45 | 12 |
| B291A11509YPL | B292A11509YPL | 11,509 | .4531 | 29/64 | – | 2,2 | 45 | 12 |
| B291A11800YPL | – | 11,800 | .4646 | – | – | 2,2 | 45 | 12 |
| B291A11908YPL | B292A11908YPL | 11,908 | .4688 | 15/32 | – | 2,3 | 45 | 12 |

*(continued)*

*(B291/B292_YPL • ~3 x D/~5 x D — continued)*




● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B291A12000YPL | B292A12000YPL | 12,000 | .4724 | – | – | 2,3 | 45 | 12 |
| B291A12300YPL | – | 12,300 | .4843 | – | – | 2,3 | 45 | 14 |
| – | B292A12304YPL | 12,304 | .4844 | 31/64 | – | 2,3 | 45 | 14 |
| B291A12500YPL | B292A12500YPL | 12,500 | .4921 | – | – | 2,4 | 45 | 14 |
| B291A12700YPL | B292A12700YPL | 12,700 | .5000 | 1/2 | – | 2,4 | 45 | 14 |
| B291A12900YPL | – | 12,900 | .5079 | – | – | 2,5 | 45 | 14 |
| B291A13000YPL | B292A13000YPL | 13,000 | .5118 | – | – | 2,5 | 45 | 14 |
| – | B292A13500YPL | 13,500 | .5315 | – | – | 2,6 | 45 | 14 |
| B291A13800YPL | – | 13,800 | .5433 | – | – | 2,6 | 45 | 14 |
| – | B292A13900YPL * | 13,900 | .5472 | – | – | 2,6 | 45 | 14 |
| B291A14000YPL | B292A14000YPL | 14,000 | .5512 | – | – | 2,7 | 45 | 14 |
| – | B292A14200YPL * | 14,200 | .5591 | – | – | 2,7 | 48 | 16 |
| B291A14288YPL | B292A14288YPL | 14,288 | .5625 | 9/16 | – | 2,7 | 48 | 16 |
| B291A14500YPL | B292A14500YPL | 14,500 | .5709 | – | – | 2,8 | 48 | 16 |
| B291A15000YPL | B292A15000YPL | 15,000 | .5906 | – | – | 2,8 | 48 | 16 |
| – | B292A15500YPL | 15,500 | .6102 | – | – | 2,9 | 48 | 16 |
| – | B292A15600YPL | 15,600 | .6142 | – | – | 3,0 | 48 | 16 |
| B291A15800YPL | – | 15,800 | .6220 | – | – | 3,0 | 48 | 16 |
| B291A15875YPL | B292A15875YPL | 15,875 | .6250 | 5/8 | – | 3,0 | 48 | 16 |
| B291A16000YPL | B292A16000YPL * | 16,000 | .6299 | – | – | 3,0 | 48 | 16 |
| B291A16100YPL * | – | 16,100 | .6339 | – | – | 3,1 | 48 | 18 |
| – | B292A16500YPL * | 16,500 | .6496 | – | – | 3,1 | 48 | 18 |
| B291A17000YPL | B292A17000YPL * | 17,000 | .6693 | – | – | 3,2 | 48 | 18 |
| B291A17463YPL | B292A17463YPL | 17,463 | .6875 | 11/16 | – | 3,3 | 48 | 18 |
| B291A17500YPL * | B292A17500YPL * | 17,500 | .6890 | – | – | 3,3 | 48 | 18 |
| B291A17900YPL * | – | 17,900 | .7047 | – | – | 3,4 | 48 | 18 |
| B291A18000YPL | B292A18000YPL * | 18,000 | .7087 | – | – | 3,4 | 48 | 18 |
| – | B292A18500YPL * | 18,500 | .7283 | – | – | 3,5 | 50 | 20 |
| – | B292A19000YPL * | 19,000 | .7480 | – | – | 3,6 | 50 | 20 |
| B291A19050YPL * | B292A19050YPL | 19,050 | .7500 | 3/4 | – | 3,6 | 50 | 20 |
| B291A19800YPL | – | 19,800 | .7795 | – | – | 3,7 | 50 | 20 |
| – | B292A20000YPL | 20,000 | .7874 | – | – | 3,8 | 50 | 20 |
| – | B292A20500YPL * | 20,500 | .8071 | – | – | 3,9 | 50 | 20 |
| – | B292A21000YPL * | 21,000 | .8268 | – | – | 4,0 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## Y-TECH™ Drill • B29_YPL Series • Grade KC7315™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 5 | 45 | **65** | 80 | mm/r | | 0,04–0,08 | 0,06–0,09 | 0,07–0,12 | 0,09–0,16 | 0,11–0,19 | 0,13–0,21 | 0,15–0,26 | 0,18–0,30 |
| | 6 | 50 | **60** | 90 | mm/r | | 0,04–0,06 | 0,04–0,07 | 0,06–0,10 | 0,10–0,15 | 0,09–0,16 | 0,11–0,20 | 0,13–0,24 | 0,16–0,28 |
| M | 1 | 40 | **50** | 60 | mm/r | | 0,07–0,11 | 0,08–0,12 | 0,13–0,17 | 0,14–0,21 | 0,14–0,21 | 0,17–0,23 | 0,19–0,25 | 0,22–0,27 |
| | 2 | 40 | **50** | 80 | mm/r | | 0,07–0,11 | 0,07–0,12 | 0,08–0,17 | 0,13–0,21 | 0,14–0,22 | 0,17–0,23 | 0,19–0,25 | 0,22–0,27 |
| | 3 | 40 | **50** | 70 | mm/r | | 0,04–0,06 | 0,04–0,07 | 0,04–0,07 | 0,05–0,08 | 0,06–0,09 | 0,06–0,10 | 0,06–0,10 | 0,07–0,11 |
| S | 1 | 15 | **20** | 30 | mm/r | | 0,06–0,08 | 0,06–0,08 | 0,07–0,10 | 0,10–0,13 | 0,11–0,14 | 0,12–0,16 | 0,14–0,19 | 0,17–0,22 |
| | 2 | 20 | **20** | 30 | mm/r | | 0,05–0,07 | 0,05–0,07 | 0,06–0,08 | 0,08–0,11 | 0,09–0,12 | 0,10–0,13 | 0,12–0,16 | 0,14–0,18 |
| | 3 | 25 | **30** | 50 | mm/r | | 0,03–0,05 | 0,03–0,05 | 0,04–0,08 | 0,05–0,10 | 0,05–0,10 | 0,05–0,10 | 0,07–0,11 | 0,08–0,12 |
| | 4 | 30 | **30** | 50 | mm/r | | 0,03–0,05 | 0,03–0,05 | 0,04–0,08 | 0,05–0,10 | 0,05–0,10 | 0,05–0,10 | 0,07–0,11 | 0,08–0,12 |
| H | 1 | 10 | **20** | 30 | mm/r | | 0,01–0,03 | 0,02–0,03 | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 5 | 150 | **210** | 260 | IPR | | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.008 | .005–.008 | .006–.010 | .007–.012 |
| | 6 | 160 | **200** | 300 | IPR | | .002–.002 | .002–.003 | .002–.004 | .004–.006 | .004–.006 | .004–.008 | .005–.009 | .006–.011 |
| M | 1 | 130 | **160** | 200 | IPR | | .003–.004 | .003–.005 | .005–.007 | .006–.008 | .006–.008 | .007–.009 | .008–.010 | .009–.011 |
| | 2 | 130 | **160** | 260 | IPR | | .003–.004 | .003–.005 | .003–.007 | .005–.008 | .006–.009 | .007–.009 | .008–.010 | .009–.011 |
| | 3 | 130 | **160** | 230 | IPR | | .002–.002 | .002–.003 | .002–.003 | .002–.003 | .002–.004 | .002–.004 | .002–.004 | .003–.004 |
| S | 1 | 50 | **70** | 100 | IPR | | .002–.003 | .002–.003 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.008 | .007–.009 |
| | 2 | 70 | **70** | 100 | IPR | | .002–.003 | .002–.003 | .002–.003 | .003–.004 | .004–.005 | .004–.005 | .005–.006 | .006–.007 |
| | 3 | 80 | **100** | 160 | IPR | | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .002–.004 | .003–.004 | .003–.005 |
| | 4 | 100 | **100** | 160 | IPR | | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .002–.004 | .003–.004 | .003–.005 |
| H | 1 | 30 | **70** | 100 | IPR | | .000–.001 | .001–.001 | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .003–.004 |

# TX Drills with Through Coolant for Close Tolerance Holes

### Primary Application

B411 solid carbide drills have an X-shaped, free-cutting 130° point design and are designed for gray cast iron, nodular iron, and non-ferrous and aluminum alloy materials. Best suited for high-quality, close tolerance holes that require a very good surface finish.

## Features and Benefits

### Two Cutting Edges with Straight Flutes

- Precise shape of the hole even if used as platform for complex step drills.
- Can run into cored holes.

### X-Shaped Drill Point

- Excellent centering capabilities.

### Four-Margin Land Design

- Second set of cutting margin lands improves the surface quality.
- Achieve tight diameter tolerances.
- Can run through cross holes and exit on inclined surfaces.

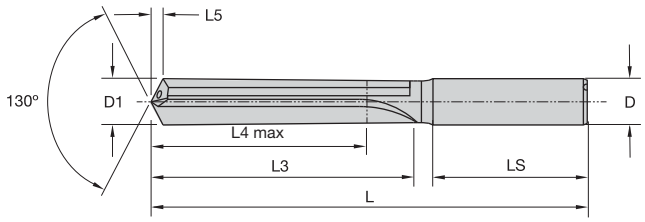
### Wear-Resistant Carbide KF1 Grade

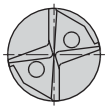
- Long tool life in abrasive materials, such as cast iron and aluminum die cast alloys.
- The uncoated grade KF1 helps to prevent built-up edge in drilling aluminum.

# Best suited for high-quality, close tolerance holes that require a very good surface finish.

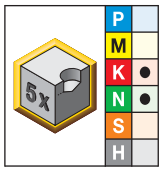
## Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- Coated grades available for other material applications, such as cast iron.



## B411 • ~5 x D



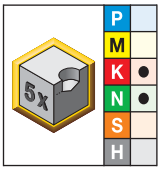

● first choice
○ alternate choice

| KF1 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B411A03200** | 3,200 | .1260 | – | – | 66 | 28 | 23 | 0,7 | 36 | 6 |
| **B411A03300** | 3,300 | .1299 | – | – | 66 | 28 | 23 | 0,8 | 36 | 6 |
| **B411A03800** | 3,800 | .1496 | – | – | 74 | 36 | 29 | 0,9 | 36 | 6 |
| **B411A04000** | 4,000 | .1575 | – | – | 74 | 36 | 29 | 0,9 | 36 | 6 |
| **B411A04200** | 4,200 | .1654 | – | – | 74 | 36 | 29 | 1,0 | 36 | 6 |
| **B411A04500** | 4,500 | .1772 | – | – | 74 | 36 | 29 | 1,0 | 36 | 6 |
| **B411A04600** | 4,600 | .1811 | – | – | 74 | 36 | 29 | 1,1 | 36 | 6 |
| **B411A04650** | 4,650 | .1831 | – | – | 74 | 36 | 29 | 1,1 | 36 | 6 |
| **B411A04800** | 4,800 | .1890 | – | 12 | 82 | 44 | 35 | 1,1 | 36 | 6 |
| **B411A04900** | 4,900 | .1929 | – | – | 82 | 44 | 35 | 1,1 | 36 | 6 |
| **B411A05000** | 5,000 | .1969 | – | – | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B411A05100** | 5,100 | .2008 | – | – | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B411A05200** | 5,200 | .2047 | – | – | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B411A05500** | 5,500 | .2165 | – | – | 82 | 44 | 35 | 1,3 | 36 | 6 |
| **B411A05550** | 5,550 | .2185 | – | – | 82 | 44 | 35 | 1,3 | 36 | 6 |
| **B411A05600** | 5,600 | .2205 | – | – | 82 | 44 | 35 | 1,2 | 36 | 6 |
| **B411A05800** | 5,800 | .2283 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B411A06000** | 6,000 | .2362 | – | – | 82 | 44 | 35 | 1,4 | 36 | 6 |
| **B411A06100** | 6,100 | .2402 | – | – | 91 | 53 | 43 | 1,3 | 36 | 8 |
| **B411A06300** | 6,300 | .2480 | – | – | 91 | 53 | 43 | 1,5 | 36 | 8 |
| **B411A06400** | 6,400 | .2520 | – | – | 91 | 53 | 43 | 1,5 | 36 | 8 |
| **B411A06500** | 6,500 | .2559 | – | – | 91 | 53 | 43 | 1,5 | 36 | 8 |
| **B411A06600** | 6,600 | .2598 | – | – | 91 | 53 | 43 | 1,5 | 36 | 8 |
| **B411A06800** | 6,800 | .2677 | – | – | 91 | 53 | 43 | 1,6 | 36 | 8 |
| **B411A07000** | 7,000 | .2756 | – | – | 91 | 53 | 43 | 1,6 | 36 | 8 |
| **B411A07400** | 7,400 | .2913 | – | – | 91 | 53 | 43 | 1,7 | 36 | 8 |
| **B411A07500** | 7,500 | .2953 | – | – | 91 | 53 | 43 | 1,7 | 36 | 8 |
| **B411A07700** * | 7,700 | .3031 | – | – | 91 | 53 | 43 | 1,7 | 36 | 8 |
| **B411A07800** | 7,800 | .3071 | – | – | 91 | 53 | 43 | 1,8 | 36 | 8 |
| **B411A08000** | 8,000 | .3150 | – | – | 91 | 53 | 43 | 1,9 | 36 | 8 |
| **B411A08400** | 8,400 | .3307 | – | – | 103 | 61 | 49 | 2,0 | 40 | 10 |
| **B411A08500** | 8,500 | .3346 | – | – | 103 | 61 | 49 | 2,0 | 40 | 10 |

*(continued)*

*(B411 • ~5 x D — continued)*






● first choice
○ alternate choice

| KF1 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B411A08700** | 8,700 | .3425 | — | — | 103 | 61 | 49 | 1,9 | 40 | 10 |
| **B411A08800** | 8,800 | .3465 | — | — | 103 | 61 | 49 | 1,9 | 40 | 10 |
| **B411A09000** | 9,000 | .3543 | — | — | 103 | 61 | 49 | 2,1 | 40 | 10 |
| **B411A09300** | 9,300 | .3661 | — | — | 103 | 61 | 49 | 2,2 | 40 | 10 |
| **B411A09500** | 9,500 | .3740 | — | — | 103 | 61 | 49 | 2,2 | 40 | 10 |
| **B411A09800** | 9,800 | .3858 | — | — | 103 | 61 | 49 | 2,3 | 40 | 10 |
| **B411A10000** | 10,000 | .3937 | — | — | 103 | 61 | 49 | 2,3 | 40 | 10 |
| **B411A10200** | 10,200 | .4016 | — | — | 118 | 71 | 56 | 2,4 | 45 | 12 |
| **B411A10500** | 10,500 | .4134 | — | — | 118 | 71 | 56 | 2,4 | 45 | 12 |
| **B411A11000** | 11,000 | .4331 | — | — | 118 | 71 | 56 | 2,6 | 45 | 12 |
| **B411A11200** | 11,200 | .4409 | — | — | 118 | 71 | 56 | 2,6 | 45 | 12 |
| **B411A11500** | 11,500 | .4528 | — | — | 118 | 71 | 56 | 2,7 | 45 | 12 |
| **B411A11800** | 11,800 | .4646 | — | — | 118 | 71 | 56 | 2,8 | 45 | 12 |
| **B411A12000** | 12,000 | .4724 | — | — | 118 | 71 | 56 | 2,8 | 45 | 12 |
| **B411A12500** | 12,500 | .4921 | — | — | 124 | 77 | 60 | 2,9 | 45 | 14 |
| **B411A13000** | 13,000 | .5118 | — | — | 124 | 77 | 60 | 3,0 | 45 | 14 |
| **B411A13500** | 13,500 | .5315 | — | — | 124 | 77 | 60 | 3,1 | 45 | 14 |
| **B411A13800** | 13,800 | .5433 | — | — | 124 | 77 | 60 | 3,2 | 45 | 14 |
| **B411A14000** | 14,000 | .5512 | — | — | 124 | 77 | 60 | 3,3 | 45 | 14 |
| **B411A14500** | 14,500 | .5709 | — | — | 133 | 83 | 63 | 3,4 | 48 | 16 |
| **B411A15000** | 15,000 | .5906 | — | — | 133 | 83 | 63 | 3,5 | 48 | 16 |
| **B411A15500** | 15,500 | .6102 | — | — | 133 | 83 | 63 | 3,6 | 48 | 16 |
| **B411A16000** | 16,000 | .6299 | — | — | 133 | 83 | 63 | 3,7 | 48 | 16 |
| **B411A16500** | 16,500 | .6496 | — | — | 143 | 93 | 71 | 3,8 | 48 | 18 |
| **B411A17000** | 17,000 | .6693 | — | — | 143 | 93 | 71 | 4,0 | 48 | 18 |
| **B411A17500** | 17,500 | .6890 | — | — | 143 | 93 | 71 | 4,1 | 48 | 18 |
| **B411A18000** | 18,000 | .7087 | — | — | 143 | 93 | 71 | 4,2 | 48 | 18 |
| **B411A19000** | 19,000 | .7480 | — | — | 153 | 101 | 77 | 4,4 | 50 | 20 |
| **B411A19500** | 19,500 | .7677 | — | — | 153 | 101 | 77 | 4,5 | 50 | 20 |
| **B411A20000** | 20,000 | .7874 | — | — | 153 | 101 | 77 | 4,7 | 50 | 20 |
| **B411A21000** | 21,000 | .8268 | — | — | 167 | 114 | 85 | 4,9 | 50 | 20 |
| **B411A22000** | 22,000 | .8661 | — | — | 167 | 114 | 85 | 5,1 | 50 | 20 |
| **B411A23000** | 23,000 | .9055 | — | — | 184 | 126 | 98 | 5,4 | 56 | 25 |
| **B411A24000** | 24,000 | .9449 | — | — | 184 | 126 | 98 | 5,6 | 56 | 25 |
| **B411A25000** | 25,000 | .9843 | — | — | 184 | 126 | 98 | 5,8 | 56 | 25 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance k6 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,001/0,009 | 0,000/-0,008 |
| >6–10 | 0,001/0,010 | 0,000/-0,009 |
| >10–18 | 0,001/0,012 | 0,000/-0,011 |
| >18–25,4 | 0,002/0,015 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance k6 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0000/.0004 | .0000/-.0003 |
| >.2362–.3937 | .0000/.0004 | .0000/-.0004 |
| >.3937–.7087 | .0000/.0005 | .0000/-.0004 |
| >.7087–1.0000 | .0000/.0006 | .0000/-.0005 |

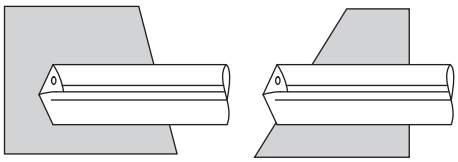
## TX Drills • B411 Series • Grade KF1 • Through Coolant • Drill Diameters 3–25mm (.1181–.9843")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 | 25,4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 1 | 115 | **120** | 140 | mm/r | 0,11–0,20 | 0,12–0,24 | 0,15–0,28 | 0,18–0,33 | 0,20–0,38 | 0,23–0,44 | 0,30–0,53 | 0,34–0,65 | 0,40–0,76 |
| N | 1 | 100 | **250** | 450 | mm/r | 0,12–0,25 | 0,13–0,29 | 0,16–0,35 | 0,20–0,42 | 0,26–0,50 | 0,32–0,57 | 0,36–0,69 | 0,42–0,82 | 0,59–0,96 |
| | 2 | 200 | **250** | 300 | mm/r | 0,13–0,21 | 0,14–0,26 | 0,16–0,32 | 0,20–0,37 | 0,27–0,44 | 0,32–0,52 | 0,38–0,64 | 0,44–0,78 | 0,60–0,96 |
| | 3 | 100 | **150** | 300 | mm/r | 0,11–0,18 | 0,12–0,20 | 0,15–0,24 | 0,18–0,30 | 0,20–0,38 | 0,23–0,44 | 0,30–0,53 | 0,34–0,65 | 0,40–0,76 |
| | 4 | 100 | **170** | 250 | mm/r | 0,10–0,16 | 0,12–0,20 | 0,14–0,26 | 0,16–0,28 | 0,18–0,32 | 0,20–0,36 | 0,22–0,40 | 0,24–0,44 | 0,28–0,50 |

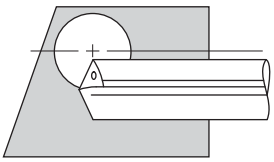
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 | 1/1 1.000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 1 | 380 | **390** | 460 | IPR | .004–.008 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.017 | .012–.021 | .013–.026 | .016–.030 |
| N | 1 | 330 | **820** | 1480 | IPR | .005–.010 | .005–.011 | .006–.014 | .008–.017 | .010–.020 | .013–.022 | .014–.027 | .017–.032 | .023–.038 |
| | 2 | 660 | **820** | 980 | IPR | .005–.008 | .006–.010 | .006–.013 | .008–.015 | .011–.017 | .013–.021 | .015–.025 | .017–.031 | .024–.038 |
| | 3 | 330 | **490** | 980 | IPR | .004–.007 | .005–.008 | .006–.009 | .007–.012 | .008–.015 | .009–.017 | .012–.021 | .013–.026 | .016–.030 |
| | 4 | 330 | **560** | 820 | IPR | .004–.006 | .005–.008 | .006–.010 | .006–.011 | .007–.013 | .008–.014 | .009–.016 | .009–.017 | .011–.020 |

## TX Drill Applications

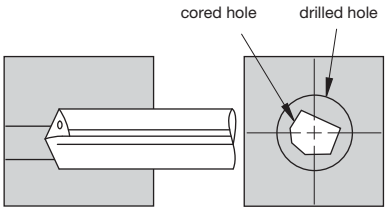
The excellent stability of the TX drill enables it to be used for drilling through inclined planes, intersecting holes, and cored holes:



inclined planes



intersecting holes




cored holes

# Mobile App

**The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.**

## FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

## MACHINING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

## ORDERING

Login using your Konnect credentials to complete a purchase.

## WHERE TO FIND IT

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ANDROID APP ON Google play

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# SPF Drills for CFRP Composite Materials

## Primary Application

B53_SPF series solid carbide drills offer a material-specific design and grade to machine carbon fiber-reinforced polymer (CFRP) composite materials by minimizing delamination and increasing tool life.

## Features and Benefits

### SPF Drill-Point Design

- Special 90° point angle increases centering capability.
- Low thrust and improved hole quality.

### Unique Geometry

- Combination of point design, substrate, and coating provides longer tool life and requires substantially less cutting force.

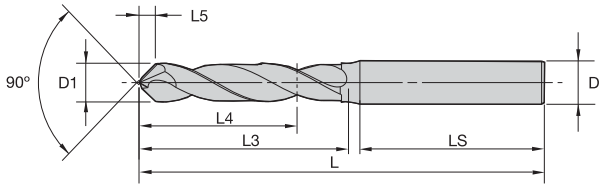
### KDF400™ Grade

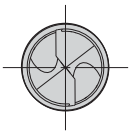
- CVD multilayer diamond coating provides more wear resistance and reduced friction, increasing tool life and improving chip flow.

# Designed to machine carbon fiber-reinforced polymers.

## Customization

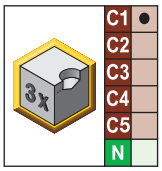
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.

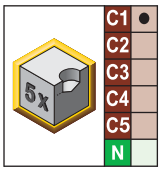


For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

## B531/B532_SPF • ~3 x D/~5 x D




● first choice
○ alternate choice

| short • KDF400 | long • KDF400 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B531A03200SPF | B532A03200SPF * | 3,200 | .1260 | – | – | 1,5 | 36 | 6 |
| B531A03300SPF | B532A03300SPF * | 3,300 | .1299 | – | – | 1,5 | 36 | 6 |
| B531A03600SPF | B532A03600SPF * | 3,600 | .1417 | – | – | 1,6 | 36 | 6 |
| B531A04000SPF | – | 4,000 | .1575 | – | – | 1,8 | 36 | 6 |
| B531A04366SPF * | B532A04366SPF * | 4,366 | .1719 | 11/64 | – | 2,0 | 36 | 6 |
| B531A04851SPF | B532A04851SPF * | 4,851 | .1910 | – | 11 | 2,2 | 36 | 6 |
| B531A04864SPF | – | 4,864 | .1915 | – | – | 2,2 | 36 | 6 |
| B531A05100SPF * | B532A05100SPF | 5,100 | .2008 | – | – | 2,3 | 36 | 6 |
| B531A05200SPF * | B532A05200SPF * | 5,200 | .2047 | – | – | 2,4 | 36 | 6 |
| B531A06000SPF | B532A06000SPF | 6,000 | .2362 | – | – | 2,7 | 36 | 6 |
| B531A06375SPF | B532A06375SPF * | 6,375 | .2510 | – | – | 2,9 | 36 | 8 |
| B531A06400SPF | B532A06400SPF * | 6,400 | .2520 | – | – | 2,9 | 36 | 8 |
| B531A06500SPF | B532A06500SPF * | 6,500 | .2559 | – | – | 3,0 | 36 | 8 |
| – | B532A06700SPF * | 6,700 | .2638 | – | – | 3,0 | 36 | 8 |
| – | B532A07200SPF | 7,200 | .2835 | – | – | 3,3 | 36 | 8 |
| B531A07938SPF | B532A07938SPF * | 7,938 | .3125 | 5/16 | – | 3,6 | 36 | 8 |
| B531A09550SPF | – | 9,550 | .3760 | – | – | 4,3 | 40 | 10 |
| B531A09563SPF | B532A09563SPF * | 9,563 | .3765 | – | – | 4,3 | 40 | 10 |
| B531A11125SPF * | – | 11,125 | .4380 | – | – | 5,1 | 45 | 12 |
| B531A12725SPF | B532A12725SPF * | 12,725 | .5010 | – | – | 5,8 | 45 | 14 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

| | |
|---|---|
| C1 | CFRP, CFRP/CFRP |
| C2 | CFRP/Aluminum |
| C3 | CFRP/Titanium |
| C4 | CFRP/Stainless Steel |
| C5 | CFRP/Aluminum/Titanium |

## SPF Drills • B53_ Series • Grade KDF400™ • Dry Applications • Drill Diameters 3–12mm (.1181-.4724")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 1 | 90 | 120 | 150 | mm/r | | 0,03–0,20 | 0,03–0,20 | 0,03–0,20 | 0,03–0,20 | 0,03–0,20 | 0,03–0,20 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 1 | 300 | 390 | 490 | IPR | | .001–.008 | .001–.008 | .001–.008 | .001–.008 | .001–.008 | .001–.008 |

# Drills for Machining of CFRP-Metal Stack Materials

## Primary Application

The all new stack drill tackles CFRP-metal stack material drilling operations in diameter ranges of 4,763–15,875mm (3/16–5/8"). The drill can be applied in all combinations of stacks: CFRP-Ti-Al as well as CFRP-Ti, CFRP-Al, and also straight Ti or Al. Operate these drills with standard through coolant, MQL, or even dry.

The new Kennametal B55_DAL solid carbide drill provides excellent hole quality in combination with extended tool life, especially for customers in the aerospace industry who require the best hole quality and cost savings in an increasing number of applications with CFRP-Ti-stack materials.

The new Kennametal PDC251_ drill provides outstanding wear resistance and tool life. Thanks to the PCD tip, the PDC251_ drill withstands the most abrasive CFRP materials with high-fiber content. It is available in diameter ranges of 4,763–12,7mm (3/16–1/2"). Best performance is achieved with automated rigid machining devices. Additionally, multiple regrinds are possible.

## Features and Benefits

### Double-Angle Point Design

- Sharp cutting edge to cleanly cut CFRPs as top layer in CFRP-metal stacks.
- Bur-free when exiting metal side of stack.
- Excellent centering capabilities.

### KN15™ Beyond™ Grade

- The highly polished surface ensures superior chip evacuation, even when MQL coolant is applied.
- The grade is a specified, uncoated 9% Co fine-grain carbide.

### KD1415™ Grade

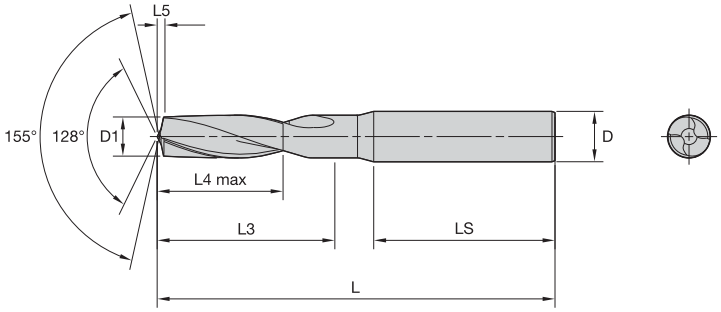
- Polycrystalline diamond grade for high wear resistance.
- Sufficient toughness for Ti- or Al-metal layers.

## k6 Tolerance

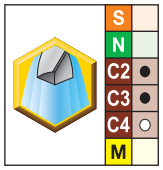
- The drill diameter is ground to a k6 tolerance and can achieve hole tolerances of H8.

## Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills, as well as shank variations, available as custom solutions for carbide and PCD versions.
- A four-margin land design for increased stability is available as semi-standard B54_DAL.



## B551A_DAL • ~3 x D



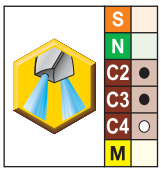

● first choice
○ alternate choice

| short • KN15 | D1 diameter mm | in | fraction | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B551A04763DAL * | 4,763 | .1875 | 3/16 | 66 | 28 | 20 | 0,8 | 36 | 6 |
| B551A06350DAL | 6,350 | .2500 | 1/4 | 79 | 34 | 24 | 1,1 | 36 | 8 |
| B551A07938DAL | 7,938 | .3125 | 5/16 | 79 | 41 | 29 | 1,4 | 36 | 8 |
| B551A09525DAL | 9,525 | .3750 | 3/8 | 89 | 47 | 35 | 1,7 | 40 | 10 |
| B551A11113DAL * | 11,113 | .4375 | 7/16 | 102 | 55 | 40 | 2,0 | 45 | 12 |
| B551A12700DAL * | 12,700 | .5000 | 1/2 | 107 | 60 | 43 | 2,3 | 45 | 14 |
| B551A14288DAL * | 14,288 | .5625 | 9/16 | 115 | 65 | 45 | 2,5 | 48 | 16 |
| B551A15875DAL * | 15,875 | .6250 | 5/8 | 115 | 65 | 45 | 2,8 | 48 | 16 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## DAL Drills • CFRP-Ti-Stacks • Through Coolant

## B556A_DAL • ~3 x D




● first choice
○ alternate choice

| short • KN15 | D1 diameter mm | in | fraction | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| B556A04763DAL * | 4,763 | .1875 | 3/16 | 66 | 28 | 20 | 0,8 | 36 | 6 |
| B556A04826DAL | 4,826 | .1900 | — | 66 | 28 | 20 | 0,9 | 36 | 6 |
| B556A06350DAL | 6,350 | .2500 | 1/4 | 79 | 34 | 24 | 1,1 | 36 | 8 |
| B556A06375DAL * | 6,375 | .2510 | — | 79 | 34 | 24 | 1,1 | 36 | 8 |
| B556A07938DAL | 7,938 | .3125 | 5/16 | 79 | 41 | 29 | 1,4 | 36 | 8 |
| B556A09525DAL * | 9,525 | .3750 | 3/8 | 89 | 47 | 35 | 1,7 | 40 | 10 |
| B556A11113DAL * | 11,113 | .4375 | 7/16 | 102 | 55 | 40 | 2,0 | 45 | 12 |
| B556A12700DAL * | 12,700 | .5000 | 1/2 | 107 | 60 | 43 | 2,3 | 45 | 14 |
| B556A14288DAL * | 14,288 | .5625 | 9/16 | 115 | 65 | 45 | 2,5 | 48 | 16 |
| B556A15875DAL * | 15,875 | .6250 | 5/8 | 115 | 65 | 45 | 2,8 | 48 | 16 |

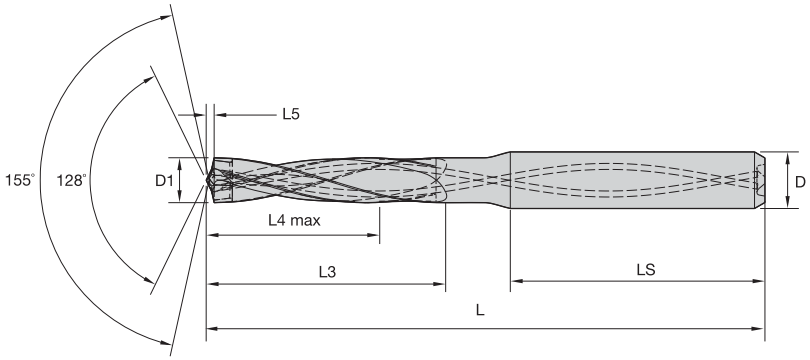
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Stack Drill • B551/B541 Series • Grade KN15™ • Dry • Drill Diameters 3–20mm (.1181–.7874")

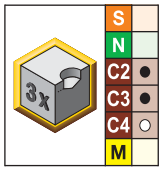
| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 2 | 15 | 80 | 120 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 3 | 10 | 10 | 15 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 4 | 10 | 15 | 25 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| C | 2 | 50 | 260 | 390 | IPR | .000–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 3 | 30 | 30 | 50 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 4 | 30 | 50 | 80 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |

## Stack Drill • B556/B546 Series • Grade KN15 • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 2 | 15 | 120 | 150 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 3 | 10 | 15 | 25 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 4 | 10 | 25 | 50 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| C | 2 | 50 | 390 | 490 | IPR | .000–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 3 | 30 | 50 | 80 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 4 | 30 | 80 | 160 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |



## PCD Twist Drill • PDC251 Series • ~3 x D




● first choice
○ alternate choice

| KD1415 | D1 diameter mm | in | fraction | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| **PDC251A04763DA** | 4,7630 | 0.188 | 3/16 | 66 | 28 | 20 | 0,8 | 36 | 6 |
| **PDC251A06350DA** | 6,3500 | 0.250 | 1/4 | 79 | 34 | 24 | 1,1 | 36 | 8 |
| **PDC251A07938DA** * | 7,9380 | 0.313 | 5/16 | 79 | 41 | 29 | 1,4 | 36 | 8 |
| **PDC251A09525DA** * | 9,5250 | 0.375 | 3/8 | 89 | 47 | 35 | 1,7 | 40 | 10 |
| **PDC251A11113DA** * | 11,1130 | 0.438 | 7/16 | 102 | 55 | 40 | 2,0 | 45 | 12 |
| **PDC251A12700DA** * | 12,7000 | 0.500 | 1/2 | 107 | 60 | 43 | 2,3 | 45 | 14 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance k6 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,001/0,009 | 0,000/-0,008 |
| >6–10 | 0,001/0,010 | 0,000/-0,009 |
| >10–18 | 0,001/0,012 | 0,000/-0,011 |
| >18–25,4 | 0,002/0,015 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance k6 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0000/.0004 | .0000/-.0003 |
| >.2362–.3937 | .0000/.0004 | .0000/-.0004 |
| >.3937–.7087 | .0000/.0005 | .0000/-.0004 |
| >.7087–1.0000 | .0000/.0006 | .0000/-.0005 |

| | |
|---|---|
| **C2** | CFRP/Aluminum |
| **C3** | CFRP/Titanium |
| **C4** | CFRP/Stainless Steel |

## Stack Drill • PDC25 Series • Grade KD1415™ • Dry • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 2 | 15 | 80 | 120 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 3 | 10 | 10 | 15 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 4 | 10 | 15 | 25 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| C | 2 | 50 | 260 | 390 | IPR | .000–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 3 | 30 | 30 | 50 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 4 | 30 | 50 | 80 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |

## Stack Drill • PDC251 Series • Grade KD1415 • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 2 | 15 | 120 | 150 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 3 | 10 | 15 | 25 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| C | 4 | 10 | 25 | 50 | mm/r | 0,01–0,05 | 0,02–0,07 | 0,03–0,10 | 0,04–0,12 | 0,05–0,15 | 0,05–0,18 | 0,06–0,21 | 0,07–0,23 |
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| C | 2 | 50 | 390 | 490 | IPR | .000–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 3 | 30 | 50 | 80 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |
| C | 4 | 30 | 80 | 160 | IPR | .001–.002 | .001–.003 | .001–.004 | .002–.005 | .002–.006 | .002–.007 | .002–.008 | .003–.009 |

# FB Drills with Through Coolant for Flat-Bottom Applications

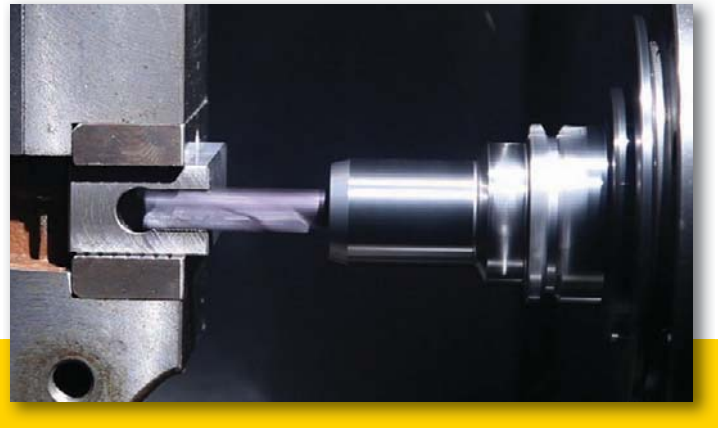
## Primary Application

B707_FB series solid carbide drills are productivity tools that combine two operations in one:

1) Eliminate the 180° end mill in flat-bottom drilling or when preparing an inclined or curved surface for drilling.

2) After full cylindrical engagement, the drill runs at normal solid carbide drilling parameters.

The B707_FBS series with the uncoated KN15™ grade offers the same advantages for drilling in non-ferrous materials, such as aluminum, copper, and brass. The B707_FBL series with the new KCMS15™ grade was optimized for applications in stainless steel and high-temperature alloys.



## Features and Benefits

### Unique FB Drill-Point Design

- Two effective cutting edges over center enable high feed rates.
- Creates a true flat-bottom hole from O.D. to center.
- Four-margin land design improves hole straightness and roundness and provides good alignment, even when drilling cross holes.

### Straight Cutting Edge

- Guarantees a true 180° hole ground.
- Rake angle correction improves chip control.

### KC7315™ Grade on B707_FBG

- Enables high drill-like penetration rates and superior tool life in steel and iron materials.

### KN15 Grade on B707_FBS

- The uncoated grade prevents built-up edge reducing the risk of fracture.
- The highly polished surfaces ensure superior chip evacuation even when low-pressure coolant or MQL is applied.

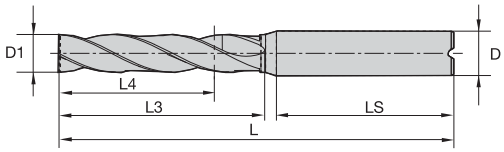
### KCMS15™ Grade on B707_FBL

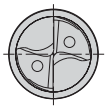
- AlTiN-based PVD coating for the demands of stainless steels.
- Edge preparation with a light hone.

# Productivity tools that combine two operations in one.

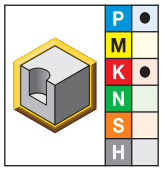
## Customization

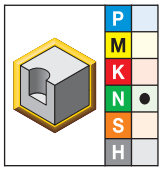
- Intermediate diameters available as semi-standards.
- Length variations available as semi-standard:
  - B706_ 1.5 x D
  - B708_ 5 x D
  - B709_ 8 x D
- Other length variations and step drills are available as engineered solutions.

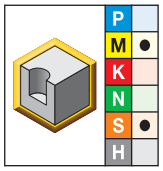


## B707_FBG/FBS/FBL • ~3 x D



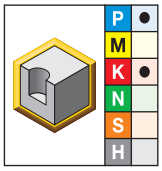



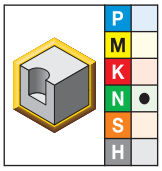

● first choice
○ alternate choice

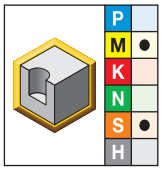
| B707A-FBG • KC7315 | B707A-FBS • KN15 | B707A-FBL • KCMS15 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B707A03000FBG | B707A03000FBS | B707A03000FBL | 3,000 | .1181 | – | – | 62 | 20 | 14 | 36 | 6 |
| B707A03175FBG | B707A03175FBS | B707A03175FBL | 3,175 | .1250 | 1/8 | – | 62 | 20 | 14 | 36 | 6 |
| B707A03500FBG | B707A03500FBS | B707A03500FBL | 3,500 | .1378 | – | – | 62 | 20 | 14 | 36 | 6 |
| B707A03700FBG | – | – | 3,700 | .1457 | – | – | 62 | 20 | 14 | 36 | 6 |
| – | – | B707A03800FBL | 3,800 | .1496 | – | – | 66 | 24 | 17 | 36 | 6 |
| B707A03970FBG | – | – | 3,970 | .1563 | 5/32 | – | 66 | 24 | 17 | 36 | 6 |
| B707A04000FBG | B707A04000FBS | B707A04000FBL | 4,000 | .1575 | – | – | 66 | 24 | 17 | 36 | 6 |
| B707A04200FBG | B707A04200FBS | – | 4,200 | .1654 | – | – | 66 | 24 | 17 | 36 | 6 |
| B707A04400FBG | B707A04400FBS | B707A04400FBL | 4,400 | .1732 | – | – | 66 | 24 | 17 | 36 | 6 |
| B707A04500FBG | B707A04500FBS | B707A04500FBL | 4,500 | .1772 | – | – | 66 | 24 | 17 | 36 | 6 |
| B707A04763FBG | – | – | 4,763 | .1875 | 3/16 | – | 66 | 28 | 20 | 36 | 6 |
| B707A04800FBG | B707A04800FBS | B707A04800FBL | 4,800 | .1890 | – | 12 | 66 | 28 | 20 | 36 | 6 |
| B707A04900FBG | B707A04900FBS * | – | 4,900 | .1929 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A05000FBG | B707A05000FBS | B707A05000FBL | 5,000 | .1969 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A05200FBG | – | – | 5,200 | .2047 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A05560FBG | B707A05560FBS | B707A05560FBL | 5,560 | .2189 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A05800FBG | – | – | 5,800 | .2283 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A05900FBG | B707A05900FBS | B707A05900FBL | 5,900 | .2323 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A06000FBG | B707A06000FBS | B707A06000FBL | 6,000 | .2362 | – | – | 66 | 28 | 20 | 36 | 6 |
| B707A06100FBG | – | – | 6,100 | .2402 | – | – | 79 | 34 | 24 | 36 | 8 |
| B707A06350FBG | B707A06350FBS | B707A06350FBL | 6,350 | .2500 | 1/4 | – | 79 | 34 | 24 | 36 | 8 |
| B707A06500FBG | B707A06500FBS | B707A06500FBL | 6,500 | .2559 | – | – | 79 | 34 | 24 | 36 | 8 |
| B707A06800FBG | B707A06800FBS | B707A06800FBL | 6,800 | .2677 | – | – | 79 | 34 | 24 | 36 | 8 |
| B707A07000FBG | B707A07000FBS | B707A07000FBL | 7,000 | .2756 | – | – | 79 | 34 | 24 | 36 | 8 |

*(continued)*

*(B707_FBG/FBS/FBL • ~3 x D — continued)*



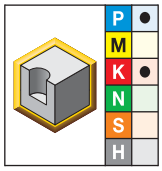



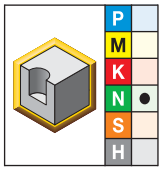

● first choice
○ alternate choice

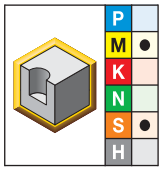
| B707A-FBG • KC7315 | B707A-FBS • KN15 | B707A-FBL • KCMS15 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B707A07145FBG | – | – | 7,145 | .2813 | 9/32 | – | 79 | 41 | 29 | 36 | 8 |
| – | B707A07400FBS | – | 7,400 | .2913 | – | – | 79 | 41 | 29 | 36 | 8 |
| B707A07500FBG | B707A07500FBS | B707A07500FBL | 7,500 | .2953 | – | – | 79 | 41 | 29 | 36 | 8 |
| B707A07800FBG | – | – | 7,800 | .3071 | – | – | 79 | 41 | 29 | 36 | 8 |
| B707A07938FBG | B707A07938FBS | B707A07938FBL | 7,938 | .3125 | 5/16 | – | 79 | 41 | 29 | 36 | 8 |
| B707A08000FBG | B707A08000FBS | B707A08000FBL | 8,000 | .3150 | – | – | 79 | 41 | 29 | 36 | 8 |
| B707A08334FBG | – | – | 8,334 | .3281 | 21/64 | – | 89 | 47 | 35 | 40 | 10 |
| B707A08500FBG | B707A08500FBS | B707A08500FBL | 8,500 | .3346 | – | – | 89 | 47 | 35 | 40 | 10 |
| B707A08800FBG | B707A08800FBS | B707A08800FBL | 8,800 | .3465 | – | – | 89 | 47 | 35 | 40 | 10 |
| B707A09000FBG | B707A09000FBS | B707A09000FBL | 9,000 | .3543 | – | – | 89 | 47 | 35 | 40 | 10 |
| B707A09129FBG | – | – | 9,129 | .3594 | 23/64 | – | 89 | 47 | 35 | 40 | 10 |
| B707A09500FBG | B707A09500FBS | B707A09500FBL | 9,500 | .3740 | – | – | 89 | 47 | 35 | 40 | 10 |
| B707A09525FBG | B707A09525FBS | B707A09525FBL | 9,525 | .3750 | 3/8 | – | 89 | 47 | 35 | 40 | 10 |
| B707A09800FBG | – | – | 9,800 | .3858 | – | – | 89 | 47 | 35 | 40 | 10 |
| B707A10000FBG | B707A10000FBS | B707A10000FBL | 10,000 | .3937 | – | – | 89 | 47 | 35 | 40 | 10 |
| B707A10200FBG | – | – | 10,200 | .4016 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A10320FBG | B707A10320FBS | B707A10320FBL | 10,320 | .4063 | 13/32 | – | 102 | 55 | 40 | 45 | 12 |
| B707A10500FBG | B707A10500FBS | B707A10500FBL | 10,500 | .4134 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A10600FBG | – | – | 10,600 | .4173 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A10800FBG | – | – | 10,800 | .4252 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11000FBG | B707A11000FBS | B707A11000FBL | 11,000 | .4331 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11111FBG | B707A11111FBS | B707A11111FBL | 11,111 | .4374 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11350FBG | – | – | 11,350 | .4469 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11509FBG | B707A11509FBS | B707A11509FBL | 11,509 | .4531 | 29/64 | – | 102 | 55 | 40 | 45 | 12 |
| B707A11570FBG | B707A11570FBS * | B707A11570FBL | 11,570 | .4555 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11700FBG | B707A11700FBS | B707A11700FBL | 11,700 | .4606 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11800FBG | B707A11800FBS | B707A11800FBL | 11,800 | .4646 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A11908FBG | – | – | 11,908 | .4688 | 15/32 | – | 102 | 55 | 40 | 45 | 12 |
| B707A12000FBG | B707A12000FBS | B707A12000FBL | 12,000 | .4724 | – | – | 102 | 55 | 40 | 45 | 12 |
| B707A12100FBG | B707A12100FBS | B707A12100FBL | 12,100 | .4764 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A12500FBG | B707A12500FBS | B707A12500FBL * | 12,500 | .4921 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A12600FBG * | – | – | 12,600 | .4961 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A12700FBG | B707A12700FBS | B707A12700FBL | 12,700 | .5000 | 1/2 | – | 107 | 60 | 43 | 45 | 14 |
| B707A12800FBG | B707A12800FBS | B707A12800FBL | 12,800 | .5039 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A13000FBG | B707A13000FBS | B707A13000FBL | 13,000 | .5118 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A13500FBG | B707A13500FBS | B707A13500FBL | 13,500 | .5315 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A14000FBG | B707A14000FBS | B707A14000FBL | 14,000 | .5512 | – | – | 107 | 60 | 43 | 45 | 14 |
| B707A14288FBG | B707A14288FBS | B707A14288FBL | 14,288 | .5625 | 9/16 | – | 115 | 65 | 45 | 48 | 16 |
| B707A14500FBG | B707A14500FBS | B707A14500FBL | 14,500 | .5709 | – | – | 115 | 65 | 45 | 48 | 16 |
| B707A15000FBG | B707A15000FBS | B707A15000FBL | 15,000 | .5906 | – | – | 115 | 65 | 45 | 48 | 16 |

*(continued)*

*(B707_FBG/FBS/FBL • ~3 x D — continued)*




● first choice
○ alternate choice

| B707A-FBG • KC7315 | B707A-FBS • KN15 | B707A-FBL • KCMS15 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B707A15250FBG | B707A15250FBS | B707A15250FBL * | 15,250 | .6004 | — | — | 115 | 65 | 45 | 48 | 16 |
| B707A15500FBG | B707A15500FBS | B707A15500FBL | 15,500 | .6102 | — | — | 115 | 65 | 45 | 48 | 16 |
| B707A15875FBG | B707A15875FBS | B707A15875FBL | 15,875 | .6250 | 5/8 | — | 115 | 65 | 45 | 48 | 16 |
| B707A16000FBG | B707A16000FBS | B707A16000FBL | 16,000 | .6299 | — | — | 115 | 65 | 45 | 48 | 16 |
| B707A16500FBG | B707A16500FBS | B707A16500FBL | 16,500 | .6496 | — | — | 123 | 73 | 51 | 48 | 18 |
| B707A17000FBG | B707A17000FBS | B707A17000FBL | 17,000 | .6693 | — | — | 123 | 73 | 51 | 48 | 18 |
| B707A17463FBG | – | – | 17,463 | .6875 | 11/16 | — | 123 | 73 | 51 | 48 | 18 |
| B707A17500FBG | B707A17500FBS | B707A17500FBL | 17,500 | .6890 | — | — | 123 | 73 | 51 | 48 | 18 |
| – | – | B707A17900FBL | 17,900 | .7047 | — | — | 123 | 73 | 51 | 48 | 18 |
| B707A18000FBG | B707A18000FBS | B707A18000FBL | 18,000 | .7087 | — | — | 123 | 73 | 51 | 48 | 18 |
| B707A18500FBG | – | – | 18,500 | .7283 | — | — | 131 | 79 | 55 | 50 | 20 |
| B707A19000FBG | B707A19000FBS | B707A19000FBL * | 19,000 | .7480 | — | — | 131 | 79 | 55 | 50 | 20 |
| B707A19050FBG | B707A19050FBS | B707A19050FBL * | 19,050 | .7500 | 3/4 | — | 131 | 79 | 55 | 50 | 20 |
| B707A20000FBG | B707A20000FBS | B707A20000FBL | 20,000 | .7874 | — | — | 131 | 79 | 55 | 50 | 20 |
| B707A21000FBG | B707A21000FBS | B707A21000FBL | 21,000 | .8268 | — | — | 141 | 86 | 60 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## Flat-Bottom Drills • B707_FBG Series • Grade KC7315™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 100 | 133 | 170 | mm/r | 0,06–0,14 | 0,10–0,17 | 0,09–0,20 | 0,11–0,25 | 0,18–0,28 | 0,14–0,31 | 0,16–0,37 | 0,19–0,42 |
| | 1 | 100 | 133 | 170 | mm/r | 0,07–0,16 | 0,12–0,20 | 0,10–0,23 | 0,13–0,29 | 0,21–0,33 | 0,17–0,37 | 0,19–0,44 | 0,22–0,49 |
| | 2 | 130 | 150 | 180 | mm/r | 0,07–0,13 | 0,10–0,16 | 0,16–0,19 | 0,13–0,23 | 0,18–0,27 | 0,17–0,30 | 0,19–0,35 | 0,22–0,39 |
| | 3 | 80 | 106 | 130 | mm/r | 0,09–0,16 | 0,13–0,20 | 0,13–0,23 | 0,16–0,24 | 0,20–0,31 | 0,21–0,37 | 0,25–0,44 | 0,28–0,46 |
| | 4 | 70 | 98 | 130 | mm/r | 0,08–0,16 | 0,12–0,19 | 0,11–0,22 | 0,14–0,27 | 0,21–0,31 | 0,18–0,35 | 0,21–0,41 | 0,24–0,46 |
| | 6 | 70 | 98 | 130 | mm/r | 0,07–0,12 | 0,10–0,14 | 0,10–0,16 | 0,12–0,20 | 0,16–0,23 | 0,16–0,26 | 0,18–0,31 | 0,21–0,34 |
| K | 1 | 70 | 85 | 100 | mm/r | 0,09–0,17 | 0,13–0,21 | 0,12–0,25 | 0,15–0,31 | 0,23–0,35 | 0,20–0,39 | 0,23–0,46 | 0,26–0,52 |
| | 2 | 100 | 113 | 130 | mm/r | 0,09–0,15 | 0,12–0,18 | 0,12–0,21 | 0,15–0,26 | 0,21–0,30 | 0,20–0,33 | 0,23–0,39 | 0,26–0,44 |
| | 3 | 70 | 105 | 140 | mm/r | 0,07–0,13 | 0,10–0,16 | 0,11–0,19 | 0,13–0,23 | 0,18–0,27 | 0,17–0,30 | 0,20–0,35 | 0,22–0,37 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 330 | 440 | 560 | IPR | .002–.006 | .004–.007 | .004–.008 | .004–.010 | .007–.011 | .006–.012 | .006–.015 | .008–.017 |
| | 1 | 330 | 440 | 560 | IPR | .003–.006 | .005–.008 | .004–.009 | .005–.011 | .008–.013 | .007–.015 | .008–.017 | .009–.019 |
| | 2 | 430 | 490 | 590 | IPR | .003–.005 | .004–.006 | .006–.008 | .005–.009 | .007–.011 | .007–.012 | .008–.014 | .009–.015 |
| | 3 | 260 | 350 | 430 | IPR | .004–.006 | .005–.008 | .005–.009 | .006–.009 | .008–.012 | .008–.015 | .010–.017 | .011–.018 |
| | 4 | 230 | 320 | 430 | IPR | .003–.006 | .005–.008 | .004–.009 | .006–.011 | .008–.012 | .007–.014 | .008–.016 | .009–.018 |
| | 6 | 230 | 320 | 430 | IPR | .003–.005 | .004–.006 | .004–.006 | .005–.008 | .006–.009 | .006–.010 | .007–.012 | .008–.013 |
| K | 1 | 230 | 280 | 330 | IPR | .004–.007 | .005–.008 | .005–.010 | .006–.012 | .009–.014 | .008–.015 | .009–.018 | .010–.021 |
| | 2 | 330 | 370 | 430 | IPR | .004–.006 | .005–.007 | .005–.008 | .006–.010 | .008–.012 | .008–.013 | .009–.015 | .010–.017 |
| | 3 | 230 | 340 | 460 | IPR | .003–.005 | .004–.006 | .004–.008 | .005–.009 | .007–.011 | .007–.012 | .008–.014 | .009–.015 |

## Flat-Bottom Drills • B707_FBS Series • Grade KN15™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1 | 120 | 260 | 400 | mm/r | 0,07–0,20 | 0,08–0,22 | 0,13–0,34 | 0,14–0,40 | 0,15–0,44 | 0,17–0,46 | 0,19–0,50 | 0,22–0,58 |
| | 2 | 120 | 250 | 280 | mm/r | 0,08–0,20 | 0,08–0,22 | 0,09–0,34 | 0,14–0,40 | 0,15–0,44 | 0,19–0,46 | 0,21–0,50 | 0,24–0,58 |
| | 3 | 100 | 200 | 260 | mm/r | 0,08–0,15 | 0,08–0,16 | 0,09–0,22 | 0,15–0,26 | 0,16–0,30 | 0,20–0,37 | 0,22–0,42 | 0,26–0,46 |
| | 4 | 60 | 150 | 200 | mm/r | 0,03–0,05 | 0,03–0,06 | 0,03–0,06 | 0,04–0,06 | 0,05–0,07 | 0,05–0,08 | 0,05–0,08 | 0,06–0,09 |

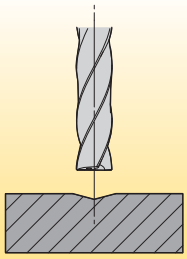
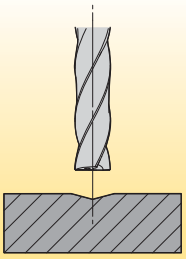
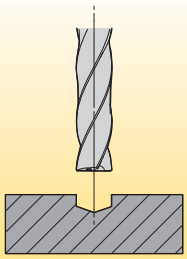
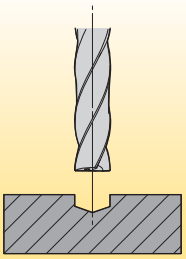
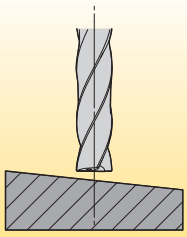
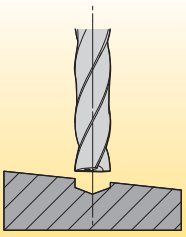
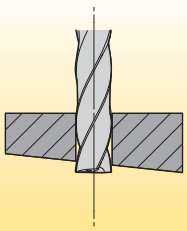
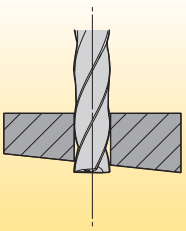
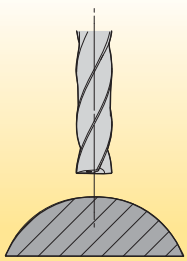
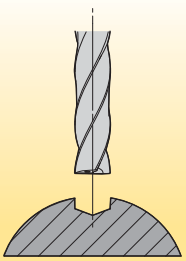
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 1 | 390 | 850 | 1310 | IPR | .003–.008 | .003–.009 | .005–.013 | .006–.016 | .006–.017 | .007–.018 | .008–.020 | .009–.023 |
| | 2 | 390 | 820 | 920 | IPR | .003–.008 | .003–.009 | .004–.013 | .006–.016 | .006–.017 | .008–.018 | .008–.020 | .009–.023 |
| | 3 | 330 | 660 | 850 | IPR | .003–.006 | .003–.006 | .004–.009 | .006–.010 | .006–.012 | .008–.015 | .009–.017 | .010–.018 |
| | 4 | 200 | 490 | 660 | IPR | .001–.002 | .001–.002 | .001–.002 | .002–.002 | .002–.003 | .002–.003 | .002–.003 | .002–.004 |

## Flat-Bottom Drills • B707_FBL Series • Grade KCMS15™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 5 | 45 | **50** | 60 | mm/r | 0,04–0,08 | 0,05–0,09 | 0,06–0,12 | 0,09–0,15 | 0,10–0,16 | 0,12–0,20 | 0,14–0,23 | 0,16–0,24 |
| | 6 | 40 | **50** | 60 | mm/r | 0,03–0,06 | 0,04–0,07 | 0,04–0,10 | 0,08–0,12 | 0,09–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 |
| M | 1 | 40 | **50** | 60 | mm/r | 0,04–0,08 | 0,05–0,09 | 0,06–0,12 | 0,09–0,15 | 0,10–0,16 | 0,12–0,20 | 0,14–0,23 | 0,16–0,24 |
| | 2 | 40 | **50** | 80 | mm/r | 0,06–0,11 | 0,07–0,11 | 0,08–0,16 | 0,12–0,20 | 0,13–0,21 | 0,16–0,22 | 0,18–0,24 | 0,21–0,26 |
| | 3 | 40 | **55** | 70 | mm/r | 0,03–0,04 | 0,03–0,05 | 0,04–0,06 | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,07–0,11 | 0,08–0,12 |
| S | 1 | 20 | **25** | 30 | mm/r | 0,06–0,08 | 0,06–0,08 | 0,07–0,10 | 0,10–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,19 | 0,17–0,22 |
| | 2 | 10 | **20** | 30 | mm/r | 0,05–0,07 | 0,05–0,07 | 0,06–0,08 | 0,08–0,11 | 0,09–0,12 | 0,10–0,13 | 0,12–0,16 | 0,14–0,18 |
| | 3 | 30 | **35** | 50 | mm/r | 0,03–0,05 | 0,03–0,05 | 0,04–0,08 | 0,05–0,10 | 0,05–0,10 | 0,05–0,10 | 0,07–0,11 | 0,08–0,12 |
| | 4 | 30 | **35** | 50 | mm/r | 0,03–0,05 | 0,03–0,05 | 0,04–0,08 | 0,05–0,10 | 0,05–0,10 | 0,05–0,10 | 0,07–0,11 | 0,08–0,12 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 5 | 150 | **160** | 200 | IPR | .002–.003 | .002–.004 | .002–.005 | .004–.006 | .004–.006 | .005–.008 | .006–.009 | .006–.009 |
| | 6 | 130 | **160** | 200 | IPR | .001–.002 | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.006 | .005–.007 | .006–.008 |
| M | 1 | 130 | **160** | 200 | IPR | .002–.003 | .002–.004 | .002–.005 | .004–.006 | .004–.006 | .005–.008 | .006–.009 | .006–.009 |
| | 2 | 130 | **160** | 260 | IPR | .002–.004 | .003–.004 | .003–.006 | .005–.008 | .005–.008 | .006–.009 | .007–.009 | .008–.010 |
| | 3 | 130 | **180** | 230 | IPR | .001–.002 | .001–.002 | .002–.002 | .002–.003 | .002–.003 | .002–.004 | .003–.004 | .003–.005 |
| S | 1 | 70 | **80** | 100 | IPR | .002–.003 | .002–.003 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.008 | .007–.009 |
| | 2 | 30 | **70** | 100 | IPR | .002–.003 | .002–.003 | .002–.003 | .003–.004 | .004–.005 | .004–.005 | .005–.006 | .006–.007 |
| | 3 | 100 | **110** | 160 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .002–.004 | .003–.004 | .003–.005 |
| | 4 | 100 | **110** | 160 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .002–.004 | .003–.004 | .003–.005 |

The B707_FBG drill eliminates the traditional two-step process to create a flat-bottom hole using a drill and an end mill and can perform the operation 25–40% faster. It also eliminates the two-step process of using an end mill to pre-machine a flat on the workpiece material for inclined surfaces.

| Workpiece Application | B707A..FBG Standard Length | B708/B709A..FBG Custom Long Length |
|---|---|---|
| • Tapped hole with lead chamfer larger than FBG diameter. |  No feed reduction. |  50% feed reduction. |
| • Nominal diameter pilot required. |  Rough or hardened surfaces. No feed reduction. |  Pilot on all surfaces. No feed reduction. |
| • >6° angled entrances. |  Reduce feed by 30% until full diameter, or use pilot. |  Pilot with short FBG on all surfaces. No feed reduction. |
| • Angled exits. |  30% feed reduction. |  30% feed reduction. |
| • Round surfaces. |  Reduce feed by 30% until full diameter, or use pilot. |  Pilot with short FBG on all surfaces. No feed reduction. |

# HP Beyond™ Step Drills with Through Coolant for Steel and Iron

beyond

## Primary Application

Most tapped holes require a chamfer. The B731_HP and B732_HP step drills offer a one-pass solution in steels and irons in traditional tap sizes to reduce cycle time and increase productivity. An extensive range of step drills are available to cover taps products by Kennametal.

## Features and Benefits

### HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

### Unique Flute Design

- Drastically improved chip evacuation.
- Better hole surface quality.

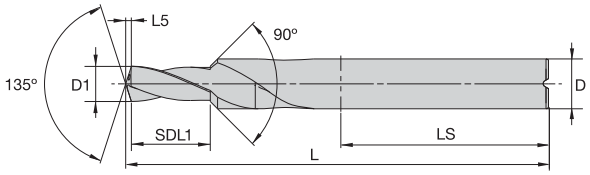
### KCPK15™ Beyond Grade

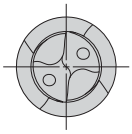
- The grade is a multilayer, TiAlN-based coating with high hot hardness. High cutting speeds enable usage in MQL applications.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.
- Improves average metal removal rate and tool life by 10–20%.

# Drill and chamfer in one shot before tapping.

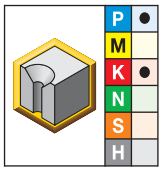
## Customization

- Intermediate diameters available as semi-standards.
- Using Kennametal slim line hydraulic chucks together is recommended if workpiece contours need to be bypassed.



## B731_HP • Short




● first choice
○ alternate choice

| short • KCPK15 | D1 diameter mm | in | fraction | L | SDL1 | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B731A03734HP** | 3,734 | .1470 | – | 66 | 10 | 0,7 | 36 | 6 |
| **B731A04200HP** | 4,200 | .1654 | – | 66 | 12 | 0,8 | 36 | 6 |
| **B731A04496HP** | 4,496 | .1770 | – | 79 | 13 | 0,9 | 36 | 8 |
| **B731A05000HP** | 5,000 | .1969 | – | 79 | 13 | 0,9 | 36 | 8 |
| **B731A05106HP** | 5,106 | .2010 | – | 79 | 15 | 1,0 | 36 | 8 |
| **B731A05410HP** | 5,410 | .2130 | – | 79 | 16 | 1,0 | 36 | 8 |
| **B731A06528HP** | 6,528 | .2570 | – | 89 | 17 | 1,2 | 40 | 10 |
| **B731A06800HP** | 6,800 | .2677 | – | 89 | 16 | 1,3 | 40 | 10 |
| **B731A06909HP** | 6,909 | .2720 | – | 89 | 18 | 1,3 | 40 | 10 |
| **B731A07938HP** | 7,938 | .3125 | 5/16 | 89 | 19 | 1,5 | 45 | 12 |
| **B731A08433HP** | 8,433 | .3320 | – | 102 | 21 | 1,6 | 45 | 12 |
| **B731A08500HP** | 8,500 | .3346 | – | 102 | 19 | 1,6 | 45 | 12 |
| **B731A09921HP** | 9,921 | .3906 | 25/64 | 107 | 23 | 1,9 | 45 | 14 |
| **B731A10200HP** | 10,200 | .4016 | – | 107 | 22 | 1,9 | 45 | 14 |
| **B731A10500HP** | 10,500 | .4134 | – | 107 | 22 | 2,0 | 45 | 14 |
| **B731A10716HP** | 10,716 | .4219 | 27/64 | 107 | 27 | 2,0 | 45 | 14 |
| **B731A12000HP** | 12,000 | .4724 | – | 115 | 27 | 2,2 | 48 | 16 |
| **B731A12304HP** * | 12,304 | .4844 | 31/64 | 115 | 28 | 2,3 | 48 | 16 |
| **B731A12500HP** | 12,500 | .4921 | – | 115 | 27 | 2,3 | 48 | 16 |
| **B731A13096HP** | 13,096 | .5156 | 33/64 | 115 | 31 | 2,4 | 48 | 16 |
| **B731A13495HP** | 13,495 | .5313 | 17/32 | 123 | 32 | 2,5 | 48 | 18 |
| **B731A14000HP** | 14,000 | .5512 | – | 123 | 29 | 2,6 | 48 | 18 |
| **B731A16670HP** * | 16,670 | .6563 | 21/32 | 131 | 38 | 3,1 | 50 | 20 |
| **B731A17463HP** | 17,463 | .6875 | 11/16 | 131 | 40 | 3,2 | 50 | 20 |
| **B731A19446HP** * | 19,446 | .7656 | 49/64 | 153 | 43 | 3,6 | 56 | 25 |

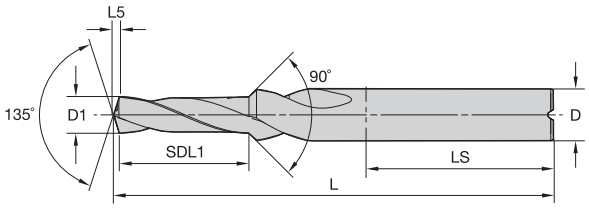
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

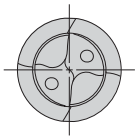
**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

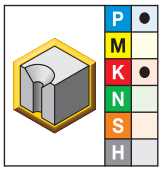
**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |



## B732_HP • Long




● first choice
○ alternate choice

| long • KCPK15 | D1 diameter mm | in | fraction | L | SDL1 | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B732A03734HP** | 3,734 | .1470 | – | 66 | 16 | 0,7 | 36 | 6 |
| **B732A04200HP** | 4,200 | .1654 | – | 66 | 17 | 0,8 | 36 | 6 |
| **B732A04496HP** | 4,496 | .1770 | – | 79 | 17 | 0,9 | 36 | 8 |
| **B732A05000HP** | 5,000 | .1969 | – | 79 | 20 | 0,9 | 36 | 8 |
| **B732A05106HP** | 5,106 | .2010 | – | 79 | 20 | 1,0 | 36 | 8 |
| **B732A05410HP** * | 5,410 | .2130 | – | 79 | 21 | 1,0 | 36 | 8 |
| **B732A06528HP** | 6,528 | .2570 | – | 89 | 24 | 1,2 | 40 | 10 |
| **B732A06800HP** | 6,800 | .2677 | – | 89 | 25 | 1,3 | 40 | 10 |
| **B732A06909HP** | 6,909 | .2720 | – | 89 | 25 | 1,3 | 40 | 10 |
| **B732A07938HP** | 7,938 | .3125 | 5/16 | 102 | 27 | 1,5 | 45 | 12 |
| **B732A08433HP** | 8,433 | .3320 | – | 102 | 29 | 1,6 | 45 | 12 |
| **B732A08500HP** | 8,500 | .3346 | – | 102 | 30 | 1,6 | 45 | 12 |
| **B732A09921HP** * | 9,921 | .3906 | 25/64 | 107 | 33 | 1,9 | 45 | 14 |
| **B732A10200HP** | 10,200 | .4016 | – | 107 | 35 | 1,9 | 45 | 14 |
| **B732A10500HP** | 10,500 | .4134 | – | 107 | 35 | 2,0 | 45 | 14 |
| **B732A10716HP** | 10,716 | .4219 | 27/64 | 107 | 37 | 2,0 | 45 | 14 |
| **B732A12000HP** | 12,000 | .4724 | – | 115 | 40 | 2,2 | 48 | 16 |
| **B732A12500HP** * | 12,500 | .4921 | – | 115 | 40 | 2,3 | 48 | 16 |
| **B732A13096HP** * | 13,096 | .5156 | 33/64 | 123 | 44 | 2,4 | 48 | 16 |
| **B732A13495HP** * | 13,495 | .5313 | 17/32 | 123 | 45 | 2,5 | 48 | 18 |
| **B732A14000HP** | 14,000 | .5512 | – | 123 | 43 | 2,6 | 48 | 18 |
| **B732A16670HP** | 16,670 | .6563 | 21/32 | 141 | 55 | 3,1 | 50 | 20 |
| **B732A17463HP** | 17,463 | .6875 | 11/16 | 141 | 58 | 3,2 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## HP Step Drills • B73_HP Series • Grade KCPK15™ • Through Coolant • Drill Diameters 3–20mm (.1181–.7874")

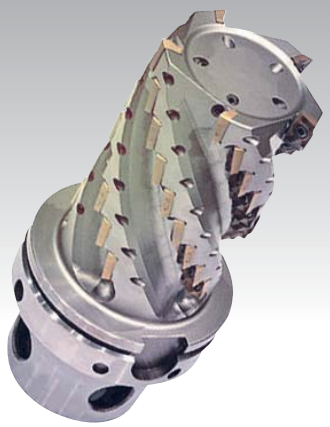
| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
| P | 0 | 150 | **240** | 270 | mm/r | 0,06–0,14 | 0,08–0,18 | 0,09–0,20 | 0,12–0,26 | 0,14–0,30 | 0,15–0,33 | 0,17–0,39 | 0,20–0,43 |
| | 1 | 140 | **220** | 240 | mm/r | 0,07–0,17 | 0,09–0,21 | 0,11–0,24 | 0,14–0,30 | 0,16–0,35 | 0,18–0,39 | 0,20–0,46 | 0,24–0,50 |
| | 2 | 180 | **210** | 240 | mm/r | 0,07–0,14 | 0,09–0,17 | 0,11–0,20 | 0,14–0,24 | 0,16–0,28 | 0,18–0,32 | 0,20–0,37 | 0,24–0,43 |
| | 3 | 120 | **150** | 180 | mm/r | 0,09–0,17 | 0,12–0,21 | 0,14–0,24 | 0,17–0,30 | 0,20–0,35 | 0,22–0,39 | 0,26–0,46 | 0,29–0,50 |
| | 4 | 100 | **140** | 180 | mm/r | 0,08–0,17 | 0,11–0,20 | 0,12–0,23 | 0,15–0,28 | 0,17–0,33 | 0,19–0,37 | 0,22–0,43 | 0,25–0,45 |
| | 6 | 140 | **150** | 180 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,17 | 0,13–0,21 | 0,15–0,24 | 0,17–0,27 | 0,19–0,33 | 0,21–0,36 |
| K | 1 | 140 | **160** | 180 | mm/r | 0,09–0,18 | 0,12–0,22 | 0,13–0,26 | 0,16–0,33 | 0,19–0,37 | 0,21–0,41 | 0,24–0,48 | 0,27–0,51 |
| | 2 | 100 | **150** | 200 | mm/r | 0,09–0,16 | 0,12–0,19 | 0,13–0,22 | 0,16–0,27 | 0,19–0,32 | 0,21–0,35 | 0,24–0,41 | 0,27–0,45 |
| | 3 | 100 | **140** | 180 | mm/r | 0,07–0,14 | 0,09–0,17 | 0,12–0,20 | 0,14–0,24 | 0,16–0,28 | 0,18–0,32 | 0,21–0,37 | 0,24–0,39 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 0 | 490 | **790** | 890 | IPR | .002–.006 | .003–.007 | .004–.008 | .005–.010 | .006–.012 | .006–.013 | .007–.015 | .008–.017 |
| | 1 | 460 | **720** | 790 | IPR | .003–.007 | .004–.008 | .004–.009 | .006–.012 | .006–.014 | .007–.015 | .008–.018 | .009–.020 |
| | 2 | 590 | **690** | 790 | IPR | .003–.006 | .004–.007 | .004–.008 | .006–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.017 |
| | 3 | 390 | **490** | 590 | IPR | .004–.007 | .005–.008 | .006–.009 | .007–.012 | .008–.014 | .009–.015 | .010–.018 | .011–.020 |
| | 4 | 330 | **460** | 590 | IPR | .003–.007 | .004–.008 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.017 | .010–.018 |
| | 6 | 460 | **490** | 590 | IPR | .003–.005 | .004–.006 | .004–.007 | .005–.008 | .006–.009 | .007–.011 | .008–.013 | .008–.014 |
| K | 1 | 460 | **520** | 590 | IPR | .004–.007 | .005–.009 | .005–.010 | .006–.013 | .008–.015 | .008–.016 | .009–.019 | .011–.020 |
| | 2 | 330 | **490** | 660 | IPR | .004–.006 | .005–.008 | .005–.009 | .006–.011 | .008–.013 | .008–.014 | .009–.016 | .011–.018 |
| | 3 | 330 | **460** | 590 | IPR | .003–.006 | .004–.007 | .005–.008 | .006–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.015 |

# Engineered Solutions

## You Won't Find These Solutions in a Catalog

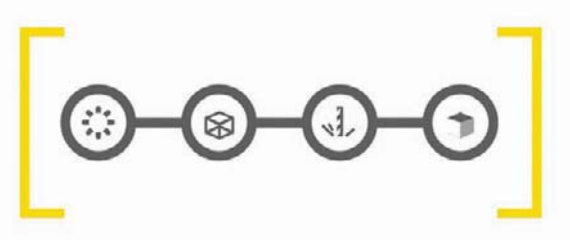
Kennametal engineered solutions pinpoint and address specific needs of customers, workpiece materials, or workpiece configurations. Solutions include standard products, custom designs, and old-fashioned process know-how that can only come from many decades of tooling expertise.
They are the result of coordinated global resources and are available anywhere in the world, no matter how small or large the project.



### MANUFACTURING PROCESS

## We Look at the Entire Production Process, Not Just Portions of It

From the machine tool to the last stop in production, we can optimize the manufacturing process throughout every step. The result is low implementation time and costs, and rapid return on investment.



# New KMH Drills for Hard Materials

### Primary Application

The all-new KMH solid carbide drills are engineered for hard material applications up to 65 HRC. The B94_drill series without through coolant is specifically designed to machine hardened and surface-hardened materials using flood coolant. With its 145º point angle, it is also perfectly suited as a pilot drill for the B95_drill series with through coolant and 140º point for deeper applications.

Both series come with an increased core to strengthen the drill, feature a curved cutting edge with corner chamfer to avoid chipping on the margin lands and increased tool life in these challenging materials.

## Features and Benefits

### New KMH Point Design

- Curved cutting edge with corner chamfer for maximum corner stability in hard materials.
- Avoids chipping on cutting edge and pre-mature wear.
- Also works well in applications with heavily-interrupted cuts using the make-to-order four-margin version.

### Special Flute Design

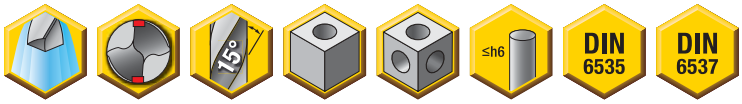
- Strong web to increase the strength of the drill in tough applications with short chips.
- B94_ series with 15º helix angle to maximize stability in applications above 54 HRC.
- B95_ series with 30º helix angle to improve chip evacuation in higher length-to-diameter ratios.

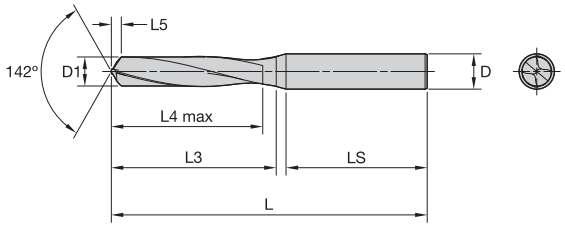
### New KCH10 and KCH15 Grades

- KCH10 on B94_ series consists of a special fine-grain carbide substrate with higher hardness.
- KCH15 on B95_ series, with its higher toughness, supports edge strength at increased rake angles, which are applied to improve chip evacuation in higher L/D ratios.
- Both series carry a high temperature and shock resistance AlTiN coating for machining hardened materials to increase tool life.

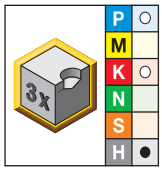
## Customization

- Intermediate diameters available as semi-standards.
- Four margin land designs also available as semi-standards.
- Length variations and step drills available as custom solutions.
- High step diameter ratios and very complex step drill geometries are not recommended for hard materials.



## B941A • ~3 x D




● first choice
○ alternate choice

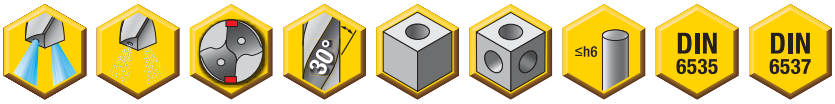
| short • KCH10 | D1 diameter mm | D1 diameter in | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B941Z02500** | 2,500 | .0984 | 50 | 16 | 11 | 0,5 | 28 | 3 |
| **B941A03000** | 3,000 | .1181 | 62 | 20 | 14 | 0,6 | 36 | 6 |
| **B941A03300** | 3,300 | .1299 | 62 | 20 | 14 | 0,6 | 36 | 6 |
| **B941A03400** | 3,400 | .1339 | 62 | 20 | 14 | 0,6 | 36 | 6 |
| **B941A03500** | 3,500 | .1378 | 62 | 20 | 14 | 0,6 | 36 | 6 |
| **B941A04000** | 4,000 | .1575 | 66 | 24 | 17 | 0,7 | 36 | 6 |
| **B941A04200** | 4,200 | .1654 | 66 | 24 | 17 | 0,8 | 36 | 6 |
| **B941A04300** | 4,300 | .1693 | 66 | 24 | 17 | 0,8 | 36 | 6 |
| **B941A04500** | 4,500 | .1772 | 66 | 24 | 17 | 0,8 | 36 | 6 |
| **B941A05000** | 5,000 | .1969 | 66 | 28 | 20 | 0,9 | 36 | 6 |
| **B941A05100** | 5,100 | .2008 | 66 | 28 | 20 | 0,9 | 36 | 6 |
| **B941A05200** | 5,200 | .2047 | 66 | 28 | 20 | 0,9 | 36 | 6 |
| **B941A05500** | 5,500 | .2165 | 66 | 28 | 20 | 1,0 | 36 | 6 |
| **B941A05600** | 5,600 | .2205 | 66 | 28 | 20 | 1,0 | 36 | 6 |
| **B941A06000** | 6,000 | .2362 | 66 | 28 | 20 | 1,1 | 36 | 6 |
| **B941A06900** | 6,900 | .2717 | 79 | 34 | 24 | 1,3 | 36 | 8 |
| **B941A07000** | 7,000 | .2756 | 79 | 34 | 24 | 1,3 | 36 | 8 |
| **B941A07100** | 7,100 | .2795 | 79 | 41 | 29 | 1,3 | 36 | 8 |
| **B941A08000** | 8,000 | .3150 | 79 | 41 | 29 | 1,4 | 36 | 8 |
| **B941A08500** | 8,500 | .3346 | 89 | 47 | 35 | 1,5 | 40 | 10 |
| **B941A08600** | 8,600 | .3386 | 89 | 47 | 35 | 1,6 | 40 | 10 |
| **B941A09000** | 9,000 | .3543 | 89 | 47 | 35 | 1,6 | 40 | 10 |
| **B941A10000** | 10,000 | .3937 | 89 | 47 | 35 | 1,8 | 40 | 10 |
| **B941A10200** | 10,200 | .4016 | 102 | 55 | 40 | 1,8 | 45 | 12 |
| **B941A10400** | 10,400 | .4094 | 102 | 55 | 40 | 1,9 | 45 | 12 |
| **B941A10500** | 10,500 | .4134 | 102 | 55 | 40 | 1,9 | 45 | 12 |
| **B941A11100** | 11,100 | .4370 | 102 | 55 | 40 | 2,0 | 45 | 12 |
| **B941A12000** | 12,000 | .4724 | 102 | 55 | 40 | 2,1 | 45 | 12 |
| **B941A14000** | 14,000 | .5512 | 107 | 60 | 43 | 2,5 | 45 | 14 |

**Tolerance • Metric**

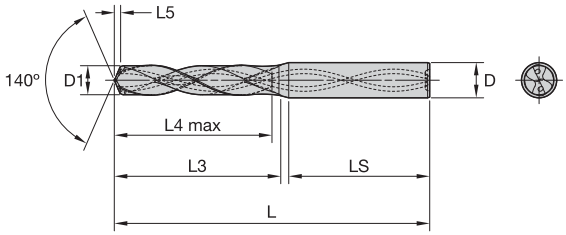
| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

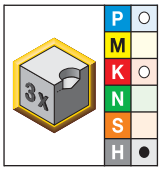
| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |





## B951A • ~3 x D

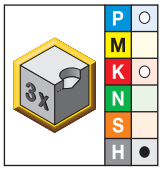



● first choice
○ alternate choice

| short • KCH15 | D1 diameter mm | in | fraction | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| **B951A03000** | 3,000 | .1181 | – | 62 | 20 | 14 | 0,6 | 36 | 6 |
| **B951A03175** | 3,175 | .1250 | 1/8 | 62 | 20 | 14 | 0,6 | 36 | 6 |
| **B951A03454** | 3,454 | .1360 | – | 62 | 20 | 14 | 0,7 | 36 | 6 |
| **B951A03500** | 3,500 | .1378 | – | 62 | 20 | 14 | 0,7 | 36 | 6 |
| **B951A03800** | 3,800 | .1496 | – | 66 | 24 | 17 | 0,8 | 36 | 6 |
| **B951A04000** | 4,000 | .1575 | – | 66 | 24 | 17 | 0,8 | 36 | 6 |
| **B951A04100** | 4,100 | .1614 | – | 66 | 24 | 17 | 0,8 | 36 | 6 |
| **B951A04200** | 4,200 | .1654 | – | 66 | 24 | 17 | 0,9 | 36 | 6 |
| **B951A04300** | 4,300 | .1693 | – | 66 | 24 | 17 | 0,9 | 36 | 6 |
| **B951A04500** | 4,500 | .1772 | – | 66 | 24 | 17 | 0,9 | 36 | 6 |
| **B951A04800** | 4,800 | .1890 | – | 66 | 28 | 20 | 1,0 | 36 | 6 |
| **B951A04900** | 4,900 | .1929 | – | 66 | 28 | 20 | 1,0 | 36 | 6 |
| **B951A05000** | 5,000 | .1969 | – | 66 | 28 | 20 | 1,0 | 36 | 6 |
| **B951A05500** | 5,500 | .2165 | – | 66 | 28 | 20 | 1,1 | 36 | 6 |
| **B951A05800** | 5,800 | .2283 | – | 66 | 28 | 20 | 1,2 | 36 | 6 |
| **B951A06000** | 6,000 | .2362 | – | 66 | 28 | 20 | 1,2 | 36 | 6 |
| **B951A06350** | 6,350 | .2500 | 1/4 | 79 | 34 | 24 | 1,3 | 36 | 8 |
| **B951A06500** | 6,500 | .2559 | – | 79 | 34 | 24 | 1,3 | 36 | 8 |
| **B951A06800** | 6,800 | .2677 | – | 79 | 34 | 24 | 1,4 | 36 | 8 |
| **B951A07000** | 7,000 | .2756 | – | 79 | 34 | 24 | 1,4 | 36 | 8 |
| **B951A08000** | 8,000 | .3150 | – | 79 | 41 | 29 | 1,6 | 36 | 8 |
| **B951A08500** | 8,500 | .3346 | – | 89 | 47 | 35 | 1,7 | 40 | 10 |
| **B951A09000** | 9,000 | .3543 | – | 89 | 47 | 35 | 1,8 | 40 | 10 |
| **B951A09500** | 9,500 | .3740 | – | 89 | 47 | 35 | 1,9 | 40 | 10 |
| **B951A09800** | 9,800 | .3858 | – | 89 | 47 | 35 | 1,9 | 40 | 10 |
| **B951A10000** | 10,000 | .3937 | – | 89 | 47 | 35 | 2,0 | 40 | 10 |
| **B951A10200** | 10,200 | .4016 | – | 102 | 55 | 40 | 2,0 | 45 | 12 |
| **B951A10500** | 10,500 | .4134 | – | 102 | 55 | 40 | 2,1 | 45 | 12 |
| **B951A10800** | 10,800 | .4252 | – | 118 | 71 | 56 | 2,1 | 45 | 12 |
| **B951A11000** | 11,000 | .4331 | – | 118 | 71 | 56 | 2,2 | 45 | 12 |
| **B951A11500** | 11,500 | .4528 | – | 118 | 71 | 56 | 2,3 | 45 | 12 |
| **B951A11800** | 11,800 | .4646 | – | 102 | 55 | 40 | 2,3 | 45 | 12 |
| **B951A12000** | 12,000 | .4724 | – | 102 | 55 | 40 | 2,4 | 45 | 12 |
| **B951A12500** | 12,500 | .4921 | – | 107 | 60 | 43 | 2,5 | 45 | 14 |
| **B951A12700** | 12,700 | .5000 | 1/2 | 107 | 60 | 43 | 2,5 | 45 | 14 |
| **B951A12800** | 12,800 | .5039 | – | 107 | 60 | 43 | 2,5 | 45 | 14 |

*(continued)*

*(B951A • ~3 x D — continued)*




● first choice
○ alternate choice

| short • KCH15 | D1 diameter mm | in | fraction | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|
| **B951A13000** | 13,000 | .5118 | — | 107 | 60 | 43 | 2,6 | 45 | 14 |
| **B951A13500** | 13,500 | .5315 | — | 107 | 60 | 43 | 2,7 | 45 | 14 |
| **B951A14000** | 14,000 | .5512 | — | 107 | 60 | 43 | 2,8 | 45 | 14 |
| **B951A14500** | 14,500 | .5709 | — | 115 | 65 | 45 | 2,9 | 48 | 16 |
| **B951A15500** | 15,500 | .6102 | — | 115 | 65 | 45 | 3,1 | 48 | 16 |
| **B951A16000** | 16,000 | .6299 | — | 133 | 83 | 63 | 3,2 | 48 | 16 |

## Application Data

### KMH Drill • B94_Series • Grade KCH10 • Flood Coolant

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate per Rev | | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 4 | 50 | **70** | 100 | mm/r | 0,06–0,15 | 0,08–0,17 | 0,12–0,23 | 0,14–0,28 | 0,17–0,33 | 0,19–0,38 | 0,23–0,47 | 0,29–0,59 |
| | 5 | 40 | **50** | 70 | mm/r | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,44 | 0,32–0,52 |
| | 6 | 30 | **40** | 60 | mm/r | 0,05–0,07 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,12–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| K | 1 | 80 | **130** | 150 | mm/r | 0,11–0,22 | 0,12–0,24 | 0,16–0,31 | 0,20–0,38 | 0,23–0,44 | 0,25–0,49 | 0,31–0,06 | 0,38–0,47 |
| | 2 | 70 | **110** | 100 | mm/r | 0,10–0,17 | 0,12–0,19 | 0,16–0,25 | 0,20–0,31 | 0,23–0,36 | 0,25–0,40 | 0,31–0,48 | 0,38–0,60 |
| | 3 | 80 | **110** | 120 | mm/r | 0,07–0,15 | 0,09–0,19 | 0,12–0,25 | 0,14–0,30 | 0,17–0,35 | 0,19–0,40 | 0,25–0,48 | 0,30–0,60 |
| H | 1 | 20 | **30** | 40 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 |
| | 2 | 15 | **30** | 40 | mm/r | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 3 | 15 | **25** | 35 | mm/r | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |
| | 4 | 15 | **20** | 30 | mm/r | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate per Rev | | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 4 | 160 | **230** | 330 | IPR | .0024-.0059 | .0031-.0067 | .0047-.0091 | .0055-.0110 | .0067-.0130 | .0075-.0150 | .0091-.0185 | .0114-.0232 |
| | 5 | 130 | **160** | 230 | IPR | .0031–.0063 | .0039–.0079 | .0047–.0094 | .0063–.0110 | .0079–.0126 | .0094–.0142 | .0110–.0173 | .0126–.0205 |
| | 6 | 100 | **130** | 200 | IPR | .0020-.0028 | .0024-.0039 | .0031-.0055 | .0039-.0071 | .0047-.0087 | .0055-.0094 | .0071-.0126 | .0091-.0161 |
| K | 1 | 260 | **430** | 490 | IPR | .0043-.0087 | .0047-.0094 | .0063-.0122 | .0079-.0150 | .0091-.0173 | .0098-.0193 | .0122-.0024 | .0150-.0185 |
| | 2 | 230 | **360** | 330 | IPR | .0039–.0067 | .0047–.0075 | .0063–.0098 | .0079–.0122 | .0091–.0142 | .0098–.0157 | .0122–.0189 | .0150–.0236 |
| | 3 | 260 | **360** | 390 | IPR | .0028-.0059 | .0035-.0075 | .0047-.0098 | .0055-.0118 | .0067-.0138 | .0075-.0157 | .0098-.0189 | .0118-.0236 |
| H | 1 | 70 | **100** | 130 | IPR | .0012-.0024 | .0016-.0031 | .0024-.0039 | .0031-.0047 | .0035-.0051 | .0039-.0055 | .0047-.0063 | .0055-.0071 |
| | 2 | 50 | **100** | 130 | IPR | .0008–.0016 | .0012–.0024 | .0020–.0031 | .0028–.0039 | .0031–.0043 | .0035–.0047 | .0039–.0055 | .0043–.0063 |
| | 3 | 50 | **80** | 110 | IPR | .0008-.0016 | .0008-.0020 | .0016-.0028 | .0024-.0035 | .0028-.0039 | .0031-.0043 | .0035-.0051 | .0039-.0059 |
| | 4 | 50 | **70** | 100 | IPR | .0008–.0016 | .0012–.0024 | .0020–.0031 | .0028–.0039 | .0031–.0043 | .0035–.0047 | .0039–.0055 | .0043–.0063 |

## KMH Drill • B95_Series • Grade KCH15 • Through Coolant

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate per Rev 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 4 | 50 | **70** | 100 | mm/r | 0,06–0,15 | 0,08–0,17 | 0,12–0,23 | 0,14–0,28 | 0,17–0,33 | 0,19–0,38 | 0,23–0,47 | 0,29–0,59 |
| | 5 | 50 | **60** | 80 | mm/r | 0,08–0,14 | 0,10–0,16 | 0,12–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,48 |
| | 6 | 40 | **50** | 70 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,13–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| K | 1 | 80 | **130** | 170 | mm/r | 0,11–0,22 | 0,12–0,24 | 0,16–0,31 | 0,20–0,38 | 0,23–0,44 | 0,25–0,49 | 0,31–0,06 | 0,38–0,47 |
| | 2 | 90 | **110** | 120 | mm/r | 0,10–0,17 | 0,12–0,19 | 0,16–0,25 | 0,20–0,31 | 0,23–0,36 | 0,25–0,40 | 0,31–0,48 | 0,38–0,60 |
| | 3 | 80 | **110** | 130 | mm/r | 0,07–0,15 | 0,09–0,19 | 0,12–0,25 | 0,14–0,30 | 0,17–0,35 | 0,19–0,40 | 0,25–0,48 | 0,30–0,60 |
| H | 1 | 20 | **35** | 45 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 |
| | 2 | 15 | **30** | 45 | mm/r | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 3 | 15 | **25** | 40 | mm/r | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |
| | 4 | 15 | **20** | 35 | mm/r | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate per Rev 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
| P | 4 | 160 | **230** | 330 | IPR | .0024-.0059 | .0031-.0067 | .0047-.0091 | .0055-.0110 | .0067-.0130 | .0075-.0150 | .0091-.0185 | .0114-.0232 |
| | 5 | 160 | **200** | 260 | IPR | .0031–.0055 | .0039–.0079 | .0047–.0079 | .0063–.0094 | .0079–.0110 | .0094–.0126 | .0110–.0157 | .0126–.0189 |
| | 6 | 130 | **160** | 230 | IPR | .0020-.0031 | .0024-.0039 | .0031-.0055 | .0039-.0071 | .0051-.0087 | .0055-.0094 | .0071-.0126 | .0091-.0161 |
| K | 1 | 260 | **430** | 560 | IPR | .0043-.0087 | .0047-.0094 | .0063-.0122 | .0079-.0150 | .0091-.0173 | .0098-.0193 | .0122-.0024 | .0150-.0185 |
| | 2 | 300 | **360** | 390 | IPR | .0039–.0067 | .0047–.0075 | .0063–.0098 | .0079–.0122 | .0091–.0142 | .0098–.0157 | .0122–.0189 | .0150–.0236 |
| | 3 | 260 | **360** | 430 | IPR | .0028-.0059 | .0035-.0075 | .0047-.0098 | .0055-.0118 | .0067-.0138 | .0075-.0157 | .0098-.0189 | .0118-.0236 |
| H | 1 | 70 | **110** | 150 | IPR | .0012-.0024 | .0016-.0031 | .0024-.0039 | .0031-.0047 | .0035-.0051 | .0039-.0055 | .0047-.0063 | .0055-.0071 |
| | 2 | 50 | **100** | 150 | IPR | .0008–.0016 | .0012–.0024 | .0020–.0031 | .0028–.0039 | .0031–.0043 | .0035–.0047 | .0039–.0055 | .0043–.0063 |
| | 3 | 50 | **80** | 130 | IPR | .0008-.0016 | .0008-.0020 | .0016-.0028 | .0024-.0035 | .0028-.0039 | .0031-.0043 | .0035-.0051 | .0039-.0059 |
| | 4 | 50 | **70** | 110 | IPR | .0008–.0016 | .0012–.0024 | .0020–.0031 | .0028–.0039 | .0031–.0043 | .0035–.0047 | .0039–.0055 | .0043–.0063 |

# Kenna Universal™ Drills

## Primary Application

Kenna Universal Drills (B96/B97_ Series) are engineered to deliver superior performance in steel, cast iron, and stainless steel applications making it ideal for small- and medium-sized shops. The universal application profile reduces tool change times and the number of drills in inventory. Covering a large spectrum of off-the-shelf diameters and a broad range of applications makes Kenna Universal Drills an excellent alternative to other high-performance products.

The B976Z series is available from 2,383–3mm (.0938–.1181") making it the first standard offering in less than 3mm. This extended diameter offering covers all common tap drill sizes, including an expanded selection of wire, fractional, and letter sizes.

The new B967 series satisfies the demand for non-coolant drills up to 5 x D for applications with flood coolant or dry.

## Use as Pilot Drill

- Ideal point angle and tolerance make the Kenna Universal drill the preferred pilot drill for B27_ series solid carbide deep-hole drills.

# Features and Benefits

## Kenna Universal Drill-Point Design

- Low thrust. Works well on a variety of machines.
- Excellent centering capabilities.
- Easy to regrind.

## Four-Margin Land Design

- Improves hole straightness and roundness.
- Provides good alignment and stability in tough drilling applications — even when drilling through cross holes.

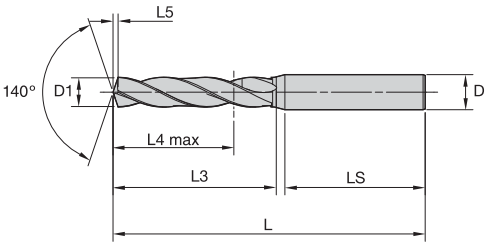
## KC7315™ Grade

- A multilayer, TiAlN-based coating with high hot hardness enables 30% higher cutting speeds and constant tool life.
- Surface finish ensures chip evacuation when drilling deep holes.

# Universal application profile, problem solver, and pilot drill.

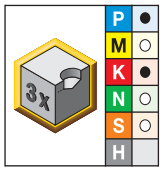
## Customization

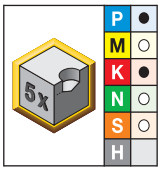
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.



For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

## B966A/B967A • ~3 x D/~5 x D



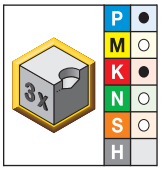



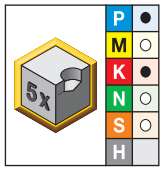

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B966A03000 | B967A03000 | 3,000 | .1181 | – | – | 0,5 | 36 | 6 |
| B966A03100 | B967A03100 | 3,100 | .1220 | – | – | 0,5 | 36 | 6 |
| B966A03200 | B967A03200 | 3,200 | .1260 | – | – | 0,5 | 36 | 6 |
| B966A03300 | B967A03300 | 3,300 | .1299 | – | – | 0,5 | 36 | 6 |
| B966A03400 | – | 3,400 | .1339 | – | – | 0,6 | 36 | 6 |
| B966A03500 | B967A03500 | 3,500 | .1378 | – | – | 0,6 | 36 | 6 |
| B966A03600 | – | 3,600 | .1417 | – | – | 0,6 | 36 | 6 |
| B966A03700 | – | 3,700 | .1457 | – | – | 0,6 | 36 | 6 |
| B966A03800 | B967A03800 | 3,800 | .1496 | – | – | 0,6 | 36 | 6 |
| B966A03900 | – | 3,900 | .1535 | – | – | 0,6 | 36 | 6 |
| B966A03960 | – | 3,960 | .1559 | – | – | 0,7 | 36 | 6 |
| B966A04000 | B967A04000 | 4,000 | .1575 | – | – | 0,7 | 36 | 6 |
| B966A04100 | – | 4,100 | .1614 | – | – | 0,7 | 36 | 6 |
| B966A04200 | B967A04200 | 4,200 | .1654 | – | – | 0,7 | 36 | 6 |
| B966A04300 | B967A04300 | 4,300 | .1693 | – | – | 0,7 | 36 | 6 |
| B966A04400 | – | 4,400 | .1732 | – | – | 0,7 | 36 | 6 |
| B966A04500 | B967A04500 | 4,500 | .1772 | – | – | 0,7 | 36 | 6 |
| B966A04600 | – | 4,600 | .1811 | – | – | 0,8 | 36 | 6 |
| B966A04700 | – | 4,700 | .1850 | – | 13 | 0,8 | 36 | 6 |
| B966A04800 | B967A04800 | 4,800 | .1890 | – | 12 | 0,8 | 36 | 6 |
| B966A04900 | – | 4,900 | .1929 | – | – | 0,8 | 36 | 6 |
| B966A05000 | B967A05000 | 5,000 | .1969 | – | – | 0,8 | 36 | 6 |
| B966A05040 | – | 5,040 | .1984 | – | – | 0,8 | 36 | 6 |
| B966A05100 | B967A05100 | 5,100 | .2008 | – | – | 0,8 | 36 | 6 |
| B966A05200 | B967A05200 | 5,200 | .2047 | – | – | 0,9 | 36 | 6 |
| B966A05300 | – | 5,300 | .2087 | – | – | 0,9 | 36 | 6 |
| B966A05400 | – | 5,400 | .2126 | – | – | 0,9 | 36 | 6 |
| B966A05500 | B967A05500 | 5,500 | .2165 | – | – | 0,9 | 36 | 6 |
| B966A05600 | – | 5,600 | .2205 | – | – | 0,9 | 36 | 6 |
| B966A05700 | – | 5,700 | .2244 | – | – | 1,0 | 36 | 6 |
| B966A05800 | B967A05800 | 5,800 | .2283 | – | – | 1,0 | 36 | 6 |
| B966A05900 | – | 5,900 | .2323 | – | – | 1,0 | 36 | 6 |
| B966A06000 | B967A06000 | 6,000 | .2362 | – | – | 1,0 | 36 | 6 |
| B966A06050 | – | 6,050 | .2382 | – | – | 1,0 | 36 | 8 |
| B966A06100 | B967A06100 | 6,100 | .2402 | – | – | 1,0 | 36 | 8 |
| B966A06200 | – | 6,200 | .2441 | – | – | 1,0 | 36 | 8 |

*(continued)*

*(B966A/B967A • ~3 x D/~5 x D — continued)*



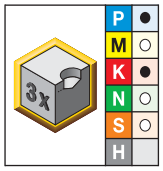



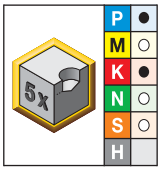

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B966A06300 | – | 6,300 | .2480 | – | – | 1,1 | 36 | 8 |
| B966A06350 | – | 6,350 | .2500 | 1/4 | – | 1,1 | 36 | 8 |
| B966A06400 | – | 6,400 | .2520 | – | – | 1,1 | 36 | 8 |
| B966A06500 | B967A06500 | 6,500 | .2559 | – | – | 1,1 | 36 | 8 |
| B966A06600 | B967A06600 | 6,600 | .2598 | – | – | 1,1 | 36 | 8 |
| B966A06700 | B967A06700 | 6,700 | .2638 | – | – | 1,1 | 36 | 8 |
| B966A06800 | B967A06800 | 6,800 | .2677 | – | – | 1,1 | 36 | 8 |
| B966A06900 | – | 6,900 | .2717 | – | – | 1,2 | 36 | 8 |
| B966A07000 | B967A07000 | 7,000 | .2756 | – | – | 1,2 | 36 | 8 |
| B966A07100 | – | 7,100 | .2795 | – | – | 1,2 | 36 | 8 |
| B966A07200 | – | 7,200 | .2835 | – | – | 1,2 | 36 | 8 |
| B966A07300 | – | 7,300 | .2874 | – | – | 1,2 | 36 | 8 |
| B966A07400 | B967A07400 | 7,400 | .2913 | – | – | 1,3 | 36 | 8 |
| B966A07500 | B967A07500 | 7,500 | .2953 | – | – | 1,3 | 36 | 8 |
| B966A07600 | – | 7,600 | .2992 | – | – | 1,3 | 36 | 8 |
| B966A07700 | – | 7,700 | .3031 | – | – | 1,3 | 36 | 8 |
| B966A07800 | B967A07800 | 7,800 | .3071 | – | – | 1,3 | 36 | 8 |
| B966A07900 | – | 7,900 | .3110 | – | – | 1,3 | 36 | 8 |
| B966A08000 | B967A08000 | 8,000 | .3150 | – | – | 1,4 | 36 | 8 |
| B966A08100 | B967A08100 | 8,100 | .3189 | – | – | 1,4 | 40 | 10 |
| B966A08200 | – | 8,200 | .3228 | – | – | 1,4 | 40 | 10 |
| B966A08300 | – | 8,300 | .3268 | – | – | 1,4 | 40 | 10 |
| B966A08400 | – | 8,400 | .3307 | – | – | 1,4 | 40 | 10 |
| B966A08500 | B967A08500 | 8,500 | .3346 | – | – | 1,4 | 40 | 10 |
| B966A08600 | B967A08600 | 8,600 | .3386 | – | – | 1,5 | 40 | 10 |
| B966A08700 | B967A08700 | 8,700 | .3425 | – | – | 1,5 | 40 | 10 |
| B966A08800 | B967A08800 | 8,800 | .3465 | – | – | 1,5 | 40 | 10 |
| B966A08900 | – | 8,900 | .3504 | – | – | 1,5 | 40 | 10 |
| B966A09000 | B967A09000 | 9,000 | .3543 | – | – | 1,5 | 40 | 10 |
| B966A09100 | – | 9,100 | .3583 | – | – | 1,5 | 40 | 10 |
| B966A09200 | – | 9,200 | .3622 | – | – | 1,6 | 40 | 10 |
| B966A09300 | B967A09300 | 9,300 | .3661 | – | – | 1,6 | 40 | 10 |
| B966A09400 | – | 9,400 | .3701 | – | – | 1,6 | 40 | 10 |
| B966A09500 | B967A09500 | 9,500 | .3740 | – | – | 1,6 | 40 | 10 |
| B966A09600 | – | 9,600 | .3780 | – | – | 1,6 | 40 | 10 |
| B966A09700 | – | 9,700 | .3819 | – | – | 1,7 | 40 | 10 |
| B966A09800 | B967A09800 | 9,800 | .3858 | – | – | 1,7 | 40 | 10 |
| B966A09900 | – | 9,900 | .3898 | – | – | 1,7 | 40 | 10 |
| B966A10000 | B967A10000 | 10,000 | .3937 | – | – | 1,7 | 40 | 10 |
| B966A10100 | – | 10,100 | .3976 | – | – | 1,7 | 45 | 12 |
| B966A10200 | B967A10200 | 10,200 | .4016 | – | – | 1,7 | 45 | 12 |
| B966A10300 | – | 10,300 | .4055 | – | – | 1,8 | 45 | 12 |
| B966A10400 | – | 10,400 | .4094 | – | – | 1,8 | 45 | 12 |
| B966A10500 | B967A10500 | 10,500 | .4134 | – | – | 1,8 | 45 | 12 |
| B966A10600 | – | 10,600 | .4173 | – | – | 1,8 | 45 | 12 |
| B966A10700 | B967A10700 | 10,700 | .4213 | – | – | 1,8 | 45 | 12 |
| B966A10800 | B967A10800 | 10,800 | .4252 | – | – | 1,8 | 45 | 12 |
| B966A10900 | – | 10,900 | .4291 | – | – | 1,9 | 45 | 12 |
| B966A11000 | B967A11000 | 11,000 | .4331 | – | – | 1,9 | 45 | 12 |
| B966A11100 | – | 11,100 | .4370 | – | – | 1,9 | 45 | 12 |
| B966A11200 | – | 11,200 | .4409 | – | – | 1,9 | 45 | 12 |
| B966A11300 | B967A11300 | 11,300 | .4449 | – | – | 1,9 | 45 | 12 |

*(continued)*

*(B966A/B967A • ~3 x D/~5 x D — continued)*




● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B966A11400** | – | 11,400 | .4488 | – | – | 2,0 | 45 | 12 |
| **B966A11500** | **B967A11500** | 11,500 | .4528 | – | – | 2,0 | 45 | 12 |
| **B966A11600** | – | 11,600 | .4567 | – | – | 2,0 | 45 | 12 |
| **B966A11700** | – | 11,700 | .4606 | – | – | 2,0 | 45 | 12 |
| **B966A11800** | **B967A11800** | 11,800 | .4646 | – | – | 2,0 | 45 | 12 |
| **B966A11900** | – | 11,900 | .4685 | – | – | 2,0 | 45 | 12 |
| **B966A12000** | **B967A12000** | 12,000 | .4724 | – | – | 2,1 | 45 | 12 |
| **B966A12100** | – | 12,100 | .4764 | – | – | 2,1 | 45 | 14 |
| **B966A12200** | – | 12,200 | .4803 | – | – | 2,1 | 45 | 14 |
| **B966A12300** | – | 12,300 | .4843 | – | – | 2,1 | 45 | 14 |
| **B966A12400** | – | 12,400 | .4882 | – | – | 2,1 | 45 | 14 |
| **B966A12500** | **B967A12500** | 12,500 | .4921 | – | – | 2,1 | 45 | 14 |
| **B966A12600** | – | 12,600 | .4961 | – | – | 2,2 | 45 | 14 |
| **B966A12700** | **B967A12700** | 12,700 | .5000 | 1/2 | – | 2,2 | 45 | 14 |
| **B966A12800** | **B967A12800** | 12,800 | .5039 | – | – | 2,2 | 45 | 14 |
| **B966A12900** | – | 12,900 | .5079 | – | – | 2,2 | 45 | 14 |
| **B966A13000** | **B967A13000** | 13,000 | .5118 | – | – | 2,2 | 45 | 14 |
| **B966A13100** | – | 13,100 | .5157 | – | – | 2,3 | 45 | 14 |
| **B966A13200** | – | 13,200 | .5197 | – | – | 2,3 | 45 | 14 |
| **B966A13300** | – | 13,300 | .5236 | – | – | 2,3 | 45 | 14 |
| **B966A13400** | – | 13,400 | .5276 | – | – | 2,3 | 45 | 14 |
| **B966A13500** | **B967A13500** | 13,500 | .5315 | – | – | 2,3 | 45 | 14 |
| **B966A13700** | – | 13,700 | .5394 | – | – | 2,4 | 45 | 14 |
| **B966A14000** | **B967A14000** | 14,000 | .5512 | – | – | 2,4 | 45 | 14 |
| **B966A14200** | – | 14,200 | .5591 | – | – | 2,5 | 48 | 16 |
| **B966A14300** | – | 14,300 | .5630 | – | – | 2,5 | 48 | 16 |
| **B966A14500** | **B967A14500** | 14,500 | .5709 | – | – | 2,5 | 48 | 16 |
| **B966A14700** | – | 14,700 | .5787 | – | – | 2,5 | 48 | 16 |
| **B966A14800** | – | 14,800 | .5827 | – | – | 2,6 | 48 | 16 |
| **B966A15000** | **B967A15000** | 15,000 | .5906 | – | – | 2,6 | 48 | 16 |
| – | **B967A15300** | 15,300 | .6024 | – | – | 2,6 | 48 | 16 |
| **B966A15500** | **B967A15500** | 15,500 | .6102 | – | – | 2,7 | 48 | 16 |
| **B966A15700** | – | 15,700 | .6181 | – | – | 2,7 | 48 | 16 |
| **B966A16000** | **B967A16000** | 16,000 | .6299 | – | – | 2,8 | 48 | 16 |
| **B966A16500** | **B967A16500** | 16,500 | .6496 | – | – | 2,9 | 48 | 18 |
| **B966A17000** | – | 17,000 | .6693 | – | – | 2,9 | 48 | 18 |
| **B966A17500** | – | 17,500 | .6890 | – | – | 3,0 | 48 | 18 |
| **B966A18000** | – | 18,000 | .7087 | – | – | 3,1 | 48 | 18 |
| **B966A20000** | – | 20,000 | .7874 | – | – | 3,5 | 50 | 20 |

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

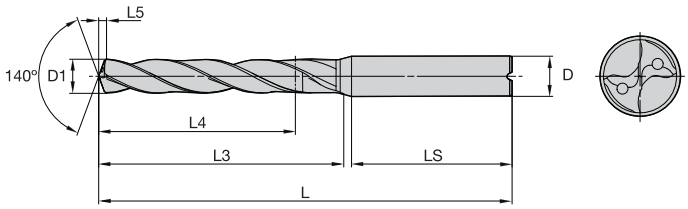
**Tolerance • Inch**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## Kenna Universal™ Drills • B966, B967 Series • Grade KC7315™ • Flood Coolant • Drill Diameters 3–20mm (.1181–.7874")

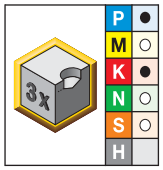
| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 70 | 90 | 115 | mm/r | 0,05–0,11 | 0,08–0,14 | 0,09–0,19 | 0,11–0,22 | 0,13–0,26 | 0,15–0,30 | 0,19–0,36 | 0,24–0,46 |
| | 1 | 60 | 70 | 100 | mm/r | 0,06–0,13 | 0,09–0,16 | 0,11–0,22 | 0,13–0,26 | 0,15–0,31 | 0,18–0,35 | 0,22–0,42 | 0,28–0,54 |
| | 2 | 80 | 90 | 100 | mm/r | 0,06–0,13 | 0,08–0,16 | 0,12–0,22 | 0,14–0,26 | 0,17–0,31 | 0,20–0,35 | 0,24–0,42 | 0,31–0,53 |
| | 3 | 50 | 70 | 90 | mm/r | 0,07–0,15 | 0,09–0,17 | 0,13–0,23 | 0,15–0,28 | 0,19–0,33 | 0,22–0,38 | 0,26–0,47 | 0,34–0,59 |
| | 4 | 50 | 70 | 100 | mm/r | 0,06–0,15 | 0,08–0,17 | 0,12–0,23 | 0,14–0,28 | 0,17–0,33 | 0,19–0,38 | 0,23–0,47 | 0,29–0,59 |
| | 5 | 40 | 50 | 70 | mm/r | 0,06–0,12 | 0,08–0,14 | 0,10–0,18 | 0,12–0,22 | 0,16–0,26 | 0,18–0,28 | 0,22–0,36 | 0,26–0,42 |
| | 6 | 30 | 40 | 60 | mm/r | 0,05–0,07 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,12–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| M | 1 | 30 | 40 | 50 | mm/r | 0,04–0,07 | 0,05–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| | 2 | 40 | 50 | 60 | mm/r | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | 3 | 30 | 40 | 50 | mm/r | 0,04–0,07 | 0,06–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| K | 1 | 80 | 130 | 170 | mm/r | 0,11–0,22 | 0,12–0,24 | 0,16–0,31 | 0,20–0,38 | 0,23–0,44 | 0,25–0,49 | 0,31–0,06 | 0,38–0,47 |
| | 2 | 90 | 110 | 120 | mm/r | 0,10–0,17 | 0,12–0,19 | 0,16–0,25 | 0,20–0,31 | 0,23–0,36 | 0,25–0,40 | 0,31–0,48 | 0,38–0,60 |
| | 3 | 80 | 110 | 130 | mm/r | 0,07–0,15 | 0,09–0,19 | 0,12–0,25 | 0,14–0,30 | 0,17–0,35 | 0,19–0,40 | 0,25–0,48 | 0,30–0,60 |
| N | 1 | 90 | 230 | 270 | mm/r | 0,08–0,14 | 0,10–0,16 | 0,12–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,48 |
| | 2 | 90 | 220 | 270 | mm/r | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,44 | 0,32–0,52 |
| | 3 | 90 | 180 | 225 | mm/r | 0,12–0,14 | 0,13–0,16 | 0,14–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,44 |
| | 4 | 90 | 130 | 270 | mm/r | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,40 | 0,32–0,48 |
| S | 1 | 20 | 25 | 30 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 |
| | 2 | 10 | 20 | 30 | mm/r | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 3 | 20 | 25 | 40 | mm/r | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |
| | 4 | 20 | 25 | 50 | mm/r | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |

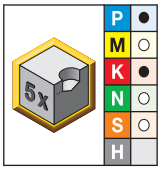
| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (fz) by Diameter | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 230 | 300 | 380 | IPR | .002–.004 | .003–.005 | .004–.007 | .004–.009 | .005–.010 | .006–.012 | .007–.014 | .009–.018 |
| | 1 | 200 | 230 | 330 | IPR | .002–.005 | .004–.006 | .004–.009 | .005–.010 | .006–.012 | .007–.014 | .009–.017 | .011–.021 |
| | 2 | 260 | 300 | 330 | IPR | .002–.005 | .003–.006 | .005–.009 | .006–.010 | .007–.012 | .008–.014 | .009–.017 | .012–.021 |
| | 3 | 160 | 230 | 300 | IPR | .003–.006 | .004–.007 | .005–.009 | .006–.011 | .008–.013 | .009–.015 | .010–.019 | .013–.023 |
| | 4 | 160 | 230 | 330 | IPR | .002–.006 | .003–.007 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .009–.019 | .011–.023 |
| | 5 | 130 | 160 | 230 | IPR | .002–.005 | .003–.006 | .004–.007 | .005–.009 | .006–.010 | .007–.011 | .009–.014 | .010–.017 |
| | 6 | 100 | 130 | 200 | IPR | .002–.003 | .002–.004 | .003–.006 | .004–.007 | .005–.009 | .006–.009 | .007–.013 | .009–.016 |
| M | 1 | 100 | 130 | 160 | IPR | .002–.003 | .002–.004 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 |
| | 2 | 130 | 160 | 200 | IPR | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 |
| | 3 | 100 | 130 | 160 | IPR | .002–.003 | .002–.004 | .003–.004 | .004–.005 | .004–.006 | .005–.006 | .006–.007 | .006–.008 |
| K | 1 | 260 | 430 | 560 | IPR | .004–.009 | .005–.009 | .006–.012 | .008–.015 | .009–.017 | .010–.019 | .012–.002 | .015–.019 |
| | 2 | 300 | 360 | 390 | IPR | .004–.007 | .005–.008 | .006–.010 | .008–.012 | .009–.014 | .010–.016 | .012–.019 | .015–.024 |
| | 3 | 260 | 360 | 430 | IPR | .003–.006 | .004–.008 | .005–.010 | .006–.012 | .007–.014 | .008–.016 | .010–.019 | .012–.024 |
| N | 1 | 300 | 750 | 890 | IPR | .003–.006 | .004–.006 | .005–.008 | .006–.009 | .008–.011 | .009–.013 | .011–.016 | .013–.019 |
| | 2 | 300 | 720 | 890 | IPR | .003–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.013 | .009–.014 | .011–.017 | .013–.021 |
| | 3 | 300 | 590 | 740 | IPR | .005–.006 | .005–.006 | .006–.008 | .006–.009 | .008–.011 | .009–.013 | .011–.016 | .013–.017 |
| | 4 | 300 | 430 | 890 | IPR | .003–.006 | .004–.008 | .005–.009 | .006–.011 | .008–.013 | .009–.014 | .011–.016 | .013–.019 |
| S | 1 | 70 | 80 | 100 | IPR | .001–.002 | .002–.003 | .002–.004 | .003–.005 | .004–.005 | .004–.006 | .005–.006 | .006–.007 |
| | 2 | 30 | 70 | 100 | IPR | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |
| | 3 | 70 | 80 | 130 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.004 | .003–.004 | .004–.005 | .004–.006 |
| | 4 | 70 | 80 | 160 | IPR | .001–.002 | .001–.002 | .002–.003 | .003–.004 | .003–.004 | .004–.005 | .004–.006 | .004–.006 |



For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.

## B976A/B977A • ~3 x D/~5 x D



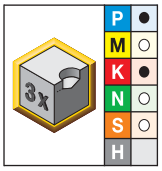



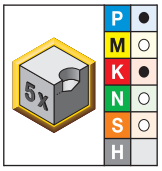

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B976Z02383 | – | 2,383 | .0938 | 3/32 | — | 0,4 | 28 | 3 |
| B976Z02400 | – | 2,400 | .0945 | — | — | 0,4 | 28 | 3 |
| B976Z02439 | – | 2,439 | .0960 | — | 41 | 0,4 | 28 | 3 |
| B976Z02489 | – | 2,489 | .0980 | — | 40 | 0,4 | 28 | 3 |
| B976Z02500 | – | 2,500 | .0984 | — | — | 0,4 | 28 | 3 |
| B976Z02578 | – | 2,578 | .1015 | — | 38 | 0,4 | 28 | 3 |
| B976Z02600 | – | 2,600 | .1024 | — | — | 0,4 | 28 | 3 |
| B976Z02642 | – | 2,642 | .1040 | — | 37 | 0,4 | 28 | 3 |
| B976Z02705 | – | 2,705 | .1065 | — | 36 | 0,4 | 28 | 3 |
| B976Z02779 | – | 2,779 | .1094 | 7/64 | — | 0,4 | 28 | 3 |
| B976Z02800 | – | 2,800 | .1102 | — | — | 0,5 | 28 | 3 |
| B976Z02820 | – | 2,820 | .1110 | — | 34 | 0,5 | 28 | 3 |
| B976Z02870 | – | 2,870 | .1130 | — | 33 | 0,5 | 28 | 3 |
| B976Z02900 | – | 2,900 | .1142 | — | — | 0,5 | 28 | 3 |
| B976Z02947 * | – | 2,947 | .1160 | — | 32 | 0,5 | 28 | 3 |
| B976A03000 | B977A03000 | 3,000 | .1181 | — | — | 0,5 | 36 | 6 |
| B976A03100 | B977A03100 | 3,100 | .1220 | — | — | 0,5 | 36 | 6 |
| B976A03175 | B977A03175 | 3,175 | .1250 | 1/8 | — | 0,5 | 36 | 6 |
| B976A03180 | – | 3,180 | .1252 | — | — | 0,5 | 36 | 6 |
| B976A03200 | B977A03200 | 3,200 | .1260 | — | — | 0,5 | 36 | 6 |
| – | B977A03250 | 3,250 | .1280 | — | — | 0,5 | 36 | 6 |
| B976A03300 | B977A03300 | 3,300 | .1299 | — | — | 0,5 | 36 | 6 |
| – | B977A03400 | 3,400 | .1339 | — | — | 0,6 | 36 | 6 |
| B976A03454 | B977A03454 | 3,454 | .1360 | — | 29 | 0,6 | 36 | 6 |
| B976A03500 | B977A03500 | 3,500 | .1378 | — | — | 0,6 | 36 | 6 |
| B976A03600 | B977A03600 | 3,600 | .1417 | — | — | 0,6 | 36 | 6 |
| B976A03700 | B977A03700 | 3,700 | .1457 | — | — | 0,6 | 36 | 6 |
| B976A03734 | B977A03734 | 3,734 | .1470 | — | 26 | 0,6 | 36 | 6 |
| B976A03797 | B977A03797 | 3,797 | .1495 | — | 25 | 0,6 | 36 | 6 |
| B976A03800 | B977A03800 | 3,800 | .1496 | — | — | 0,6 | 36 | 6 |
| B976A03900 | B977A03900 | 3,900 | .1535 | — | — | 0,6 | 36 | 6 |
| B976A03970 | B977A03970 | 3,970 | .1563 | 5/32 | — | 0,7 | 36 | 6 |
| B976A04000 | B977A04000 | 4,000 | .1575 | — | — | 0,7 | 36 | 6 |
| B976A04039 | B977A04039 | 4,039 | .1590 | — | 21 | 0,7 | 36 | 6 |
| B976A04100 | B977A04100 | 4,100 | .1614 | — | — | 0,7 | 36 | 6 |
| B976A04200 | B977A04200 | 4,200 | .1654 | — | — | 0,7 | 36 | 6 |

*(continued)*

*(B976A/B977A • ~3 x D/~5 x D — continued)*



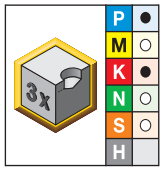



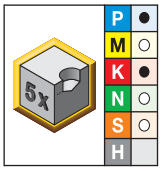

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B976A04300 | B977A04300 | 4,300 | .1693 | – | – | 0,7 | 36 | 6 |
| B976A04366 | B977A04366 | 4,366 | .1719 | 11/64 | – | 0,7 | 36 | 6 |
| – | B977A04400 | 4,400 | .1732 | – | – | 0,7 | 36 | 6 |
| B976A04496 | B977A04496 | 4,496 | .1770 | – | 16 | 0,7 | 36 | 6 |
| B976A04500 | B977A04500 | 4,500 | .1772 | – | – | 0,7 | 36 | 6 |
| – | B977A04580 | 4,580 | .1803 | – | 15 | 0,8 | 36 | 6 |
| B976A04600 | B977A04600 | 4,600 | .1811 | – | – | 0,8 | 36 | 6 |
| B976A04620 | – | 4,620 | .1819 | – | – | 0,8 | 36 | 6 |
| – | B977A04623 | 4,623 | .1820 | – | 14 | 0,8 | 36 | 6 |
| – | B977A04650 | 4,650 | .1831 | – | – | 0,8 | 36 | 6 |
| B976A04700 | B977A04700 | 4,700 | .1850 | – | 13 | 0,8 | 36 | 6 |
| B976A04763 | B977A04763 | 4,763 | .1875 | 3/16 | – | 0,8 | 36 | 6 |
| B976A04800 | B977A04800 | 4,800 | .1890 | – | 12 | 0,8 | 36 | 6 |
| B976A04900 | B977A04900 | 4,900 | .1929 | – | – | 0,8 | 36 | 6 |
| B976A05000 | B977A05000 | 5,000 | .1969 | – | – | 0,8 | 36 | 6 |
| B976A05100 | B977A05100 | 5,100 | .2008 | – | – | 0,8 | 36 | 6 |
| B976A05106 | B977A05106 | 5,106 | .2010 | – | 7 | 0,8 | 36 | 6 |
| B976A05200 | B977A05200 | 5,200 | .2047 | – | – | 0,9 | 36 | 6 |
| B976A05250 | – | 5,250 | .2067 | – | – | 0,9 | 36 | 6 |
| B976A05300 | B977A05300 | 5,300 | .2087 | – | – | 0,9 | 36 | 6 |
| B976A05400 | B977A05400 | 5,400 | .2126 | – | – | 0,9 | 36 | 6 |
| B976A05410 | B977A05410 | 5,410 | .2130 | – | 3 | 0,9 | 36 | 6 |
| B976A05500 | B977A05500 | 5,500 | .2165 | – | – | 0,9 | 36 | 6 |
| B976A05530 | – | 5,530 | .2177 | – | – | 0,9 | 36 | 6 |
| B976A05558 | B977A05558 | 5,558 | .2188 | 7/32 | – | 0,9 | 36 | 6 |
| B976A05575 | – | 5,575 | .2195 | – | – | 0,9 | 36 | 6 |
| B976A05600 | B977A05600 | 5,600 | .2205 | – | – | 0,9 | 36 | 6 |
| B976A05700 | B977A05700 | 5,700 | .2244 | – | – | 1,0 | 36 | 6 |
| B976A05791 | B977A05791 | 5,791 | .2280 | – | 1 | 1,0 | 36 | 6 |
| B976A05800 | B977A05800 | 5,800 | .2283 | – | – | 1,0 | 36 | 6 |
| – | B977A05900 | 5,900 | .2323 | – | – | 1,0 | 36 | 6 |
| B976A05944 | B977A05944 | 5,944 | .2340 | – | – | 1,0 | 36 | 6 |
| B976A06000 | B977A06000 | 6,000 | .2362 | – | – | 1,0 | 36 | 6 |
| B976A06100 | B977A06100 | 6,100 | .2402 | – | – | 1,0 | 36 | 8 |
| – | B977A06150 | 6,150 | .2421 | – | – | 1,0 | 36 | 8 |
| B976A06200 | B977A06200 | 6,200 | .2441 | – | – | 1,0 | 36 | 8 |
| – | B977A06300 | 6,300 | .2480 | – | – | 1,1 | 36 | 8 |
| B976A06350 | B977A06350 | 6,350 | .2500 | 1/4 | – | 1,1 | 36 | 8 |
| – | B977A06400 | 6,400 | .2520 | – | – | 1,1 | 36 | 8 |
| B976A06500 | B977A06500 | 6,500 | .2559 | – | – | 1,1 | 36 | 8 |
| B976A06528 | B977A06528 | 6,528 | .2570 | – | – | 1,1 | 36 | 8 |
| B976A06530 | – | 6,530 | .2571 | – | – | 1,1 | 36 | 8 |
| B976A06600 | B977A06600 | 6,600 | .2598 | – | – | 1,1 | 36 | 8 |
| B976A06700 | B977A06700 | 6,700 | .2638 | – | – | 1,1 | 36 | 8 |
| B976A06746 | – | 6,746 | .2656 | 17/64 | – | 1,1 | 36 | 8 |
| B976A06750 | – | 6,750 | .2657 | – | – | 1,1 | 36 | 8 |
| B976A06800 | B977A06800 | 6,800 | .2677 | – | – | 1,1 | 36 | 8 |
| B976A06900 | B977A06900 | 6,900 | .2717 | – | – | 1,2 | 36 | 8 |
| B976A06909 | B977A06909 | 6,909 | .2720 | – | – | 1,2 | 36 | 8 |
| B976A07000 | B977A07000 | 7,000 | .2756 | – | – | 1,2 | 36 | 8 |
| B976A07100 | B977A07100 | 7,100 | .2795 | – | – | 1,2 | 36 | 8 |
| B976A07145 | B977A07145 | 7,145 | .2813 | 9/32 | – | 1,2 | 36 | 8 |

*(continued)*

*(B976A/B977A • ~3 x D/~5 x D — continued)*



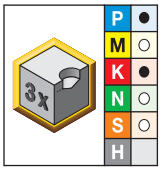



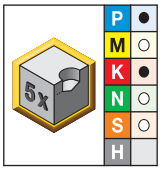

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B976A07200 | B977A07200 | 7,200 | .2835 | – | – | 1,2 | 36 | 8 |
| B976A07300 | B977A07300 | 7,300 | .2874 | – | – | 1,2 | 36 | 8 |
| B976A07366 | B977A07366 | 7,366 | .2900 | – | – | 1,2 | 36 | 8 |
| B976A07400 | B977A07400 | 7,400 | .2913 | – | – | 1,3 | 36 | 8 |
| B976A07500 | B977A07500 | 7,500 | .2953 | – | – | 1,3 | 36 | 8 |
| B976A07541 | B977A07541 | 7,541 | .2969 | 19/64 | – | 1,3 | 36 | 8 |
| B976A07600 | B977A07600 | 7,600 | .2992 | – | – | 1,3 | 36 | 8 |
| B976A07700 | B977A07700 | 7,700 | .3031 | – | – | 1,3 | 36 | 8 |
| B976A07800 | B977A07800 | 7,800 | .3071 | – | – | 1,3 | 36 | 8 |
| B976A07900 | B977A07900 | 7,900 | .3110 | – | – | 1,3 | 36 | 8 |
| B976A07938 | B977A07938 | 7,938 | .3125 | 5/16 | – | 1,3 | 36 | 8 |
| B976A08000 | B977A08000 | 8,000 | .3150 | – | – | 1,4 | 36 | 8 |
| B976A08020 | B977A08020 | 8,020 | .3157 | – | – | 1,4 | 40 | 10 |
| B976A08100 | B977A08100 | 8,100 | .3189 | – | – | 1,4 | 40 | 10 |
| B976A08200 | B977A08200 | 8,200 | .3228 | – | – | 1,4 | 40 | 10 |
| B976A08300 | B977A08300 | 8,300 | .3268 | – | – | 1,4 | 40 | 10 |
| B976A08334 | B977A08334 | 8,334 | .3281 | 21/64 | – | 1,4 | 40 | 10 |
| – | B977A08400 | 8,400 | .3307 | – | – | 1,4 | 40 | 10 |
| B976A08430 | – | 8,430 | .3319 | – | – | 1,4 | 40 | 10 |
| B976A08433 | B977A08433 | 8,433 | .3320 | – | – | 1,4 | 40 | 10 |
| B976A08500 | B977A08500 | 8,500 | .3346 | – | – | 1,4 | 40 | 10 |
| B976A08600 | B977A08600 | 8,600 | .3386 | – | – | 1,5 | 40 | 10 |
| B976A08700 | B977A08700 | 8,700 | .3425 | – | – | 1,5 | 40 | 10 |
| B976A08733 | B977A08733 | 8,733 | .3438 | 11/32 | – | 1,5 | 40 | 10 |
| B976A08800 | B977A08800 | 8,800 | .3465 | – | – | 1,5 | 40 | 10 |
| B976A08839 | B977A08839 | 8,839 | .3480 | – | – | 1,5 | 40 | 10 |
| – | B977A08900 | 8,900 | .3504 | – | – | 1,5 | 40 | 10 |
| B976A09000 | B977A09000 | 9,000 | .3543 | – | – | 1,5 | 40 | 10 |
| B976A09093 | B977A09093 | 9,093 | .3580 | – | – | 1,5 | 40 | 10 |
| B976A09100 | B977A09100 | 9,100 | .3583 | – | – | 1,5 | 40 | 10 |
| B976A09129 | B977A09129 | 9,129 | .3594 | 23/64 | – | 1,6 | 40 | 10 |
| B976A09200 | B977A09200 | 9,200 | .3622 | – | – | 1,6 | 40 | 10 |
| B976A09300 | B977A09300 | 9,300 | .3661 | – | – | 1,6 | 40 | 10 |
| – | B977A09347 | 9,347 | .3680 | – | – | 1,6 | 40 | 10 |
| B976A09400 | B977A09400 | 9,400 | .3701 | – | – | 1,6 | 40 | 10 |
| B976A09500 | B977A09500 | 9,500 | .3740 | – | – | 1,6 | 40 | 10 |
| B976A09525 | B977A09525 | 9,525 | .3750 | 3/8 | – | 1,6 | 40 | 10 |
| B976A09600 | B977A09600 | 9,600 | .3780 | – | – | 1,6 | 40 | 10 |
| B976A09700 | B977A09700 | 9,700 | .3819 | – | – | 1,7 | 40 | 10 |
| – | B977A09746 | 9,746 | .3837 | – | – | 1,7 | 40 | 10 |
| B976A09750 | – | 9,750 | .3839 | – | – | 1,7 | 40 | 10 |
| B976A09800 | B977A09800 | 9,800 | .3858 | – | – | 1,7 | 40 | 10 |
| – | B977A09900 | 9,900 | .3898 | – | – | 1,7 | 40 | 10 |
| B976A09921 | B977A09921 | 9,921 | .3906 | 25/64 | – | 1,7 | 40 | 10 |
| B976A10000 | B977A10000 | 10,000 | .3937 | – | – | 1,7 | 40 | 10 |
| – | B977A10100 | 10,100 | .3976 | – | – | 1,7 | 45 | 12 |
| B976A10200 | B977A10200 | 10,200 | .4016 | – | – | 1,7 | 45 | 12 |
| B976A10262 | B977A10262 | 10,262 | .4040 | – | – | 1,8 | 45 | 12 |
| B976A10300 | B977A10300 | 10,300 | .4055 | – | – | 1,8 | 45 | 12 |
| B976A10320 | B977A10320 | 10,320 | .4063 | 13/32 | – | 1,8 | 45 | 12 |
| B976A10400 | B977A10400 | 10,400 | .4094 | – | – | 1,8 | 45 | 12 |
| B976A10500 | B977A10500 | 10,500 | .4134 | – | – | 1,8 | 45 | 12 |

*(continued)*

*(B976A/B977A • ~3 x D/~5 x D — continued)*



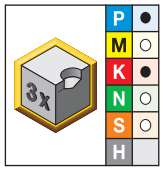



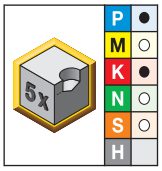

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| B976A10600 | B977A10600 | 10,600 | .4173 | – | – | 1,8 | 45 | 12 |
| B976A10700 | B977A10700 | 10,700 | .4213 | – | – | 1,8 | 45 | 12 |
| B976A10716 | B977A10716 | 10,716 | .4219 | 27/64 | – | 1,8 | 45 | 12 |
| B976A10800 | B977A10800 | 10,800 | .4252 | – | – | 1,8 | 45 | 12 |
| – | B977A10900 | 10,900 | .4291 | – | – | 1,9 | 45 | 12 |
| B976A11000 | B977A11000 | 11,000 | .4331 | – | – | 1,9 | 45 | 12 |
| – | B977A11100 | 11,100 | .4370 | – | – | 1,9 | 45 | 12 |
| B976A11113 | B977A11113 | 11,113 | .4375 | 7/16 | – | 1,9 | 45 | 12 |
| B976A11200 | B977A11200 | 11,200 | .4409 | – | – | 1,9 | 45 | 12 |
| B976A11300 | B977A11300 | 11,300 | .4449 | – | – | 1,9 | 45 | 12 |
| – | B977A11400 | 11,400 | .4488 | – | – | 2,0 | 45 | 12 |
| B976A11500 | B977A11500 | 11,500 | .4528 | – | – | 2,0 | 45 | 12 |
| B976A11509 | B977A11509 | 11,509 | .4531 | 29/64 | – | 2,0 | 45 | 12 |
| B976A11600 | B977A11600 | 11,600 | .4567 | – | – | 2,0 | 45 | 12 |
| B976A11700 | B977A11700 | 11,700 | .4606 | – | – | 2,0 | 45 | 12 |
| B976A11800 | B977A11800 | 11,800 | .4646 | – | – | 2,0 | 45 | 12 |
| – | B977A11900 | 11,900 | .4685 | – | – | 2,0 | 45 | 12 |
| B976A11908 | B977A11908 | 11,908 | .4688 | 15/32 | – | 2,0 | 45 | 12 |
| B976A12000 | B977A12000 | 12,000 | .4724 | – | – | 2,1 | 45 | 12 |
| – | B977A12100 | 12,100 | .4764 | – | – | 2,1 | 45 | 14 |
| – | B977A12200 | 12,200 | .4803 | – | – | 2,1 | 45 | 14 |
| B976A12300 | B977A12300 | 12,300 | .4843 | – | – | 2,1 | 45 | 14 |
| B976A12304 | B977A12304 | 12,304 | .4844 | 31/64 | – | 2,1 | 45 | 14 |
| – | B977A12400 | 12,400 | .4882 | – | – | 2,1 | 45 | 14 |
| B976A12500 | B977A12500 | 12,500 | .4921 | – | – | 2,1 | 45 | 14 |
| – | B977A12600 | 12,600 | .4961 | – | – | 2,2 | 45 | 14 |
| B976A12700 | B977A12700 | 12,700 | .5000 | 1/2 | – | 2,2 | 45 | 14 |
| B976A12800 | B977A12800 | 12,800 | .5039 | – | – | 2,2 | 45 | 14 |
| – | B977A12900 | 12,900 | .5079 | – | – | 2,2 | 45 | 14 |
| B976A13000 | B977A13000 | 13,000 | .5118 | – | – | 2,2 | 45 | 14 |
| – | B977A13096 | 13,096 | .5156 | 33/64 | – | 2,3 | 45 | 14 |
| – | B977A13100 | 13,100 | .5157 | – | – | 2,3 | 45 | 14 |
| – | B977A13200 | 13,200 | .5197 | – | – | 2,3 | 45 | 14 |
| B976A13300 | B977A13300 | 13,300 | .5236 | – | – | 2,3 | 45 | 14 |
| B976A13495 | B977A13495 | 13,495 | .5313 | 17/32 | – | 2,3 | 45 | 14 |
| B976A13500 | B977A13500 | 13,500 | .5315 | – | – | 2,3 | 45 | 14 |
| B976A13700 | B977A13700 | 13,700 | .5394 | – | – | 2,4 | 45 | 14 |
| – | B977A13800 | 13,800 | .5433 | – | – | 2,4 | 45 | 14 |
| B976A14000 | B977A14000 | 14,000 | .5512 | – | – | 2,4 | 45 | 14 |
| B976A14100 | B977A14100 | 14,100 | .5551 | – | – | 2,4 | 48 | 16 |
| B976A14200 | B977A14200 | 14,200 | .5591 | – | – | 2,5 | 48 | 16 |
| B976A14288 | B977A14288 | 14,288 | .5625 | 9/16 | – | 2,5 | 48 | 16 |
| B976A14500 | B977A14500 | 14,500 | .5709 | – | – | 2,5 | 48 | 16 |
| – | B977A14600 | 14,600 | .5748 | – | – | 2,5 | 48 | 16 |
| B976A14700 | B977A14700 | 14,700 | .5787 | – | – | 2,5 | 48 | 16 |
| – | B977A14900 | 14,900 | .5866 | – | – | 2,6 | 48 | 16 |
| B976A15000 | B977A15000 | 15,000 | .5906 | – | – | 2,6 | 48 | 16 |
| – | B977A15100 | 15,100 | .5945 | – | – | 2,6 | 48 | 16 |
| – | B977A15200 | 15,200 | .5984 | – | – | 2,6 | 48 | 16 |
| – | B977A15300 | 15,300 | .6024 | – | – | 2,6 | 48 | 16 |
| B976A15500 | B977A15500 | 15,500 | .6102 | – | – | 2,7 | 48 | 16 |
| – | B977A15700 | 15,700 | .6181 | – | – | 2,7 | 48 | 16 |

*(continued)*

*(B976A/B977A • ~3 x D/~5 x D — continued)*

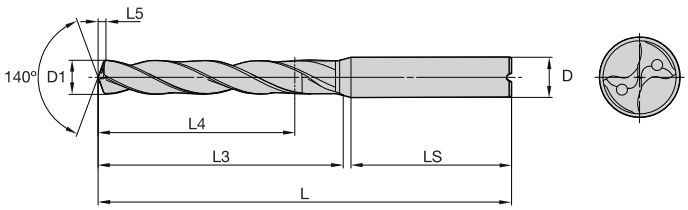


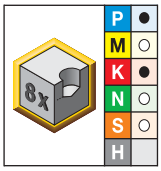

● first choice
○ alternate choice

| short • KC7315 | long • KC7315 | D1 diameter mm | in | fraction | wire size | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|
| – | B977A15800 | 15,800 | .6220 | – | – | 2,7 | 48 | 16 |
| B976A15875 | B977A15875 | 15,875 | .6250 | 5/8 | – | 2,7 | 48 | 16 |
| – | B977A15900 | 15,900 | .6260 | – | – | 2,8 | 48 | 16 |
| B976A16000 | B977A16000 | 16,000 | .6299 | – | – | 2,8 | 48 | 16 |
| – | B977A16078 | 16,078 | .6330 | – | – | 2,8 | 48 | 18 |
| B976A16200 | B977A16200 | 16,200 | .6378 | – | – | 2,8 | 48 | 18 |
| – | B977A16300 | 16,300 | .6417 | – | – | 2,8 | 48 | 18 |
| – | B977A16400 | 16,400 | .6457 | – | – | 2,8 | 48 | 18 |
| B976A16500 | B977A16500 | 16,500 | .6496 | – | – | 2,9 | 48 | 18 |
| – | B977A16600 | 16,600 | .6535 | – | – | 2,9 | 48 | 18 |
| B976A16670 | B977A16670 | 16,670 | .6563 | 21/32 | – | 2,9 | 48 | 18 |
| – | B977A16700 | 16,700 | .6575 | – | – | 2,9 | 48 | 18 |
| B976A16800 | – | 16,800 | .6614 | – | – | 2,9 | 48 | 18 |
| B976A17000 | B977A17000 | 17,000 | .6693 | – | – | 2,9 | 48 | 18 |
| B976A17100 | – | 17,100 | .6732 | – | – | 3,0 | 48 | 18 |
| B976A17463 | B977A17463 | 17,463 | .6875 | 11/16 | – | 3,0 | 48 | 18 |
| B976A17500 | B977A17500 | 17,500 | .6890 | – | – | 3,0 | 48 | 18 |
| – | B977A17700 | 17,700 | .6969 | – | – | 3,1 | 48 | 18 |
| B976A18000 | B977A18000 | 18,000 | .7087 | – | – | 3,1 | 48 | 18 |
| – | B977A18400 | 18,400 | .7244 | – | – | 3,2 | 50 | 20 |
| B976A18500 | B977A18500 | 18,500 | .7283 | – | – | 3,2 | 50 | 20 |
| – | B977A18600 | 18,600 | .7323 | – | – | 3,2 | 50 | 20 |
| – | B977A18800 | 18,800 | .7402 | – | – | 3,3 | 50 | 20 |
| B976A19000 | B977A19000 | 19,000 | .7480 | – | – | 3,3 | 50 | 20 |
| B976A19050 | B977A19050 | 19,050 | .7500 | 3/4 | – | 3,3 | 50 | 20 |
| – | B977A19200 | 19,200 | .7559 | – | – | 3,3 | 50 | 20 |
| – | B977A19253 | 19,253 | .7580 | – | – | 3,3 | 50 | 20 |
| – | B977A19446 | 19,446 | .7656 | 49/64 | – | 3,4 | 50 | 20 |
| B976A19500 | B977A19500 | 19,500 | .7677 | – | – | 3,4 | 50 | 20 |
| B976A19700 | B977A19700 | 19,700 | .7756 | – | – | 3,4 | 50 | 20 |
| B976A19840 * | B977A19840 | 19,840 | .7811 | – | – | 3,5 | 50 | 20 |
| B976A20000 | B977A20000 | 20,000 | .7874 | – | – | 3,5 | 50 | 20 |
| – | B977A21000 | 21,000 | .8268 | – | – | 3,7 | 50 | 20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



## B978A • ~8 x D

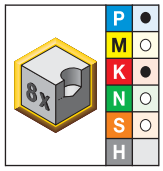



● first choice
○ alternate choice

| extra long • KC7315 | D1 diameter mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
|---|---|---|---|---|---|---|---|---|---|---|
| **B978A03000** | 3,000 | .1181 | – | – | 78 | 40 | 33 | 0,6 | 36 | 6 |
| **B978A03300** | 3,300 | .1299 | – | – | 78 | 40 | 33 | 0,7 | 36 | 6 |
| **B978A03400** | 3,400 | .1339 | – | – | 78 | 40 | 33 | 0,7 | 36 | 6 |
| **B978A03600** | 3,600 | .1417 | – | – | 78 | 40 | 33 | 0,7 | 36 | 6 |
| **B978A03700** | 3,700 | .1457 | – | – | 78 | 40 | 33 | 0,8 | 36 | 6 |
| **B978A03800** | 3,800 | .1496 | – | – | 87 | 49 | 41 | 0,8 | 36 | 6 |
| **B978A03970** | 3,970 | .1563 | 5/32 | – | 87 | 49 | 41 | 0,8 | 36 | 6 |
| **B978A04000** | 4,000 | .1575 | – | – | 87 | 49 | 41 | 0,8 | 36 | 6 |
| **B978A04200** | 4,200 | .1654 | – | – | 87 | 49 | 41 | 0,9 | 36 | 6 |
| **B978A04500** | 4,500 | .1772 | – | – | 87 | 49 | 41 | 0,9 | 36 | 6 |
| **B978A04600** | 4,600 | .1811 | – | – | 87 | 49 | 41 | 0,9 | 36 | 6 |
| **B978A04763** | 4,763 | .1875 | 3/16 | – | 94 | 56 | 48 | 1,0 | 36 | 6 |
| **B978A04800** | 4,800 | .1890 | – | 12 | 94 | 56 | 48 | 1,0 | 36 | 6 |
| **B978A05000** | 5,000 | .1969 | – | – | 94 | 56 | 48 | 1,0 | 36 | 6 |
| **B978A05100** | 5,100 | .2008 | – | – | 94 | 56 | 48 | 1,1 | 36 | 6 |
| **B978A05200** | 5,200 | .2047 | – | – | 94 | 56 | 48 | 1,1 | 36 | 6 |
| **B978A05300** | 5,300 | .2087 | – | – | 94 | 56 | 48 | 1,1 | 36 | 6 |
| **B978A05500** | 5,500 | .2165 | – | – | 94 | 56 | 48 | 1,1 | 36 | 6 |
| **B978A05558** | 5,558 | .2188 | 7/32 | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B978A05600** | 5,600 | .2205 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B978A05700** | 5,700 | .2244 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B978A05800** | 5,800 | .2283 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B978A05900** | 5,900 | .2323 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B978A06000** | 6,000 | .2362 | – | – | 94 | 56 | 48 | 1,2 | 36 | 6 |
| **B978A06100** | 6,100 | .2402 | – | – | 105 | 67 | 57 | 1,3 | 36 | 8 |
| **B978A06200** | 6,200 | .2441 | – | – | 105 | 67 | 57 | 1,3 | 36 | 8 |
| **B978A06300** | 6,300 | .2480 | – | – | 105 | 67 | 57 | 1,3 | 36 | 8 |
| **B978A06350** | 6,350 | .2500 | 1/4 | – | 105 | 67 | 57 | 1,3 | 36 | 8 |
| **B978A06400** | 6,400 | .2520 | – | – | 105 | 67 | 57 | 1,3 | 36 | 8 |
| **B978A06500** | 6,500 | .2559 | – | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B978A06600** | 6,600 | .2598 | – | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B978A06700** | 6,700 | .2638 | – | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B978A06746** | 6,746 | .2656 | 17/64 | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B978A06800** | 6,800 | .2677 | – | – | 105 | 67 | 57 | 1,4 | 36 | 8 |
| **B978A07000** | 7,000 | .2756 | – | – | 105 | 67 | 57 | 1,5 | 36 | 8 |
| **B978A07145** | 7,145 | .2813 | 9/32 | – | 110 | 72 | 61 | 1,5 | 36 | 8 |

*(continued)*

*(B978A • ~8 x D — continued)*



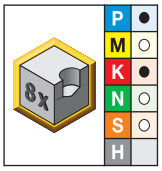

● first choice
○ alternate choice

| | D1 diameter | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| extra long • KC7315 | mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
| B978A07400 | 7,400 | .2913 | – | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| B978A07500 | 7,500 | .2953 | – | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| B978A07541 | 7,541 | .2969 | 19/64 | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| B978A07700 | 7,700 | .3031 | – | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| B978A07800 | 7,800 | .3071 | – | – | 110 | 72 | 61 | 1,6 | 36 | 8 |
| B978A07938 | 7,938 | .3125 | 5/16 | – | 110 | 72 | 61 | 1,7 | 36 | 8 |
| B978A08000 | 8,000 | .3150 | – | – | 110 | 72 | 61 | 1,7 | 36 | 8 |
| B978A08100 | 8,100 | .3189 | – | – | 122 | 80 | 68 | 1,7 | 40 | 10 |
| B978A08200 | 8,200 | .3228 | – | – | 122 | 80 | 68 | 1,7 | 40 | 10 |
| B978A08334 | 8,334 | .3281 | 21/64 | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| B978A08500 | 8,500 | .3346 | – | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| B978A08600 | 8,600 | .3386 | – | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| B978A08700 | 8,700 | .3425 | – | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| B978A08733 | 8,733 | .3438 | 11/32 | – | 122 | 80 | 68 | 1,8 | 40 | 10 |
| B978A08800 | 8,800 | .3465 | – | – | 122 | 80 | 68 | 1,9 | 40 | 10 |
| B978A09000 | 9,000 | .3543 | – | – | 122 | 80 | 68 | 1,9 | 40 | 10 |
| B978A09100 | 9,100 | .3583 | – | – | 122 | 80 | 68 | 1,9 | 40 | 10 |
| B978A09129 | 9,129 | .3594 | 23/64 | – | 122 | 80 | 68 | 1,9 | 40 | 10 |
| B978A09300 | 9,300 | .3661 | – | – | 122 | 80 | 68 | 2,0 | 40 | 10 |
| B978A09500 | 9,500 | .3740 | – | – | 122 | 80 | 68 | 2,0 | 40 | 10 |
| B978A09525 | 9,525 | .3750 | 3/8 | – | 122 | 80 | 68 | 2,0 | 40 | 10 |
| B978A09700 | 9,700 | .3819 | – | – | 122 | 80 | 68 | 2,0 | 40 | 10 |
| B978A09750 | 9,750 | .3839 | – | – | 122 | 80 | 68 | 2,1 | 40 | 10 |
| B978A09800 | 9,800 | .3858 | – | – | 122 | 80 | 68 | 2,1 | 40 | 10 |
| B978A09900 | 9,900 | .3898 | – | – | 122 | 80 | 68 | 2,1 | 40 | 10 |
| B978A09921 | 9,921 | .3906 | 25/64 | – | 122 | 80 | 68 | 2,1 | 40 | 10 |
| B978A10000 | 10,000 | .3937 | – | – | 122 | 80 | 68 | 2,1 | 40 | 10 |
| B978A10100 | 10,100 | .3976 | – | – | 141 | 94 | 79 | 2,1 | 45 | 12 |
| B978A10200 | 10,200 | .4016 | – | – | 141 | 94 | 79 | 2,2 | 45 | 12 |
| B978A10300 | 10,300 | .4055 | – | – | 141 | 94 | 79 | 2,2 | 45 | 12 |
| B978A10320 | 10,320 | .4063 | 13/32 | – | 141 | 94 | 79 | 2,2 | 45 | 12 |
| B978A10500 | 10,500 | .4134 | – | – | 141 | 94 | 79 | 2,2 | 45 | 12 |
| B978A10716 | 10,716 | .4219 | 27/64 | – | 141 | 94 | 79 | 2,3 | 45 | 12 |
| B978A10800 | 10,800 | .4252 | – | – | 141 | 94 | 79 | 2,3 | 45 | 12 |
| B978A11000 | 11,000 | .4331 | – | – | 141 | 94 | 79 | 2,3 | 45 | 12 |
| B978A11113 | 11,113 | .4375 | 7/16 | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| B978A11200 | 11,200 | .4409 | – | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| B978A11300 | 11,300 | .4449 | – | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| B978A11400 | 11,400 | .4488 | – | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| B978A11500 | 11,500 | .4528 | – | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| B978A11509 | 11,509 | .4531 | 29/64 | – | 141 | 94 | 79 | 2,4 | 45 | 12 |
| B978A11700 | 11,700 | .4606 | – | – | 141 | 94 | 79 | 2,5 | 45 | 12 |
| B978A11800 | 11,800 | .4646 | – | – | 141 | 94 | 79 | 2,5 | 45 | 12 |
| B978A11908 | 11,908 | .4688 | 15/32 | – | 141 | 94 | 79 | 2,5 | 45 | 12 |
| B978A12000 | 12,000 | .4724 | – | – | 141 | 94 | 79 | 2,5 | 45 | 12 |
| B978A12304 * | 12,304 | .4844 | 31/64 | – | 155 | 108 | 91 | 2,6 | 45 | 14 |
| B978A12500 | 12,500 | .4921 | – | – | 155 | 108 | 91 | 2,7 | 45 | 14 |
| B978A12700 | 12,700 | .5000 | 1/2 | – | 155 | 108 | 91 | 2,7 | 45 | 14 |
| B978A12800 | 12,800 | .5039 | – | – | 155 | 108 | 91 | 2,7 | 45 | 14 |
| B978A13000 | 13,000 | .5118 | – | – | 155 | 108 | 91 | 2,8 | 45 | 14 |
| B978A13100 | 13,100 | .5157 | – | – | 155 | 108 | 91 | 2,8 | 45 | 14 |
| B978A13500 | 13,500 | .5315 | – | – | 155 | 108 | 91 | 2,9 | 45 | 14 |

*(continued)*

*(B978A • ~8 x D — continued)*






● first choice
○ alternate choice

| | D1 diameter | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| extra long • KC7315 | mm | in | fraction | wire size | L | L3 | L4 max | L5 | LS | D |
| **B978A14000** | 14,000 | .5512 | — | — | 155 | 108 | 91 | 3,0 | 45 | 14 |
| **B978A14288** | 14,288 | .5625 | 9/16 | — | 171 | 121 | 101 | 3,0 | 48 | 16 |
| **B978A14500** | 14,500 | .5709 | — | — | 171 | 121 | 101 | 3,1 | 48 | 16 |
| **B978A15000** | 15,000 | .5906 | — | — | 171 | 121 | 101 | 3,2 | 48 | 16 |
| **B978A15100** | 15,100 | .5945 | — | — | 171 | 121 | 101 | 3,2 | 48 | 16 |
| **B978A15200** | 15,200 | .5984 | — | — | 171 | 121 | 101 | 3,2 | 48 | 16 |
| **B978A15300** | 15,300 | .6024 | — | — | 171 | 121 | 101 | 3,3 | 48 | 16 |
| **B978A15500** | 15,500 | .6102 | — | — | 171 | 121 | 101 | 3,3 | 48 | 16 |
| **B978A15800** | 15,800 | .6220 | — | — | 171 | 121 | 101 | 3,4 | 48 | 16 |
| **B978A15875** | 15,875 | .6250 | 5/8 | — | 171 | 121 | 101 | 3,4 | 48 | 16 |
| **B978A16000** | 16,000 | .6299 | — | — | 171 | 121 | 101 | 3,4 | 48 | 16 |
| **B978A16078** | 16,078 | .6330 | — | — | 185 | 135 | 113 | 3,4 | 48 | 18 |
| **B978A16200** | 16,200 | .6378 | — | — | 185 | 135 | 113 | 3,5 | 48 | 18 |
| **B978A16500** | 16,500 | .6496 | — | — | 185 | 135 | 113 | 3,5 | 48 | 18 |
| **B978A17000** | 17,000 | .6693 | — | — | 185 | 135 | 113 | 3,6 | 48 | 18 |
| **B978A17463** | 17,463 | .6875 | 11/16 | — | 185 | 135 | 113 | 3,7 | 48 | 18 |
| **B978A17500** | 17,500 | .6890 | — | — | 185 | 135 | 113 | 3,7 | 48 | 18 |
| **B978A18000** | 18,000 | .7087 | — | — | 185 | 135 | 113 | 3,9 | 48 | 18 |
| **B978A18500** | 18,500 | .7283 | — | — | 200 | 148 | 124 | 4,0 | 50 | 20 |
| **B978A19000** | 19,000 | .7480 | — | — | 200 | 148 | 124 | 4,1 | 50 | 20 |
| **B978A19050** * | 19,050 | .7500 | 3/4 | — | 200 | 148 | 124 | 4,1 | 50 | 20 |
| **B978A19253** * | 19,253 | .7580 | — | — | 200 | 148 | 124 | 4,1 | 50 | 20 |
| **B978A19500** * | 19,500 | .7677 | — | — | 200 | 148 | 124 | 4,2 | 50 | 20 |
| **B978A19800** | 19,800 | .7795 | — | — | 200 | 148 | 124 | 4,2 | 50 | 20 |
| **B978A19840** | 19,840 | .7811 | — | — | 200 | 148 | 124 | 4,3 | 50 | 20 |
| **B978A20000** | 20,000 | .7874 | — | — | 200 | 148 | 124 | 4,3 | 50 | 20 |

NOTE: The point angle on B978 series is 132°.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance • Metric**

| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >3–6 | 0,004/0,016 | 0,000/-0,008 |
| >6–10 | 0,006/0,021 | 0,000/-0,009 |
| >10–18 | 0,007/0,025 | 0,000/-0,011 |
| >18–25,4 | 0,008/0,029 | 0,000/-0,013 |

**Tolerance • Inch**

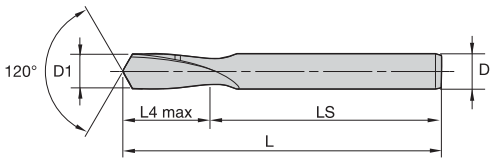
| nominal size range | D1 tolerance m7 | D tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0002/.0006 | .0000/-.0003 |
| >.2362–.3937 | .0002/.0008 | .0000/-.0004 |
| >.3937–.7087 | .0003/.0010 | .0000/-.0004 |
| >.7087–1.0000 | .0003/.0011 | .0000/-.0005 |

## Kenna Universal™ Drills • B97_Series • Grade KC7315™ • Through Coolant • Drill Diameters 2–20mm (.0787–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | 2,0 | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 80 | **120** | 160 | mm/r | | 0,04–0,10 | 0,06–0,12 | 0,07–0,14 | 0,09–0,19 | 0,11–0,22 | 0,13–0,26 | 0,15–0,30 | 0,19–0,36 | 0,24–0,46 |
| | 1 | 70 | **100** | 140 | mm/r | | 0,05–0,12 | 0,07–0,14 | 0,08–0,16 | 0,11–0,22 | 0,13–0,26 | 0,15–0,31 | 0,18–0,35 | 0,22–0,42 | 0,28–0,54 |
| | 2 | 90 | **120** | 140 | mm/r | | 0,05–0,12 | 0,07–0,14 | 0,08–0,16 | 0,12–0,22 | 0,14–0,26 | 0,17–0,31 | 0,20–0,35 | 0,24–0,42 | 0,31–0,53 |
| | 3 | 60 | **80** | 100 | mm/r | | 0,06–0,13 | 0,08–0,15 | 0,09–0,17 | 0,13–0,23 | 0,15–0,28 | 0,19–0,33 | 0,22–0,38 | 0,26–0,47 | 0,34–0,59 |
| | 4 | 50 | **80** | 100 | mm/r | | 0,06–0,13 | 0,07–0,15 | 0,08–0,17 | 0,12–0,23 | 0,14–0,28 | 0,17–0,33 | 0,19–0,38 | 0,23–0,47 | 0,29–0,59 |
| | 5 | 50 | **60** | 80 | mm/r | | 0,06–0,12 | 0,08–0,13 | 0,10–0,15 | 0,12–0,19 | 0,16–0,24 | 0,20–0,27 | 0,24–0,30 | 0,28–0,38 | 0,32–0,44 |
| | 6 | 40 | **50** | 70 | mm/r | | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,08–0,14 | 0,10–0,18 | 0,13–0,22 | 0,14–0,24 | 0,18–0,32 | 0,23–0,41 |
| M | 1 | 30 | **40** | 50 | mm/r | | 0,03–0,06 | 0,04–0,07 | 0,05–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| | 2 | 40 | **50** | 60 | mm/r | | 0,03–0,07 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | 3 | 30 | **40** | 50 | mm/r | | 0,03–0,06 | 0,04–0,07 | 0,05–0,09 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,16–0,20 |
| K | 1 | 80 | **120** | 170 | mm/r | | 0,09–0,17 | 0,11–0,22 | 0,12–0,24 | 0,16–0,31 | 0,20–0,38 | 0,23–0,44 | 0,25–0,49 | 0,31–0,60 | 0,38–0,74 |
| | 2 | 80 | **110** | 140 | mm/r | | 0,11–0,15 | 0,12–0,16 | 0,13–0,19 | 0,16–0,25 | 0,20–0,31 | 0,23–0,36 | 0,25–0,40 | 0,31–0,48 | 0,38–0,60 |
| | 3 | 80 | **100** | 130 | mm/r | | 0,07–0,15 | 0,08–0,17 | 0,09–0,19 | 0,12–0,25 | 0,14–0,30 | 0,17–0,35 | 0,19–0,40 | 0,24–0,48 | 0,30–0,60 |
| N | 1 | 90 | **230** | 315 | mm/r | | 0,06–0,13 | 0,08–0,14 | 0,10–0,16 | 0,12–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,48 |
| | 2 | 90 | **225** | 270 | mm/r | | 0,06–0,12 | 0,08–0,16 | 0,10–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,44 | 0,32–0,52 |
| | 3 | 90 | **180** | 270 | mm/r | | 0,11–0,14 | 0,12–0,14 | 0,13–0,16 | 0,14–0,20 | 0,16–0,24 | 0,20–0,28 | 0,24–0,32 | 0,28–0,40 | 0,32–0,44 |
| | 4 | 90 | **135** | 180 | mm/r | | 0,06–0,12 | 0,08–0,16 | 0,01–0,20 | 0,12–0,24 | 0,16–0,28 | 0,20–0,32 | 0,24–0,36 | 0,28–0,40 | 0,32–0,48 |
| S | 1 | 10 | **25** | 30 | mm/r | | 0,02–0,05 | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,09–0,13 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 |
| | 2 | 10 | **20** | 25 | mm/r | | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |
| | 3 | 10 | **25** | 30 | mm/r | | 0,02–0,03 | 0,02–0,04 | 0,02–0,05 | 0,04–0,07 | 0,06–0,09 | 0,07–0,10 | 0,08–0,11 | 0,09–0,13 | 0,10–0,15 |
| | 4 | 10 | **25** | 40 | mm/r | | 0,02–0,03 | 0,02–0,04 | 0,03–0,06 | 0,05–0,08 | 0,07–0,10 | 0,08–0,11 | 0,09–0,12 | 0,10–0,14 | 0,11–0,16 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | 5/64 .078 | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 260 | **390** | 520 | IPR | | .002-.004 | .002-.005 | .003-.005 | .004-.007 | .004-.009 | .005-.010 | .006-.012 | .007-.014 | .009-.018 |
| | 1 | 230 | **330** | 460 | IPR | | .002-.005 | .003-.006 | .003-.006 | .004-.009 | .005-.010 | .006-.012 | .007-.014 | .009-.017 | .011-.022 |
| | 2 | 300 | **390** | 460 | IPR | | .002-.005 | .003-.006 | .003-.006 | .005-.009 | .006-.010 | .007-.012 | .008-.014 | .009-.017 | .012-.021 |
| | 3 | 200 | **260** | 330 | IPR | | .002-.005 | .003-.006 | .004-.007 | .005-.009 | .006-.011 | .008-.013 | .009-.015 | .010-.019 | .013-.023 |
| | 4 | 160 | **260** | 330 | IPR | | .002-.005 | .003-.006 | .003-.007 | .005-.009 | .006-.011 | .007-.013 | .008-.015 | .009-.019 | .011-.023 |
| | 5 | 160 | **200** | 260 | IPR | | .002-.005 | .003-.005 | .004-.006 | .005-.008 | .006-.009 | .008-.011 | .009-.012 | .011-.015 | .013-.017 |
| | 6 | 130 | **160** | 230 | IPR | | .002-.002 | .002-.003 | .002-.004 | .003-.006 | .004-.007 | .005-.009 | .006-.009 | .007-.013 | .009-.016 |
| M | 1 | 100 | **130** | 160 | IPR | | .001-.002 | .002-.003 | .002-.004 | .003-.004 | .004-.005 | .004-.006 | .005-.006 | .006-.007 | .006-.008 |
| | 2 | 130 | **160** | 200 | IPR | | .001-.003 | .002-.003 | .002-.004 | .003-.005 | .004-.006 | .004-.006 | .005-.007 | .006-.008 | .006-.009 |
| | 3 | 100 | **130** | 160 | IPR | | .001-.002 | .002-.003 | .002-.004 | .003-.004 | .004-.005 | .004-.006 | .005-.006 | .006-.007 | .006-.008 |
| K | 1 | 260 | **390** | 560 | IPR | | .004-.007 | .004-.009 | .005-.009 | .006-.012 | .008-.015 | .009-.017 | .010-.019 | .012-.024 | .015-.029 |
| | 2 | 260 | **360** | 460 | IPR | | .004-.006 | .005-.006 | .005-.008 | .006-.010 | .008-.012 | .009-.014 | .010-.016 | .012-.019 | .015-.024 |
| | 3 | 260 | **330** | 430 | IPR | | .003-.006 | .003-.007 | .004-.008 | .005-.010 | .006-.012 | .007-.014 | .008-.016 | .009-.019 | .012-.024 |
| N | 1 | 300 | **750** | 1030 | IPR | | .002-.005 | .003-.006 | .004-.006 | .005-.008 | .006-.009 | .008-.011 | .009-.013 | .011-.016 | .013-.019 |
| | 2 | 300 | **740** | 890 | IPR | | .002-.005 | .003-.006 | .004-.008 | .005-.009 | .006-.011 | .008-.013 | .009-.014 | .011-.017 | .013-.021 |
| | 3 | 300 | **590** | 890 | IPR | | .004-.006 | .005-.006 | .005-.006 | .006-.008 | .006-.009 | .008-.011 | .009-.013 | .011-.016 | .013-.017 |
| | 4 | 300 | **440** | 590 | IPR | | .002-.005 | .003-.006 | .000-.008 | .005-.009 | .006-.011 | .008-.013 | .009-.014 | .011-.016 | .013-.019 |
| S | 1 | 30 | **80** | 100 | IPR | | .001-.002 | .001-.002 | .002-.003 | .002-.004 | .003-.005 | .004-.005 | .004-.006 | .005-.006 | .006-.007 |
| | 2 | 30 | **70** | 80 | IPR | | .001-.002 | .001-.002 | .001-.002 | .002-.003 | .003-.004 | .003-.004 | .004-.005 | .004-.006 | .004-.006 |
| | 3 | 30 | **80** | 100 | IPR | | .001-.001 | .001-.002 | .001-.002 | .002-.003 | .002-.004 | .003-.004 | .003-.004 | .004-.005 | .004-.006 |
| | 4 | 30 | **80** | 130 | IPR | | .001-.001 | .001-.002 | .001-.002 | .002-.003 | .003-.004 | .003-.004 | .004-.005 | .004-.006 | .004-.006 |

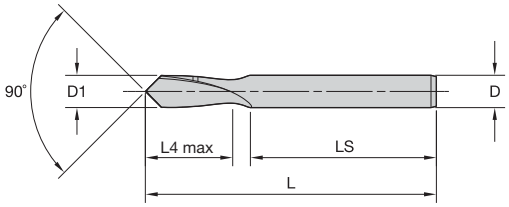
KENNAMETAL®



## B501 • 120°

● first choice
○ alternate choice

| B501 • K10 | D1 diameter mm | in | fraction | wire size | L | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B501Z04000** | 4,000 | .1575 | – | – | 54 | 7 | 33 | 6 |
| **B501Z06000** | 6,000 | .2362 | – | – | 54 | 9 | 33 | 6 |
| **B501Z10000** | 10,000 | .3937 | – | – | 66 | 12 | 45 | 10 |
| **B501Z12000** | 12,000 | .4724 | – | – | 73 | 14 | 52 | 12 |



## B505 • 90°

● first choice
○ alternate choice

| B505 • K10 | D1 diameter mm | in | fraction | wire size | L | L4 max | LS | D |
|---|---|---|---|---|---|---|---|---|
| **B505Z04000** | 4,000 | .1575 | – | – | 54 | 7 | 33 | 4 |
| **B505Z06000** | 6,000 | .2362 | – | – | 54 | 9 | 33 | 6 |
| **B505Z08000** | 8,000 | .3150 | – | – | 58 | 11 | 37 | 8 |
| **B505Z10000** | 10,000 | .3937 | – | – | 66 | 12 | 40 | 10 |
| **B505Z12000** | 12,000 | .4724 | – | – | 73 | 14 | 52 | 12 |
| **B505Z16000** | 16,000 | .6299 | – | – | 82 | 16 | 61 | 16 |
| **B505Z20000** | 20,000 | .7874 | – | – | 92 | 18 | 71 | 20 |

**Tolerance • Metric**

| D1 | tolerance h8 | tolerance h6 |
|---|---|---|
| >3–6 | 0,000/-0,018 | 0,000/-0,008 |
| >6–10 | 0,000/-0,022 | 0,000/-0,009 |
| >10–18 | 0,000/-0,027 | 0,000/-0,011 |

**Tolerance • Inch**

| D1 | tolerance h8 | tolerance h6 |
|---|---|---|
| >.1181–.2362 | .0000/-.0007 | .0000/-.0003 |
| >.2362–.3937 | .0000/-.0009 | .0000/-.0004 |
| >.3937–.7087 | .0000/-.0011 | .0000/-.0004 |

## Non-Coolant Spot Drills • B50_ Series • Grade K10 • Dry and Flood Coolant Drill • Diameters 3–20mm (.1181–.7874")

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 20,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 50 | 65 | 100 | mm/r | 0,05–0,10 | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,24 | 0,18–0,28 |
| | 1 | 40 | 55 | 80 | mm/r | 0,05–0,10 | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,24 | 0,18–0,28 |
| | 2 | 40 | 55 | 80 | mm/r | 0,05–0,10 | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,24 | 0,18–0,28 |
| | 3 | 40 | 55 | 80 | mm/r | 0,05–0,10 | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,24 | 0,18–0,28 |
| | 4 | 40 | 55 | 80 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,22 | 0,16–0,24 |
| | 5 | 30 | 40 | 60 | mm/r | 0,03–0,05 | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,12–0,18 | 0,14–0,20 |
| | 6 | 30 | 40 | 60 | mm/r | 0,03–0,05 | 0,03–0,06 | 0,04–0,08 | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,12–0,18 | 0,14–0,20 |
| M | 1 | 30 | 35 | 50 | mm/r | 0,04–0,07 | 0,05–0,09 | 0,06–0,11 | 0,80–0,13 | 0,09–0,15 | 0,10–0,17 | 0,11–0,20 | 0,12–0,23 |
| | 2 | 30 | 40 | 50 | mm/r | 0,03–0,05 | 0,04–0,08 | 0,05–0,09 | 0,06–0,10 | 0,07–0,12 | 0,08–0,14 | 0,09–0,17 | 0,10–0,20 |
| | 3 | 25 | 30 | 40 | mm/r | 0,03–0,05 | 0,04–0,08 | 0,05–0,09 | 0,06–0,10 | 0,07–0,12 | 0,08–0,14 | 0,09–0,17 | 0,10–0,20 |
| K | 1 | 60 | 90 | 120 | mm/r | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 | 0,18–0,26 | 0,20–0,30 |
| | 2 | 60 | 80 | 100 | mm/r | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 | 0,18–0,26 | 0,20–0,30 |
| | 3 | 60 | 90 | 120 | mm/r | 0,06–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 | 0,18–0,26 | 0,20–0,30 |
| N | 1 | 90 | 230 | 270 | mm/r | 0,06–0,13 | 0,08–0,15 | 0,10–0,18 | 0,12–0,25 | 0,15–0,28 | 0,18–0,32 | 0,20–0,34 | 0,22–0,38 |
| | 2 | 90 | 220 | 270 | mm/r | 0,06–0,13 | 0,08–0,15 | 0,10–0,18 | 0,12–0,25 | 0,15–0,28 | 0,18–0,32 | 0,20–0,34 | 0,22–0,38 |
| | 3 | 90 | 180 | 225 | mm/r | 0,06–0,13 | 0,08–0,15 | 0,10–0,18 | 0,12–0,25 | 0,15–0,28 | 0,18–0,32 | 0,20–0,34 | 0,22–0,38 |
| | 4 | 90 | 130 | 270 | mm/r | 0,06–0,13 | 0,08–0,15 | 0,10–0,18 | 0,12–0,25 | 0,15–0,28 | 0,18–0,32 | 0,20–0,34 | 0,22–0,38 |
| S | 1 | 20 | 25 | 30 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,06–0,10 | 0,07–0,11 | 0,08–0,13 | 0,09–0,16 | 0,10–0,20 |
| | 2 | 10 | 20 | 30 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,06–0,10 | 0,07–0,11 | 0,08–0,13 | 0,09–0,16 | 0,10–0,20 |
| | 3 | 20 | 25 | 40 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,06–0,10 | 0,07–0,11 | 0,08–0,13 | 0,09–0,16 | 0,10–0,20 |
| | 4 | 20 | 25 | 50 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,06–0,10 | 0,07–0,11 | 0,08–0,13 | 0,09–0,16 | 0,10–0,20 |

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 160 | 210 | 330 | IPR | .002–.004 | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.011 |
| | 1 | 130 | 180 | 260 | IPR | .002–.004 | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.011 |
| | 2 | 130 | 180 | 260 | IPR | .002–.004 | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.011 |
| | 3 | 130 | 180 | 260 | IPR | .002–.004 | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.011 |
| | 4 | 130 | 180 | 260 | IPR | .002–.003 | .002–.004 | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.009 | .006–.009 |
| | 5 | 100 | 130 | 200 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .005–.007 | .006–.008 |
| | 6 | 100 | 130 | 200 | IPR | .001–.002 | .001–.002 | .002–.003 | .002–.004 | .003–.005 | .004–.006 | .005–.007 | .006–.008 |
| M | 1 | 100 | 110 | 160 | IPR | .002–.003 | .002–.004 | .002–.004 | .032–.005 | .004–.006 | .004–.007 | .004–.008 | .005–.009 |
| | 2 | 100 | 130 | 160 | IPR | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .003–.005 | .003–.006 | .004–.007 | .004–.008 |
| | 3 | 80 | 100 | 130 | IPR | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .003–.005 | .003–.006 | .004–.007 | .004–.008 |
| K | 1 | 200 | 300 | 390 | IPR | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.010 | .008–.012 |
| | 2 | 200 | 260 | 330 | IPR | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.010 | .008–.012 |
| | 3 | 200 | 300 | 390 | IPR | .002–.005 | .003–.006 | .004–.006 | .005–.007 | .006–.008 | .006–.009 | .007–.010 | .008–.012 |
| N | 1 | 300 | 750 | 890 | IPR | .002–.005 | .003–.006 | .004–.007 | .005–.010 | .006–.011 | .007–.013 | .008–.013 | .009–.015 |
| | 2 | 300 | 720 | 890 | IPR | .002–.005 | .003–.006 | .004–.007 | .005–.010 | .006–.011 | .007–.013 | .008–.013 | .009–.015 |
| | 3 | 300 | 590 | 740 | IPR | .002–.005 | .003–.006 | .004–.007 | .005–.010 | .006–.011 | .007–.013 | .008–.013 | .009–.015 |
| | 4 | 300 | 430 | 890 | IPR | .002–.005 | .003–.006 | .004–.007 | .005–.010 | .006–.011 | .007–.013 | .008–.013 | .009–.015 |
| S | 1 | 70 | 80 | 100 | IPR | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .003–.004 | .003–.005 | .004–.006 | .004–.008 |
| | 2 | 30 | 70 | 100 | IPR | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .003–.004 | .003–.005 | .004–.006 | .004–.008 |
| | 3 | 70 | 80 | 130 | IPR | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .003–.004 | .003–.005 | .004–.006 | .004–.008 |
| | 4 | 70 | 80 | 160 | IPR | .001–.002 | .002–.003 | .002–.004 | .002–.004 | .003–.004 | .003–.005 | .004–.006 | .004–.008 |

KENNAMETAL

# Modular Drills

**Introduction** ..... **H2–H5**

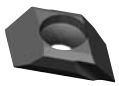
**KenTIP FS** ..... **H6–H28**

**KenTIP** ..... **H30–H48**

**KSEM** ..... **H50–H101**

Tube Sheet Grooving Tool ..... H98–H101

**KSEM PLUS** ..... **H102–H133**

| modular drills with internal coolant channel | | grade/series | standard* ● first choice ○ alternate choice P | M | K | N | S | H | hole tolerance | standard range diameter range D1 mm min–max | D1 inch min–max | drilling depth L/D1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KenTIP™ FS**<br>**For smaller diameters. Easy front clamping and disposable inserts.** | | | | | | | | | | | | |
| | KenTIP FS inserts | KCP15A HPG | ● | | ○ | | | | IT9–IT11 | 6,00–26,00 | .2362–1.0236 | — |
| | | KC7410 HPC | | | ● | | | | | | | |
| | | KCMS15 HPL | | ● | | | | | | | | |
| | KenTIP FS bodies | SS<br>SF<br>SCF | — | | | | | | — | 6,00≤Ø<9,50 | .2362≤Ø<.3740 | 1.5–12 x D |
| | | | | | | | | | | 9,50≤Ø<11,00 | .3740≤Ø<.4331 | |
| | | | | | | | | | | 11,00≤Ø<12,50 | .4331≤Ø<.4921 | |
| | | | | | | | | | | 12,50≤Ø<14,00 | .4921≤Ø<.5512 | |
| | | | | | | | | | | 14,00≤Ø<15,50 | .5512≤Ø<.6102 | |
| | | | | | | | | | | 15,50≤Ø<16,50 | .6102≤Ø<.6496 | |
| | | | | | | | | | | 16,50≤Ø<20,00 | .6496≤Ø<.7874 | |
| | | | | | | | | | | 20,00≤Ø<21,00 | .7874≤Ø<.8268 | SCF shank only |
| | | | | | | | | | | 21,00≤Ø<26,00 | .8268≤Ø<1.0236 | |
| **KenTIP™** | | | | | | | | | | | | |
| | KenTIP inserts | KCP15 HP | ● | | ○ | | | | IT9–IT11 | 7,94–27,99 | .3125–1.1020 | — |
| | | KCPM45™ FEG | ● | ○ | ○ | | | | | 7,94–27,99 | .3125–.7874 | |
| | FAS chamfering inserts | KC7014 FAS-GD | ○ | ○ | ○ | ● | ○ | | | Made-to-order toolholders required. Also available for KenTIP FS. | | |
| | | KC7215 FAS-GD | ● | ○ | ● | ○ | ● | | | | | |
|  | CFM tangential chamfering and counterboring | KCU40 CFM-HP | ● | ○ | ○ | ● | ● | | | | | |
| | KenTIP bodies | SS<br>SCF | — | | | | | | — | 7,94≤Ø<9,50 | .3125≤Ø<.3740 | 1.5–12 x D |
| | | | | | | | | | | 9,50≤Ø<11,00 | .3740≤Ø<.4331 | |
| | | | | | | | | | | 11,00≤Ø<12,50 | .4331≤Ø<.4921 | |
| | | | | | | | | | | 12,50≤Ø<14,00 | .4921≤Ø<.5512 | |
| | | | | | | | | | | 14,00≤Ø<15,50 | .5512≤Ø<.6102 | |
| | | | | | | | | | | 15,50≤Ø<16,50 | .6102≤Ø<.6496 | |
| | | | | | | | | | | 16,50≤Ø<20,50 | .6496≤Ø<.8071 | |
| | | | | | | | | | | 20,00≤Ø<21,00 | .8071≤Ø<.8268 | |
| | | | | | | | | | | 21,00≤Ø<27,99 | .8268≤Ø<1.1020 | |

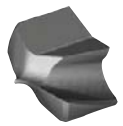
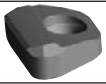
* Apart from our standard drills, we can offer you a wide variety of special coating solutions and edge preparations to fulfill all your needs. If a specific drill is not suitable for your workpiece material, please contact our **Engineered Solutions Department**.

■ Standard Product
□ Engineered Solutions

| engineered solution range / diameter range | | | coolant | drilling | inclined exit | stacked plates | flat bottom | countersinking | counterboring | cross hole | 2 flute 2 margin cooled | 2 flute 4 margin cooled | corner chamfer | plain shank ≤H6 | Whistle Notch 2° | WD shank | flat shank | SSF shank | KM™ shank | HSK shank | page(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 mm min–max | D1 inch min–max | max drilling depth | | | | | | | | | | | | | | | | | | | |
| **KenTIP™ FS** For smaller diameters. Easy front clamping and disposable inserts. *(continued)* | | | | | | | | | | | | | | | | | | | | | |
| 6,00–26,00 | .2362–1.0236 | — | | ■ | ■ | ■ | | □ | □ | ■ | ■ | □ | □ | | | | | | | | H8 |
| | | | ■ | ■ | ■ | | | □ | □ | ■ | | ■ | ■ | | | | | | | | |
| | | | ■ | ■ | ■ | | | □ | □ | ■ | ■ | □ | □ | | | | | | | | |
| 6,00≤Ø<9,50 | .2362≤Ø<.3740 | 12 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | H18 |
| 9,50≤Ø<11,00 | .3740≤Ø<.4331 | 13 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 11,00≤Ø<12,50 | .4331≤Ø<.4921 | 14 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 12,50≤Ø<14,00 | .4921≤Ø<.5512 | 15 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 14,00≤Ø<15,50 | .5512≤Ø<.6102 | 16 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 15,50≤Ø<16,50 | .6102≤Ø<.6496 | 17 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 16,50≤Ø<20,00 | .6496≤Ø<.7874 | 18 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 20,00≤Ø<21,00 | .7874≤Ø<.8268 | 20 x D | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 21,00≤Ø<26,00 | .8268≤Ø<1.0236 | 550mm | ■ | | | | | □ | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| **KenTIP™** *(continued)* | | | | | | | | | | | | | | | | | | | | | |
| 7,94–27,99 | .3125–1.1020 | — | | ■ | □ | | | | | | ■ | □ | □ | | | | | | | | H32 |
| | | | | ■ | ■ | | | ■ | ■ | ■ | □ | ■ | ■ | | | | | | | | |
| 12,50–36,01 | .4921–1.4177 | | | | | | | ■ | | | | | | | | | | | | | H42 |
| | | | | | | | | ■ | | | | | | | | | | | | | |
| 10,00–31,20 | .3937–1.2283 | | | | | | | ■ | ■ | | | | | | | | | | | | H43 |
| 7,94≤Ø<9,50 | .3125≤Ø<.3740 | 12 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | H38 |
| 9,50≤Ø<11,00 | .3740≤Ø<.4331 | 13 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 11,00≤Ø<12,50 | .5424≤Ø<.4921 | 14 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 12,50≤Ø<14,00 | .4921≤Ø<.5512 | 15 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 14,00≤Ø<15,00 | .5512≤Ø<.6102 | 16 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 15,50≤Ø<16,50 | .6102≤Ø<.6496 | 17 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 16,50≤Ø<20,50 | .6496≤Ø<.8070 | 18 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 20,50≤Ø<21,00 | .8070≤Ø<.8267 | 20 x D | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |
| 21,00≤Ø<28,00 | .8267≤Ø<1.1024 | 550mm | ■ | | | | | □** | □ | | | | | ■ | □ | □ | ■ | □ | □ | □ | |

** Alternative chamfering solutions are available in combination with SEFAS™ or BF; see page I1.
Please use this table for orientation purposes only. Detailed information on available products (inserts, toolholders, etc.) can be found on the indicated pages of this catalog.

(continued)

| modular drills with internal coolant channel | | grade/series | standard* ● first choice ○ alternate choice P | M | K | N | S | H | hole tolerance | standard range diameter range D1 mm min–max | D1 inch min–max | drilling depth L/D1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM™** For larger diameters. Very robust pocket and regrindable inserts. | | | | | | | | | | | | |
|  | **KSEM inserts** | **KC7315 HP/HPG** | ● | | ○ | | | | IT9–IT11 | 12,50–40,00 | .4921–1.5748 | — |
| | | **KCPM45 HPG** | ● | ○ | | | | | | 12,50–40,00 | .4921–1.5748 | |
| | | **KC7410 HPCCL** | | | ● | | | | | 12,70–40,00 | .5000–1.5748 | |
| | | **KC7320 HPL** | | ● | | | | | | 12,50–40,00 | .4921–1.5748 | |
| | | **KCMS35 SPL** | ○ | ● | | ○ | ● | | | 12,50–40,00 | .4921–1.5748 | |
| | | **KCPM45 FEG** | ● | ○ | ○ | | ○ | | | 16,00–40,00 | .6230–1.5748 | |
| | | **KC7135 PC** | ● | | ● | | | | | 12,50–40,00 | .4921–1.5748 | |
| | **chamfering inserts** | **KC7015 TPGX-GD** | | ● | | ○ | | | | 12,50–40,00 | .4921–1.5748 | — |
| | | **KC7140 TPGX-GD** | ● | ○ | ○ | ● | ○ | | | | | |
| | | **KC7315™ TPGX-GD** | ○ | ○ | ● | ○ | ● | | | | | |
| | **KSEM bodies** | **WN (Metric), SS (inch), SSF (inch)** | — | | | | | | — | 12,50≤Ø<16,50 | .4921≤Ø<.6496 | 1–10 x D (SSF only up to 8 x D) (WN only up to Ø32mm) |
| | | | | | | | | | | 16,50≤Ø<20,00 | .6496≤Ø<.7874 | |
| | | | | | | | | | | 20,00≤Ø≤32,00 | .7874≤Ø≤1.2598 | |
| | | **WD (Metric)** | — | | | | | | — | 32,00<Ø≤40,00 | 1.2598<Ø≤1.5748 | 1–5 x D |
| | | **WN, SSF with chamfer** | — | | | | | | — | 12,50≤Ø<16,50 | .4921≤Ø<.6496 | 1 x D |
| | | | | | | | | | | 16,50≤Ø<20,00 | .6496≤Ø<.7874 | |
| | | | | | | | | | | 20,00≤Ø≤32,00 | .7874<Ø≤1.2598 | |
| | | **WD, SSF with chamfer** | — | | | | | | — | 32,00<Ø≤40,00 | 1.2598<Ø<1.5748 | 1 x D |
| **KSEM PLUS™** High-performance drilling for the largest diameters. | | | | | | | | | | | | |
| | **KSEM PLUS heads** | **A1 style** | | | | | | | IT9–IT11 | 28,00<Ø≤101,40 | 1.1020<Ø≤4.0000 | — |
| | | **B1 style** | | | | | | | | | | |
| | **KSEM PLUS center inserts** | **KSEMP KC7315 HPG** | ● | ● | ○ | ○ | ○ | | | 13,00–40,00 mm PDD reference only | | |
| | | **KSEM KC7410 HPCCL** | | | ● | | | | | | | |
| | | **KSEM KC7135 PC** | | ● | | | | | | | | |
| | **DFR™ inserts** | **KCU25 DFR-GD** | ● | ○ | ● | ○ | ○ | | | DFR inserts for A1 Heads with FDS28 | | — |
| | | **KCU40 DFR-GD** | ● | ○ | ○ | ○ | ● | | | 28,00–31,00 | 1.1024–1.2204 | |
| | | **KC7140 DFR-MD** | ● | ● | ○ | ○ | ○ | | | | | |
| | | **KC7225 DFR-LD** | ○ | ○ | ● | ● | ○ | | | | | |
| | **DFT™ inserts** | **KCU25 DFT-HP** | ● | ○ | ● | ○ | ○ | | | DFT inserts for A1 Heads FDS32 and above | | |
| | | **KCU40 DFT-HP** | ● | ○ | ○ | ○ | ● | | | 31,75–101,40 | 1.2500–4.0000 | |
| | | **KCU40 DFC-DS** | ● | ○ | | ○ | ○ | | | | | |
| | | **KC7140 DFT-MD** | ● | ● | ○ | ○ | ○ | | | | | |
| | **DFC™ inserts (B1 Heads)** | **KCU25 DFC-HP** | ● | ○ | ● | ○ | ○ | | | DFC inserts for B1 Heads, all FDS sizes | | |
| | | **KCU40 DFC-HP** | ● | ○ | ○ | ○ | ● | | | 28,00–101,40 | 1.1024–4.0000 | |
| | | **KCU40 DFC-DS** | ● | ○ | | ○ | ○ | | | | | |
| | | **KC7140 DFC-MD** | ● | ● | ○ | ○ | ○ | | | | | |
|  | **DPA guide pads (B1 Heads)** | **KCU40 DPA** | — | | | | | | | Available for all standard B1 Head Diameters | | |
| | **KSEM PLUS bodies** | **WD (Metric)** | — | | | | | | — | 28,00≤Ø≤70,00 | 1.1024≤Ø≤2.7560 | 1.5–10 x D |
| | | **SSF (Inch)** | | | | | | | | 70,00≤Ø≤101,40 | 2.7560≤Ø≤4.0000 | 1.5–5 x D |

* Apart from our standard drills, we can offer you a wide variety of special coating solutions and edge preparations to fulfill all your needs. If a specific drill is not suitable for your workpiece material, please contact our **Engineered Solutions Department**.

■ Standard Product
□ Engineered Solutions

| engineered solution range | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter range | | | coolant | drilling | inclined exit | stacked plates | flat bottom | countersinking | counterboring | cross hole | 2 flute 2 margin cooled | 2 flute 4 margin cooled | corner chamfer | plain shank ≤H6 | Whistle Notch 2° | WD shank | flat shank | SSF shank | KM™ shank | HSK shank | page(s) |
| D1 mm min–max | D1 inch min–max | max drilling depth | | | | | | | | | | | | | | | | | | | |
| **KSEM™**<br>For larger diameters. Very robust pocket and regrindable inserts. *(continued)* | | | | | | | | | | | | | | | | | | | | | |
| 12,50–40,00 | .4921–1.5748 | — | | ■ | ■ | ■ | | | | | ■ | □ | □ | | | | | | | | H52 |
| | | | | ■ | ■ | ■ | | | | ■ | ■ | □ | □ | | | | | | | | |
| | | | | ■ | ■ | ■ | | | | | ■ | □ | ■ | | | | | | | | |
| | | | | ■ | ■ | | | | | | ■ | □ | □ | | | | | | | | |
| | | | | ■ | ■ | ■ | | | | ■ | ■ | □ | □ | | | | | | | | |
| | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | □ | ■ | ■ | | | | | | | | |
| | | | | ■ | ■ | ■ | | | | | ■ | □ | ■ | | | | | | | | |
| 12,50–40,00 | .4921–1.5748 | — | | | | | | ■ | | | | | | | | | | | | | H85 |
| | | | | | | | | ■ | | | | | | | | | | | | | |
| | | | | | | | | ■ | | | | | | | | | | | | | |
| 12,50≤Ø<16,50 | .4921≤Ø<.6496 | 15 x D | ■ | | | | | □ | □ | □ | | | | ■ | ■ | □ | □ | ■ | □ | □ | H72 |
| 16,50≤Ø<20,00 | .6496≤Ø<.7874 | 18 x D | ■ | | | | | □ | □ | □ | | | | ■ | ■ | □ | □ | ■ | □ | □ | |
| 20,00≤Ø≤40,00 | .7874≤Ø≤1.5748 | 20 x D | ■ | | | | | □ | □ | □ | | | | ■ | ■ | □ | □ | ■ | □ | □ | |
| 32,00<Ø≤40,00 | 1.2598<Ø≤1.5748 | 20 x D (max 800mm) | ■ | | | | | □ | □ | □ | | | | □ | □ | ■ | □ | □ | □ | □ | |
| 12,50≤Ø<16,50 | .4921≤Ø<.6496 | chamfer step drills available as custom solutions in various lengths | ■ | | | | | ■ | □ | □ | | | | □ | ■ | □ | □ | □ | □ | □ | |
| 16,50≤Ø<20,00 | .6496≤Ø<.7874 | | ■ | | | | | ■ | □ | □ | | | | □ | ■ | □ | □ | □ | □ | □ | |
| 20,00≤Ø≤32,00 | .7874≤Ø≤1.2598 | | ■ | | | | | ■ | □ | □ | | | | □ | ■ | □ | □ | ■ | □ | □ | |
| 32,00<Ø≤40,00 | 1.2598<Ø≤1.5748 | | ■ | | | | | ■ | □ | □ | | | | □ | | ■ | □ | ■ | □ | □ | |
| **KSEM PLUS™**<br>High-performance drilling for the largest diameters. *(continued)* | | | | | | | | | | | | | | | | | | | | | |
| 28,00<Ø≤127,00 | 1.1020<Ø≤5.0000 | — | ■ | ■ | | | □ | □ | □ | | ■ | □ (DPA) | | | | | | | | | H115 |
| | | | ■ | ■ | ■ | ■ | □ | □ | □ | ■ | | ■ | | | | | | | | | |
| 13,00–40,00 mm PDD reference only | | | | | | | | | | | | | | | | | | | | | H111 |
| DFR inserts for A1 Heads with FDS28 | | — | | | | | | | | | | | | | | | | | | | H113 |
| 28,00≤Ø<31,75 | 1.1024≤Ø<1.2500 | | | | | | | | | | | | | | | | | | | | |
| DFT inserts for A1 Heads FDS32 and above | | | | | | | | | | | | | | | | | | | | | H112 |
| 31,75≤Ø≤127,00 | 1.2500≤Ø≤5.0000 | | | | | | | | | | | | | | | | | | | | |
| DFC inserts for B1 Heads, all FDS sizes | | | | | | | | | | | | | | | | | | | | | H114 |
| 28,00≤Ø≤127,00 | 1.1024≤Ø≤5.0000 | | | | | | | | | | | | | | | | | | | | |
| DPA are supporting various solutions | | | | ■ | ■ | ■ | □ | | | ■ | | | | | | | | | | | H114 |
| 28,00≤Ø≤127,00 | 1.1020≤Ø≤5.0000 | 3–20 x D (max 1250mm) | ■ | | | | | □ | □ | □ | | | | □ | | ■ | □ | ■ | □ | □ | H126 |

** Alternative chamfering solutions are available in combination with SEFAS™ or BF; see page I1.
Please use this table for orientation purposes only. Detailed information on available products (inserts, toolholders, etc.) can be found on the indicated pages of this catalog.

# KenTIP™ FS

## The Perfect Fusion of a Solid Carbide and an Indexable Drill

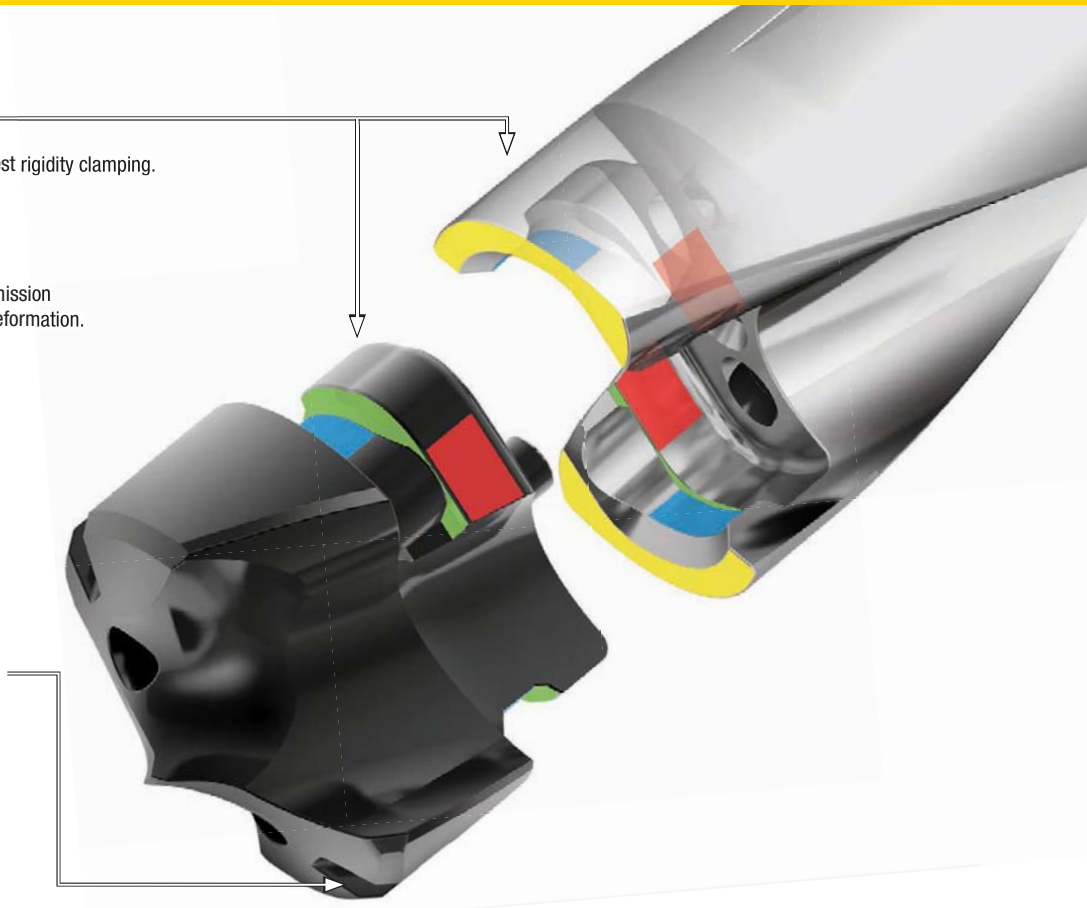
The new modular drill KenTIP FS covers more applications and provides better performance than any other modular system, delivering substantial cost savings and process simplifications on your shop floor.

3-point geometries, 3 high-performance grades, 3 different shank styles.
This modular drilling system covers a 6–26mm (.2363–1.0236") diameter range.
Up to 12 x D drilling depths.
Applicable in steel, stainless steel, and cast iron.

### Intelligent Interface

- Taper interface uniquely designed for highest rigidity clamping.
- Retention lock prevents insert pullout.
- Large bearing surface positioned for transmission of highest torsional loads without pocket deformation.
- Large face contact surface.

Maximum performance and long tool life, even in unstable conditions.



**Quick Release**
Every drill body comes with a KenTIP smart wrench. Insert exchange in the machine becomes easy and saves idle time. And that saves money.

**Recycling Instead of Reconditioning**
KenTIP™ FS provides the same stable and repeatable performance with every new insert. Lower your operational expenses with less tooling inventory and simplified processes. Recoup cost by providing your used carbide inserts to our recycling service.

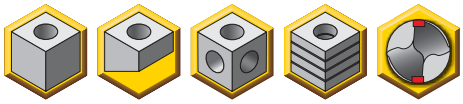
**Fast Flow**
Large, ultra-high polished chip flutes guarantee hassle-free chip evacuation, enhancing tool life and performance.

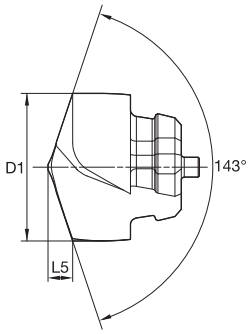
**Multi-Coolant**
Coolant delivery to the drill point and to the rake face for guaranteed coolant delivery where it is needed.

**Unique Point Geometries**
3 material-specific, self-centering point designs enable excellent hole quality and optimum tool performance.

**Full Solid Carbide Front**
KenTIP FS inserts cover the entire front part of the drill. The coupling is completely protected from chip flow and contact with workpiece.

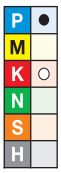
- HPG-point geometry for steels.
- Great positioning and centering capabilities for drilling without precentering, even in deeper holes.
- KCP15A™ is an AlTiN PVD monolayer coating.
- Enhanced thermal stability.
- Excellent balance between toughness and wear resistance.
- Without internal coolant.





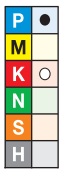
HPG Geometry

## KenTIP FS Inserts • HPG KCP15A • No Internal Coolant Channels




● first choice
○ alternate choice

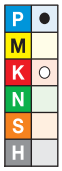
| KCP15A | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| **KTFSS06000HPGM** | 6,000 | .2362 | 1,370 | .0539 | A |
| **KTFSS06100HPGM** | 6,100 | .2402 | 1,380 | .0543 | A |
| **KTFSS06200HPGM** | 6,200 | .2441 | 1,400 | .0551 | A |
| **KTFSS06300HPGM** | 6,300 | .2480 | 1,440 | .0567 | B |
| **KTFSS06350HPGM** | 6,350 | .2500 | 1,450 | .0571 | B |
| **KTFSS06400HPGM** * | 6,400 | .2520 | 1,450 | .0571 | B |
| **KTFSS06500HPGM** | 6,500 | .2559 | 1,470 | .0579 | B |
| **KTFSS06530HPGM** | 6,530 | .2571 | 1,480 | .0583 | B |
| **KTFSS06600HPGM** | 6,600 | .2598 | 1,490 | .0587 | C |
| **KTFSS06629HPGM** * | 6,629 | .2610 | 1,500 | .0591 | C |
| **KTFSS06700HPGM** | 6,700 | .2638 | 1,510 | .0594 | C |
| **KTFSS06746HPGM** | 6,746 | .2656 | 1,520 | .0598 | C |
| **KTFSS06800HPGM** | 6,800 | .2677 | 1,530 | .0602 | C |
| **KTFSS06900HPGM** * | 6,900 | .2717 | 1,540 | .0606 | C |
| **KTFSS06909HPGM** | 6,909 | .2720 | 1,540 | .0606 | C |
| **KTFSS07000HPGM** | 7,000 | .2756 | 1,590 | .0626 | D |
| **KTFSS07100HPGM** * | 7,100 | .2795 | 1,610 | .0634 | D |
| **KTFSS07145HPGM** | 7,145 | .2813 | 1,610 | .0634 | D |
| **KTFSS07200HPGM** * | 7,200 | .2835 | 1,620 | .0638 | D |
| **KTFSS07366HPGM** | 7,366 | .2900 | 1,650 | .0650 | D |
| **KTFSS07400HPGM** | 7,400 | .2913 | 1,660 | .0654 | D |
| **KTFSS07500HPGM** | 7,500 | .2953 | 1,680 | .0661 | E |
| **KTFSS07541HPGM** | 7,541 | .2969 | 1,690 | .0665 | E |
| **KTFSS07600HPGM** * | 7,600 | .2992 | 1,700 | .0669 | E |
| **KTFSS07700HPGM** * | 7,700 | .3031 | 1,710 | .0673 | E |
| **KTFSS07800HPGM** * | 7,800 | .3071 | 1,730 | .0681 | E |
| **KTFSS07900HPGM** * | 7,900 | .3110 | 1,750 | .0689 | E |
| **KTFSS07938HPGM** | 7,938 | .3125 | 1,750 | .0689 | E |
| **KTFSS08000HPGM** | 8,000 | .3150 | 1,800 | .0709 | F |
| **KTFSS08100HPGM** | 8,100 | .3189 | 1,820 | .0717 | F |
| **KTFSS08164HPGM** | 8,164 | .3214 | 1,830 | .0720 | F |
| **KTFSS08204HPGM** | 8,204 | .3230 | 1,840 | .0724 | F |
| **KTFSS08300HPGM** | 8,300 | .3268 | 1,850 | .0728 | F |
| **KTFSS08334HPGM** | 8,334 | .3281 | 1,860 | .0732 | F |
| **KTFSS08400HPGM** | 8,400 | .3307 | 1,870 | .0736 | F |
| **KTFSS08433HPGM** | 8,433 | .3320 | 1,870 | .0736 | F |
| **KTFSS08500HPGM** | 8,500 | .3346 | 1,890 | .0744 | G |
| **KTFSS08600HPGM** | 8,600 | .3386 | 1,910 | .0752 | G |
| **KTFSS08611HPGM** * | 8,611 | .3390 | 1,910 | .0752 | G |
| **KTFSS08700HPGM** | 8,700 | .3425 | 1,920 | .0756 | G |



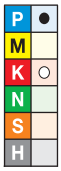

| KCP15A | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| **KTFSS08733HPGM** | 8,732 | .3438 | 1,930 | .0760 | G |
| **KTFSS08800HPGM** | 8,800 | .3465 | 1,940 | .0764 | G |
| **KTFSS08839HPGM** * | 8,839 | .3480 | 1,950 | .0768 | G |
| **KTFSS08900HPGM** * | 8,900 | .3504 | 1,960 | .0772 | G |
| **KTFSS09000HPGM** | 9,000 | .3543 | 2,010 | .0791 | H |
| **KTFSS09093HPGM** * | 9,093 | .3580 | 2,030 | .0799 | H |
| **KTFSS09100HPGM** | 9,100 | .3583 | 2,030 | .0799 | H |
| **KTFSS09129HPGM** * | 9,129 | .3594 | 2,030 | .0799 | H |
| **KTFSS09200HPGM** | 9,200 | .3622 | 2,040 | .0803 | H |
| **KTFSS09300HPGM** | 9,300 | .3661 | 2,060 | .0811 | H |
| **KTFSS09347HPGM** | 9,347 | .3680 | 2,070 | .0815 | H |
| **KTFSS09400HPGM** | 9,400 | .3701 | 2,080 | .0819 | H |
| **KTFSS09500HPGM** | 9,500 | .3740 | 2,100 | .0827 | I |
| **KTFSS09525HPGM** | 9,525 | .3750 | 2,110 | .0831 | I |
| **KTFSS09558HPGM** | 9,558 | .3763 | 2,110 | .0831 | I |
| **KTFSS09600HPGM** | 9,600 | .3780 | 2,120 | .0835 | I |
| **KTFSS09700HPGM** | 9,700 | .3819 | 2,130 | .0839 | I |
| **KTFSS09800HPGM** | 9,800 | .3858 | 2,150 | .0846 | I |
| **KTFSS09900HPGM** | 9,900 | .3898 | 2,170 | .0854 | I |
| **KTFSS09921HPGM** | 9,921 | .3906 | 2,170 | .0854 | I |
| **KTFSS10000HPGM** | 10,000 | .3937 | 2,220 | .0874 | J |
| **KTFSS10023HPGM** * | 10,023 | .3946 | 2,220 | .0874 | J |
| **KTFSS10084HPGM** * | 10,084 | .3970 | 2,230 | .0878 | J |
| **KTFSS10100HPGM** | 10,100 | .3976 | 2,240 | .0882 | J |
| **KTFSS10200HPGM** | 10,200 | .4016 | 2,250 | .0886 | J |
| **KTFSS10262HPGM** * | 10,262 | .4040 | 2,260 | .0890 | J |
| **KTFSS10300HPGM** | 10,300 | .4055 | 2,270 | .0894 | J |
| **KTFSS10320HPGM** | 10,320 | .4063 | 2,270 | .0894 | J |
| **KTFSS10400HPGM** | 10,400 | .4094 | 2,290 | .0902 | J |
| **KTFSS10490HPGM** | 10,490 | .4130 | 2,300 | .0906 | J |
| **KTFSS10500HPGM** | 10,500 | .4134 | 2,310 | .0909 | K |
| **KTFSS10600HPGM** | 10,600 | .4173 | 2,330 | .0917 | K |
| **KTFSS10700HPGM** | 10,700 | .4213 | 2,340 | .0921 | K |
| **KTFSS10716HPGM** | 10,716 | .4219 | 2,350 | .0925 | K |
| **KTFSS10800HPGM** | 10,800 | .4252 | 2,360 | .0929 | K |
| **KTFSS10900HPGM** | 10,900 | .4291 | 2,380 | .0937 | K |
| **KTFSS11000HPGM** | 11,000 | .4331 | 2,430 | .0957 | L |
| **KTFSS11100HPGM** | 11,100 | .4370 | 2,450 | .0965 | L |
| **KTFSS11113HPGM** | 11,112 | .4375 | 2,450 | .0965 | L |
| **KTFSS11200HPGM** | 11,200 | .4409 | 2,460 | .0969 | L |

*(continued)*

*(KenTIP FS Inserts • HPG KCP15A™ • No Internal Coolant Channels — continued)*




| KCP15A | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFSS11300HPGM | 11,300 | .4449 | 2,480 | .0976 | L |
| KTFSS11400HPGM | 11,400 | .4488 | 2,500 | .0984 | L |
| KTFSS11500HPGM | 11,500 | .4528 | 2,520 | .0992 | M |
| KTFSS11509HPGM | 11,509 | .4531 | 2,520 | .0992 | M |
| KTFSS11600HPGM | 11,600 | .4567 | 2,540 | .1000 | M |
| KTFSS11700HPGM | 11,700 | .4606 | 2,550 | .1004 | M |
| KTFSS11800HPGM | 11,800 | .4646 | 2,570 | .1012 | M |
| KTFSS11900HPGM | 11,900 | .4685 | 2,590 | .1020 | M |
| KTFSS11908HPGM | 11,908 | .4688 | 2,590 | .1020 | M |
| KTFSS12000HPGM | 12,000 | .4724 | 2,640 | .1039 | N |
| KTFSS12100HPGM | 12,100 | .4764 | 2,650 | .1043 | N |
| KTFSS12200HPGM | 12,200 | .4803 | 2,670 | .1051 | N |
| KTFSS12304HPGM | 12,304 | .4844 | 2,690 | .1059 | N |
| KTFSS12400HPGM | 12,400 | .4882 | 2,700 | .1063 | N |
| KTFSS12474HPGM | 12,474 | .4911 | 2,720 | .1071 | N |
| KTFSS12500HPGM | 12,500 | .4921 | 2,730 | .1075 | O |
| KTFSS12600HPGM | 12,600 | .4961 | 2,740 | .1079 | O |
| KTFSS12700HPGM | 12,700 | .5000 | 2,760 | .1087 | O |
| KTFSS12800HPGM | 12,800 | .5039 | 2,780 | .1094 | O |
| KTFSS12900HPGM | 12,900 | .5079 | 2,790 | .1098 | O |
| KTFSS13000HPGM | 13,000 | .5118 | 2,850 | .1122 | P |
| KTFSS13096HPGM | 13,096 | .5156 | 2,860 | .1126 | P |
| KTFSS13200HPGM | 13,200 | .5197 | 2,880 | .1134 | P |
| KTFSS13280HPGM | 13,280 | .5228 | 2,890 | .1138 | P |
| KTFSS13300HPGM | 13,300 | .5236 | 2,900 | .1142 | P |
| KTFSS13380HPGM | 13,380 | .5268 | 2,910 | .1146 | P |
| KTFSS13400HPGM | 13,400 | .5276 | 2,910 | .1146 | P |
| KTFSS13492HPGM | 13,492 | .5312 | 2,930 | .1154 | P |
| KTFSS13500HPGM | 13,500 | .5315 | 2,930 | .1154 | Q |
| KTFSS13600HPGM | 13,600 | .5354 | 2,950 | .1161 | Q |
| KTFSS13700HPGM | 13,700 | .5394 | 2,970 | .1169 | Q |
| KTFSS13800HPGM | 13,800 | .5433 | 2,980 | .1173 | Q |
| KTFSS13891HPGM | 13,891 | .5469 | 3,000 | .1181 | Q |
| KTFSS13896HPGM * | 13,896 | .5471 | 3,000 | .1181 | Q |
| KTFSS13940HPGM | 13,940 | .5488 | 3,010 | .1185 | Q |
| KTFSS14000HPGM | 14,000 | .5512 | 3,050 | .1201 | R |
| KTFSS14100HPGM | 14,100 | .5551 | 3,070 | .1209 | R |
| KTFSS14200HPGM | 14,200 | .5591 | 3,090 | .1217 | R |
| KTFSS14288HPGM | 14,288 | .5625 | 3,100 | .1220 | R |
| KTFSS14300HPGM | 14,300 | .5630 | 3,100 | .1220 | R |
| KTFSS14400HPGM | 14,400 | .5669 | 3,120 | .1228 | R |
| KTFSS14500HPGM | 14,500 | .5709 | 3,140 | .1236 | S |
| KTFSS14600HPGM | 14,600 | .5748 | 3,160 | .1244 | S |
| KTFSS14666HPGM * | 14,666 | .5774 | 3,170 | .1248 | S |
| KTFSS14684HPGM | 14,684 | .5781 | 3,170 | .1248 | S |
| KTFSS14700HPGM | 14,700 | .5787 | 3,170 | .1248 | S |
| KTFSS14800HPGM | 14,800 | .5827 | 3,190 | .1256 | S |
| KTFSS14900HPGM * | 14,900 | .5866 | 3,210 | .1264 | S |
| KTFSS15000HPGM | 15,000 | .5906 | 3,260 | .1283 | T |
| KTFSS15083HPGM | 15,082 | .5938 | 3,270 | .1287 | T |
| KTFSS15100HPGM | 15,100 | .5945 | 3,280 | .1291 | T |
| KTFSS15200HPGM | 15,200 | .5984 | 3,290 | .1295 | T |
| KTFSS15300HPGM | 15,300 | .6024 | 3,310 | .1303 | T |
| KTFSS15380HPGM | 15,380 | .6055 | 3,320 | .1307 | T |
| KTFSS15400HPGM | 15,400 | .6063 | 3,330 | .1311 | T |
| KTFSS15479HPGM | 15,479 | .6094 | 3,340 | .1315 | T |




● first choice
○ alternate choice

| KCP15A | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFSS15500HPGM | 15,500 | .6102 | 3,340 | .1315 | T |
| KTFSS15600HPGM | 15,600 | .6142 | 3,360 | .1323 | T |
| KTFSS15700HPGM | 15,700 | .6181 | 3,380 | .1331 | T |
| KTFSS15800HPGM | 15,800 | .6220 | 3,390 | .1335 | T |
| KTFSS15875HPGM | 15,875 | .6250 | 3,410 | .1343 | T |
| KTFSS15900HPGM * | 15,900 | .6260 | 3,410 | .1343 | T |
| KTFSS16000HPGM | 16,000 | .6299 | 3,480 | .1370 | U |
| KTFSS16027HPGM * | 16,027 | .6310 | 3,490 | .1374 | U |
| KTFSS16080HPGM * | 16,080 | .6331 | 3,490 | .1374 | U |
| KTFSS16100HPGM | 16,100 | .6339 | 3,500 | .1378 | U |
| KTFSS16104HPGM | 16,104 | .6340 | 3,500 | .1378 | U |
| KTFSS16200HPGM | 16,200 | .6378 | 3,510 | .1382 | U |
| KTFSS16271HPGM | 16,271 | .6406 | 3,530 | .1390 | U |
| KTFSS16300HPGM | 16,300 | .6417 | 3,530 | .1390 | U |
| KTFSS16400HPGM | 16,400 | .6457 | 3,550 | .1398 | U |
| KTFSS16500HPGM | 16,500 | .6496 | 3,570 | .1406 | U |
| KTFSS16600HPGM | 16,600 | .6535 | 3,580 | .1409 | U |
| KTFSS16670HPGM | 16,670 | .6563 | 3,590 | .1413 | U |
| KTFSS16700HPGM | 16,700 | .6575 | 3,600 | .1417 | U |
| KTFSS16800HPGM | 16,800 | .6614 | 3,620 | .1425 | U |
| KTFSS16900HPGM | 16,900 | .6654 | 3,630 | .1429 | U |
| KTFSS17000HPGM | 17,000 | .6693 | 3,660 | .1441 | V |
| KTFSS17066HPGM | 17,066 | .6719 | 3,670 | .1445 | V |
| KTFSS17100HPGM | 17,100 | .6732 | 3,670 | .1445 | V |
| KTFSS17200HPGM | 17,200 | .6772 | 3,690 | .1453 | V |
| KTFSS17300HPGM * | 17,300 | .6811 | 3,710 | .1461 | V |
| KTFSS17400HPGM | 17,400 | .6850 | 3,720 | .1465 | V |
| KTFSS17463HPGM | 17,462 | .6875 | 3,740 | .1472 | V |
| KTFSS17480HPGM | 17,480 | .6882 | 3,740 | .1472 | V |
| KTFSS17500HPGM | 17,500 | .6890 | 3,740 | .1472 | V |
| KTFSS17600HPGM | 17,600 | .6929 | 3,760 | .1480 | V |
| KTFSS17700HPGM | 17,700 | .6969 | 3,770 | .1484 | V |
| KTFSS17800HPGM | 17,800 | .7008 | 3,790 | .1492 | V |
| KTFSS17859HPGM | 17,859 | .7031 | 3,800 | .1496 | V |
| KTFSS17900HPGM | 17,900 | .7047 | 3,810 | .1500 | V |
| KTFSS18000HPGM | 18,000 | .7087 | 3,890 | .1531 | W |
| KTFSS18100HPGM | 18,100 | .7126 | 3,910 | .1539 | W |
| KTFSS18200HPGM | 18,200 | .7165 | 3,930 | .1547 | W |
| KTFSS18258HPGM | 18,258 | .7188 | 3,940 | .1551 | W |
| KTFSS18300HPGM | 18,300 | .7205 | 3,940 | .1551 | W |
| KTFSS18400HPGM | 18,400 | .7244 | 3,960 | .1559 | W |
| KTFSS18500HPGM | 18,500 | .7283 | 3,980 | .1567 | W |
| KTFSS18600HPGM | 18,600 | .7323 | 3,990 | .1571 | W |
| KTFSS18654HPGM | 18,654 | .7344 | 4,000 | .1575 | W |
| KTFSS18700HPGM | 18,700 | .7362 | 4,010 | .1579 | W |
| KTFSS18800HPGM | 18,800 | .7402 | 4,030 | .1587 | W |
| KTFSS18900HPGM | 18,900 | .7441 | 4,040 | .1591 | W |
| KTFSS19000HPGM | 19,000 | .7480 | 4,070 | .1602 | X |
| KTFSS19050HPGM | 19,050 | .7500 | 4,080 | .1606 | X |
| KTFSS19100HPGM | 19,100 | .7520 | 4,090 | .1610 | X |
| KTFSS19200HPGM | 19,200 | .7559 | 4,100 | .1614 | X |
| KTFSS19228HPGM | 19,228 | .7570 | 4,110 | .1618 | X |
| KTFSS19253HPGM * | 19,253 | .7580 | 4,110 | .1618 | X |
| KTFSS19279HPGM | 19,279 | .7590 | 4,120 | .1622 | X |
| KTFSS19300HPGM | 19,300 | .7598 | 4,120 | .1622 | X |
| KTFSS19355HPGM * | 19,355 | .7620 | 4,130 | .1626 | X |

*(continued)*

*(KenTIP FS Inserts • HPG KCP15A™ • No Internal Coolant Channels — continued)*



P ● M K ○ N S H

● first choice
○ alternate choice

| KCP15A | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFSS19400HPGM | 19,400 | .7638 | 4,140 | .1630 | X |
| KTFSS19446HPGM | 19,446 | .7656 | 4,140 | .1630 | X |
| KTFSS19460HPGM | 19,460 | .7661 | 4,150 | .1634 | X |
| KTFSS19500HPGM | 19,500 | .7677 | 4,150 | .1634 | X |
| KTFSS19600HPGM | 19,600 | .7717 | 4,170 | .1642 | X |
| KTFSS19700HPGM | 19,700 | .7756 | 4,190 | .1650 | X |
| KTFSS19800HPGM | 19,800 | .7795 | 4,200 | .1654 | X |
| KTFSS19845HPGM | 19,845 | .7813 | 4,210 | .1657 | X |
| KTFSS19900HPGM | 19,900 | .7835 | 4,220 | .1661 | X |
| KTFSS20000HPGM | 20,000 | .7874 | 4,310 | .1697 | Y |
| KTFSS20100HPGM | 20,100 | .7913 | 4,320 | .1701 | Y |
| KTFSS20200HPGM | 20,200 | .7953 | 4,340 | .1709 | Y |
| KTFSS20241HPGM * | 20,241 | .7969 | 4,350 | .1713 | Y |
| KTFSS20300HPGM | 20,300 | .7992 | 4,360 | .1717 | Y |
| KTFSS20500HPGM | 20,500 | .8071 | 4,390 | .1728 | Y |
| KTFSS20600HPGM | 20,600 | .8110 | 4,410 | .1736 | Y |
| KTFSS20638HPGM | 20,638 | .8125 | 4,410 | .1736 | Y |
| KTFSS20700HPGM * | 20,700 | .8150 | 4,420 | .1740 | Y |
| KTFSS20800HPGM | 20,800 | .8189 | 4,440 | .1748 | Y |
| KTFSS20900HPGM * | 20,900 | .8228 | 4,460 | .1756 | Y |
| KTFSS20990HPGM * | 20,990 | .8264 | 4,470 | .1760 | Y |
| KTFSS21000HPGM | 21,000 | .8268 | 4,480 | .1764 | Z |
| KTFSS21100HPGM * | 21,100 | .8307 | 4,500 | .1772 | Z |
| KTFSS21200HPGM | 21,200 | .8346 | 4,510 | .1776 | Z |
| KTFSS21300HPGM * | 21,300 | .8386 | 4,530 | .1783 | Z |
| KTFSS21400HPGM * | 21,400 | .8425 | 4,550 | .1791 | Z |
| KTFSS21433HPGM | 21,432 | .8438 | 4,550 | .1791 | Z |
| KTFSS21500HPGM | 21,500 | .8465 | 4,560 | .1795 | Z |
| KTFSS21700HPGM | 21,700 | .8543 | 4,600 | .1811 | Z |
| KTFSS21800HPGM * | 21,800 | .8583 | 4,610 | .1815 | Z |
| KTFSS21829HPGM | 21,829 | .8594 | 4,620 | .1819 | Z |
| KTFSS21900HPGM * | 21,900 | .8622 | 4,630 | .1823 | Z |
| KTFSS22000HPGM | 22,000 | .8661 | 4,720 | .1858 | ZA |
| KTFSS22100HPGM * | 22,100 | .8701 | 4,730 | .1862 | ZA |
| KTFSS22200HPGM * | 22,200 | .8740 | 4,750 | .1870 | ZA |
| KTFSS22225HPGM | 22,225 | .8750 | 4,750 | .1870 | ZA |
| KTFSS22400HPGM * | 22,400 | .8819 | 4,780 | .1882 | ZA |
| KTFSS22500HPGM | 22,500 | .8858 | 4,800 | .1890 | ZA |
| KTFSS22600HPGM * | 22,600 | .8898 | 4,820 | .1898 | ZA |
| KTFSS22700HPGM * | 22,700 | .8937 | 4,830 | .1902 | ZA |

| KCP15A | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFSS22800HPGM | 22,800 | .8976 | 4,850 | .1909 | ZA |
| KTFSS22900HPGM * | 22,900 | .9016 | 4,870 | .1917 | ZA |
| KTFSS23000HPGM | 23,000 | .9055 | 4,890 | .1925 | ZB |
| KTFSS23100HPGM | 23,100 | .9094 | 4,910 | .1933 | ZB |
| KTFSS23200HPGM * | 23,200 | .9134 | 4,920 | .1937 | ZB |
| KTFSS23300HPGM | 23,300 | .9173 | 4,940 | .1945 | ZB |
| KTFSS23400HPGM * | 23,400 | .9213 | 4,960 | .1953 | ZB |
| KTFSS23416HPGM | 23,416 | .9219 | 4,960 | .1953 | ZB |
| KTFSS23500HPGM | 23,500 | .9252 | 4,980 | .1961 | ZB |
| KTFSS23600HPGM * | 23,600 | .9291 | 4,990 | .1965 | ZB |
| KTFSS23700HPGM * | 23,700 | .9331 | 5,010 | .1972 | ZB |
| KTFSS23800HPGM * | 23,800 | .9370 | 5,030 | .1980 | ZB |
| KTFSS23813HPGM | 23,812 | .9375 | 5,030 | .1980 | ZB |
| KTFSS23900HPGM * | 23,900 | .9409 | 5,040 | .1984 | ZB |
| KTFSS24000HPGM | 24,000 | .9449 | 5,130 | .2020 | ZC |
| KTFSS24100HPGM * | 24,100 | .9488 | 5,140 | .2024 | ZC |
| KTFSS24200HPGM * | 24,200 | .9528 | 5,160 | .2031 | ZC |
| KTFSS24300HPGM | 24,300 | .9567 | 5,180 | .2039 | ZC |
| KTFSS24400HPGM * | 24,400 | .9606 | 5,190 | .2043 | ZC |
| KTFSS24500HPGM | 24,500 | .9646 | 5,210 | .2051 | ZC |
| KTFSS24600HPGM * | 24,600 | .9685 | 5,230 | .2059 | ZC |
| KTFSS24608HPGM | 24,608 | .9688 | 5,230 | .2059 | ZC |
| KTFSS24700HPGM * | 24,700 | .9724 | 5,240 | .2063 | ZC |
| KTFSS24800HPGM * | 24,800 | .9764 | 5,260 | .2071 | ZC |
| KTFSS24900HPGM * | 24,900 | .9803 | 5,280 | .2079 | ZC |
| KTFSS25000HPGM | 25,000 | .9843 | 5,300 | .2087 | ZD |
| KTFSS25100HPGM * | 25,100 | .9882 | 5,320 | .2094 | ZD |
| KTFSS25200HPGM * | 25,200 | .9921 | 5,330 | .2098 | ZD |
| KTFSS25250HPGM * | 25,250 | .9941 | 5,340 | .2102 | ZD |
| KTFSS25300HPGM * | 25,300 | .9961 | 5,350 | .2106 | ZD |
| KTFSS25400HPGM | 25,400 | 1.0000 | 5,370 | .2114 | ZD |
| KTFSS25500HPGM * | 25,500 | 1.0039 | 5,380 | .2118 | ZD |
| KTFSS25540HPGM | 25,540 | 1.0055 | 5,390 | .2122 | ZD |
| KTFSS25600HPGM | 25,600 | 1.0079 | 5,400 | .2126 | ZD |
| KTFSS25679HPGM | 25,679 | 1.0110 | 5,410 | .2130 | ZD |
| KTFSS25700HPGM * | 25,700 | 1.0118 | 5,420 | .2134 | ZD |
| KTFSS25800HPGM * | 25,800 | 1.0157 | 5,440 | .2142 | ZD |
| KTFSS25806HPGM | 25,806 | 1.0160 | 5,440 | .2142 | ZD |
| KTFSS25900HPGM * | 25,900 | 1.0197 | 5,450 | .2146 | ZD |
| KTFSS26000HPGM | 26,000 | 1.0236 | 5,470 | .2154 | ZD |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Products with D1 ≥ 20mm will be available by January 1st, 2018.**

**KenTIP FS HPG Geometry**

**Tolerance**

| D1 metric | tolerance k8 |
|---|---|
| 6 | 0,000/+0,018 |
| >6–10 | 0,000/+0,022 |
| >10–18 | 0,000/+0,027 |
| >18–26 | 0,000/+0,033 |

**KenTIP FS HPG Geometry**

**Tolerance**

| D1 inch | tolerance k8 |
|---|---|
| .2362 | .000/+.0007 |
| >.2362–.3937 | .000/+.0009 |
| >.3937–.7087 | .000/+.0011 |
| >.7087–1.0236 | .000/+.0013 |

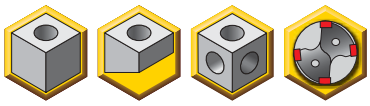
## Modular Drill Carbide Insert Blades • KenTIP™ FS • HPG Geometry • Grade KCP15A™ • No Internal Coolant Channels on the Insert • Through Coolant on the Body • Metric

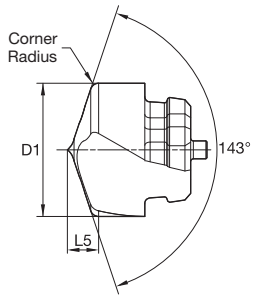
| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate per Rev | | | | | | |
| | | min | Starting Value | max | | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 20,0 |
| P | 1 | 90 | **130** | 170 | mm/r | 0,11–0,22 | 0,13–0,28 | 0,14–0,34 | 0,17–0,43 | 0,19–0,50 | 0,25–0,53 |
| | 2 | 100 | **140** | 180 | mm/r | 0,11–0,26 | 0,13–0,32 | 0,14–0,36 | 0,17–0,40 | 0,19–0,50 | 0,25–0,53 |
| | 3 | 60 | **100** | 130 | mm/r | 0,11–0,31 | 0,12–0,39 | 0,16–0,41 | 0,21–0,51 | 0,23–0,51 | 0,30–0,56 |
| | 4 | 60 | **100** | 130 | mm/r | 0,11–0,31 | 0,12–0,39 | 0,16–0,41 | 0,17–0,51 | 0,18–0,51 | 0,23–0,51 |
| | 5 | 60 | **70** | 100 | mm/r | 0,10–0,22 | 0,10–0,25 | 0,10–0,28 | 0,14–0,32 | 0,16–0,35 | 0,20–0,46 |
| | 6 | 60 | **70** | 70 | mm/r | 0,10–0,22 | 0,10–0,25 | 0,10–0,28 | 0,14–0,32 | 0,16–0,35 | 0,20–0,46 |
| K | 1 | 80 | **120** | 170 | mm/r | 0,15–0,32 | 0,16–0,35 | 0,17–0,39 | 0,21–0,46 | 0,25–0,53 | 0,31–0,65 |
| | 2 | 80 | **110** | 120 | mm/r | 0,15–0,32 | 0,16–0,33 | 0,17–0,36 | 0,21–0,45 | 0,25–0,53 | 0,31–0,65 |
| | 3 | 50 | **80** | 100 | mm/r | 0,16–0,33 | 0,17–0,36 | 0,18–0,40 | 0,20–0,45 | 0,21–0,48 | 0,23–0,53 |

## Modular Drill Carbide Insert Blades • KenTIP™ FS • HPG Geometry • Grade KCP15A™ • No Internal Coolant Channels on the Insert • Through Coolant on the Body • Inch

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate per Rev | | | | | | |
| | | min | Starting Value | max | | 0.315 | 0.394 | 0.472 | 0.551 | 0,630 | 0.787 |
| P | 1 | 300 | **430** | 560 | IPR | 0.004–0.009 | 0.005–0.011 | 0.006–0.013 | 0.007–0.017 | 0.007–0.020 | 0.010–0.021 |
| | 2 | 330 | **460** | 590 | IPR | 0.004–0.010 | 0.005–0.013 | 0.006–0.014 | 0.007–0.016 | 0.007–0.020 | 0.010–0.021 |
| | 3 | 200 | **330** | 430 | IPR | 0.004–0.012 | 0.005–0.015 | 0.006–0.016 | 0.008–0.020 | 0.009–0.020 | 0.012–0.022 |
| | 4 | 200 | **330** | 430 | IPR | 0.004–0.012 | 0.005–0.015 | 0.006–0.016 | 0.007–0.020 | 0.007–0.020 | 0.009–0.020 |
| | 5 | 200 | **230** | 330 | IPR | 0.004–0.009 | 0.004–0.010 | 0.004–0.011 | 0.006–0.013 | 0.006–0.014 | 0.008–0.018 |
| | 6 | 200 | **230** | 230 | IPR | 0.004–0.009 | 0.004–0.010 | 0.004–0.011 | 0.006–0.013 | 0.006–0.014 | 0.008–0.018 |
| K | 1 | 260 | **390** | 560 | IPR | 0.006–0.013 | 0.006–0.014 | 0.007–0.015 | 0.008–0.018 | 0.010–0.021 | 0.012–0.026 |
| | 2 | 260 | **360** | 390 | IPR | 0.006–0.013 | 0.006–0.013 | 0.007–0.014 | 0.008–0.018 | 0.010–0.021 | 0.012–0.026 |
| | 3 | 160 | **260** | 330 | IPR | 0.006–0.013 | 0.007–0.014 | 0.007–0.016 | 0.008–0.018 | 0.008–0.019 | 0.009–0.021 |

- HPC-point geometry for all cast irons.
- 4-margin lands ensure hole straightness.
- Large corner radius prevents chipping and reduces exit burs when drilling through holes.
- KC7410™ is an AlCr PVD multilayer coating.
- Superb wear resistance.
- With internal coolant.

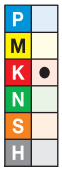




HPC Geometry

## KenTIP FS Inserts • HPC KC7410 • With Internal Coolant Channels

| KC7410 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFST06000HPCM | 6,000 | .2362 | 1,410 | .0555 | A |
| KTFST06200HPCM | 6,200 | .2441 | 1,440 | .0567 | A |
| KTFST06350HPCM | 6,350 | .2500 | 1,490 | .0587 | B |
| KTFST06500HPCM | 6,500 | .2559 | 1,510 | .0594 | B |
| KTFST06530HPCM | 6,530 | .2571 | 1,520 | .0598 | B |
| KTFST06700HPCM | 6,700 | .2638 | 1,570 | .0618 | C |
| KTFST06746HPCM | 6,746 | .2656 | 1,570 | .0618 | C |
| KTFST06800HPCM | 6,800 | .2677 | 1,580 | .0622 | C |
| KTFST07000HPCM | 7,000 | .2756 | 1,640 | .0646 | D |
| KTFST07145HPCM | 7,145 | .2813 | 1,670 | .0657 | D |
| KTFST07300HPCM | 7,300 | .2874 | 1,690 | .0665 | D |
| KTFST07500HPCM | 7,500 | .2953 | 1,760 | .0693 | E |
| KTFST07600HPCM | 7,600 | .2992 | 1,780 | .0701 | E |
| KTFST07800HPCM | 7,800 | .3071 | 1,810 | .0713 | E |
| KTFST07938HPCM | 7,938 | .3125 | 1,830 | .0720 | E |
| KTFST08000HPCM | 8,000 | .3150 | 1,880 | .0740 | F |
| KTFST08100HPCM * | 8,100 | .3189 | 1,890 | .0744 | F |
| KTFST08204HPCM * | 8,204 | .3230 | 1,910 | .0752 | F |
| KTFST08500HPCM | 8,500 | .3346 | 1,990 | .0783 | G |
| KTFST08600HPCM * | 8,600 | .3386 | 2,010 | .0791 | G |
| KTFST08700HPCM * | 8,700 | .3425 | 2,030 | .0799 | G |
| KTFST08733HPCM * | 8,732 | .3438 | 2,030 | .0799 | G |
| KTFST09000HPCM | 9,000 | .3543 | 2,110 | .0831 | H |
| KTFST09100HPCM * | 9,100 | .3583 | 2,130 | .0839 | H |
| KTFST09500HPCM | 9,500 | .3740 | 2,230 | .0878 | I |
| KTFST09525HPCM | 9,525 | .3750 | 2,230 | .0878 | I |
| KTFST09600HPCM * | 9,600 | .3780 | 2,250 | .0886 | I |
| KTFST09700HPCM * | 9,700 | .3819 | 2,260 | .0890 | I |
| KTFST09800HPCM * | 9,800 | .3858 | 2,280 | .0898 | I |
| KTFST09921HPCM | 9,921 | .3906 | 2,300 | .0906 | I |
| KTFST10000HPCM | 10,000 | .3937 | 2,350 | .0925 | J |
| KTFST10023HPCM * | 10,023 | .3946 | 2,350 | .0925 | J |
| KTFST10200HPCM | 10,200 | .4016 | 2,380 | .0937 | J |
| KTFST10300HPCM | 10,300 | .4055 | 2,400 | .0945 | J |
| KTFST10320HPCM * | 10,320 | .4063 | 2,400 | .0945 | J |
| KTFST10500HPCM | 10,500 | .4134 | 2,460 | .0969 | K |




● first choice
○ alternate choice

| KC7410 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFST10600HPCM * | 10,600 | .4173 | 2,480 | .0976 | K |
| KTFST10700HPCM * | 10,700 | .4213 | 2,500 | .0984 | K |
| KTFST10716HPCM | 10,716 | .4219 | 2,500 | .0984 | K |
| KTFST10800HPCM | 10,800 | .4252 | 2,510 | .0988 | K |
| KTFST11000HPCM | 11,000 | .4331 | 2,580 | .1016 | L |
| KTFST11100HPCM | 11,100 | .4370 | 2,600 | .1024 | L |
| KTFST11113HPCM | 11,112 | .4375 | 2,600 | .1024 | L |
| KTFST11400HPCM | 11,400 | .4488 | 2,650 | .1043 | L |
| KTFST11500HPCM | 11,500 | .4528 | 2,700 | .1063 | M |
| KTFST11800HPCM * | 11,800 | .4646 | 2,750 | .1083 | M |
| KTFST11908HPCM * | 11,908 | .4688 | 2,770 | .1091 | M |
| KTFST12000HPCM | 12,000 | .4724 | 2,820 | .1110 | N |
| KTFST12304HPCM * | 12,304 | .4844 | 2,870 | .1130 | N |
| KTFST12500HPCM | 12,500 | .4921 | 2,930 | .1154 | O |
| KTFST12700HPCM | 12,700 | .5000 | 2,970 | .1169 | O |
| KTFST13000HPCM | 13,000 | .5118 | 3,050 | .1201 | P |
| KTFST13096HPCM | 13,096 | .5156 | 3,070 | .1209 | P |
| KTFST13200HPCM * | 13,200 | .5197 | 3,080 | .1213 | P |
| KTFST13300HPCM | 13,300 | .5236 | 3,100 | .1220 | P |
| KTFST13492HPCM | 13,492 | .5312 | 3,130 | .1232 | P |
| KTFST13500HPCM | 13,500 | .5315 | 3,170 | .1248 | Q |
| KTFST13600HPCM | 13,600 | .5354 | 3,180 | .1252 | Q |
| KTFST13800HPCM | 13,800 | .5433 | 3,220 | .1268 | Q |
| KTFST13891HPCM | 13,891 | .5469 | 3,230 | .1272 | Q |
| KTFST14000HPCM | 14,000 | .5512 | 3,290 | .1295 | R |
| KTFST14100HPCM * | 14,100 | .5551 | 3,300 | .1299 | R |
| KTFST14288HPCM | 14,288 | .5625 | 3,330 | .1311 | R |
| KTFST14500HPCM | 14,500 | .5709 | 3,400 | .1339 | S |
| KTFST14600HPCM * | 14,600 | .5748 | 3,420 | .1346 | S |
| KTFST14684HPCM * | 14,684 | .5781 | 3,430 | .1350 | S |
| KTFST14800HPCM * | 14,800 | .5827 | 3,450 | .1358 | S |
| KTFST15000HPCM | 15,000 | .5906 | 3,520 | .1386 | T |
| KTFST15083HPCM * | 15,082 | .5938 | 3,530 | .1390 | T |
| KTFST15100HPCM | 15,100 | .5945 | 3,540 | .1394 | T |
| KTFST15200HPCM * | 15,200 | .5984 | 3,550 | .1398 | T |
| KTFST15300HPCM * | 15,300 | .6024 | 3,570 | .1406 | T |

*(continued)*

*(KenTIP FS Inserts • HPC KC7410™ • With Internal Coolant Channels — continued)*

| KC7410 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| **KTFST15500HPCM** | 15,500 | .6102 | 3,600 | .1417 | T |
| **KTFST15600HPCM** * | 15,600 | .6142 | 3,620 | .1425 | T |
| **KTFST15800HPCM** | 15,800 | .6220 | 3,650 | .1437 | T |
| **KTFST15875HPCM** * | 15,875 | .6250 | 3,670 | .1445 | T |
| **KTFST16000HPCM** | 16,000 | .6299 | 3,750 | .1476 | U |
| **KTFST16100HPCM** | 16,100 | .6339 | 3,770 | .1484 | U |
| **KTFST16104HPCM** * | 16,104 | .6340 | 3,770 | .1484 | U |
| **KTFST16200HPCM** * | 16,200 | .6378 | 3,790 | .1492 | U |
| **KTFST16271HPCM** * | 16,271 | .6406 | 3,800 | .1496 | U |
| **KTFST16300HPCM** * | 16,300 | .6417 | 3,800 | .1496 | U |
| **KTFST16500HPCM** | 16,500 | .6496 | 3,840 | .1512 | U |
| **KTFST16550HPCM** * | 16,550 | .6516 | 3,850 | .1516 | U |
| **KTFST16600HPCM** | 16,600 | .6535 | 3,850 | .1516 | U |
| **KTFST16670HPCM** | 16,670 | .6563 | 3,870 | .1524 | U |
| **KTFST17000HPCM** | 17,000 | .6693 | 3,990 | .1571 | V |
| **KTFST17066HPCM** * | 17,066 | .6719 | 4,000 | .1575 | V |
| **KTFST17100HPCM** * | 17,100 | .6732 | 4,010 | .1579 | V |
| **KTFST17200HPCM** | 17,200 | .6772 | 4,020 | .1583 | V |
| **KTFST17300HPCM** | 17,300 | .6811 | 4,040 | .1591 | V |
| **KTFST17463HPCM** * | 17,462 | .6875 | 4,070 | .1602 | V |
| **KTFST17500HPCM** | 17,500 | .6890 | 4,070 | .1602 | V |
| **KTFST17550HPCM** * | 17,550 | .6909 | 4,080 | .1606 | V |
| **KTFST17600HPCM** | 17,600 | .6929 | 4,090 | .1610 | V |
| **KTFST17700HPCM** * | 17,700 | .6969 | 4,110 | .1618 | V |
| **KTFST17800HPCM** | 17,800 | .7008 | 4,120 | .1622 | V |
| **KTFST18000HPCM** | 18,000 | .7087 | 4,220 | .1661 | W |
| **KTFST18100HPCM** * | 18,100 | .7126 | 4,240 | .1669 | W |
| **KTFST18258HPCM** * | 18,258 | .7188 | 4,270 | .1681 | W |
| **KTFST18500HPCM** | 18,500 | .7283 | 4,310 | .1697 | W |
| **KTFST18600HPCM** | 18,600 | .7323 | 4,320 | .1701 | W |
| **KTFST18700HPCM** * | 18,700 | .7362 | 4,340 | .1709 | W |
| **KTFST19000HPCM** | 19,000 | .7480 | 4,460 | .1756 | X |

● first choice
○ alternate choice

| KC7410 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| **KTFST19050HPCM** | 19,050 | .7500 | 4,470 | .1760 | X |
| **KTFST19279HPCM** * | 19,279 | .7590 | 4,500 | .1772 | X |
| **KTFST19446HPCM** * | 19,446 | .7656 | 4,530 | .1783 | X |
| **KTFST19500HPCM** | 19,500 | .7677 | 4,540 | .1787 | X |
| **KTFST19800HPCM** * | 19,800 | .7795 | 4,590 | .1807 | X |
| **KTFST20000HPCM** | 20,000 | .7874 | 4,690 | .1846 | Y |
| **KTFST20241HPCM** | 20,241 | .7969 | 4,730 | .1862 | Y |
| **KTFST20300HPCM** * | 20,300 | .7992 | 4,740 | .1866 | Y |
| **KTFST20500HPCM** | 20,500 | .8071 | 4,780 | .1882 | Y |
| **KTFST20638HPCM** | 20,638 | .8125 | 4,800 | .1890 | Y |
| **KTFST21000HPCM** | 21,000 | .8268 | 4,930 | .1941 | Z |
| **KTFST21433HPCM** * | 21,432 | .8438 | 5,000 | .1969 | Z |
| **KTFST21500HPCM** * | 21,500 | .8465 | 5,010 | .1972 | Z |
| **KTFST22000HPCM** | 22,000 | .8661 | 5,160 | .2031 | ZA |
| **KTFST22225HPCM** * | 22,225 | .8750 | 5,200 | .2047 | ZA |
| **KTFST22440HPCM** * | 22,440 | .8835 | 5,240 | .2063 | ZA |
| **KTFST22500HPCM** * | 22,500 | .8858 | 5,250 | .2067 | ZA |
| **KTFST23000HPCM** | 23,000 | .9055 | 5,400 | .2126 | ZB |
| **KTFST23416HPCM** * | 23,416 | .9219 | 5,470 | .2154 | ZB |
| **KTFST23500HPCM** * | 23,500 | .9252 | 5,480 | .2157 | ZB |
| **KTFST23813HPCM** * | 23,812 | .9375 | 5,530 | .2177 | ZB |
| **KTFST24000HPCM** | 24,000 | .9449 | 5,630 | .2217 | ZC |
| **KTFST24500HPCM** * | 24,500 | .9646 | 5,720 | .2252 | ZC |
| **KTFST24608HPCM** * | 24,608 | .9688 | 5,730 | .2256 | ZC |
| **KTFST25000HPCM** | 25,000 | .9843 | 5,870 | .2311 | ZD |
| **KTFST25070HPCM** * | 25,070 | .9870 | 5,880 | .2315 | ZD |
| **KTFST25400HPCM** | 25,400 | 1.0000 | 5,930 | .2335 | ZD |
| **KTFST25500HPCM** * | 25,500 | 1.0039 | 5,950 | .2343 | ZD |
| **KTFST25679HPCM** * | 25,679 | 1.0110 | 5,980 | .2354 | ZD |
| **KTFST25806HPCM** * | 25,806 | 1.0160 | 6,000 | .2362 | ZD |
| **KTFST26000HPCM** | 26,000 | 1.0236 | 6,030 | .2374 | ZD |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Products with D1 ≤ 19,999mm will be available in November 2017.**
**Products with D1 ≥ 20mm will be available by January 1st, 2018.**

**KenTIP FS HPC Geometry**

**Tolerance**

| D1 metric | tolerance k8 |
|---|---|
| 6 | 0,000/+0,018 |
| >6–10 | 0,000/+0,022 |
| >10–18 | 0,000/+0,027 |
| >18–26 | 0,000/+0,033 |

**KenTIP FS HPC Geometry**

**Tolerance**

| D1 inch | tolerance k8 |
|---|---|
| .2362 | .000/+.0007 |
| >.2362–.3937 | .000/+.0009 |
| >.3937–.7087 | .000/+.0011 |
| >.7087–1.0236 | .000/+.0013 |

## Modular Drill Carbide Insert Blades • KenTIP™ FS • HPC Geometry • Grade KC7410™ • Through Coolant • Metric

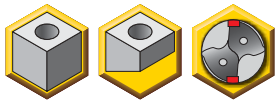


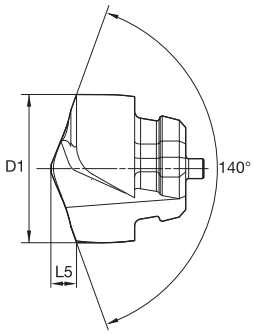
| Material Group | | Cutting Speed – vc Range – m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate per Rev | | | | | | |
| | | min | Starting Value | max | | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 20,0 |
| K | 1 | 100 | **175** | 200 | mm/r | 0,14–0,34 | 0,16–0,39 | 0,19–0,45 | 0,23–0,50 | 0,26–0,58 | 0,3–0,64 |
| | 2 | 100 | **160** | 180 | mm/r | 0,14–0,34 | 0,16–0,39 | 0,19–0,45 | 0,23–0,50 | 0,26–0,58 | 0,3–0,64 |
| | 3 | 70 | **85** | 120 | mm/r | 0,13–0,27 | 0,15–0,33 | 0,17–0,37 | 0,19–0,42 | 0,21–0,46 | 0,28–0,54 |

## Modular Drill Carbide Insert Blades • KenTIP™ FS • HPC Geometry • Grade KC7410™ • Through Coolant • Inch

| Material Group | | Cutting Speed – vc Range – SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate per Rev | | | | | | |
| | | min | Starting Value | max | | .315 | .394 | .472 | .551 | .630 | .787 |
| K | 1 | 330 | **570** | 660 | IPR | 0.005–0.013 | 0.006–0.015 | 0.007–0.017 | 0.009–0.019 | 0.010–0.022 | 0.011–0.025 |
| | 2 | 330 | **520** | 590 | IPR | 0.005–0.013 | 0.006–0.015 | 0.007–0.017 | 0.009–0.019 | 0.010–0.022 | 0.011–0.025 |
| | 3 | 230 | **280** | 390 | IPR | 0.005–0.010 | 0.005–0.013 | 0.006–0.014 | 0.007–0.016 | 0.008–0.018 | 0.011–0.021 |

- HPL-point geometry for stainless steels.
- Forms 2 chips per cutting edge for an uninterrupted and smooth chip flow.
- KCMS15™ is an AlTiN PVD monolayer coating.
- Prevents edge built-up, which delivers superior hole quality.
- Very high metal removal rates.
- With internal coolant.

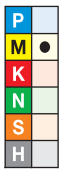




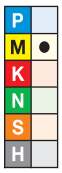
HPL Geometry



## KenTIP FS Inserts • HPL KCMS15 • With Internal Coolant Channels




| KCMS15 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFST06000HPLM | 6,000 | .2362 | 1,340 | .0528 | A |
| KTFST06350HPLM | 6,350 | .2500 | 1,400 | .0551 | B |
| KTFST06500HPLM | 6,500 | .2559 | 1,430 | .0563 | B |
| KTFST06629HPLM | 6,629 | .2610 | 1,460 | .0575 | C |
| KTFST06800HPLM | 6,800 | .2677 | 1,490 | .0587 | C |
| KTFST07000HPLM | 7,000 | .2756 | 1,530 | .0602 | D |
| KTFST07500HPLM | 7,500 | .2953 | 1,630 | .0642 | E |
| KTFST07800HPLM | 7,800 | .3071 | 1,680 | .0661 | E |
| KTFST07938HPLM | 7,938 | .3125 | 1,710 | .0673 | E |
| KTFST08000HPLM | 8,000 | .3150 | 1,720 | .0677 | F |
| KTFST08100HPLM * | 8,100 | .3189 | 1,740 | .0685 | F |
| KTFST08204HPLM * | 8,204 | .3230 | 1,760 | .0693 | F |
| KTFST08334HPLM * | 8,334 | .3281 | 1,790 | .0705 | F |
| KTFST08400HPLM * | 8,400 | .3307 | 1,800 | .0709 | F |
| KTFST08500HPLM | 8,500 | .3346 | 1,820 | .0717 | G |
| KTFST08600HPLM * | 8,600 | .3386 | 1,840 | .0724 | G |
| KTFST08700HPLM * | 8,700 | .3425 | 1,860 | .0732 | G |
| KTFST08800HPLM * | 8,800 | .3465 | 1,880 | .0740 | G |
| KTFST08900HPLM | 8,900 | .3504 | 1,900 | .0748 | G |
| KTFST09000HPLM | 9,000 | .3543 | 1,930 | .0760 | H |
| KTFST09100HPLM * | 9,100 | .3583 | 1,950 | .0768 | H |
| KTFST09200HPLM | 9,200 | .3622 | 1,970 | .0776 | H |
| KTFST09400HPLM * | 9,400 | .3701 | 2,000 | .0787 | H |
| KTFST09500HPLM | 9,500 | .3740 | 2,030 | .0799 | I |
| KTFST09558HPLM * | 9,558 | .3763 | 2,040 | .0803 | I |
| KTFST09600HPLM | 9,600 | .3780 | 2,050 | .0807 | I |
| KTFST09700HPLM * | 9,700 | .3819 | 2,070 | .0815 | I |
| KTFST09800HPLM | 9,800 | .3858 | 2,090 | .0823 | I |
| KTFST09900HPLM | 9,900 | .3898 | 2,110 | .0831 | I |
| KTFST10000HPLM | 10,000 | .3937 | 2,130 | .0839 | J |
| KTFST10100HPLM | 10,100 | .3976 | 2,150 | .0846 | J |
| KTFST10200HPLM | 10,200 | .4016 | 2,170 | .0854 | J |
| KTFST10300HPLM | 10,300 | .4055 | 2,190 | .0862 | J |
| KTFST10320HPLM | 10,320 | .4063 | 2,190 | .0862 | J |
| KTFST10400HPLM * | 10,400 | .4094 | 2,210 | .0870 | J |
| KTFST10500HPLM | 10,500 | .4134 | 2,230 | .0878 | K |



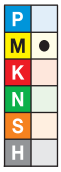

● first choice
○ alternate choice

| KCMS15 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| KTFST10600HPLM * | 10,600 | .4173 | 2,250 | .0886 | K |
| KTFST10700HPLM | 10,700 | .4213 | 2,270 | .0894 | K |
| KTFST10800HPLM * | 10,800 | .4252 | 2,290 | .0902 | K |
| KTFST10900HPLM * | 10,900 | .4291 | 2,310 | .0909 | K |
| KTFST11000HPLM | 11,000 | .4331 | 2,340 | .0921 | L |
| KTFST11100HPLM | 11,100 | .4370 | 2,350 | .0925 | L |
| KTFST11113HPLM | 11,112 | .4375 | 2,360 | .0929 | L |
| KTFST11200HPLM * | 11,200 | .4409 | 2,370 | .0933 | L |
| KTFST11400HPLM * | 11,400 | .4488 | 2,410 | .0949 | L |
| KTFST11500HPLM | 11,500 | .4528 | 2,440 | .0961 | M |
| KTFST11600HPLM * | 11,600 | .4567 | 2,460 | .0969 | M |
| KTFST11800HPLM * | 11,800 | .4646 | 2,490 | .0980 | M |
| KTFST11908HPLM | 11,908 | .4688 | 2,520 | .0992 | M |
| KTFST12000HPLM | 12,000 | .4724 | 2,540 | .1000 | N |
| KTFST12200HPLM * | 12,200 | .4803 | 2,580 | .1016 | N |
| KTFST12304HPLM | 12,304 | .4844 | 2,600 | .1024 | N |
| KTFST12500HPLM | 12,500 | .4921 | 2,640 | .1039 | O |
| KTFST12700HPLM | 12,700 | .5000 | 2,680 | .1055 | O |
| KTFST12800HPLM * | 12,800 | .5039 | 2,700 | .1063 | O |
| KTFST12900HPLM * | 12,900 | .5079 | 2,720 | .1071 | O |
| KTFST13000HPLM | 13,000 | .5118 | 2,740 | .1079 | P |
| KTFST13096HPLM | 13,096 | .5156 | 2,760 | .1087 | P |
| KTFST13200HPLM * | 13,200 | .5197 | 2,780 | .1094 | P |
| KTFST13492HPLM * | 13,492 | .5312 | 2,840 | .1118 | P |
| KTFST13500HPLM | 13,500 | .5315 | 2,840 | .1118 | Q |
| KTFST13800HPLM * | 13,800 | .5433 | 2,900 | .1142 | Q |
| KTFST13891HPLM * | 13,891 | .5469 | 2,920 | .1150 | Q |
| KTFST13896HPLM * | 13,896 | .5471 | 2,920 | .1150 | Q |
| KTFST14000HPLM | 14,000 | .5512 | 2,950 | .1161 | R |
| KTFST14100HPLM * | 14,100 | .5551 | 2,960 | .1165 | R |
| KTFST14200HPLM * | 14,200 | .5591 | 2,980 | .1173 | R |
| KTFST14288HPLM | 14,288 | .5625 | 3,000 | .1181 | R |
| KTFST14300HPLM | 14,300 | .5630 | 3,000 | .1181 | R |
| KTFST14400HPLM * | 14,400 | .5669 | 3,020 | .1189 | R |
| KTFST14500HPLM | 14,500 | .5709 | 3,050 | .1201 | S |
| KTFST14684HPLM * | 14,684 | .5781 | 3,080 | .1213 | S |

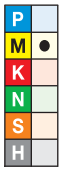
*(continued)*

*(KenTIP FS Inserts • HPL KCMS15™ • With Internal Coolant Channels — continued)*






| KCMS15 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| **KTFST14800HPLM** * | 14,800 | .5827 | 3,100 | .1220 | S |
| **KTFST15000HPLM** | 15,000 | .5906 | 3,150 | .1240 | T |
| **KTFST15100HPLM** * | 15,100 | .5945 | 3,170 | .1248 | T |
| **KTFST15200HPLM** * | 15,200 | .5984 | 3,190 | .1256 | T |
| **KTFST15500HPLM** | 15,500 | .6102 | 3,240 | .1276 | T |
| **KTFST15875HPLM** | 15,875 | .6250 | 3,310 | .1303 | T |
| **KTFST16000HPLM** | 16,000 | .6299 | 3,350 | .1319 | U |
| **KTFST16100HPLM** * | 16,100 | .6339 | 3,370 | .1327 | U |
| **KTFST16104HPLM** | 16,104 | .6340 | 3,370 | .1327 | U |
| **KTFST16150HPLM** | 16,150 | .6358 | 3,380 | .1331 | U |
| **KTFST16271HPLM** | 16,271 | .6406 | 3,400 | .1339 | U |
| **KTFST16500HPLM** | 16,500 | .6496 | 3,450 | .1358 | U |
| **KTFST16670HPLM** | 16,670 | .6563 | 3,480 | .1370 | U |
| **KTFST17000HPLM** | 17,000 | .6693 | 3,550 | .1398 | V |
| **KTFST17463HPLM** * | 17,462 | .6875 | 3,640 | .1433 | V |
| **KTFST17480HPLM** | 17,480 | .6882 | 3,640 | .1433 | V |
| **KTFST17500HPLM** | 17,500 | .6890 | 3,650 | .1437 | V |
| **KTFST17700HPLM** * | 17,700 | .6969 | 3,690 | .1453 | V |
| **KTFST18000HPLM** | 18,000 | .7087 | 3,760 | .1480 | W |
| **KTFST18258HPLM** * | 18,258 | .7188 | 3,800 | .1496 | W |
| **KTFST18500HPLM** | 18,500 | .7283 | 3,850 | .1516 | W |
| **KTFST18654HPLM** * | 18,654 | .7344 | 3,880 | .1528 | W |
| **KTFST19000HPLM** | 19,000 | .7480 | 3,960 | .1559 | X |
| **KTFST19050HPLM** | 19,050 | .7500 | 3,970 | .1563 | X |
| **KTFST19200HPLM** * | 19,200 | .7559 | 3,990 | .1571 | X |
| **KTFST19228HPLM** * | 19,228 | .7570 | 4,000 | .1575 | X |
| **KTFST19253HPLM** | 19,253 | .7580 | 4,000 | .1575 | X |
| **KTFST19279HPLM** | 19,279 | .7590 | 4,010 | .1579 | X |




● first choice
○ alternate choice

| KCMS15 | D1 mm | D1 in | L5 mm | L5 in | seat size |
|---|---|---|---|---|---|
| **KTFST19355HPLM** * | 19,355 | .7620 | 4,020 | .1583 | X |
| **KTFST19446HPLM** | 19,446 | .7656 | 4,040 | .1591 | X |
| **KTFST19460HPLM** * | 19,460 | .7661 | 4,040 | .1591 | X |
| **KTFST19500HPLM** | 19,500 | .7677 | 4,050 | .1594 | X |
| **KTFST19845HPLM** | 19,845 | .7813 | 4,120 | .1622 | X |
| **KTFST19850HPLM** * | 19,850 | .7815 | 4,120 | .1622 | X |
| **KTFST20000HPLM** | 20,000 | .7874 | 4,160 | .1638 | Y |
| **KTFST20500HPLM** | 20,500 | .8071 | 4,250 | .1673 | Y |
| **KTFST20638HPLM** | 20,638 | .8125 | 4,280 | .1685 | Y |
| **KTFST21000HPLM** | 21,000 | .8268 | 4,360 | .1717 | Z |
| **KTFST21150HPLM** * | 21,150 | .8327 | 4,390 | .1728 | Z |
| **KTFST21500HPLM** | 21,500 | .8465 | 4,450 | .1752 | Z |
| **KTFST22000HPLM** | 22,000 | .8661 | 4,560 | .1795 | ZA |
| **KTFST22225HPLM** | 22,225 | .8750 | 4,600 | .1811 | ZA |
| **KTFST22500HPLM** | 22,500 | .8858 | 4,660 | .1835 | ZA |
| **KTFST23000HPLM** | 23,000 | .9055 | 4,760 | .1874 | ZB |
| **KTFST23500HPLM** | 23,500 | .9252 | 4,860 | .1913 | ZB |
| **KTFST23813HPLM** | 23,812 | .9375 | 4,920 | .1937 | ZB |
| **KTFST24000HPLM** | 24,000 | .9449 | 4,960 | .1953 | ZC |
| **KTFST24500HPLM** | 24,500 | .9646 | 5,060 | .1992 | ZC |
| **KTFST25000HPLM** | 25,000 | .9843 | 5,170 | .2035 | ZD |
| **KTFST25400HPLM** | 25,400 | 1.0000 | 5,240 | .2063 | ZD |
| **KTFST25500HPLM** | 25,500 | 1.0039 | 5,260 | .2071 | ZD |
| **KTFST25600HPLM** | 25,600 | 1.0079 | 5,280 | .2079 | ZD |
| **KTFST25650HPLM** | 25,650 | 1.0098 | 5,290 | .2083 | ZD |
| **KTFST25679HPLM** | 25,679 | 1.0110 | 5,290 | .2083 | ZD |
| **KTFST25806HPLM** | 25,806 | 1.0160 | 5,320 | .2094 | ZD |
| **KTFST26000HPLM** | 26,000 | 1.0236 | 5,370 | .2114 | ZD |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Products with D1 ≥ 20mm will be available by January 1st, 2018.**

**KenTIP FS HPL Geometry**
**Tolerance**

| D1 metric | tolerance k8 |
|---|---|
| 6 | 0,000/+0,018 |
| >6–10 | 0,000/+0,022 |
| >10–18 | 0,000/+0,027 |
| >18–26 | 0,000/+0,033 |

**KenTIP FS HPL Geometry**
**Tolerance**

| D1 inch | tolerance k8 |
|---|---|
| .2362 | .000/+.0007 |
| >.2362–.3937 | .000/+.0009 |
| >.3937–.7087 | .000/+.0011 |
| >.7087–1.0236 | .000/+.0013 |

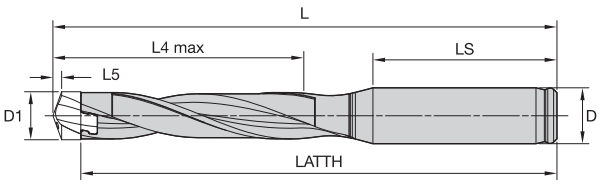
## Modular Drill Carbide Insert Blades • KenTIP™ FS • HPL Geometry • Grade KCMS15™ • Through Coolant • Metric

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate per Rev | | | | | | |
| | | min | Starting Value | max | | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 20,0 |
| M | 1 | 50 | **60** | 90 | mm/r | 0,08–0,15 | 0,09–0,18 | 0,11–0,20 | 0,12–0,22 | 0,13–0,24 | 0,16–0,28 |
| | 2 | 30 | **60** | 90 | mm/r | 0,08–0,15 | 0,09–0,18 | 0,11–0,20 | 0,12–0,22 | 0,13–0,24 | 0,16–0,28 |
| | 3 | 20 | **50** | 60 | mm/r | 0,08–0,15 | 0,09–0,18 | 0,11–0,20 | 0,12–0,22 | 0,13–0,24 | 0,16–0,28 |

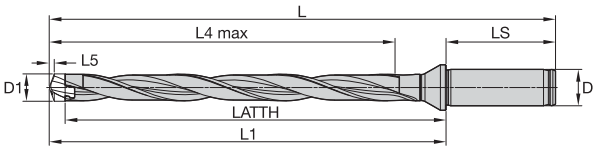
## Modular Drill Carbide Insert Blades • KenTIP™ FS • HPL Geometry • Grade KCMS15™ • Through Coolant • Inch

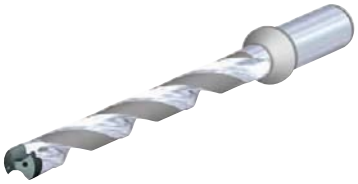
| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate per Rev | | | | | | |
| | | min | Starting Value | max | | .315 | .394 | .472 | .551 | .630 | .787 |
| M | 1 | 160 | **200** | 300 | IPR | 0.003–0.006 | 0.004–0.007 | 0.004–0.008 | 0.005–0.009 | 0.005–0.009 | 0.006–0.011 |
| | 2 | 100 | **200** | 300 | IPR | 0.003–0.006 | 0.004–0.007 | 0.004–0.008 | 0.005–0.009 | 0.005–0.009 | 0.006–0.011 |
| | 3 | 70 | **160** | 200 | IPR | 0.003–0.006 | 0.004–0.007 | 0.004–0.008 | 0.005–0.009 | 0.005–0.009 | 0.006–0.011 |

- KenTIP FS toolholder with straight cylindrical round metric shank.
- 12 x D holders feature a flanged shank for improved stiffness.
- Multi-coolant provides an advanced coolant channel layout with four coolant exits in each holder.
- Each tool body is shipped with related insert wrench.



Straight Round Shank (SS Shank)



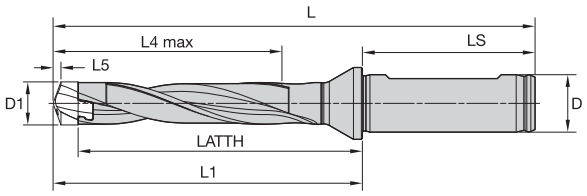



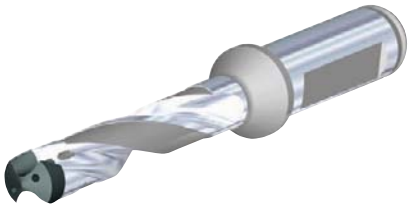
Flanged Round Shank (SF Shank)

## KenTIP FS Round Shank • 1.5 x D/3 x D/5 x D/8 x D/12 x D • Metric

| 1.5 x D SS | 3 x D SS | 5 x D SS | 8 x D SS | 12 x D SF | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|---|---|
| KTFS060R01SS8M | KTFS060R03SS8M | KTFS060R05SS8M | KTFS060R08SS8M | KTFS060R12SF12M | 6,000 | .2363 | 6,299 | .2480 | A | 170.319 |
| KTFS063R01SS8M | KTFS063R03SS8M | KTFS063R05SS8M | KTFS063R08SS8M | KTFS063R12SF12M | 6,300 | .2481 | 6,599 | .2598 | B | 170.319 |
| KTFS066R01SS8M | KTFS066R03SS8M | KTFS066R05SS8M | KTFS066R08SS8M | KTFS066R12SF12M | 6,600 | .2599 | 6,999 | .2755 | C | 170.319 |
| KTFS070R01SS8M | KTFS070R03SS8M | KTFS070R05SS8M | KTFS070R08SS8M | KTFS070R12SF12M | 7,000 | .2756 | 7,499 | .2952 | D | 170.319 |
| KTFS075R01SS8M | KTFS075R03SS8M | KTFS075R05SS8M | KTFS075R08SS8M | KTFS075R12SF12M | 7,500 | .2953 | 7,999 | .3149 | E | 170.319 |
| KTFS080R01SS10M | KTFS080R03SS10M | KTFS080R05SS10M | KTFS080R08SS10M | KTFS080R12SF12M | 8,000 | .3150 | 8,499 | .3346 | F | 170.306 |
| KTFS085R01SS10M | KTFS085R03SS10M | KTFS085R05SS10M | KTFS085R08SS10M | KTFS085R12SF12M | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| KTFS090R01SS10M | KTFS090R03SS10M | KTFS090R05SS10M | KTFS090R08SS10M | KTFS090R12SF12M | 9,000 | .3544 | 9,499 | .3739 | H | 170.306 |
| KTFS095R01SS10M | KTFS095R03SS10M | KTFS095R05SS10M | KTFS095R08SS10M | KTFS095R12SF12M | 9,500 | .3740 | 9,999 | .3936 | I | 170.306 |
| KTFS100R01SS12M | KTFS100R03SS12M | KTFS100R05SS12M | KTFS100R08SS12M | KTFS100R12SF16M | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| KTFS105R01SS12M | KTFS105R03SS12M | KTFS105R05SS12M | KTFS105R08SS12M | KTFS105R12SF16M | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| KTFS110R01SS12M | KTFS110R03SS12M | KTFS110R05SS12M | KTFS110R08SS12M | KTFS110R12SF16M | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| KTFS115R01SS12M | KTFS115R03SS12M | KTFS115R05SS12M | KTFS115R08SS12M | KTFS115R12SF16M | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| KTFS120R01SS14M | KTFS120R03SS14M | KTFS120R05SS14M | KTFS120R08SS14M | KTFS120R12SF16M | 12,000 | .4725 | 12,499 | .4921 | N | 170.308 |
| KTFS125R01SS14M | KTFS125R03SS14M | KTFS125R05SS14M | KTFS125R08SS14M | KTFS125R12SF16M | 12,500 | .4922 | 12,999 | .5117 | O | 170.308 |
| KTFS130R01SS14M | KTFS130R03SS14M | KTFS130R05SS14M | KTFS130R08SS14M | KTFS130R12SF16M | 13,000 | .5118 | 13,499 | .5314 | P | 170.308 |
| KTFS135R01SS14M | KTFS135R03SS14M | KTFS135R05SS14M | KTFS135R08SS14M | KTFS135R12SF16M | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| KTFS140R01SS16M | KTFS140R03SS16M | KTFS140R05SS16M | KTFS140R08SS16M | KTFS140R12SF16M | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| KTFS145R01SS16M | KTFS145R03SS16M | KTFS145R05SS16M | KTFS145R08SS16M | KTFS145R12SF16M | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| KTFS150R01SS16M | KTFS150R03SS16M | KTFS150R05SS16M | KTFS150R08SS16M | KTFS150R12SF20M | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| KTFS160R01SS16M | KTFS160R03SS16M | KTFS160R05SS16M | KTFS160R08SS16M | KTFS160R12SF20M | 16,000 | .6300 | 16,999 | .6692 | U | 170.309 |
| KTFS170R01SS20M | KTFS170R03SS20M | KTFS170R05SS20M | KTFS170R08SS20M | KTFS170R12SF20M | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| KTFS180R01SS20M | KTFS180R03SS20M | KTFS180R05SS20M | KTFS180R08SS20M | KTFS180R12SF25M | 18,000 | .7087 | 18,999 | .7479 | W | 170.314 |
| KTFS190R01SS20M | KTFS190R03SS20M | KTFS190R05SS20M | KTFS190R08SS20M | KTFS190R12SF25M | 19,000 | .7480 | 19,999 | .7873 | X | 170.314 |

- KenTIP FS toolholder with flanged shank and 0° flat metric shank.
- Multi-coolant provides an advanced coolant channel layout with four coolant exits in each holder.
- Each tool body is shipped with related insert wrench.



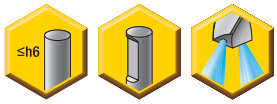
Flanged Shank with Flat (SCF Shank)

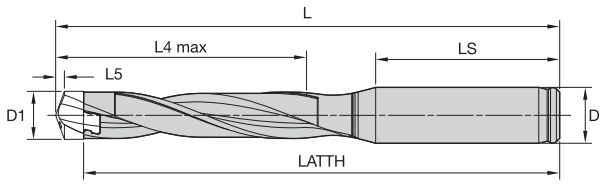
## KenTIP FS Flanged Shank with Flat • 1.5 x D/3 x D/5 x D/8 x D/12 x D • Metric

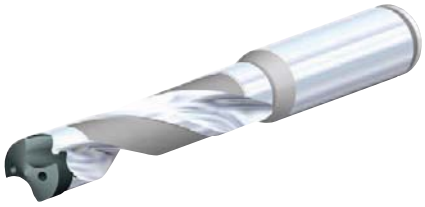
| 1.5 x D SCF | 3 x D SCF | 5 x D SCF | 8 x D SCF | 12 x D SCF | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|---|---|
| – | KTFS080R03SCF12M | KTFS080R05SCF12M | KTFS080R08SCF12M | – | 8,000 | .3150 | 8,499 | .3346 | F | 170.306 |
| – | KTFS085R03SCF12M | KTFS085R05SCF12M | KTFS085R08SCF12M | – | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| – | KTFS090R03SCF12M | KTFS090R05SCF12M | KTFS090R08SCF12M | – | 9,000 | .3544 | 9,499 | .3739 | H | 170.306 |
| – | KTFS095R03SCF12M | KTFS095R05SCF12M | KTFS095R08SCF12M | – | 9,500 | .3740 | 9,999 | .3936 | I | 170.306 |
| – | KTFS100R03SCF16M | KTFS100R05SCF16M | KTFS100R08SCF16M | – | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| – | KTFS105R03SCF16M | KTFS105R05SCF16M | KTFS105R08SCF16M | – | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| – | KTFS110R03SCF16M | KTFS110R05SCF16M | KTFS110R08SCF16M | – | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| – | KTFS115R03SCF16M | KTFS115R05SCF16M | KTFS115R08SCF16M | – | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| – | KTFS120R03SCF16M | KTFS120R05SCF16M | KTFS120R08SCF16M | – | 12,000 | .4725 | 12,499 | .4921 | N | 170.308 |
| – | KTFS125R03SCF16M | KTFS125R05SCF16M | KTFS125R08SCF16M | – | 12,500 | .4922 | 12,999 | .5117 | O | 170.308 |
| – | KTFS130R03SCF16M | KTFS130R05SCF16M | KTFS130R08SCF16M | – | 13,000 | .5118 | 13,499 | .5314 | P | 170.308 |
| – | KTFS135R03SCF16M | KTFS135R05SCF16M | KTFS135R08SCF16M | – | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| – | KTFS140R03SCF16M | KTFS140R05SCF16M | KTFS140R08SCF16M | – | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| – | KTFS145R03SCF16M | KTFS145R05SCF16M | KTFS145R08SCF16M | – | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| – | KTFS150R03SCF20M | KTFS150R05SCF20M | KTFS150R08SCF20M | – | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| – | KTFS160R03SCF20M | KTFS160R05SCF20M | KTFS160R08SCF20M | – | 16,000 | .6300 | 16,999 | .6692 | U | 170.309 |
| – | KTFS170R03SCF20M | KTFS170R05SCF20M | KTFS170R08SCF20M | – | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| – | KTFS180R03SCF25M | KTFS180R05SCF25M | KTFS180R08SCF25M | – | 18,000 | .7087 | 18,999 | .7479 | W | 170.314 |
| – | KTFS190R03SCF25M | KTFS190R05SCF25M | KTFS190R08SCF25M | – | 19,000 | .7480 | 19,999 | .7873 | X | 170.314 |
| KTFS200R01SCF25M | KTFS200R03SCF25M | KTFS200R05SCF25M | KTFS200R08SCF25M | KTFS200R12SCF25M | 20,000 | .7874 | 20,999 | .8267 | Y | 170.314 |
| KTFS210R01SCF25M | KTFS210R03SCF25M | KTFS210R05SCF25M | KTFS210R08SCF25M | KTFS210R12SCF25M | 21,000 | .8268 | 21,999 | .8661 | Z | 170.314 |
| KTFS220R01SCF25M | KTFS220R03SCF25M | KTFS220R05SCF25M | KTFS220R08SCF25M | KTFS220R12SCF25M | 22,000 | .8662 | 22,999 | .9054 | ZA | 170.314 |
| KTFS230R01SCF25M | KTFS230R03SCF25M | KTFS230R05SCF25M | KTFS230R08SCF25M | KTFS230R12SCF25M | 23,000 | .9055 | 23,999 | .9448 | ZB | 170.314 |
| KTFS240R01SCF25M | KTFS240R03SCF25M | KTFS240R05SCF25M | KTFS240R08SCF25M | KTFS240R12SCF25M | 24,000 | .9449 | 24,999 | .9842 | ZC | 170.314 |
| KTFS250R01SCF25M | KTFS250R03SCF25M | KTFS250R05SCF25M | KTFS250R08SCF25M | KTFS250R12SCF25M | 25,000 | .9843 | 25,999 | 1.0236 | ZD | 170.314 |

NOTE: **Products with D1 ≥ 20mm will be available by January 1st, 2018.**

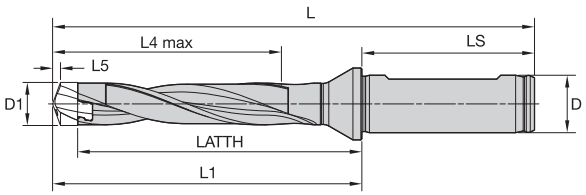
- KenTIP FS toolholder with straight cylindrical round shank. Inch shank <20mm nominal drilling diameter.
- KenTIP FS toolholder with Flanged shank and 0° Flat. Inch shank ≥20mm nominal drilling diameter.
- Multi-coolant provides an advanced coolant channel layout with four coolant exits in each holder.
- Each tool body is shipped with related insert wrench.

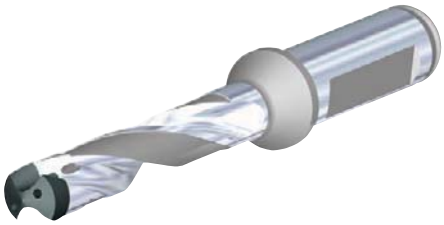


Straight Round Shank (SS Shank)



Flanged Shank with Flat (SCF Shank)

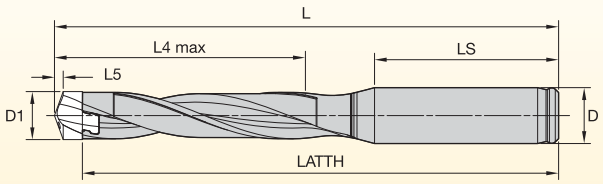
## KenTIP FS Round and Flanged Shank with Flat • 3 x D/5 x D/8 x D • Inch

| 3 x D | 5 x D | 8 x D | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|
| KTFS0237R03SS031 | KTFS0237R05SS031 | KTFS0237R08SS031 | 6,000 | .2363 | 6,299 | .2480 | A | 170.319 |
| KTFS0249R03SS031 | KTFS0249R05SS031 | KTFS0249R08SS031 | 6,300 | .2481 | 6,599 | .2598 | B | 170.319 |
| KTFS0260R03SS031 | KTFS0260R05SS031 | KTFS0260R08SS031 | 6,600 | .2599 | 6,999 | .2755 | C | 170.319 |
| KTFS0276R03SS031 | KTFS0276R05SS031 | KTFS0276R08SS031 | 7,000 | .2756 | 7,499 | .2952 | D | 170.319 |
| KTFS0296R03SS031 | KTFS0296R05SS031 | KTFS0296R08SS031 | 7,500 | .2953 | 7,999 | .3149 | E | 170.319 |
| KTFS0315R03SS038 | KTFS0315R05SS038 | KTFS0315R08SS038 | 8,000 | .3150 | 8,499 | .3346 | F | 170.306 |
| KTFS0335R03SS038 | KTFS0335R05SS038 | KTFS0335R08SS038 | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| KTFS0355R03SS038 | KTFS0355R05SS038 | KTFS0355R08SS038 | 9,000 | .3544 | 9,499 | .3739 | H | 170.306 |
| KTFS0375R03SS038 | KTFS0375R05SS038 | KTFS0375R08SS038 | 9,500 | .3740 | 9,999 | .3936 | I | 170.306 |
| KTFS0394R03SS044 | KTFS0394R05SS044 | KTFS0394R08SS044 | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| KTFS0414R03SS044 | KTFS0414R05SS044 | KTFS0414R08SS044 | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| KTFS0434R03SS044 | KTFS0434R05SS044 | KTFS0434R08SS044 | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| KTFS0453R03SS050 | KTFS0453R05SS050 | KTFS0453R08SS050 | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| KTFS0473R03SS050 | KTFS0473R05SS050 | KTFS0473R08SS050 | 12,000 | .4725 | 12,499 | .4921 | N | 170.308 |
| KTFS0493R03SS050 | KTFS0493R05SS050 | KTFS0493R08SS050 | 12,500 | .4922 | 12,999 | .5117 | O | 170.308 |
| KTFS0512R03SS056 | KTFS0512R05SS056 | KTFS0512R08SS056 | 13,000 | .5118 | 13,499 | .5314 | P | 170.308 |
| KTFS0532R03SS056 | KTFS0532R05SS056 | KTFS0532R08SS056 | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| KTFS0552R03SS056 | KTFS0552R05SS056 | KTFS0552R08SS056 | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| KTFS0571R03SS063 | KTFS0571R05SS063 | KTFS0571R08SS063 | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| KTFS0591R03SS063 | KTFS0591R05SS063 | KTFS0591R08SS063 | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| KTFS0630R03SS063 | KTFS0630R05SS063 | KTFS0630R08SS063 | 16,000 | .6300 | 16,999 | .6692 | U | 170.309 |
| KTFS0670R03SS075 | KTFS0670R05SS075 | KTFS0670R08SS075 | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| KTFS0709R03SS075 | KTFS0709R05SS075 | KTFS0709R08SS075 | 18,000 | .7087 | 18,999 | .7479 | W | 170.314 |
| KTFS0749R03SS075 | KTFS0749R05SS075 | KTFS0749R08SS075 | 19,000 | .7480 | 19,999 | .7873 | X | 170.314 |
| KTFS0788R03SCF100 | KTFS0788R05SCF100 | KTFS0788R08SCF100 | 20,000 | .7874 | 20,999 | .8267 | Y | 170.314 |
| KTFS0827R03SCF100 | KTFS0827R05SCF100 | KTFS0827R08SCF100 | 21,000 | .8268 | 21,999 | .8661 | Z | 170.314 |
| KTFS0867R03SCF100 | KTFS0867R05SCF100 | KTFS0867R08SCF100 | 22,000 | .8662 | 22,999 | .9054 | ZA | 170.314 |
| KTFS0906R03SCF100 | KTFS0906R05SCF100 | KTFS0906R08SCF100 | 23,000 | .9055 | 23,999 | .9448 | ZB | 170.314 |
| KTFS0945R03SCF100 | KTFS0945R05SCF100 | KTFS0945R08SCF100 | 24,000 | .9449 | 24,999 | .9842 | ZC | 170.314 |
| KTFS0985R03SCF100 | KTFS0985R05SCF100 | KTFS0985R08SCF100 | 25,000 | .9843 | 25,999 | 1.0236 | ZD | 170.314 |

NOTE: **Products with D1 ≥ 20mm will be available by January 1st, 2018.**

## Modular Drills • Dimension Tables

### Straight Round Shank • Metric



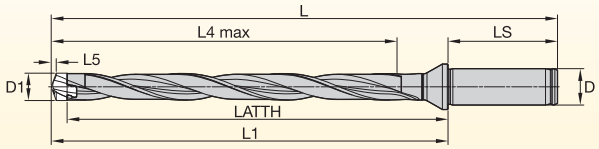

| | | | | | 1.5 x D SS | | | 3 x D SS | | | 5 x D SS | | | 8 x D SS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 min | D1 max | Seat | LS | round D | LATTH | L | L4 max | LATTH | L | L4 max | LATTH | L | L4 max | LATTH | L | L4 max |
| 6,000 | 6,299 | A | 37 | 8 | 53,5 | 57 | 9 | 63,5 | 67 | 19 | 76,5 | 80 | 32 | 94,5 | 98 | 50 |
| 6,300 | 6,599 | B | 37 | 8 | 54,3 | 58 | 10 | 64,3 | 68 | 20 | 77,3 | 81 | 33 | 97,3 | 101 | 53 |
| 6,600 | 6,999 | C | 37 | 8 | 55,2 | 59 | 10 | 66,2 | 70 | 21 | 80,2 | 84 | 35 | 101,2 | 105 | 56 |
| 7,000 | 7,499 | D | 37 | 8 | 55,9 | 60 | 11 | 66,9 | 71 | 22 | 82,9 | 87 | 38 | 104,9 | 109 | 60 |
| 7,500 | 7,999 | E | 37 | 8 | 56,7 | 61 | 12 | 68,7 | 73 | 24 | 84,7 | 89 | 40 | 108,7 | 113 | 64 |
| 8,000 | 8,499 | F | 41 | 10 | 63,4 | 68 | 13 | 76,4 | 81 | 26 | 92,4 | 97 | 42 | 118,4 | 123 | 68 |
| 8,500 | 8,999 | G | 41 | 10 | 64,1 | 69 | 14 | 77,1 | 82 | 27 | 95,1 | 100 | 45 | 122,1 | 127 | 72 |
| 9,000 | 9,499 | H | 41 | 10 | 63,8 | 69 | 14 | 77,8 | 83 | 28 | 97,8 | 103 | 48 | 125,8 | 131 | 76 |
| 9,500 | 9,999 | I | 41 | 10 | 64,5 | 70 | 15 | 79,5 | 85 | 30 | 99,5 | 105 | 50 | 129,5 | 135 | 80 |
| 10,000 | 10,499 | J | 46 | 12 | 72,2 | 78 | 16 | 88,2 | 94 | 32 | 108,2 | 114 | 52 | 140,2 | 146 | 84 |
| 10,500 | 10,999 | K | 46 | 12 | 71,9 | 78 | 16 | 88,9 | 95 | 33 | 110,9 | 117 | 55 | 143,9 | 150 | 88 |
| 11,000 | 11,499 | L | 46 | 12 | 72,6 | 79 | 17 | 89,6 | 96 | 34 | 113,6 | 120 | 58 | 147,6 | 154 | 92 |
| 11,500 | 11,999 | M | 46 | 12 | 73,3 | 80 | 18 | 91,3 | 98 | 36 | 115,3 | 122 | 60 | 151,3 | 158 | 96 |
| 12,000 | 12,499 | N | 46 | 14 | 76,0 | 83 | 19 | 95,0 | 102 | 38 | 119,0 | 126 | 62 | 157,0 | 164 | 100 |
| 12,500 | 12,999 | O | 46 | 14 | 76,8 | 84 | 20 | 95,8 | 103 | 39 | 121,8 | 129 | 65 | 160,8 | 168 | 104 |
| 13,000 | 13,499 | P | 46 | 14 | 76,5 | 84 | 20 | 96,5 | 104 | 40 | 124,5 | 132 | 68 | 164,5 | 172 | 108 |
| 13,500 | 13,999 | Q | 46 | 14 | 77,2 | 85 | 21 | 98,2 | 106 | 42 | 126,2 | 134 | 70 | 168,2 | 176 | 112 |
| 14,000 | 14,499 | R | 49 | 16 | 81,9 | 90 | 22 | 103,9 | 112 | 44 | 131,9 | 140 | 72 | 175,9 | 184 | 116 |
| 14,500 | 14,999 | S | 49 | 16 | 81,6 | 90 | 22 | 104,6 | 113 | 45 | 134,6 | 143 | 75 | 179,6 | 188 | 120 |
| 15,000 | 15,999 | T | 49 | 16 | 83,3 | 92 | 24 | 107,3 | 116 | 48 | 139,3 | 148 | 80 | 187,3 | 196 | 128 |
| 16,000 | 16,999 | U | 49 | 16 | 84,7 | 94 | 26 | 109,7 | 119 | 51 | 143,7 | 153 | 85 | 194,7 | 204 | 136 |
| 17,000 | 17,999 | V | 51 | 20 | 90,1 | 100 | 27 | 117,1 | 127 | 54 | 153,1 | 163 | 90 | 207,1 | 217 | 144 |
| 18,000 | 18,999 | W | 51 | 20 | 90,6 | 101 | 28 | 119,6 | 130 | 57 | 157,6 | 168 | 95 | 214,6 | 225 | 152 |
| 19,000 | 19,999 | X | 51 | 20 | 92,0 | 103 | 30 | 122,0 | 133 | 60 | 162,0 | 173 | 100 | 222,0 | 233 | 160 |

NOTE: Toolholder dimensions:
L: Total length of drill
L4: Max. drilling depth
L5: Protruding length (Insert specific. See related insert pages)
LATTH: Pocket seat reference length
LS: Shank length

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Flanged Round Shank • Metric



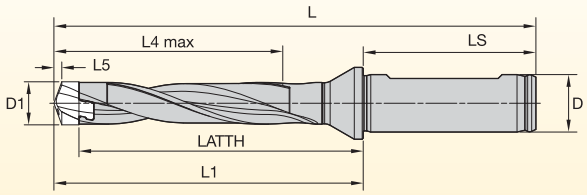

| | | | | | 12 x D SF | | | |
|---|---|---|---|---|---|---|---|---|
| D1 min | D1 max | Seat | LS | flanged D | LATTH | L | L1 | L4 max |
| 6,000 | 6,299 | A | 45 | 12 | 92,5 | 141 | 96 | 76 |
| 6,300 | 6,599 | B | 45 | 12 | 95,3 | 144 | 99 | 79 |
| 6,600 | 6,999 | C | 45 | 12 | 101,2 | 150 | 105 | 84 |
| 7,000 | 7,499 | D | 45 | 12 | 106,9 | 156 | 111 | 90 |
| 7,500 | 7,999 | E | 45 | 12 | 112,7 | 162 | 117 | 96 |
| 8,000 | 8,499 | F | 45 | 12 | 118,4 | 168 | 123 | 102 |
| 8,500 | 8,999 | G | 45 | 12 | 124,1 | 174 | 129 | 108 |
| 9,000 | 9,499 | H | 45 | 12 | 129,8 | 180 | 135 | 114 |
| 9,500 | 9,999 | I | 45 | 12 | 135,5 | 186 | 141 | 120 |
| 10,000 | 10,499 | J | 48 | 16 | 144,2 | 198 | 150 | 126 |
| 10,500 | 10,999 | K | 48 | 16 | 149,9 | 204 | 156 | 132 |
| 11,000 | 11,499 | L | 48 | 16 | 155,6 | 210 | 162 | 138 |
| 11,500 | 11,999 | M | 48 | 16 | 161,3 | 216 | 168 | 144 |
| 12,000 | 12,499 | N | 48 | 16 | 167,0 | 222 | 174 | 150 |
| 12,500 | 12,999 | O | 48 | 16 | 172,8 | 228 | 180 | 156 |
| 13,000 | 13,499 | P | 48 | 16 | 178,5 | 234 | 186 | 162 |
| 13,500 | 13,999 | Q | 48 | 16 | 184,2 | 240 | 192 | 168 |
| 14,000 | 14,499 | R | 48 | 16 | 189,9 | 246 | 198 | 174 |
| 14,500 | 14,999 | S | 48 | 16 | 195,6 | 252 | 204 | 180 |
| 15,000 | 15,999 | T | 50 | 20 | 210,3 | 269 | 219 | 192 |
| 16,000 | 16,999 | U | 50 | 20 | 221,7 | 281 | 231 | 204 |
| 17,000 | 17,999 | V | 50 | 20 | 233,1 | 293 | 243 | 216 |
| 18,000 | 18,999 | W | 56 | 25 | 247,6 | 314 | 258 | 228 |
| 19,000 | 19,999 | X | 56 | 25 | 259,0 | 326 | 270 | 240 |

NOTE: Toolholder dimensions:
L: Total length of drill
L1: Drill length including flange
L4: Max. drilling depth
L5: Protruding length (Insert specific. See related insert pages)
LATTH: Pocket seat reference length
LS: Shank length

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Flanged Shank with Flat • Metric



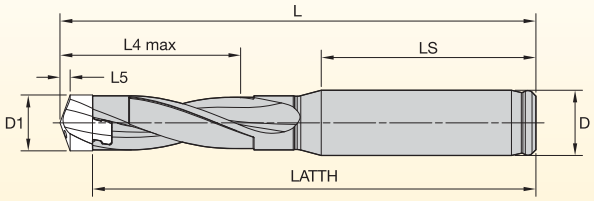

| D1 min | D1 max | Seat | LS | flanged D | 1.5 x D SCF | | | | 3 x D SCF | | | | 5 x D SCF | | | | 8 x D SCF | | | | 12 x D SCF | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LATTH | L | L1 | L4 max | LATTH | L | L1 | L4 max | LATTH | L | L1 | L4 max | LATTH | L | L1 | L4 max | LATTH | L | L1 | L4 max |
| 8,000 | 8,499 | F | 45 | 12 | – | – | – | – | 42,4 | 92 | 2 | 26 | 58,4 | 108 | 2 | 42 | 84,4 | 134 | 4 | 68 | – | – | – | – |
| 8,500 | 8,999 | G | 45 | 12 | – | – | – | – | 43,1 | 93 | 2 | 27 | 61,1 | 111 | 3 | 45 | 88,1 | 138 | 4 | 72 | – | – | – | – |
| 9,000 | 9,499 | H | 45 | 12 | – | – | – | – | 43,8 | 94 | 2 | 28 | 63,8 | 114 | 3 | 48 | 91,8 | 142 | 4 | 76 | – | – | – | – |
| 9,500 | 9,999 | I | 45 | 12 | – | – | – | – | 45,5 | 96 | 2 | 30 | 65,5 | 116 | 3 | 50 | 95,5 | 146 | 4 | 80 | – | – | – | – |
| 10,000 | 10,499 | J | 48 | 16 | – | – | – | – | 50,2 | 104 | 2 | 32 | 70,2 | 124 | 3 | 52 | 102,2 | 156 | 4 | 84 | – | – | – | – |
| 10,500 | 10,999 | K | 48 | 16 | – | – | – | – | 50,9 | 105 | 2 | 33 | 72,9 | 127 | 3 | 55 | 105,9 | 160 | 4 | 88 | – | – | – | – |
| 11,000 | 11,499 | L | 48 | 16 | – | – | – | – | 51,6 | 106 | 2 | 34 | 75,6 | 130 | 3 | 58 | 109,6 | 164 | 5 | 92 | – | – | – | – |
| 11,500 | 11,999 | M | 48 | 16 | – | – | – | – | 53,3 | 108 | 2 | 36 | 77,3 | 132 | 3 | 60 | 113,3 | 168 | 5 | 96 | – | – | – | – |
| 12,000 | 12,499 | N | 48 | 16 | – | – | – | – | 55,0 | 110 | 2 | 38 | 79,0 | 134 | 3 | 62 | 117,0 | 172 | 5 | 100 | – | – | – | – |
| 12,500 | 12,999 | O | 48 | 16 | – | – | – | – | 55,8 | 111 | 2 | 39 | 81,8 | 137 | 4 | 65 | 120,8 | 176 | 5 | 104 | – | – | – | – |
| 13,000 | 13,499 | P | 48 | 16 | – | – | – | – | 56,5 | 112 | 3 | 40 | 84,5 | 140 | 4 | 68 | 124,5 | 180 | 5 | 108 | – | – | – | – |
| 13,500 | 13,999 | Q | 48 | 16 | – | – | – | – | 58,2 | 114 | 3 | 42 | 86,2 | 142 | 4 | 70 | 128,2 | 184 | 5 | 112 | – | – | – | – |
| 14,000 | 14,499 | R | 48 | 16 | – | – | – | – | 59,9 | 116 | 3 | 44 | 87,9 | 144 | 4 | 72 | 131,9 | 188 | 6 | 116 | – | – | – | – |
| 14,500 | 14,999 | S | 48 | 16 | – | – | – | – | 60,6 | 117 | 3 | 45 | 90,6 | 147 | 4 | 75 | 135,6 | 192 | 6 | 120 | – | – | – | – |
| 15,000 | 15,999 | T | 50 | 20 | – | – | – | – | 66,3 | 125 | 3 | 48 | 98,3 | 157 | 4 | 80 | 146,3 | 205 | 6 | 128 | – | – | – | – |
| 16,000 | 16,999 | U | 50 | 20 | – | – | – | – | 68,7 | 128 | 3 | 51 | 102,7 | 162 | 4 | 85 | 153,7 | 213 | 6 | 136 | – | – | – | – |
| 17,000 | 17,999 | V | 50 | 20 | – | – | – | – | 71,1 | 131 | 3 | 54 | 107,1 | 167 | 5 | 90 | 161,1 | 221 | 7 | 144 | – | – | – | – |
| 18,000 | 18,999 | W | 56 | 25 | – | – | – | – | 76,6 | 143 | 3 | 57 | 114,6 | 181 | 5 | 95 | 171,6 | 238 | 7 | 152 | – | – | – | – |
| 19,000 | 19,999 | X | 56 | 25 | – | – | – | – | 79,0 | 146 | 4 | 60 | 119,0 | 186 | 5 | 100 | 179,0 | 246 | 7 | 160 | – | – | – | – |
| 20,000 | 20,999 | Y | 56 | 25 | 50,4 | 118 | 2 | 32 | 81,4 | 149 | 4 | 63 | 123,4 | 191 | 5 | 105 | 186,4 | 254 | 8 | 168 | 270,4 | 338 | 11 | 252 |
| 21,000 | 21,999 | Z | 56 | 25 | 50,8 | 119 | 2 | 33 | 83,8 | 152 | 4 | 66 | 127,8 | 196 | 6 | 110 | 193,8 | 262 | 8 | 176 | 281,8 | 350 | 12 | 264 |
| 22,000 | 22,999 | ZA | 56 | 25 | 51,2 | 120 | 3 | 34 | 86,2 | 155 | 4 | 69 | 132,2 | 201 | 6 | 115 | 201,2 | 270 | 8 | 184 | 293,2 | 362 | 12 | 276 |
| 23,000 | 23,999 | ZB | 56 | 25 | 52,7 | 122 | 3 | 36 | 88,7 | 158 | 4 | 72 | 136,7 | 206 | 6 | 120 | 208,7 | 278 | 9 | 192 | 304,7 | 374 | 13 | 288 |
| 24,000 | 24,999 | ZC | 56 | 25 | 54,1 | 124 | 3 | 38 | 91,1 | 161 | 4 | 75 | 141,1 | 211 | 6 | 125 | 216,1 | 286 | 9 | 200 | 316,1 | 386 | 13 | 300 |
| 25,000 | 25,999 | ZD | 56 | 25 | 54,5 | 125 | 3 | 39 | 93,5 | 164 | 4 | 78 | 145,5 | 216 | 6 | 130 | 223,5 | 294 | 9 | 208 | 327,5 | 398 | 13 | 312 |

NOTE: Toolholder dimensions:
- L: Total length of drill
- L1: Drill length including flange
- L4: Max. drilling depth
- L5: Protruding length (Insert specific. See related insert pages)
- LATTH: Pocket seat reference length
- LS: Shank length

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Straight Round Shank • Inch



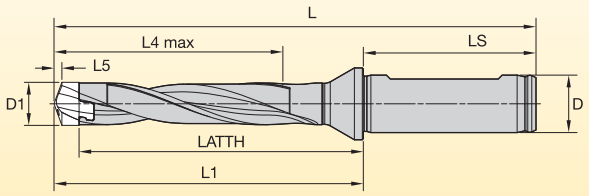

| | | | | | 3 x D SS | | | 5 x D SS | | | 8 x D SS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 min | D1 max | Seat | LS | round D | LATTH | L | L4 max | LATTH | L | L4 max | LATTH | L | L4 max |
| .3937 | .4133 | J | 1.67 | .438 | 3.32 | 3.54 | 1.26 | 4.10 | 4.33 | 2.05 | 5.36 | 5.59 | 3.31 |
| .4134 | .4330 | K | 1.67 | .438 | 3.34 | 3.58 | 1.30 | 4.21 | 4.45 | 2.17 | 5.51 | 5.75 | 3.47 |
| .4331 | .4527 | L | 1.67 | .438 | 3.37 | 3.62 | 1.34 | 4.32 | 4.57 | 2.28 | 5.65 | 5.91 | 3.62 |
| .4528 | .4724 | M | 1.79 | .500 | 3.60 | 3.86 | 1.42 | 4.54 | 4.80 | 2.36 | 5.96 | 6.22 | 3.78 |
| .4725 | .4921 | N | 1.79 | .500 | 3.66 | 3.94 | 1.50 | 4.61 | 4.88 | 2.44 | 6.10 | 6.38 | 3.94 |
| .4922 | .5117 | O | 1.79 | .500 | 3.69 | 3.98 | 1.54 | 4.71 | 5.00 | 2.56 | 6.25 | 6.54 | 4.09 |
| .5118 | .5314 | P | 1.79 | .563 | 3.76 | 4.06 | 1.58 | 4.86 | 5.16 | 2.68 | 6.44 | 6.73 | 4.25 |
| .5315 | .5511 | Q | 1.79 | .563 | 3.83 | 4.13 | 1.65 | 4.93 | 5.24 | 2.76 | 6.58 | 6.89 | 4.41 |
| .5512 | .5708 | R | 1.79 | .563 | 3.89 | 4.21 | 1.73 | 5.00 | 5.32 | 2.84 | 6.73 | 7.05 | 4.57 |
| .5709 | .5905 | S | 1.91 | .625 | 4.12 | 4.45 | 1.77 | 5.30 | 5.63 | 2.95 | 7.07 | 7.40 | 4.72 |
| .5906 | .6299 | T | 1.91 | .625 | 4.22 | 4.57 | 1.89 | 5.48 | 5.83 | 3.15 | 7.37 | 7.72 | 5.04 |
| .6300 | .6692 | U | 1.91 | .625 | 4.28 | 4.65 | 2.01 | 5.62 | 5.98 | 3.35 | 7.63 | 7.99 | 5.35 |
| .6693 | .7086 | V | 2.00 | .750 | 4.57 | 4.96 | 2.13 | 5.99 | 6.38 | 3.54 | 8.12 | 8.50 | 5.67 |
| .7087 | .7479 | W | 2.00 | .750 | 4.67 | 5.08 | 2.24 | 6.16 | 6.57 | 3.74 | 8.41 | 8.82 | 5.98 |
| .7480 | .7873 | X | 2.00 | .750 | 4.76 | 5.20 | 2.36 | 6.34 | 6.77 | 3.94 | 8.70 | 9.13 | 6.30 |
| .2363 | .2480 | A | 1.52 | .313 | 2.58 | 2.72 | .75 | 3.09 | 3.23 | 1.26 | 3.80 | 3.94 | 1.97 |
| .2481 | .2598 | B | 1.52 | .313 | 2.61 | 2.76 | .79 | 3.12 | 3.27 | 1.30 | 3.91 | 4.06 | 2.09 |
| .2599 | .2755 | C | 1.52 | .313 | 2.64 | 2.80 | .83 | 3.20 | 3.35 | 1.38 | 4.02 | 4.17 | 2.21 |
| .2756 | .2952 | D | 1.52 | .313 | 2.67 | 2.83 | .87 | 3.30 | 3.46 | 1.50 | 4.17 | 4.33 | 2.36 |
| .2953 | .3149 | E | 1.52 | .313 | 2.83 | 3.00 | .95 | 3.46 | 3.63 | 1.58 | 4.40 | 4.58 | 2.52 |
| .3150 | .3346 | F | 1.59 | .375 | 2.97 | 3.15 | 1.02 | 3.60 | 3.78 | 1.65 | 4.62 | 4.80 | 2.68 |
| .3346 | .3543 | G | 1.59 | .375 | 2.99 | 3.19 | 1.06 | 3.70 | 3.90 | 1.77 | 4.77 | 4.96 | 2.84 |
| .3544 | .3739 | H | 1.59 | .375 | 3.02 | 3.23 | 1.10 | 3.81 | 4.02 | 1.89 | 4.91 | 5.12 | 2.99 |
| .3740 | .3936 | I | 1.59 | .375 | 3.09 | 3.31 | 1.18 | 3.88 | 4.09 | 1.97 | 5.06 | 5.28 | 3.15 |

NOTE: Toolholder dimensions:
L: Total length of drill
L4: Max. drilling depth
L5: Protruding length (Insert specific. See related insert pages)
LATTH: Pocket seat reference length
LS: Shank length

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Flanged Shank with Flat • Inch




| D1 min | D1 max | Seat | LS | flanged D | 3 x D SCF LATTH | L | L1 | L4 max | 5 x D SCF LATTH | L | L1 | L4 max | 8 x D SCF LATTH | L | L1 | L4 max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .7874 | .8267 | Y | 2.20 | 1.000 | 3.20 | 5.87 | 3.66 | 2.48 | 4.86 | 7.52 | 5.32 | 4.13 | 7.34 | 10.00 | 7.80 | 6.61 |
| .8268 | .8661 | Z | 2.20 | 1.000 | 3.30 | 5.98 | 3.78 | 2.60 | 5.03 | 7.72 | 5.51 | 4.33 | 7.63 | 10.32 | 8.11 | 6.93 |
| .8662 | .9054 | ZA | 2.20 | 1.000 | 3.40 | 6.10 | 3.90 | 2.72 | 5.21 | 7.91 | 5.71 | 4.53 | 7.92 | 10.63 | 8.43 | 7.24 |
| .9055 | .9448 | ZB | 2.20 | 1.000 | 3.49 | 6.22 | 4.02 | 2.84 | 5.38 | 8.11 | 5.91 | 4.72 | 8.22 | 10.94 | 8.74 | 7.56 |
| .9449 | .9842 | ZC | 2.20 | 1.000 | 3.59 | 6.34 | 4.13 | 2.95 | 5.55 | 8.31 | 6.10 | 4.92 | 8.51 | 11.26 | 9.06 | 7.87 |
| .9843 | 1.0236 | ZD | 2.20 | 1.000 | 3.68 | 6.46 | 4.25 | 3.07 | 5.73 | 8.50 | 6.30 | 5.12 | 8.80 | 11.57 | 9.37 | 8.19 |

NOTE: Toolholder dimensions:
L: Total length of drill
L1: Drill length including flange
L4: Max. drilling depth
L5: Protruding length (Insert specific. See related insert pages)
LATTH: Pocket seat reference length
LS: Shank length

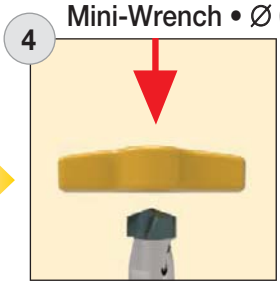
## Mounting

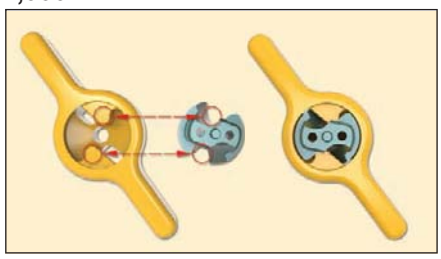
1. Protect your eyes and hands. Fix holder. Clean pocket with air blast.

2. Put insert into pocket seat so it rests firmly on the holder.

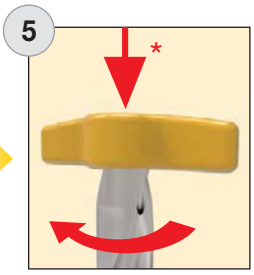
3. Turn slightly in clockwise direction using your fingers.

### Mini-Wrench • Ø 6–7,999mm



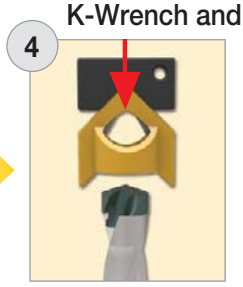



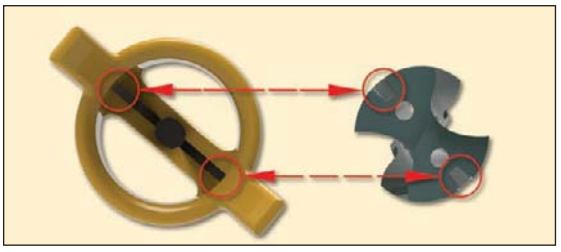
4. Set wrench properly onto insert: **Wrench noses must fit firmly into the chip grooves**.

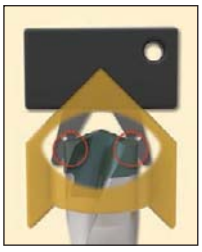



*For unmounting, firmly press wrench on insert to avoid slipping.

### K-Wrench and Multi-Wrench • Ø 8–26mm





4. Set wrench properly onto insert: **Wrench blade must fit firmly into slots on insert flanks**.

## Available Smart Wrenches

### Mini-Wrench

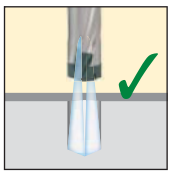
Wrench noses must fit into the chip grooves.

### K-Wrench

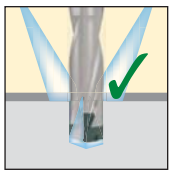
Wrench blades must fit into insert slots.

### Multi-Wrench

## Coolant



Internal coolant is recommended for all applications.

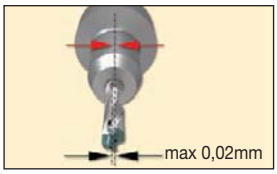


Flood coolant only for drilling depth ≤ 3 x D.

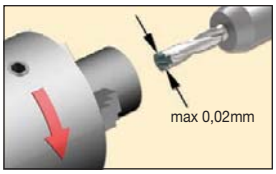
Dry cutting is not recommended. MQL ability is limited.

## Core Deviation

### Machining Center




### Stationary Drill/Lathe



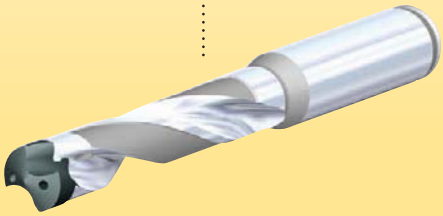
## Rotating Applications

KenTIP FS holders with straight cylindrical SS and SF shanks (no flats) are designed for rotating applications where the drill rotates while the workpiece remains stationary. The shank to drill-point location of these drills is held to an extremely close tolerance. To maintain accuracy and gain maximum performance, please use the approved toolholding method shown below.

ERICKSON™ ER collet chucks

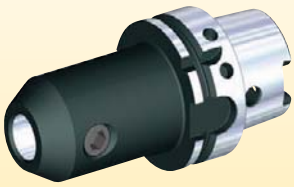
ERICKSON Hydrochuck HP Line

ERICKSON Shrink Fit toolholders for general purpose

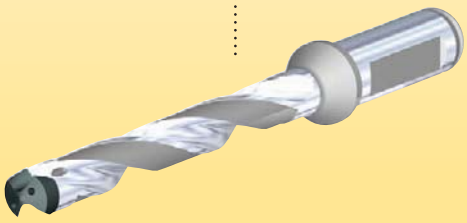


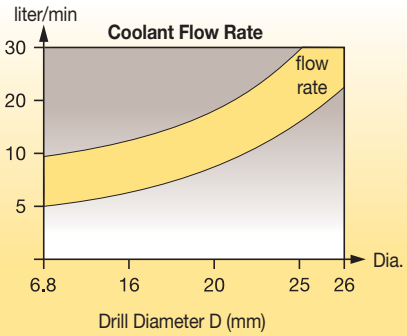
## Rotating and Stationary Applications

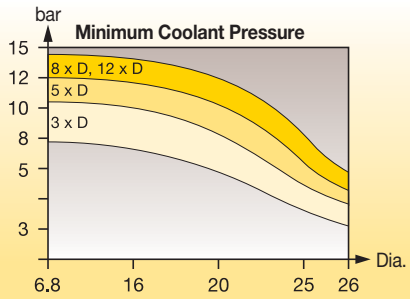
KenTIP FS holders with SCF shanks (Cylindrical with 90° flat and flange) are reducing deflections and represent a stiffer holder solution. As the shank is compatible with end mill adapters, these holders are very flexible in use. SCF shanks can be used in any rotating applications and are suited for lathe and other settings where the tool is stationary.



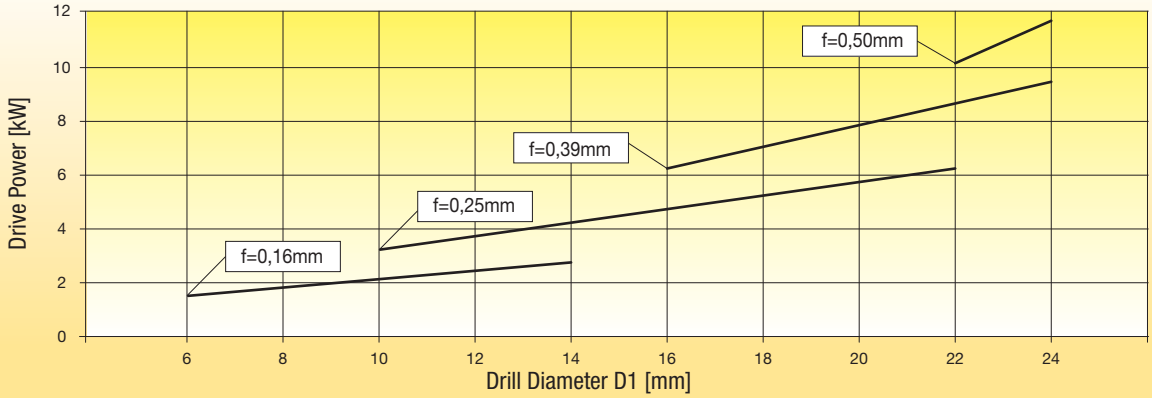
EM adapters



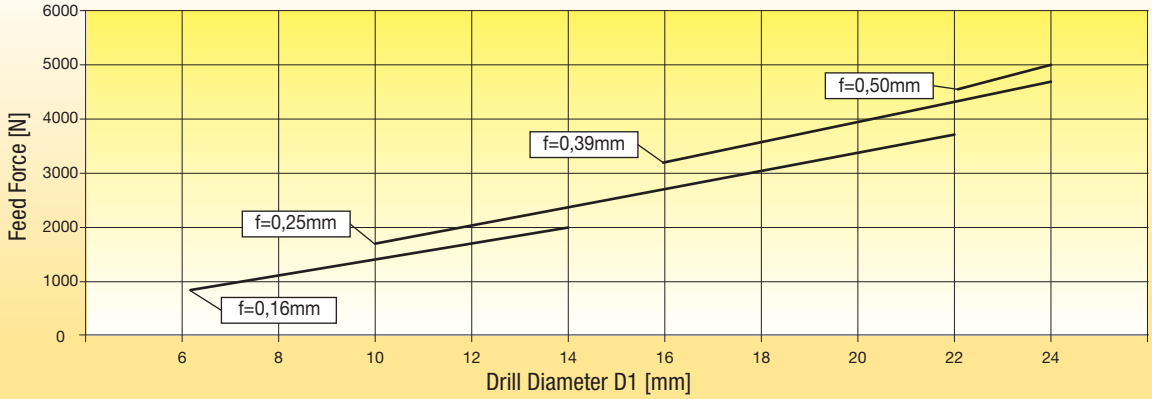


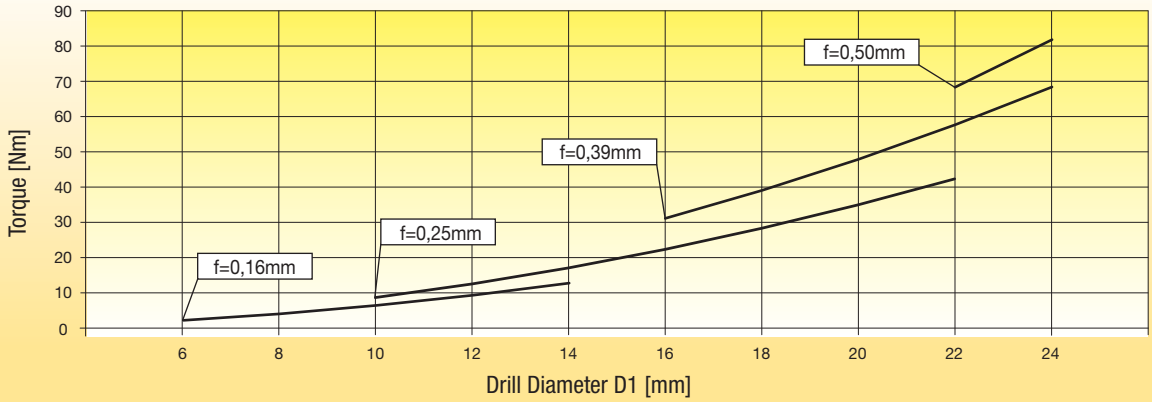

## Drive Power (kW)




## Feed Force (N)




## Torque (Nm)




NOTE: The diagrams above are used to determine the drive power, feed force, and torque. They are based on cutting force measurement in tempered steels with a tensile strength: Rm = 750 N/mm$^2$. The base cutting speed used is: vc = 80 m/min.

# NOVO KNOWS CAD/CAM

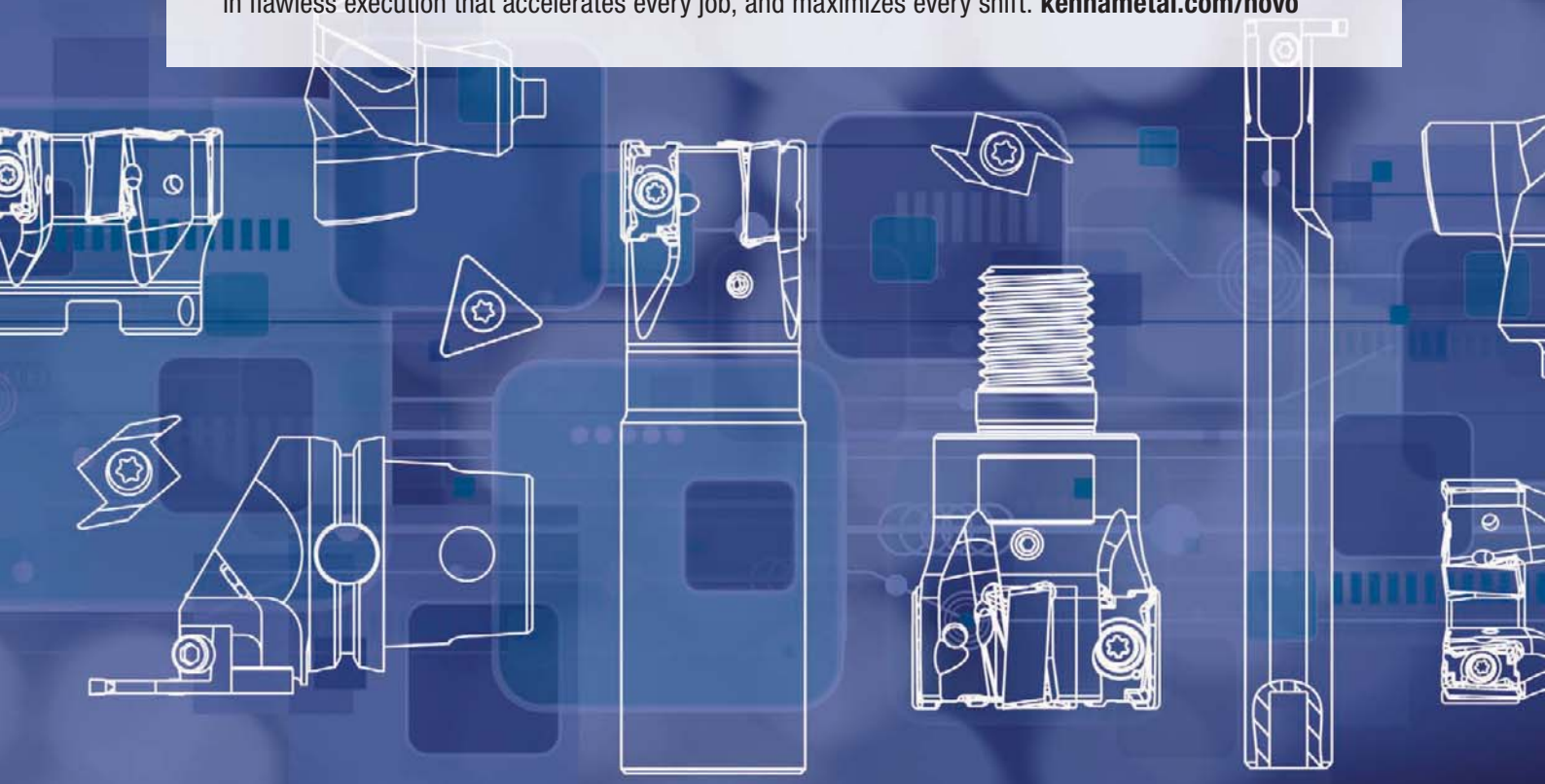
With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**



# KenTIP™ Modular Drill System

## Primary Application

The KenTIP modular drill system offers performance levels commonly achieved with solid carbide drills. The proprietary locking system enables inserts to be changed inside the machine tool. Use KenTIP in steel, cast iron, ductile iron, and stainless steel applications. KenTIP modular drills are available up to diameter 27,99mm (1.1020"). Change drilling inserts within the machine without taking the body off, saving setup time and manufacturing costs.

With our new FEG Flat bottom E-shape inserts, the KenTIP modular drill system now offers an easy and very reliable solution to drill blind holes that performs on a very wide range of difficult applications.

# Features and Benefits

## Advanced Interface

- Strong pocket seats on all inserts and bodies.
- Long tip and body life in unstable conditions, especially when side loads occur.

## Disposable Inserts

- No reconditioning costs.
- Consistent performance.
- Eliminates number of tools waiting for reconditioning, providing significant cost savings.

## HP Drill-Point Design

- Very high feed rates possible.
- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

## Easy Insert Change

- Locking method requires no screws or clamps.
- Insert blades can be changed with a simple provided tool and do not require drill body removal from the machine or holder.

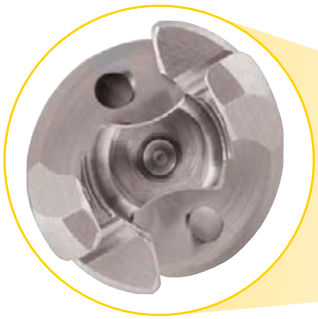
## Tailored Grades and Geometries

- KCP15™ grade has a new PVD coating enabling longer tool life in all steel applications.
- KCPM45™ grade combines a very tough, fine-grain carbide substrate with a TiAlN PVD coating. It is used on our FEG flat-bottom inserts.
- For applications in cast iron and stainless steel, we recommend to use our new KenTIP FS modular drill. Please see page H6 for drills.
- For further availability on KC7320™ HPL and KC7410™ HPC inserts for KenTIP, please refer to NOVO™ or contact your sales representative.

NEW!

## FEG Style, E-shape Flat-Bottom Inserts

KenTIP™ FEG inserts create blind holes, through holes, and countersinks. These inserts are focused on versatility and will support you in many essential drilling applications.



## Drill Body Portfolio

- Standard 12 x D holders with round shanks available, inch and metric. This covers the complete KenTIP diameter range.
- Standard 3, 5, and 8 x D tool bodies with round and flanged shank available, inch and metric.
- Standard 1.5 x D bodies available, especially for piloting operations on metric drill bodies.

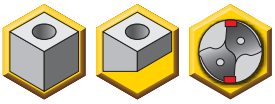
## Customization

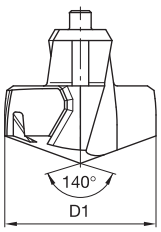
- Intermediate diameters available as semi-standards.
- Close tolerance tips available for precision holes.
- Chamfering insert pockets available.
- Multiple steps possible.
- CounterFix Micro tangential inserts for small diameter step drills.

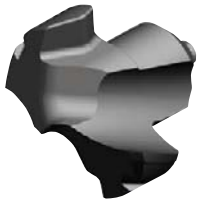
NEW!

**CounterFix Micro Tangential Inserts**

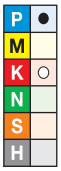
- KenTIP KCP15™ HP cutting edges enable high metal removal rates and superior tool life for steel applications.
- KenTIP HP geometry works with low cutting and feed forces and provides very good centering. Reinforced cutting edges and good chip forming improve tool life due to high wear and edge chipping resistance.
- KCP15 is a fine grain carbide with a TiAlN-based PVD nanolayer coating with greatly improved layer bonding for higher tool life. Its increased Al content provides better thermal and chemical stability, which makes it more suitable for higher cutting speeds.
- KenTIP KCP15 HP cutting edges are perfectly suited to drill alloyed and high alloy steels.
- Use KenTIP KCP15 HP cutting edges as an alternative in cast iron materials.





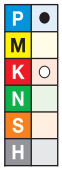


HP

## KenTIP Inserts • HP KCP15




● first choice
○ alternate choice

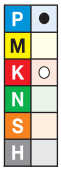
| KCP15 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP0794HPM** | 7,938 | .3125 | F |
| **KTIP0800HPM** | 8,000 | .3150 | F |
| **KTIP0810HPM** | 8,100 | .3189 | F |
| **KTIP0816HPM** | 8,164 | .3214 | F |
| **KTIP0820HPM** | 8,204 | .3230 | F |
| **KTIP0830HPM** | 8,300 | .3268 | F |
| **KTIP0833HPM** | 8,334 | .3281 | F |
| **KTIP0840HPM** | 8,400 | .3307 | F |
| **KTIP0843HPM** | 8,433 | .3320 | F |
| **KTIP0850HPM** | 8,500 | .3346 | G |
| **KTIP0860HPM** | 8,600 | .3386 | G |
| **KTIP0861HPM** | 8,611 | .3390 | G |
| **KTIP0870HPM** | 8,700 | .3425 | G |
| **KTIP0873HPM** | 8,733 | .3438 | G |
| **KTIP0880HPM** | 8,800 | .3465 | G |
| **KTIP0884HPM** | 8,839 | .3480 | G |
| **KTIP0890HPM** | 8,900 | .3504 | G |
| **KTIP0900HPM** | 9,000 | .3543 | H |
| **KTIP0909HPM** | 9,093 | .3580 | H |
| **KTIP0910HPM** | 9,100 | .3583 | H |
| **KTIP0913HPM** | 9,129 | .3594 | H |
| **KTIP0920HPM** | 9,200 | .3622 | H |
| **KTIP0930HPM** | 9,300 | .3661 | H |
| **KTIP0935HPM** | 9,347 | .3680 | H |
| **KTIP0940HPM** | 9,400 | .3701 | H |
| **KTIP0950HPM** | 9,500 | .3740 | I |
| **KTIP0953HPM** | 9,525 | .3750 | I |
| **KTIP0956HPM** | 9,558 | .3763 | I |
| **KTIP0958HPM** | 9,576 | .3770 | I |
| **KTIP0960HPM** | 9,600 | .3780 | I |
| **KTIP0970HPM** | 9,703 | .3820 | I |
| **KTIP0980HPM** | 9,804 | .3860 | I |



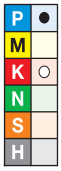

| KCP15 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP0983HPM** | 9,830 | .3870 | I |
| **KTIP0990HPM** | 9,900 | .3898 | I |
| **KTIP0992HPM** | 9,921 | .3906 | I |
| **KTIP1000HPM** | 10,000 | .3937 | J |
| **KTIP1002HPM** | 10,023 | .3946 | J |
| **KTIP1008HPM** | 10,084 | .3970 | J |
| **KTIP1010HPM** | 10,100 | .3976 | J |
| **KTIP1020HPM** | 10,200 | .4016 | J |
| **KTIP1026HPM** | 10,262 | .4040 | J |
| **KTIP1030HPM** | 10,300 | .4055 | J |
| **KTIP1032HPM** | 10,320 | .4063 | J |
| **KTIP1040HPM** | 10,400 | .4094 | J |
| **KTIP1049HPM** | 10,490 | .4130 | J |
| **KTIP1050HPM** | 10,500 | .4134 | K |
| **KTIP1060HPM** | 10,600 | .4173 | K |
| **KTIP1070HPM** | 10,700 | .4213 | K |
| **KTIP1072HPM** | 10,716 | .4219 | K |
| **KTIP1080HPM** | 10,800 | .4252 | K |
| **KTIP1090HPM** | 10,900 | .4291 | K |
| **KTIP1100HPM** | 11,000 | .4331 | L |
| **KTIP1110HPM** | 11,100 | .4370 | L |
| **KTIP1111HPM** | 11,113 | .4375 | L |
| **KTIP1120HPM** | 11,200 | .4409 | L |
| **KTIP1130HPM** | 11,300 | .4449 | L |
| **KTIP1140HPM** | 11,400 | .4488 | L |
| **KTIP1150HPM** | 11,500 | .4528 | M |
| **KTIP1151HPM** | 11,509 | .4531 | M |
| **KTIP1160HPM** | 11,600 | .4567 | M |
| **KTIP1161HPM** | 11,610 | .4571 | M |
| **KTIP1170HPM** | 11,700 | .4606 | M |
| **KTIP1180HPM** | 11,800 | .4646 | M |
| **KTIP1190HPM** | 11,900 | .4685 | M |

*(continued)*

*(KenTIP inserts • HP KCP15™ — continued)*




| KCP15 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP1191HPM** | 11,908 | .4688 | M |
| **KTIP1200HPM** | 12,000 | .4724 | N |
| **KTIP1210HPM** | 12,100 | .4764 | N |
| **KTIP1220HPM** | 12,200 | .4803 | N |
| **KTIP1230HPM** | 12,304 | .4844 | N |
| **KTIP1240HPM** | 12,400 | .4882 | N |
| **KTIP1247HPM** | 12,474 | .4911 | N |
| **KTIP1250HPM** | 12,500 | .4921 | O |
| **KTIP1260HPM** | 12,600 | .4961 | O |
| **KTIP1270HPM** | 12,700 | .5000 | O |
| **KTIP1280HPM** | 12,800 | .5039 | O |
| **KTIP1290HPM** | 12,903 | .5080 | O |
| **KTIP1300HPM** | 13,000 | .5118 | P |
| **KTIP1310HPM** | 13,096 | .5156 | P |
| **KTIP1320HPM** | 13,200 | .5197 | P |
| **KTIP1328HPM** | 13,280 | .5228 | P |
| **KTIP1330HPM** | 13,300 | .5236 | P |
| **KTIP1338HPM** | 13,380 | .5268 | P |
| **KTIP1340HPM** | 13,400 | .5276 | P |
| **KTIP1349HPM** | 13,494 | .5313 | P |
| **KTIP1350HPM** | 13,500 | .5315 | Q |
| **KTIP1360HPM** | 13,600 | .5354 | Q |
| **KTIP1370HPM** | 13,700 | .5394 | Q |
| **KTIP1380HPM** | 13,800 | .5433 | Q |
| **KTIP1389HPM** | 13,891 | .5469 | Q |
| **KTIP1390HPM** | 13,896 | .5471 | Q |
| **KTIP1394HPM** | 13,940 | .5488 | Q |
| **KTIP1400HPM** | 14,000 | .5512 | R |
| **KTIP1410HPM** | 14,100 | .5551 | R |
| **KTIP1420HPM** | 14,200 | .5591 | R |
| **KTIP1429HPM** | 14,288 | .5625 | R |
| **KTIP1430HPM** | 14,300 | .5630 | R |
| **KTIP1440HPM** | 14,400 | .5669 | R |
| **KTIP1450HPM** | 14,500 | .5709 | S |
| **KTIP1460HPM** | 14,600 | .5748 | S |
| **KTIP1467HPM** | 14,666 | .5774 | S |
| **KTIP1468HPM** | 14,684 | .5781 | S |
| **KTIP1470HPM** | 14,700 | .5787 | S |
| **KTIP1480HPM** | 14,800 | .5827 | S |
| **KTIP1490HPM** | 14,900 | .5866 | S |
| **KTIP1500HPM** | 15,000 | .5906 | T |
| **KTIP1508HPM** | 15,083 | .5938 | T |
| **KTIP1510HPM** | 15,100 | .5945 | T |
| **KTIP1520HPM** | 15,200 | .5984 | T |
| **KTIP1530HPM** | 15,300 | .6024 | T |
| **KTIP1538HPM** | 15,380 | .6055 | T |
| **KTIP1540HPM** | 15,400 | .6063 | T |
| **KTIP1548HPM** | 15,479 | .6094 | T |
| **KTIP1550HPM** | 15,500 | .6102 | T |
| **KTIP1560HPM** | 15,600 | .6142 | T |
| **KTIP1570HPM** | 15,700 | .6181 | T |
| **KTIP1580HPM** | 15,800 | .6220 | T |



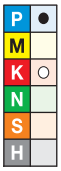

● first choice
○ alternate choice

| KCP15 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP1588HPM** | 15,875 | .6250 | T |
| **KTIP1600HPM** | 16,000 | .6299 | U |
| **KTIP1603HPM** | 16,027 | .6310 | U |
| **KTIP1608HPM** | 16,078 | .6330 | U |
| **KTIP1610HPM** | 16,100 | .6339 | U |
| **KTIP1620HPM** | 16,200 | .6378 | U |
| **KTIP1627HPM** | 16,271 | .6406 | U |
| **KTIP1630HPM** | 16,300 | .6417 | U |
| **KTIP1640HPM** | 16,400 | .6457 | U |
| **KTIP1650HPM** | 16,500 | .6496 | U |
| **KTIP1660HPM** | 16,600 | .6535 | U |
| **KTIP1667HPM** | 16,670 | .6563 | U |
| **KTIP1670HPM** | 16,700 | .6575 | U |
| **KTIP1680HPM** | 16,800 | .6614 | U |
| **KTIP1690HPM** | 16,900 | .6654 | U |
| **KTIP1700HPM** | 17,000 | .6693 | V |
| **KTIP1707HPM** | 17,066 | .6719 | V |
| **KTIP1710HPM** | 17,100 | .6732 | V |
| **KTIP1720HPM** | 17,200 | .6772 | V |
| **KTIP1730HPM** | 17,300 | .6811 | V |
| **KTIP1740HPM** | 17,400 | .6850 | V |
| **KTIP1748HPM** | 17,463 | .6875 | V |
| **KTIP1750HPM** | 17,500 | .6890 | V |
| **KTIP1760HPM** | 17,600 | .6929 | V |
| **KTIP1770HPM** | 17,700 | .6969 | V |
| **KTIP1780HPM** | 17,800 | .7008 | V |
| **KTIP1786HPM** | 17,859 | .7031 | V |
| **KTIP1790HPM** | 17,900 | .7047 | V |
| **KTIP1800HPM** | 18,000 | .7087 | W |
| **KTIP1810HPM** | 18,100 | .7126 | W |
| **KTIP1820HPM** | 18,200 | .7165 | W |
| **KTIP1826HPM** | 18,258 | .7188 | W |
| **KTIP1830HPM** | 18,300 | .7205 | W |
| **KTIP1840HPM** | 18,400 | .7244 | W |
| **KTIP1850HPM** | 18,500 | .7283 | W |
| **KTIP1860HPM** | 18,600 | .7323 | W |
| **KTIP1865HPM** | 18,654 | .7344 | W |
| **KTIP1870HPM** | 18,700 | .7362 | W |
| **KTIP1880HPM** | 18,800 | .7402 | W |
| **KTIP1890HPM** | 18,900 | .7441 | W |
| **KTIP1900HPM** | 19,000 | .7480 | X |
| **KTIP1905HPM** | 19,050 | .7500 | X |
| **KTIP1910HPM** | 19,100 | .7520 | X |
| **KTIP1920HPM** | 19,200 | .7559 | X |
| **KTIP1923HPM** | 19,228 | .7570 | X |
| **KTIP1925HPM** | 19,253 | .7580 | X |
| **KTIP1930HPM** | 19,300 | .7598 | X |
| **KTIP1935HPM** | 19,350 | .7620 | X |
| **KTIP1940HPM** | 19,400 | .7638 | X |
| **KTIP1946HPM** | 19,446 | .7656 | X |
| **KTIP1950HPM** | 19,500 | .7677 | X |
| **KTIP1960HPM** | 19,600 | .7717 | X |

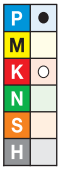
*(continued)*

*(KenTIP inserts • HP KCP15™ — continued)*






| KCP15 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP1970HPM** | 19,700 | .7756 | X |
| **KTIP1980HPM** | 19,800 | .7795 | X |
| **KTIP1984HPM** | 19,844 | .7813 | X |
| **KTIP1990HPM** | 19,900 | .7835 | X |
| **KTIP2000HPM** | 20,000 | .7874 | Y |
| **KTIP2010HPM** | 20,100 | .7913 | Y |
| **KTIP2020HPM** | 20,200 | .7953 | Y |
| **KTIP2024HPM** | 20,241 | .7969 | Y |
| **KTIP2030HPM** | 20,300 | .7992 | Y |
| **KTIP2050HPM** | 20,500 | .8071 | Y |
| **KTIP2060HPM** | 20,600 | .8110 | Y |
| **KTIP2064HPM** | 20,638 | .8125 | Y |
| **KTIP2070HPM** | 20,700 | .8150 | Y |
| **KTIP2080HPM** | 20,800 | .8189 | Y |
| **KTIP2090HPM** | 20,900 | .8228 | Y |
| **KTIP2099HPM** | 20,990 | .8264 | Y |
| **KTIP2100HPM** | 21,000 | .8268 | Z |
| **KTIP2110HPM** | 21,100 | .8307 | Z |
| **KTIP2143HPM** | 21,432 | .8438 | Z |
| **KTIP2150HPM** | 21,500 | .8465 | Z |
| **KTIP2200HPM** | 22,000 | .8661 | ZA |
| **KTIP2223HPM** | 22,225 | .8750 | ZA |
| **KTIP2250HPM** | 22,500 | .8858 | ZA |
| **KTIP2280HPM** | 22,800 | .8976 | ZA |




● first choice
○ alternate choice

| KCP15 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP2300HPM** | 23,000 | .9055 | ZB |
| **KTIP2350HPM** | 23,500 | .9252 | ZB |
| **KTIP2381HPM** | 23,813 | .9375 | ZB |
| **KTIP2400HPM** | 24,000 | .9449 | ZC |
| **KTIP2450HPM** | 24,500 | .9646 | ZC |
| **KTIP2461HPM** | 24,608 | .9688 | ZC |
| **KTIP2500HPM** | 25,000 | .9843 | ZD |
| **KTIP2540HPM** | 25,400 | 1.0000 | ZD |
| **KTIP2550HPM** | 25,500 | 1.0039 | ZD |
| **KTIP2567HPM** | 25,679 | 1.0110 | ZD |
| **KTIP2581HPM** | 25,806 | 1.0160 | ZD |
| **KTIP2599HPM** | 25,990 | 1.0232 | ZD |
| **KTIP2600HPM** | 26,000 | 1.0236 | ZE |
| **KTIP2619HPM** | 26,187 | 1.0310 | ZE |
| **KTIP2650HPM** | 26,500 | 1.0433 | ZE |
| **KTIP2659HPM** | 26,590 | 1.0469 | ZE |
| **KTIP2700HPM** | 27,000 | 1.0630 | ZE |
| **KTIP2750HPM** | 27,500 | 1.0827 | ZE |
| **KTIP2778HPM** | 27,780 | 1.0938 | ZE |
| **KTIP2799HPM** | 27,990 | 1.1020 | ZE |

**KenTIP HP Geometry**

**Tolerance**

| D1 metric | tolerance k8 |
|---|---|
| 8–10 | 0,000/+0,022 |
| >10–17 | 0,000/+0,027 |
| >17–18 | 0,000/+0,027 |
| >18–28 | 0,000/+0,033 |

**KenTIP HP Geometry**

**Tolerance**

| D1 inch | tolerance k8 |
|---|---|
| .3125–.3906 | .000/+.0009 |
| >.3906–.6250 | .000/+.0011 |
| >.6692–.7090 | .000/+.0010 |
| >.7090–.8228 | .000/+.0013 |

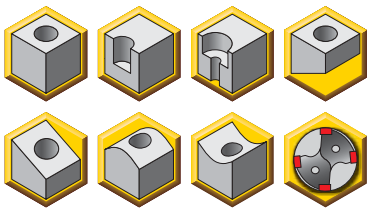
## Modular Drill Carbide Insert Blades • KenTIP™ • HP Geometry • Grade KCP15™ • Through Coolant • Metric

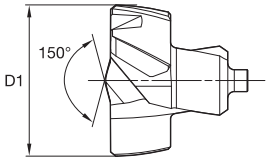
| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | | | |
| | | min | Starting Value | max | | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 20,0 | 24,0 | 28,0 |
| P | 1 | 90 | **130** | 180 | mm/r | 0,12–0,21 | 0,14–0,26 | 0,15–0,33 | 0,18–0,41 | 0,20–0,47 | 0,26–0,50 | 0,27–0,51 | 0,30–0,54 |
| | 2 | 110 | **150** | 190 | mm/r | 0,12–0,25 | 0,14–0,30 | 0,15–0,35 | 0,18–0,38 | 0,20–0,47 | 0,26–0,50 | 0,27–0,51 | 0,30–0,54 |
| | 3 | 50 | **80** | 110 | mm/r | 0,12–0,29 | 0,13–0,37 | 0,17–0,39 | 0,22–0,48 | 0,24–0,48 | 0,32–0,54 | 0,32–0,54 | 0,35–0,56 |
| | 4 | 50 | **80** | 110 | mm/r | 0,12–0,29 | 0,13–0,37 | 0,17–0,39 | 0,18–0,48 | 0,19–0,48 | 0,24–0,48 | 0,35–0,46 | 0,27–0,46 |
| K | 1 | 60 | **100** | 180 | mm/r | 0,16–0,30 | 0,17–0,34 | 0,18–0,37 | 0,22–0,44 | 0,26–0,50 | 0,33–0,62 | 0,35–0,65 | 0,40-0,70 |
| | 2 | 60 | **80** | 90 | mm/r | 0,16–0,30 | 0,17–0,32 | 0,18–0,35 | 0,22–0,43 | 0,26–0,50 | 0,33–0,62 | 0,35–0,65 | 0,40–0,70 |
| | 3 | 40 | **70** | 90 | mm/r | 0,17–0,32 | 0,18–0,35 | 0,19–0,38 | 0,21–0,43 | 0,22–0,46 | 0,24–0,50 | 0,25–0,51 | 0,40-0,70 |

## Modular Drill Carbide Insert Blades • KenTIP • HP Geometry • Grade KCP15 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | | | |
| | | min | Starting Value | max | | .315 | .394 | .472 | .551 | .630 | .787 | .945 | 1.102 |
| P | 1 | 295 | **425** | 590 | IPR | .005–.008 | .006–.010 | .006–.013 | .007–.016 | .008–.019 | .010–.020 | .011–.020 | .012–.021 |
| | 2 | 360 | **490** | 625 | IPR | .005–.010 | .006–.012 | .006–.014 | .007–.015 | .008–.019 | .010–.020 | .011–.020 | .012–.021 |
| | 3 | 165 | **260** | 360 | IPR | .005–.011 | .005–.015 | .007–.015 | .009–.019 | .009–.019 | .013–.021 | .013–.021 | .014–.022 |
| | 4 | 165 | **260** | 360 | IPR | .005–.011 | .005–.015 | .007–.015 | .007–.019 | .007–.019 | .009–.019 | .014–.018 | .011–.018 |
| K | 1 | 195 | **330** | 590 | IPR | .006–.012 | .007–.013 | .007–.015 | .009–.017 | .010–.020 | .013–.024 | .014–.026 | .016–.028 |
| | 2 | 195 | **260** | 295 | IPR | .006–.012 | .007–.013 | .007–.014 | .009–.017 | .010–.020 | .013–.024 | .014–.026 | .016–.028 |
| | 3 | 130 | **230** | 295 | IPR | .007–.013 | .007–.014 | .007–.015 | .008–.017 | .009–.018 | .009–.020 | .010–.020 | .016–.028 |

- KenTIP FEG flat-bottom inserts create 180° flat holes — only a small cavity remains in the center of the hole ground. KenTIP offers easy-to-change disposable inserts and low cutting forces for your flat-bottom applications.
- Whether it is a blind hole, a through hole, or if you need to countersink, these inserts are focused on versatility and will support you in many essential drilling applications.
- KenTIP FEG inserts feature a small centering point as well as double margin lands for improved guidance and hole straightness. A corner chamfer serves to reduce bur formation and to improve tool life.
- KCPM45™ combines a very tough, fine grain carbide substrate with an advanced multilayer TiAlN coating. It is capable of machining steel even in the most demanding conditions.
- Use KenTIP FEG KCPM45 cutting edges as an effective alternative in cast iron and stainless steel.





## KenTIP Inserts • FEG (Flat Bottom)

P ●
M ○
K ○
N
S
H

● first choice
○ alternate choice

| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP0794FEGM** | 7,938 | .3125 | F |
| **KTIP0800FEGM** | 8,000 | .3150 | F |
| **KTIP0850FEGM** | 8,500 | .3346 | G |
| **KTIP0852FEGM** | 8,520 | .3354 | G |
| **KTIP0900FEGM** | 9,000 | .3543 | H |
| **KTIP0913FEGM** | 9,130 | .3594 | H |
| **KTIP0950FEGM** | 9,500 | .3740 | I |
| **KTIP1000FEGM** | 10,000 | .3937 | J |
| **KTIP1010FEGM** | 10,100 | .3976 | J |
| **KTIP1050FEGM** | 10,500 | .4134 | K |
| **KTIP1080FEGM** | 10,800 | .4252 | K |
| **KTIP1100FEGM** | 11,000 | .4331 | L |
| **KTIP1150FEGM** | 11,500 | .4528 | M |
| **KTIP1170FEGM** | 11,700 | .4606 | M |
| **KTIP1200FEGM** | 12,000 | .4724 | N |
| **KTIP1250FEGM** | 12,500 | .4921 | O |
| **KTIP1270FEGM** | 12,700 | .5000 | O |
| **KTIP1300FEGM** | 13,000 | .5118 | P |
| **KTIP1350FEGM** | 13,500 | .5315 | Q |
| **KTIP1400FEGM** | 14,000 | .5512 | R |

P ●
M ○
K ○
N
S
H

| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KTIP1450FEGM** | 14,500 | .5709 | S |
| **KTIP1490FEGM** | 14,900 | .5866 | S |
| **KTIP1500FEGM** | 15,000 | .5906 | T |
| **KTIP1550FEGM** | 15,500 | .6102 | T |
| **KTIP1595FEGM** | 15,950 | .6280 | T |
| **KTIP1600FEGM** | 16,000 | .6299 | U |
| **KTIP1650FEGM** | 16,500 | .6496 | U |
| **KTIP1700FEGM** | 17,000 | .6693 | V |
| **KTIP1750FEGM** | 17,500 | .6890 | V |
| **KTIP1770FEGM** | 17,700 | .6969 | V |
| **KTIP1800FEGM** | 18,000 | .7087 | W |
| **KTIP1850FEGM** | 18,500 | .7283 | W |
| **KTIP1900FEGM** | 19,000 | .7480 | X |
| **KTIP1905FEGM** | 19,050 | .7500 | X |
| **KTIP1950FEGM** | 19,500 | .7677 | X |
| **KTIP2000FEGM** | 20,000 | .7874 | Y |

**KenTIP FEG Geometry Tolerance**

| D1 metric | tolerance s7 |
|---|---|
| 8–10 | 0,023/+0,038 |
| >10–18 | 0,028/+0,046 |
| >18–28 | 0,035/+0,056 |

**KenTIP FEG Geometry Tolerance**

| D1 Inch | tolerance s7 |
|---|---|
| .3125-.3906 | .0009/+.0015 |
| >.3906-.7090 | .0011/+.0018 |
| >.7090-.8228 | .0014/+.0022 |

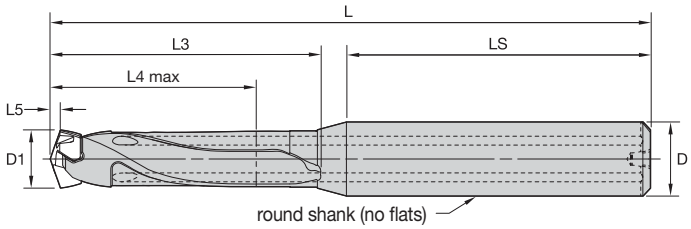
## Modular Drill Carbide Insert Blades • KenTIP™ • FEG Geometry • Grade KCPM45™ • Through Coolant • Metric

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | | | |
| | | min | Starting Value | max | | 8,0 | 10,0 | 12,0 | 14,0 | 16,0 | 20,0 | 24,0 | 28,0 |
| P | 1 | 110 | **140** | 170 | mm/r | 0,14–0,23 | 0,14–0,23 | 0,14–0,23 | 0,14–0,23 | 0,17–0,25 | 0,19–0,29 | 0,23–0,38 | 0,23–0,38 |
| | 2 | 100 | **120** | 140 | mm/r | 0,17–0,23 | 0,17–0,23 | 0,17–0,23 | 0,17–0,23 | 0,19–0,25 | 0,22–0,29 | 0,29–0,38 | 0,29–0,38 |
| | 3 | 80 | **100** | 120 | mm/r | 0,14–0,20 | 0,14–0,20 | 0,14–0,20 | 0,14–0,20 | 0,15–0,23 | 0,17–0,25 | 0,23–0,34 | 0,23–0,34 |
| | 4 | 70 | **90** | 110 | mm/r | 0,11–0,20 | 0,11–0,20 | 0,11–0,20 | 0,11–0,20 | 0,13–0,23 | 0,14–0,25 | 0,18–0,34 | 0,18–0,34 |
| M | 1 | 40 | **60** | 80 | mm/r | 0,09–0,14 | 0,09–0,14 | 0,09–0,14 | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,16–0,25 |
| | 2 | 35 | **55** | 70 | mm/r | 0,09–0,14 | 0,09–0,14 | 0,09–0,14 | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,16–0,25 |
| K | 1 | 90 | **135** | 175 | mm/r | 0,18–0,24 | 0,18–0,24 | 0,18–0,24 | 0,18–0,24 | 0,21–0,28 | 0,23–0,31 | 0,28–0,37 | 0,28–0,37 |
| | 2 | 80 | **120** | 140 | mm/r | 0,18–0,24 | 0,18–0,24 | 0,18–0,24 | 0,18–0,24 | 0,21–0,28 | 0,23–0,31 | 0,28–0,37 | 0,28–0,37 |
| | 3 | 70 | **110** | 125 | mm/r | 0,15–0,24 | 0,15–0,24 | 0,15–0,24 | 0,15–0,24 | 0,18–0,26 | 0,21–0,29 | 0,23–0,37 | 0,23–0,37 |

## Modular Drill Carbide Insert Blades • KenTIP • FEG Geometry • Grade KCPM45 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | | | |
| | | min | Starting Value | max | | 0.315 | 0.394 | 0.472 | 0.551 | 0.630 | 0.787 | 0.945 | 1.102 |
| P | 1 | 360 | **460** | 560 | IPR | .006–.009 | .006–.009 | .006–.009 | .006–.009 | .007–.010 | .007–.011 | .009–.015 | .009–.015 |
| | 2 | 330 | **390** | 460 | IPR | .007–.009 | .007–.009 | .007–.009 | .007–.009 | .007–.010 | .009–.011 | .011–.015 | .011–.015 |
| | 3 | 260 | **330** | 390 | IPR | .006–.008 | .006–.008 | .006–.008 | .006–.008 | .006–.009 | .007–.010 | .009–.013 | .009–.013 |
| | 4 | 230 | **300** | 360 | IPR | .004–.008 | .004–.008 | .004–.008 | .004–.008 | .005–.009 | .006–.010 | .007–.013 | .007–.013 |
| M | 1 | 130 | **200** | 260 | IPR | .004–.006 | .004–.006 | .004–.006 | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .006–.010 |
| | 2 | 110 | **180** | 230 | IPR | .004–.006 | .004–.006 | .004–.006 | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .006–.010 |
| K | 1 | 300 | **440** | 570 | IPR | .007–.009 | .007–.009 | .007–.009 | .007–.009 | .008–.011 | .009–.012 | .011–.015 | .011–.015 |
| | 2 | 260 | **390** | 460 | IPR | .007–.009 | .007–.009 | .007–.009 | .007–.009 | .008–.011 | .009–.012 | .011–.015 | .011–.015 |
| | 3 | 230 | **360** | 410 | IPR | .006–.009 | .006–.009 | .006–.009 | .006–.009 | .007–.010 | .008–.011 | .009–.015 | .009–.015 |

- Tool body shipped with insert wrench.

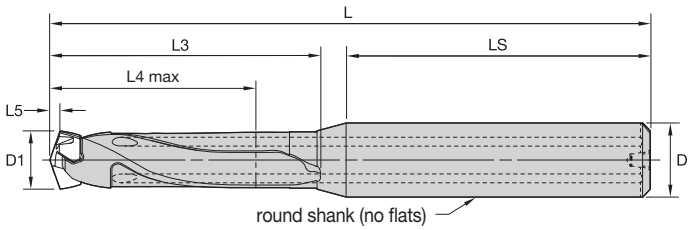



For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H44.

## KenTIP Round Shank • 1.5 x D/3 x D/5 x D/8 x D/12 x D • Metric

| 1.5 x D | 3 x D | 5 x D | 8 x D | 12 x D | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|---|---|
| KTIP080R1SS10M | KTIP080R3SS10M | KTIP080R5SS10M | KTIP080R8SS10M | KTIP080R12SS10M | 8,000 | .3150 | 8,499 | .3346 | F | 170.306 |
| KTIP085R1SS10M | KTIP085R3SS10M | KTIP085R5SS10M | KTIP085R8SS10M | KTIP085R12SS10M | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| KTIP090R1SS10M | KTIP090R3SS10M | KTIP090R5SS10M | KTIP090R8SS10M | KTIP090R12SS10M | 9,000 | .3543 | 9,499 | .3740 | H | 170.306 |
| KTIP095R1SS10M | KTIP095R3SS10M | KTIP095R5SS10M | KTIP095R8SS10M | KTIP095R12SS10M | 9,500 | .3740 | 9,999 | .3937 | I | 170.306 |
| KTIP100R1SS12M | KTIP100R3SS12M | KTIP100R5SS12M | KTIP100R8SS12M | KTIP100R12SS12M | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| KTIP105R1SS12M | KTIP105R3SS12M | KTIP105R5SS12M | KTIP105R8SS12M | KTIP105R12SS12M | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| KTIP110R1SS12M | KTIP110R3SS12M | KTIP110R5SS12M | KTIP110R8SS12M | KTIP110R12SS12M | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| KTIP115R1SS12M | KTIP115R3SS12M | KTIP115R5SS12M | KTIP115R8SS12M | KTIP115R12SS12M | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| KTIP120R1SS14M | KTIP120R3SS14M | KTIP120R5SS14M | KTIP120R8SS14M | KTIP120R12SS14M | 12,000 | .4724 | 12,499 | .4921 | N | 170.308 |
| KTIP125R1SS14M | KTIP125R3SS14M | KTIP125R5SS14M | KTIP125R8SS14M | KTIP125R12SS14M | 12,500 | .4921 | 12,999 | .5118 | O | 170.308 |
| KTIP130R1SS14M | KTIP130R3SS14M | KTIP130R5SS14M | KTIP130R8SS14M | KTIP130R12SS14M | 13,000 | .5118 | 13,499 | .5315 | P | 170.308 |
| KTIP135R1SS14M | KTIP135R3SS14M | KTIP135R5SS14M | KTIP135R8SS14M | KTIP135R12SS14M | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| KTIP140R1SS16M | KTIP140R3SS16M | KTIP140R5SS16M | KTIP140R8SS16M | KTIP140R12SS16M | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| KTIP145R1SS16M | KTIP145R3SS16M | KTIP145R5SS16M | KTIP145R8SS16M | KTIP145R12SS16M | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| KTIP150R1SS16M | KTIP150R3SS16M | KTIP150R5SS16M | KTIP150R8SS16M | KTIP150R12SS16M | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| KTIP160R1SS18M | KTIP160R3SS18M | KTIP160R5SS18M | KTIP160R8SS18M | KTIP160R12SS18M | 16,000 | .6299 | 16,999 | .6693 | U | 170.309 |
| KTIP170R1SS18M | KTIP170R3SS18M | KTIP170R5SS18M | KTIP170R8SS18M | KTIP170R12SS18M | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| KTIP180R1SS20M | KTIP180R3SS20M | KTIP180R5SS20M | KTIP180R8SS20M | KTIP180R12SS20M | 18,000 | .7087 | 18,999 | .7480 | W | 170.314 |
| KTIP190R1SS20M | KTIP190R3SS20M | KTIP190R5SS20M | KTIP190R8SS20M | KTIP190R12SS20M | 19,000 | .7480 | 19,999 | .7874 | X | 170.314 |
| KTIP200R1SS25M | KTIP200R3SS25M | KTIP200R5SS25M | KTIP200R8SS25M | KTIP200R12SS25M | 20,000 | .7874 | 20,999 | .8267 | Y | 170.314 |
| KTIP210R1SS25M | KTIP210R3SS25M | KTIP210R5SS25M | KTIP210R8SS25M | KTIP210R12SS25M | 21,000 | .8268 | 21,999 | .8661 | Z | 170.314 |
| KTIP220R1SS25M | KTIP220R3SS25M | KTIP220R5SS25M | KTIP220R8SS25M | KTIP220R12SS25M | 22,000 | .8661 | 22,999 | .9055 | ZA | 170.314 |
| KTIP230R1SS25M | KTIP230R3SS25M | KTIP230R5SS25M | KTIP230R8SS25M | KTIP230R12SS25M | 23,000 | .9055 | 23,999 | .9448 | ZB | 170.314 |
| KTIP240R1SS25M | KTIP240R3SS25M | KTIP240R5SS25M | KTIP240R8SS25M | KTIP240R12SS25M | 24,000 | .9449 | 24,999 | .9842 | ZC | 170.314 |
| KTIP250R1SS32M | KTIP250R3SS32M | KTIP250R5SS32M | KTIP250R8SS32M | KTIP250R12SS32M | 25,000 | .9843 | 25,999 | 1.0236 | ZD | 170.314 |
| KTIP260R1SS32M | KTIP260R3SS32M | KTIP260R5SS32M | KTIP260R8SS32M | KTIP260R12SS32M | 26,000 | 1.0236 | 26,999 | 1.0630 | ZE | 170.314 |
| KTIP270R1SS32M | KTIP270R3SS32M | KTIP270R5SS32M | KTIP270R8SS32M | KTIP270R12SS32M | 27,000 | 1.0630 | 27,999 | 1.1023 | ZE | 170.314 |

- Tool body shipped with insert wrench.



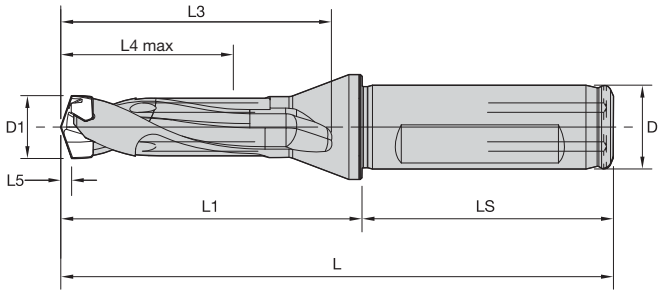
For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H45.



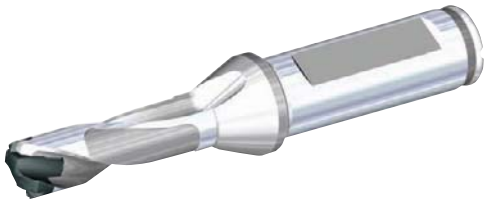
## KenTIP Round Shank • 3 x D/5 x D/8 x D/12 x D • Inch

| 3 x D | 5 x D | 8 x D | 12 x D | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|---|
| KTIP0313R3SS038 | KTIP0313R5SS038 | KTIP0313R8SS038 | KTIP0313R12SS038 | 7,940 | .3125 | 8,499 | .3346 | F | 170.306 |
| KTIP0335R3SS038 | KTIP0335R5SS038 | KTIP0335R8SS038 | KTIP0335R12SS038 | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| KTIP0354R3SS038 | KTIP0354R5SS038 | KTIP0354R8SS038 | KTIP0354R12SS038 | 9,000 | .3543 | 9,499 | .3740 | H | 170.306 |
| KTIP0374R3SS038 | KTIP0374R5SS038 | KTIP0374R8SS038 | KTIP0374R12SS038 | 9,500 | .3740 | 9,999 | .3937 | I | 170.306 |
| KTIP0374R3SS044 | KTIP0374R5SS044 | KTIP0374R8SS044 | KTIP0374R12SS044 | 9,500 | .3740 | 9,999 | .3937 | I | 170.306 |
| KTIP0394R3SS044 | KTIP0394R5SS044 | KTIP0394R8SS044 | KTIP0394R12SS044 | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| KTIP0413R3SS044 | KTIP0413R5SS044 | KTIP0413R8SS044 | KTIP0413R12SS044 | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| KTIP0433R3SS044 | KTIP0433R5SS044 | KTIP0433R8SS044 | KTIP0433R12SS044 | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| KTIP0453R3SS050 | KTIP0453R5SS050 | KTIP0453R8SS050 | KTIP0453R12SS050 | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| KTIP0472R3SS050 | KTIP0472R5SS050 | KTIP0472R8SS050 | KTIP0472R12SS050 | 12,000 | .4724 | 12,499 | .4921 | N | 170.308 |
| KTIP0492R3SS050 | KTIP0492R5SS050 | KTIP0492R8SS050 | KTIP0492R12SS050 | 12,500 | .4921 | 12,999 | .5118 | O | 170.308 |
| KTIP0492R3SS056 | KTIP0492R5SS056 | KTIP0492R8SS056 | KTIP0492R12SS056 | 12,500 | .4921 | 12,999 | .5118 | O | 170.308 |
| KTIP0512R3SS056 | KTIP0512R5SS056 | KTIP0512R8SS056 | KTIP0512R12SS056 | 13,000 | .5118 | 13,499 | .5315 | P | 170.308 |
| KTIP0532R3SS056 | KTIP0532R5SS056 | KTIP0532R8SS056 | KTIP0532R12SS056 | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| KTIP0551R3SS056 | KTIP0551R5SS056 | KTIP0551R8SS056 | KTIP0551R12SS056 | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| KTIP0571R3SS063 | KTIP0571R5SS063 | KTIP0571R8SS063 | KTIP0571R12SS063 | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| KTIP0591R3SS063 | KTIP0591R5SS063 | KTIP0591R8SS063 | KTIP0591R12SS063 | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| KTIP0630R3SS069 | KTIP0630R5SS069 | KTIP0630R8SS069 | KTIP0630R12SS069 | 16,000 | .6299 | 16,999 | .6693 | U | 170.309 |
| KTIP0669R3SS069 | KTIP0669R5SS069 | KTIP0669R8SS069 | KTIP0669R12SS069 | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| KTIP0709R3SS075 | KTIP0709R5SS075 | KTIP0709R8SS075 | KTIP0709R12SS075 | 18,000 | .7087 | 18,999 | .7480 | W | 170.314 |
| KTIP0748R3SS075 | KTIP0748R5SS075 | KTIP0748R8SS075 | KTIP0748R12SS075 | 19,000 | .7480 | 19,999 | .7874 | X | 170.314 |
| KTIP0787R3SS081 | KTIP0787R5SS081 | KTIP0787R8SS081 | KTIP0787R12SS081 | 20,000 | .7874 | 20,999 | .8267 | Y | 170.314 |
| KTIP0827R3SS088 | KTIP0827R5SS088 | KTIP0827R8SS088 | KTIP0827R12SS088 | 21,000 | .8268 | 21,999 | .8661 | Z | 170.314 |
| KTIP0866R3SS088 | KTIP0866R5SS088 | KTIP0866R8SS088 | KTIP0866R12SS088 | 22,000 | .8661 | 22,999 | .9055 | ZA | 170.314 |
| KTIP0906R3SS094 | KTIP0906R5SS094 | KTIP0906R8SS094 | KTIP0906R12SS094 | 23,000 | .9055 | 23,999 | .9448 | ZB | 170.314 |
| KTIP0945R3SS100 | KTIP0945R5SS100 | KTIP0945R8SS100 | KTIP0945R12SS100 | 24,000 | .9449 | 24,999 | .9842 | ZC | 170.314 |
| KTIP0984R3SS100 | KTIP0984R5SS100 | KTIP0984R8SS100 | KTIP0984R12SS100 | 25,000 | .9843 | 25,999 | 1.0236 | ZD | 170.314 |
| KTIP1024R3SS125 | KTIP1024R5SS125 | KTIP1024R8SS125 | KTIP1024R12SS125 | 26,000 | 1.0236 | 26,999 | 1.0630 | ZE | 170.314 |
| KTIP1063R3SS125 | KTIP1063R5SS125 | KTIP1063R8SS125 | KTIP1063R12SS125 | 27,000 | 1.0630 | 27,999 | 1.1023 | ZE | 170.314 |

- Tool body shipped with insert wrench.



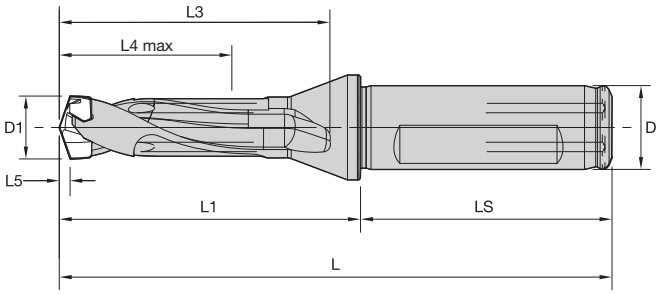

round shank (no flats)
For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H46.



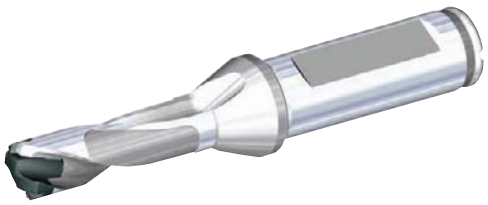
## KenTIP Flanged Shank • 1.5 x D/3 x D/5 x D/8 x D • Metric

| 1.5 x D | 3 x D | 5 x D | 8 x D | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|---|
| KTIP080R1SCF12M | KTIP080R3SCF12M | KTIP080R5SCF12M | KTIP080R8SCF12M | 8,000 | .3150 | 8,499 | .3346 | F | 170.306 |
| KTIP085R1SCF12M | KTIP085R3SCF12M | KTIP085R5SCF12M | KTIP085R8SCF12M | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| KTIP090R1SCF12M | KTIP090R3SCF12M | KTIP090R5SCF12M | KTIP090R8SCF12M | 9,000 | .3543 | 9,499 | .3740 | H | 170.306 |
| KTIP095R1SCF12M | KTIP095R3SCF12M | KTIP095R5SCF12M | KTIP095R8SCF12M | 9,500 | .3740 | 9,999 | .3937 | I | 170.306 |
| KTIP100R1SCF16M | KTIP100R3SCF16M | KTIP100R5SCF16M | KTIP100R8SCF16M | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| KTIP105R1SCF16M | KTIP105R3SCF16M | KTIP105R5SCF16M | KTIP105R8SCF16M | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| KTIP110R1SCF16M | KTIP110R3SCF16M | KTIP110R5SCF16M | KTIP110R8SCF16M | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| KTIP115R1SCF16M | KTIP115R3SCF16M | KTIP115R5SCF16M | KTIP115R8SCF16M | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| KTIP120R1SCF16M | KTIP120R3SCF16M | KTIP120R5SCF16M | KTIP120R8SCF16M | 12,000 | .4724 | 12,499 | .4921 | N | 170.308 |
| KTIP125R1SCF16M | KTIP125R3SCF16M | KTIP125R5SCF16M | KTIP125R8SCF16M | 12,500 | .4921 | 12,999 | .5118 | O | 170.308 |
| KTIP130R1SCF16M | KTIP130R3SCF16M | KTIP130R5SCF16M | KTIP130R8SCF16M | 13,000 | .5118 | 13,499 | .5315 | P | 170.308 |
| KTIP135R1SCF16M | KTIP135R3SCF16M | KTIP135R5SCF16M | KTIP135R8SCF16M | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| KTIP140R1SCF16M | KTIP140R3SCF16M | KTIP140R5SCF16M | KTIP140R8SCF16M | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| KTIP145R1SCF16M | KTIP145R3SCF16M | KTIP145R5SCF16M | KTIP145R8SCF16M | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| KTIP150R1SCF20M | KTIP150R3SCF20M | KTIP150R5SCF20M | KTIP150R8SCF20M | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| KTIP160R1SCF20M | KTIP160R3SCF20M | KTIP160R5SCF20M | KTIP160R8SCF20M | 16,000 | .6299 | 16,999 | .6693 | U | 170.309 |
| KTIP170R1SCF20M | KTIP170R3SCF20M | KTIP170R5SCF20M | KTIP170R8SCF20M | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| KTIP180R1SCF25M | KTIP180R3SCF25M | KTIP180R5SCF25M | KTIP180R8SCF25M | 18,000 | .7087 | 18,999 | .7480 | W | 170.314 |
| KTIP190R1SCF25M | KTIP190R3SCF25M | KTIP190R5SCF25M | KTIP190R8SCF25M | 19,000 | .7480 | 19,999 | .7874 | X | 170.314 |
| KTIP200R1SCF25M | KTIP200R3SCF25M | KTIP200R5SCF25M | KTIP200R8SCF25M | 20,000 | .7874 | 20,999 | .8267 | Y | 170.314 |
| KTIP210R1SCF25M | KTIP210R3SCF25M | KTIP210R5SCF25M | KTIP210R8SCF25M | 21,000 | .8268 | 21,999 | .8661 | Z | 170.314 |
| KTIP220R1SCF25M | KTIP220R3SCF25M | KTIP220R5SCF25M | KTIP220R8SCF25M | 22,000 | .8661 | 22,999 | .9055 | ZA | 170.314 |
| KTIP230R1SCF25M | KTIP230R3SCF25M | KTIP230R5SCF25M | KTIP230R8SCF25M | 23,000 | .9055 | 23,999 | .9448 | ZB | 170.314 |
| KTIP240R1SCF25M | KTIP240R3SCF25M | KTIP240R5SCF25M | KTIP240R8SCF25M | 24,000 | .9449 | 24,999 | .9842 | ZC | 170.314 |
| KTIP250R1SCF25M | KTIP250R3SCF25M | KTIP250R5SCF25M | KTIP250R8SCF25M | 25,000 | .9843 | 25,999 | 1.0236 | ZD | 170.314 |
| KTIP260R1SCF25M | KTIP260R3SCF25M | KTIP260R5SCF25M | KTIP260R8SCF25M | 26,000 | 1.0236 | 26,999 | 1.0630 | ZE | 170.314 |
| KTIP270R1SCF25M | KTIP270R3SCF25M | KTIP270R5SCF25M | KTIP270R8SCF25M | 27,000 | 1.0630 | 27,999 | 1.1023 | ZE | 170.314 |

- Tool body shipped with insert wrench.




round shank (no flats)
For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H47.





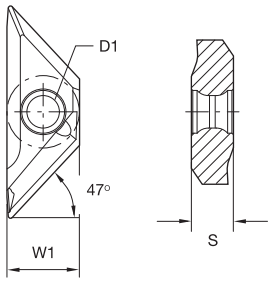
## KenTIP Flanged Shank • 3 x D/5 x D/8 x D • Inch

| 3 x D | 5 x D | 8 x D | D1 mm | D1 in | D1 max mm | D1 max in | seat size | KenTIP wrench |
|---|---|---|---|---|---|---|---|---|
| KTIP0313R3SCF050 | KTIP0313R5SCF050 | KTIP0313R8SCF050 | 7,940 | .3125 | 8,499 | .3346 | F | 170.306 |
| KTIP0335R3SCF050 | KTIP0335R5SCF050 | KTIP0335R8SCF050 | 8,500 | .3346 | 8,999 | .3543 | G | 170.306 |
| KTIP0354R3SCF050 | KTIP0354R5SCF050 | KTIP0354R8SCF050 | 9,000 | .3543 | 9,499 | .3740 | H | 170.306 |
| KTIP0374R3SCF050 | KTIP0374R5SCF050 | KTIP0374R8SCF050 | 9,500 | .3740 | 9,999 | .3937 | I | 170.306 |
| KTIP0394R3SCF063 | KTIP0394R5SCF063 | KTIP0394R8SCF063 | 10,000 | .3937 | 10,499 | .4133 | J | 170.307 |
| KTIP0413R3SCF063 | KTIP0413R5SCF063 | KTIP0413R8SCF063 | 10,500 | .4134 | 10,999 | .4330 | K | 170.307 |
| KTIP0433R3SCF063 | KTIP0433R5SCF063 | KTIP0433R8SCF063 | 11,000 | .4331 | 11,499 | .4527 | L | 170.307 |
| KTIP0453R3SCF063 | KTIP0453R5SCF063 | KTIP0453R8SCF063 | 11,500 | .4528 | 11,999 | .4724 | M | 170.307 |
| KTIP0472R3SCF063 | KTIP0472R5SCF063 | KTIP0472R8SCF063 | 12,000 | .4724 | 12,499 | .4921 | N | 170.308 |
| KTIP0492R3SCF063 | KTIP0492R5SCF063 | KTIP0492R8SCF063 | 12,500 | .4921 | 12,999 | .5118 | O | 170.308 |
| KTIP0512R3SCF063 | KTIP0512R5SCF063 | KTIP0512R8SCF063 | 13,000 | .5118 | 13,499 | .5315 | P | 170.308 |
| KTIP0532R3SCF063 | KTIP0532R5SCF063 | KTIP0532R8SCF063 | 13,500 | .5315 | 13,999 | .5511 | Q | 170.308 |
| KTIP0551R3SCF063 | KTIP0551R5SCF063 | KTIP0551R8SCF063 | 14,000 | .5512 | 14,499 | .5708 | R | 170.309 |
| KTIP0571R3SCF063 | KTIP0571R5SCF063 | KTIP0571R8SCF063 | 14,500 | .5709 | 14,999 | .5905 | S | 170.309 |
| KTIP0591R3SCF075 | KTIP0591R5SCF075 | KTIP0591R8SCF075 | 15,000 | .5906 | 15,999 | .6299 | T | 170.309 |
| KTIP0630R3SCF075 | KTIP0630R5SCF075 | KTIP0630R8SCF075 | 16,000 | .6299 | 16,999 | .6693 | U | 170.309 |
| KTIP0669R3SCF075 | KTIP0669R5SCF075 | KTIP0669R8SCF075 | 17,000 | .6693 | 17,999 | .7086 | V | 170.314 |
| KTIP0709R3SCF075 | KTIP0709R5SCF075 | KTIP0709R8SCF075 | 18,000 | .7087 | 18,999 | .7480 | W | 170.314 |
| KTIP0748R3SCF075 | KTIP0748R5SCF075 | KTIP0748R8SCF075 | 19,000 | .7480 | 19,999 | .7874 | X | 170.314 |
| KTIP0787R3SCF100 | KTIP0787R5SCF100 | KTIP0787R8SCF100 | 20,000 | .7874 | 20,999 | .8267 | Y | 170.314 |
| KTIP0827R3SCF100 | KTIP0827R5SCF100 | KTIP0827R8SCF100 | 21,000 | .8268 | 21,999 | .8661 | Z | 170.314 |
| KTIP0866R3SCF100 | KTIP0866R5SCF100 | KTIP0866R8SCF100 | 22,000 | .8661 | 22,999 | .9055 | ZA | 170.314 |
| KTIP0906R3SCF100 | KTIP0906R5SCF100 | KTIP0906R8SCF100 | 23,000 | .9055 | 23,999 | .9448 | ZB | 170.314 |
| KTIP0945R3SCF100 | KTIP0945R5SCF100 | KTIP0945R8SCF100 | 24,000 | .9449 | 24,999 | .9842 | ZC | 170.314 |
| KTIP0984R3SCF100 | KTIP0984R5SCF100 | KTIP0984R8SCF100 | 25,000 | .9843 | 25,999 | 1.0236 | ZD | 170.314 |
| KTIP1024R3SCF100 | KTIP1024R5SCF100 | KTIP1024R8SCF100 | 26,000 | 1.0236 | 26,999 | 1.0630 | ZE | 170.314 |
| KTIP1063R3SCF100 | KTIP1063R5SCF100 | KTIP1063R8SCF100 | 27,000 | 1.0630 | 27,999 | 1.1023 | ZE | 170.314 |

- Drilling and chamfering in one operation using the KenTIP drilling system.
- Low setup time — no height adjustment required.
- Use standard chamfering inserts with our universal -GD geometry style.
- Selection of two grade choices:
  - — KC7215 offering the highest level of wear resistance for higher cutting speeds in stable conditions.
  - — KC7015 for medium cutting speeds and normal conditions.
- Tool bodies with chamfer pockets available as custom solutions.

● first choice
○ alternate choice

| | | KC7215 | KC7015 |
|---|---|---|---|
| P | | ○ | ● |
| M | | ○ | ○ |
| K | | ○ | ● |
| N | | ● | ○ |
| S | | ○ | ● |
| H | | | |




## FAS-GD • Chamfering Insert

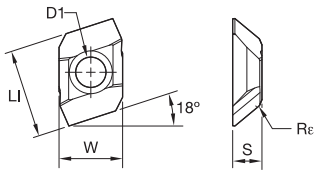
| | W1 | | D1 | | S | | KC7215 | KC7015 |
|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | | |
| **FAS100302GD** | 6,35 | .250 | 2,85 | .112 | 3,48 | .137 | ● | ● |

***Made-to-order KenTIP holders with chamfering step using standard FAS inserts. Also available for KenTIP FS upon request.***

- Very small incremental diameter changes for step drills.
- Best reliability and hole quality.
- Improved chip control and very low tendency for chattering.
- High tool life per edge; 2x indexable.
- Can be used with KenTIP and KSEM™ as well as Drill Fix™ indexable made-to-order step drills.
- CFM inserts are perfectly suited for usage on made-to-order indexable countersinking tools.

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | ● |
| M | | ○ |
| K | | ○ |
| N | | ● |
| S | | ● |
| H | | |



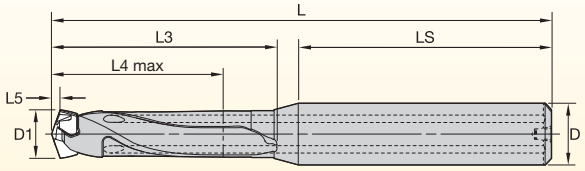

## CounterFix Micro • Tangential Chamfer and Counterboring Inserts

| | D1 | | LI | | W | | S | | Rε | | KCU40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | |
| **CFM0402R00RHP** | 2,05 | 0.081 | 6,000 | 0.24 | 4,25 | .167 | 1,98 | .078 | 0,20 | .007 | ● |
| **CFM0402R30RHP** | 2,05 | 0.081 | 6,000 | 0.24 | 4,25 | .167 | 1,98 | .078 | 0,20 | .009 | ● |
| **CFM0402R45RHP** | 2,05 | 0.081 | 6,000 | 0.24 | 4,25 | .167 | 1,98 | .078 | 0,20 | .007 | ● |

***Made-to-order KenTIP holder with two very small counterboring steps using CounterFix Micro Inserts. Also available for KenTIP FS upon request.***

## Modular Drills • Dimension Tables

### Dimensions for KenTIP™ Modular Drills • Round Shank • Metric

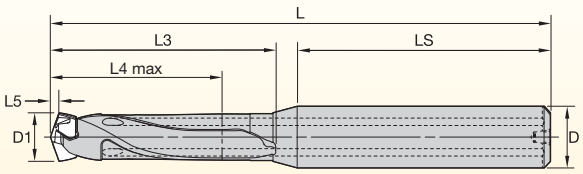


| D1 mm | D1 max | seat | L5 | LS | round D | 1.5 x D L | 1.5 x D L3 | 1.5 x D L4 max | 3 x D L | 3 x D L3 | 3 x D L4 max | 5 x D L | 5 x D L3 | 5 x D L4 max | 8 x D L | 8 x D L3 | 8 x D L4 max | 12 x D L | 12 x D L3 | 12 x D L4 max | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8,000 | 8,499 | F | 1,4 | 41 | 10 | 67 | 23 | 13 | 79 | 35 | 26 | 97 | 53 | 43 | 123 | 79 | 68 | 157 | 113 | 102 | **170.306** |
| 8,500 | 8,999 | G | 1,5 | 41 | 10 | 68 | 24 | 14 | 81 | 37 | 27 | 100 | 56 | 45 | 127 | 83 | 72 | 163 | 119 | 108 | **170.306** |
| 9,000 | 9,499 | H | 1,6 | 41 | 10 | 69 | 25 | 14 | 83 | 39 | 29 | 103 | 58 | 48 | 132 | 88 | 76 | 170 | 126 | 114 | **170.306** |
| 9,500 | 9,999 | I | 1,6 | 41 | 10 | 70 | 26 | 15 | 85 | 41 | 30 | 107 | 63 | 50 | 137 | 92 | 80 | 177 | 133 | 120 | **170.306** |
| 10,000 | 10,499 | J | 1,7 | 46 | 12 | 77 | 28 | 16 | 92 | 43 | 32 | 115 | 66 | 53 | 147 | 98 | 84 | 189 | 140 | 126 | **170.307** |
| 10,500 | 10,999 | K | 1,8 | 46 | 12 | 78 | 29 | 17 | 94 | 45 | 33 | 118 | 68 | 55 | 151 | 101 | 88 | 195 | 146 | 132 | **170.307** |
| 11,000 | 11,499 | L | 1,9 | 46 | 12 | 79 | 30 | 17 | 96 | 47 | 35 | 121 | 71 | 58 | 156 | 105 | 92 | 202 | 153 | 138 | **170.307** |
| 11,500 | 11,999 | M | 2,0 | 46 | 12 | 80 | 31 | 18 | 98 | 49 | 36 | 124 | 75 | 60 | 160 | 110 | 96 | 208 | 159 | 144 | **170.307** |
| 12,000 | 12,499 | N | 2,1 | 46 | 14 | 83 | 34 | 19 | 101 | 52 | 38 | 127 | 78 | 63 | 165 | 116 | 100 | 215 | 166 | 150 | **170.308** |
| 12,500 | 12,999 | O | 2,2 | 46 | 14 | 84 | 35 | 20 | 103 | 54 | 39 | 130 | 81 | 65 | 169 | 120 | 104 | 221 | 172 | 156 | **170.308** |
| 13,000 | 13,499 | P | 2,2 | 46 | 14 | 85 | 36 | 20 | 105 | 56 | 41 | 133 | 84 | 68 | 174 | 125 | 108 | 228 | 179 | 162 | **170.308** |
| 13,500 | 13,999 | Q | 2,3 | 46 | 14 | 86 | 37 | 21 | 107 | 58 | 42 | 137 | 88 | 70 | 179 | 130 | 112 | 235 | 186 | 168 | **170.308** |
| 14,000 | 14,499 | R | 2,4 | 49 | 16 | 91 | 39 | 22 | 112 | 60 | 44 | 143 | 91 | 73 | 187 | 135 | 116 | 245 | 193 | 174 | **170.309** |
| 14,500 | 14,999 | S | 2,5 | 49 | 16 | 92 | 40 | 23 | 114 | 62 | 45 | 146 | 94 | 75 | 191 | 139 | 120 | 251 | 199 | 180 | **170.309** |
| 15,000 | 15,999 | T | 2,6 | 49 | 16 | 94 | 42 | 24 | 118 | 66 | 48 | 152 | 100 | 80 | 200 | 148 | 128 | 264 | 212 | 192 | **170.309** |
| 16,000 | 16,999 | U | 2,8 | 49 | 18 | 97 | 45 | 26 | 122 | 70 | 51 | 158 | 106 | 85 | 209 | 157 | 136 | 277 | 225 | 204 | **170.309** |
| 17,000 | 17,999 | V | 2,9 | 49 | 18 | 100 | 48 | 27 | 127 | 75 | 54 | 165 | 113 | 90 | 219 | 167 | 144 | 291 | 239 | 216 | **170.314** |
| 18,000 | 18,999 | W | 3,1 | 51 | 20 | 105 | 51 | 29 | 133 | 79 | 57 | 173 | 119 | 95 | 230 | 176 | 152 | 306 | 252 | 228 | **170.314** |
| 19,000 | 19,999 | X | 3,3 | 51 | 20 | 107 | 53 | 30 | 137 | 83 | 60 | 179 | 125 | 100 | 239 | 185 | 160 | 319 | 265 | 240 | **170.314** |
| 20,000 | 20,999 | Y | 3,5 | 57 | 25 | 116 | 56 | 32 | 147 | 87 | 63 | 191 | 131 | 105 | 254 | 200 | 168 | 344 | 284 | 252 | **170.314** |
| 21,000 | 21,999 | Z | 3,6 | 57 | 25 | 118 | 58 | 33 | 151 | 91 | 66 | 198 | 138 | 110 | 264 | 204 | 176 | 352 | 292 | 264 | **170.314** |
| 22,000 | 22,999 | ZA | 3,8 | 57 | 25 | 122 | 62 | 35 | 156 | 96 | 69 | 204 | 144 | 115 | 273 | 213 | 184 | 365 | 305 | 276 | **170.314** |
| 23,000 | 23,999 | ZB | 4,0 | 57 | 25 | 124 | 64 | 36 | 160 | 100 | 72 | 210 | 150 | 120 | 282 | 222 | 192 | 378 | 318 | 288 | **170.314** |
| 24,000 | 24,999 | ZC | 4,1 | 57 | 25 | 127 | 67 | 38 | 164 | 104 | 75 | 216 | 156 | 125 | 291 | 231 | 200 | 391 | 331 | 300 | **170.314** |
| 25,000 | 25,999 | ZD | 4,3 | 61 | 32 | 133 | 69 | 39 | 172 | 108 | 78 | 227 | 163 | 130 | 305 | 241 | 208 | 409 | 345 | 312 | **170.314** |
| 26,000 | 26,999 | ZE | 4,5 | 61 | 32 | 138 | 74 | 41 | 178 | 114 | 81 | 232 | 168 | 135 | 315 | 251 | 216 | 423 | 359 | 324 | **170.314** |
| 27,000 | 27,999 | ZE | 4,7 | 61 | 32 | 139 | 75 | 42 | 181 | 117 | 84 | 239 | 175 | 140 | 323 | 259 | 224 | 435 | 371 | 336 | **170.314** |

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Dimensions for KenTIP™ Modular Drills • Round Shank • Inch

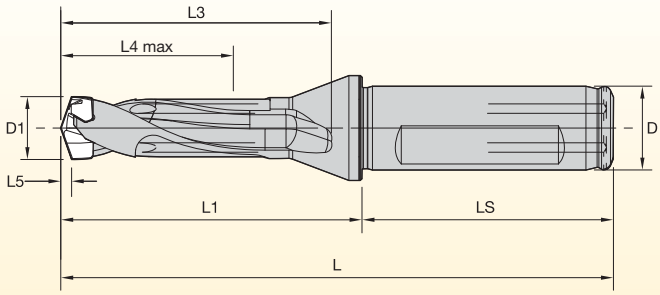


| D1 mm | D1 max | seat | L5 | LS | round D | 3 x D L | 3 x D L3 | 3 x D L4 max | 5 x D L | 5 x D L3 | 5 x D L4 max | 8 x D L | 8 x D L3 | 8 x D L4 max | 12 x D L | 12 x D L3 | 12 x D L4 max | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .3125 | .3346 | F | .055 | 1.59 | .3750 | 3.13 | 1.29 | 1.00 | 3.88 | 2.05 | 1.67 | 4.88 | 3.17 | 2.67 | 6.25 | 4.54 | 4.02 | **170.306** |
| .3346 | .3543 | G | .059 | 1.59 | .3750 | 3.25 | 1.38 | 1.06 | 4.00 | 2.16 | 1.77 | 5.13 | 3.42 | 2.83 | 6.50 | 4.79 | 4.25 | **170.306** |
| .3543 | .3740 | H | .063 | 1.59 | .3750 | 3.38 | 1.46 | 1.12 | 4.13 | 2.28 | 1.87 | 5.25 | 3.54 | 2.99 | 6.75 | 5.04 | 4.49 | **170.306** |
| .3740 | .3937 | I | .063 | 1.59 | .3750 | 3.38 | 1.54 | 1.18 | 4.25 | 2.44 | 1.97 | 5.38 | 3.67 | 3.15 | 7.13 | 5.34 | 4.72 | **170.306** |
| .3740 | .3937 | I | .063 | 1.67 | .4375 | 3.38 | 1.54 | 1.18 | 4.38 | 2.44 | 1.97 | 5.38 | 3.59 | 3.15 | 7.00 | 5.29 | 4.72 | **170.306** |
| .3937 | .4133 | J | .067 | 1.67 | .4375 | 3.63 | 1.63 | 1.24 | 4.63 | 2.55 | 2.07 | 5.75 | 3.96 | 3.30 | 7.37 | 5.59 | 4.96 | **170.307** |
| .4134 | .4330 | K | .071 | 1.67 | .4375 | 3.75 | 1.71 | 1.30 | 4.75 | 2.67 | 2.16 | 6.00 | 4.21 | 3.46 | 7.63 | 5.84 | 5.20 | **170.307** |
| .4331 | .4527 | L | .075 | 1.67 | .4375 | 3.88 | 1.79 | 1.36 | 4.88 | 2.78 | 2.26 | 6.25 | 4.46 | 3.62 | 7.87 | 6.09 | 5.43 | **170.307** |
| .4528 | .4724 | M | .079 | 1.79 | .5000 | 3.88 | 1.87 | 1.42 | 5.00 | 2.90 | 2.36 | 6.50 | 4.59 | 3.78 | 8.25 | 6.34 | 5.67 | **170.307** |
| .4724 | .4921 | N | .083 | 1.79 | .5000 | 4.00 | 1.95 | 1.48 | 5.00 | 3.01 | 2.46 | 6.75 | 4.84 | 3.94 | 8.50 | 6.59 | 5.91 | **170.308** |
| .4921 | .5118 | O | .087 | 1.79 | .5000 | 4.13 | 2.04 | 1.54 | 5.13 | 3.13 | 2.56 | 7.00 | 5.09 | 4.09 | 8.75 | 6.84 | 6.14 | **170.308** |
| .4921 | .5118 | O | .087 | 1.79 | .5625 | 4.13 | 2.04 | 1.54 | 5.13 | 3.13 | 2.56 | 7.00 | 5.09 | 4.09 | 8.75 | 6.84 | 6.14 | **170.308** |
| .5118 | .5315 | P | .087 | 1.79 | .5625 | 4.25 | 2.11 | 1.60 | 5.25 | 3.24 | 2.66 | 7.13 | 5.22 | 4.25 | 9.00 | 7.09 | 6.38 | **170.308** |
| .5315 | .5511 | Q | .091 | 1.79 | .5625 | 4.25 | 2.19 | 1.65 | 5.50 | 3.39 | 2.75 | 7.25 | 5.34 | 4.41 | 9.25 | 7.34 | 6.61 | **170.308** |
| .5512 | .5708 | R | .095 | 1.79 | .5625 | 4.50 | 2.27 | 1.71 | 5.75 | 3.50 | 2.85 | 7.38 | 5.47 | 4.57 | 9.50 | 7.59 | 6.85 | **170.309** |
| .5709 | .5905 | S | .098 | 1.91 | .6250 | 4.50 | 2.34 | 1.77 | 5.75 | 3.61 | 2.95 | 7.50 | 5.47 | 4.72 | 9.87 | 7.85 | 7.09 | **170.309** |
| .5906 | .6299 | T | .102 | 1.91 | .6250 | 4.75 | 2.43 | 1.89 | 6.00 | 3.76 | 3.15 | 7.75 | 5.72 | 5.04 | 1.37 | 8.35 | 7.56 | **170.309** |
| .6299 | .6693 | U | .110 | 1.91 | .6875 | 4.88 | 2.59 | 2.01 | 6.25 | 4.06 | 3.34 | 8.00 | 5.97 | 5.35 | 11.00 | 8.97 | 8.03 | **170.309** |
| .6693 | .7086 | V | .116 | 1.91 | .6875 | 5.00 | 2.99 | 2.24 | 6.50 | 4.47 | 3.66 | 8.75 | 6.72 | 5.79 | 11.50 | 9.47 | 8.50 | **170.314** |
| .7087 | .7480 | W | .122 | 2.00 | .7500 | 5.25 | 3.13 | 2.25 | 6.88 | 4.76 | 3.86 | 9.25 | 7.13 | 6.11 | 12.13 | 1.01 | 8.98 | **170.314** |
| .7480 | .7874 | X | .129 | 2.00 | .7500 | 5.50 | 3.38 | 2.49 | 7.13 | 5.01 | 4.07 | 9.63 | 7.51 | 6.43 | 12.63 | 1.51 | 9.45 | **170.314** |
| .7874 | .8267 | Y | .136 | 2.00 | .8125 | 5.75 | 3.63 | 2.62 | 7.50 | 5.38 | 4.27 | 1.00 | 7.88 | 6.75 | 13.13 | 11.01 | 9.92 | **170.314** |
| .8268 | .8661 | Z | .142 | 2.07 | .8750 | 5.88 | 3.69 | 2.60 | 7.63 | 5.44 | 4.33 | 1.25 | 8.06 | 6.93 | 13.75 | 11.56 | 1.39 | **170.314** |
| .8661 | .9055 | ZA | .150 | 2.07 | .8750 | 6.00 | 3.81 | 2.72 | 7.88 | 5.69 | 4.53 | 1.63 | 8.44 | 7.24 | 14.25 | 12.06 | 1.87 | **170.314** |
| .9055 | .9448 | ZB | .158 | 2.15 | .9375 | 6.25 | 3.98 | 2.83 | 8.25 | 5.98 | 4.72 | 11.13 | 8.86 | 7.56 | 14.87 | 12.61 | 11.34 | **170.314** |
| .9449 | .9842 | ZC | .161 | 3.00 | 1.0000 | 7.25 | 4.13 | 2.95 | 9.38 | 6.26 | 4.92 | 12.25 | 9.13 | 7.87 | 16.25 | 13.13 | 11.81 | **170.314** |
| .9843 | 1.0236 | ZD | .169 | 3.00 | 1.0000 | 7.38 | 4.26 | 3.07 | 9.63 | 6.51 | 5.12 | 12.63 | 9.51 | 8.19 | 16.75 | 13.63 | 12.28 | **170.314** |
| 1.0236 | 1.0630 | ZE | .176 | 3.25 | 1.2500 | 7.86 | 4.49 | 3.19 | 9.99 | 6.62 | 5.32 | 13.25 | 9.88 | 8.50 | 17.50 | 14.13 | 12.76 | **170.314** |
| 1.0630 | 1.1023 | ZE | .185 | 3.25 | 1.2500 | 7.98 | 4.61 | 3.31 | 1.18 | 6.81 | 5.51 | 13.57 | 1.20 | 8.82 | 18.00 | 14.63 | 13.23 | **170.314** |

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Dimensions for KenTIP™ Modular Drills • Flanged Shank • Metric

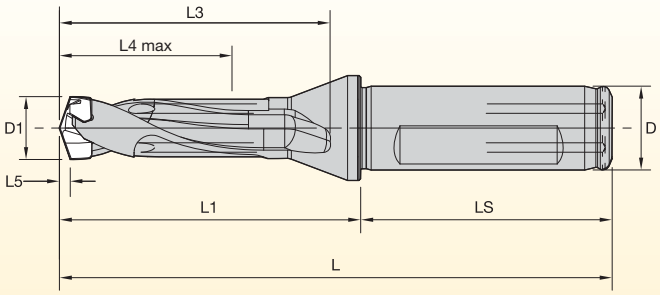


| D1 mm | D1 max | seat | L5 | LS | Flanged D | 1.5 x D L | L3 | L4 max | 3 x D L | L3 | L4 max | 5 x D L | L3 | L4 max | 8 x D L | L3 | L4 max | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8,000 | 8,490 | F | 1,4 | 45 | 12 | 73 | 23 | 13 | 86 | 35 | 26 | 104 | 53 | 43 | 129 | 79 | 68 | **170.306** |
| 8,500 | 8,990 | G | 1,5 | 45 | 12 | 74 | 24 | 14 | 88 | 37 | 27 | 107 | 56 | 45 | 134 | 83 | 72 | **170.306** |
| 9,000 | 9,490 | H | 1,6 | 45 | 12 | 76 | 25 | 14 | 90 | 39 | 29 | 110 | 59 | 48 | 138 | 88 | 76 | **170.306** |
| 9,500 | 9,990 | I | 1,6 | 45 | 12 | 77 | 26 | 15 | 92 | 41 | 30 | 114 | 63 | 50 | 144 | 93 | 80 | **170.306** |
| 10,000 | 10,490 | J | 1,7 | 48 | 16 | 81 | 28 | 16 | 97 | 43 | 32 | 120 | 66 | 53 | 151 | 97 | 84 | **170.307** |
| 10,500 | 10,990 | K | 1,8 | 48 | 16 | 82 | 29 | 17 | 99 | 45 | 33 | 123 | 69 | 55 | 156 | 102 | 88 | **170.307** |
| 11,000 | 11,490 | L | 1,9 | 48 | 16 | 84 | 30 | 17 | 101 | 47 | 35 | 126 | 72 | 58 | 160 | 107 | 92 | **170.307** |
| 11,500 | 11,990 | M | 2,0 | 48 | 16 | 85 | 31 | 18 | 103 | 49 | 36 | 129 | 75 | 60 | 165 | 111 | 96 | **170.307** |
| 12,000 | 12,490 | N | 2,1 | 48 | 16 | 87 | 34 | 19 | 106 | 52 | 38 | 132 | 78 | 63 | 169 | 116 | 100 | **170.308** |
| 12,500 | 12,990 | O | 2,2 | 48 | 16 | 88 | 35 | 20 | 108 | 54 | 39 | 135 | 81 | 65 | 174 | 120 | 104 | **170.308** |
| 13,000 | 13,490 | P | 2,2 | 48 | 16 | 90 | 36 | 20 | 110 | 56 | 41 | 138 | 84 | 68 | 178 | 124 | 108 | **170.308** |
| 13,500 | 13,990 | Q | 2,3 | 48 | 16 | 91 | 37 | 21 | 112 | 58 | 42 | 142 | 88 | 70 | 184 | 130 | 112 | **170.308** |
| 14,000 | 14,490 | R | 2,4 | 48 | 16 | 92 | 39 | 22 | 114 | 60 | 44 | 145 | 91 | 73 | 188 | 134 | 116 | **170.309** |
| 14,500 | 14,990 | S | 2,5 | 48 | 16 | 93 | 40 | 23 | 116 | 62 | 45 | 148 | 94 | 75 | 193 | 139 | 120 | **170.309** |
| 15,000 | 15,990 | T | 2,6 | 50 | 20 | 98 | 42 | 24 | 122 | 66 | 48 | 156 | 100 | 80 | 204 | 148 | 128 | **170.309** |
| 16,000 | 16,990 | U | 2,8 | 50 | 20 | 100 | 45 | 26 | 126 | 70 | 51 | 162 | 106 | 85 | 213 | 157 | 136 | **170.309** |
| 17,000 | 17,990 | V | 2,9 | 50 | 20 | 104 | 48 | 27 | 131 | 75 | 54 | 169 | 113 | 90 | 223 | 167 | 144 | **170.314** |
| 18,000 | 18,990 | W | 3,1 | 56 | 25 | 112 | 51 | 29 | 141 | 79 | 57 | 181 | 119 | 95 | 238 | 176 | 152 | **170.314** |
| 19,000 | 19,990 | X | 3,3 | 56 | 25 | 115 | 53 | 30 | 144 | 83 | 60 | 187 | 125 | 100 | 247 | 185 | 160 | **170.314** |
| 20,000 | 20,990 | Y | 3,5 | 56 | 25 | 117 | 56 | 32 | 149 | 87 | 63 | 193 | 131 | 105 | 256 | 194 | 168 | **170.314** |
| 21,000 | 21,990 | Z | 3,6 | 56 | 25 | 120 | 58 | 33 | 153 | 91 | 66 | 200 | 138 | 110 | 266 | 204 | 176 | **170.314** |
| 22,000 | 22,990 | ZA | 3,8 | 56 | 25 | 123 | 62 | 35 | 158 | 96 | 69 | 206 | 144 | 115 | 275 | 213 | 184 | **170.314** |
| 23,000 | 23,990 | ZB | 4,0 | 56 | 25 | 126 | 64 | 36 | 162 | 100 | 72 | 212 | 150 | 120 | 284 | 222 | 192 | **170.314** |
| 24,000 | 24,990 | ZC | 4,1 | 56 | 25 | 128 | 67 | 38 | 166 | 104 | 75 | 218 | 156 | 125 | 293 | 231 | 200 | **170.314** |
| 25,000 | 25,990 | ZD | 4,3 | 56 | 25 | 131 | 69 | 39 | 170 | 108 | 78 | 225 | 163 | 130 | 303 | 241 | 208 | **170.314** |
| 26,000 | 26,990 | ZE | 4,5 | 56 | 25 | 135 | 74 | 41 | 176 | 114 | 81 | 230 | 168 | 135 | 313 | 251 | 216 | **170.314** |
| 27,000 | 27,990 | ZE | 4,7 | 56 | 25 | 137 | 75 | 42 | 179 | 117 | 84 | 237 | 175 | 140 | 321 | 259 | 224 | **170.314** |

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Dimensions for KenTIP™ Modular Drills • Flanged Shank • Inch



| D1 mm | D1 max | seat | L5 | LS | Flanged D | 3 x D L | 3 x D L3 | 3 x D L4 max | 5 x D L | 5 x D L3 | 5 x D L4 max | 8 x D L | 8 x D L3 | 8 x D L4 max | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .3125 | .3343 | F | .054 | 1.77 | .5000 | 3.40 | 1.41 | 1.00 | 4.15 | 2.16 | 1.67 | 5.15 | 3.16 | 2.28 | **170.306** |
| .3390 | .3539 | G | .059 | 1.77 | .5000 | 3.52 | 1.53 | 1.06 | 4.27 | 2.28 | 1.77 | 5.27 | 3.28 | 2.83 | **170.306** |
| .3580 | .3736 | H | .062 | 1.77 | .5000 | 3.65 | 1.66 | 1.12 | 4.40 | 2.41 | 1.87 | 5.52 | 3.53 | 2.99 | **170.306** |
| .3750 | .3933 | I | .065 | 1.77 | .5000 | 3.65 | 1.66 | 1.18 | 4.52 | 2.53 | 1.97 | 5.77 | 3.78 | 3.15 | **170.306** |
| .3946 | .4130 | J | .068 | 1.89 | .6250 | 3.89 | 1.78 | 1.24 | 4.76 | 2.66 | 2.07 | 6.01 | 3.91 | 3.31 | **170.307** |
| .4219 | .4327 | K | .073 | 1.89 | .6250 | 3.89 | 1.78 | 1.30 | 4.89 | 2.78 | 2.17 | 6.14 | 4.03 | 3.46 | **170.307** |
| .4375 | .4524 | L | .076 | 1.89 | .6250 | 4.01 | 1.91 | 1.36 | 5.01 | 2.91 | 2.26 | 6.39 | 4.28 | 3.62 | **170.307** |
| .4531 | .4720 | M | .078 | 1.89 | .6250 | 4.14 | 2.03 | 1.42 | 5.14 | 3.03 | 2.36 | 6.51 | 4.41 | 3.78 | **170.307** |
| .4844 | .4917 | N | .084 | 1.89 | .6250 | 4.26 | 2.16 | 1.48 | 5.26 | 3.16 | 2.46 | 6.76 | 4.66 | 3.94 | **170.308** |
| .5000 | .5114 | O | .086 | 1.89 | .6250 | 4.26 | 2.16 | 1.54 | 5.39 | 3.28 | 2.56 | 6.89 | 4.78 | 4.09 | **170.308** |
| .5156 | .5311 | P | .089 | 1.89 | .6250 | 4.39 | 2.28 | 1.59 | 5.51 | 3.41 | 2.66 | 7.01 | 4.91 | 4.25 | **170.308** |
| .5469 | .5508 | Q | .095 | 1.89 | .6250 | 4.39 | 2.28 | 1.65 | 5.64 | 3.53 | 2.76 | 7.26 | 5.16 | 4.41 | **170.308** |
| .5625 | .5705 | R | .097 | 1.89 | .6250 | 4.51 | 2.41 | 1.71 | 5.76 | 3.66 | 2.85 | 7.51 | 5.41 | 4.57 | **170.309** |
| .5774 | .5902 | S | .100 | 1.89 | .6250 | 4.64 | 2.53 | 1.77 | 5.89 | 3.78 | 2.95 | 7.64 | 5.53 | 4.72 | **170.309** |
| .5938 | .6295 | T | .102 | 1.97 | .7500 | 4.84 | 2.66 | 1.89 | 6.22 | 4.03 | 3.15 | 8.09 | 5.91 | 5.04 | **170.309** |
| .6310 | .6689 | U | .109 | 1.97 | .7500 | 4.97 | 2.78 | 2.01 | 6.47 | 4.28 | 3.35 | 8.47 | 6.28 | 5.35 | **170.309** |
| .6719 | .7083 | V | .116 | 1.97 | .7500 | 5.22 | 3.03 | 2.13 | 6.72 | 4.53 | 3.54 | 8.84 | 6.66 | 5.67 | **170.314** |
| .7188 | .7476 | W | .124 | 1.97 | .7500 | 5.34 | 3.16 | 2.24 | 6.97 | 4.78 | 3.74 | 9.22 | 7.03 | 5.98 | **170.314** |
| .7500 | .7870 | X | .129 | 1.97 | .7500 | 5.47 | 3.28 | 2.36 | 7.22 | 5.03 | 3.94 | 9.47 | 7.28 | 6.30 | **170.314** |
| .7969 | .8264 | Y | .137 | 2.20 | 1.0000 | 5.95 | 3.53 | 2.48 | 7.58 | 5.16 | 4.13 | 10.08 | 7.66 | 6.61 | **170.314** |
| .8440 | .8657 | Z | .146 | 2.20 | 1.0000 | 6.08 | 3.66 | 2.60 | 7.95 | 5.53 | 4.33 | 10.45 | 8.03 | 6.93 | **170.314** |
| .8750 | .9051 | ZA | .151 | 2.20 | 1.0000 | 6.20 | 3.78 | 2.72 | 8.20 | 5.78 | 4.53 | 10.83 | 8.41 | 7.24 | **170.314** |
| .9375 | .9445 | ZB | .162 | 2.20 | 1.0000 | 6.45 | 4.03 | 2.83 | 8.33 | 5.91 | 4.72 | 11.20 | 8.78 | 7.56 | **170.314** |
| .9690 | .9839 | ZC | .167 | 2.20 | 1.0000 | 6.58 | 4.16 | 2.95 | 8.58 | 6.16 | 4.92 | 11.58 | 9.16 | 7.87 | **170.314** |
| .9744 | 1.0232 | ZD | .172 | 2.20 | 1.0000 | 6.70 | 4.28 | 3.07 | 8.95 | 6.53 | 5.12 | 11.95 | 9.53 | 8.19 | **170.314** |
| 1.0240 | 1.0620 | ZE | .176 | 2.20 | 1.0000 | 6.83 | 4.41 | 3.19 | 9.08 | 6.66 | 5.32 | 11.70 | 9.28 | 8.50 | **170.314** |
| 1.0630 | 1.1020 | ZE | .184 | 2.20 | 1.0000 | 6.95 | 4.53 | 3.30 | 9.20 | 6.78 | 5.51 | 11.95 | 9.53 | 8.69 | **170.314** |

## Mounting the KenTIP Inserts

1) Fix drill holder on arbor. For insert exchange, fix arbor on the machine or set on tool presetter.

2) Remove dust using air blast.

3) Put insert into drill holder (use gloves to protect your hands).

4) Turn lightly in a clockwise direction (use gloves to protect your hands).

5) Set the wrench properly.

6) Make sure the wrench fits with the insert slot (check size and alignment of wrench and insert slots to avoid injury).

7) Slowly turn the wrench in a clockwise direction.

8) Complete.

## Cooling the KenTIP Drill

1) Internal coolant is recommended.

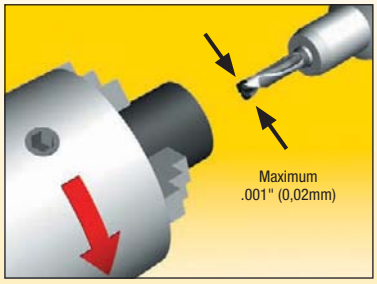
2) In case of external coolant, cutting depth must be 3 x D or less.

Only when using the 3 x D tool bodies

3) Dry cutting is not recommended. Limited applicability in cast iron materials, MQL strongly recommended.

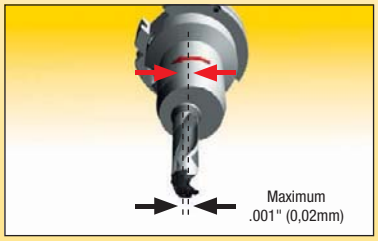
## Usage Precautions
## Core Deviation

1) For Turning Machines




Set deviation amount under 0,02mm between workpiece and drill.

2) For Machining Centers




Do not use any arbor with a damaged attachment surface.
Center of arbor deviation must be within 0,02mm.

A Natural Fit…

# Tube Sheet Drilling with Kennametal

Our advanced drilling solutions provide the performance and reliability you need to succeed in your challenging business. We offer a complete holemaking range for working with tube sheets, support baffles, and many other components.

## KSEM™ MODULAR DRILL SYSTEM

- Highly stable pocket seat holding replaceable carbide inserts for drill depth up to 10 x D and deeper*.
- Very high performance with the ability to create H10 fit holes in tube sheets in one pass.
- Application- and material-specific insert styles.
- All TEMA standard diameters in stock, with very high availability.

HPG P

HPL M

SPL M S

* Made-to-order holders easily available as made-to-order tools.

Find KSEM Modular Drills on pages H50–H97.

## KGEM TUBE SHEET GROOVER

- Internal coolant for longer tool life and better chip formation.
- Covers TEMA standard sizes 19,25mm (.758") and above with circular interpolation.
- Productive solution for shallow or deep-hole applications on a wide range of machines.

Find KGEM Groovers on pages H98–H101.

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

# KSEM™ Modular Drill System

## Primary Application

The KSEM™ modular drill system offers extended length and drilling diameters beyond the KenTIP™ modular drill system. The KSEM system enables very aggressive feed rates in many applications to enable very high productivity levels. It offers a very robust pocket for its exchangeable inserts to increase tool life for both steel holder and carbide tip. This makes the KSEM system a very economic and reliable system for drilling in the intermediate diameter range.

Hole depths of 10 x D and drilling diameters from 12,5–40mm (.4921–1.5748") are covered by our standard tooling range. Various grades are available for drilling applications in almost any materials.

# Features and Benefits

## HP Drill-Point styles

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- Application specific selection of geometries for unmatched performance.

## Strong Pocket, Easy Insert Change

- Robust pocket design for increased insert and holder life.
- Four-wall pocket provides insert stability.
- Requires only a simple wrench for insert removal.

## Regrindable Inserts

- All geometries except SPL can be reconditioned to improve tool economy.
- Quick and reliable regrinding services offered by Kennametal and our partners.

## Tailored Grades

- KC7315™ grade TiAlN-based PVD multilayer coating for high cutting speeds, primarily in steel applications.
- KCPM45™ grade multilayer TiAlN coated, very tough carbide substrate. Improved chipping resistance in demanding machining conditions.
- KC7320™ grade AlTiN-based PVD coating for the demands of drilling stainless steels.
- KCMS35™ grade with high Al content TiAlN PVD coating specifically for M3 and S-type materials.
- KC7410™ grade contains multiple layers of PVD coating offering outstanding wear resistance for drilling cast irons.
- KC7135™ grade with thin TiCN-TiN PVD coating for universal usage in all materials.

NEW!

KSEM™ SPL inserts offer extraordinary drilling performance in stainless steels, super alloys, and other demanding environments.

NEW!

KSEM FEG inserts create blind holes, through holes, and countersinks. These inserts are focused on versatility and will support you in many essential drilling applications.

## Drill Body Portfolio

- Standard 1, 3, 5, 7, and 10 x D tool bodies with round shanks (inch) and Whistle Notch shanks (metric) available.
- Flanged shanks with 2 flats and entry for external coolant supply in 1, 3, 5, and 8 x D.
- KSEM mountable chamfering ring with FAS carbide chamfer inserts.

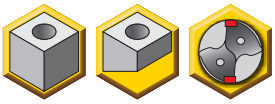
## Customization

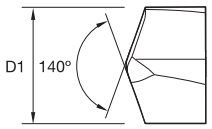
- Intermediate diameters available as semi-standards.
- Extensive step drill capabilities to support advanced applications and for one-shot counterboring and chamfering drills.
- Nearly all shank styles for toolholders available as semi-standards.
- Very high L x D ratios possible up to 25 x D and even higher (depending on drill diameter).

NEW!

**Need to create very small diameter steps for chamfering and counterboring?**
CFM inserts fit KSEM made-to-order step drills perfectly.
Find them in the KenTIP™ modular drill system section page H43.

- KSEM KC7315™ HP cutting edges enable high metal removal rates and superior tool life for steel applications.
- HP geometry offers a wide and strong HP-style chiseled edge that prevents material quenching in the center, enabling high feed rates. Sickle shaped, honed cutting edges provide excellent chip forming and tool life, even in long chipping materials.
- KC7315 is a fine-grain carbide with a TiAlN-based PVD multilayer coating. Its high wear resistance enables very high cutting speeds in stable conditions.
- KC7315 HP cutting edges are perfectly suited to drill alloyed and high-alloy steels.
- Use KC7315 HP cutting edges as an alternative to cast iron materials.





HP

## KSEM Inserts • HP KC7315

P ●
M
K ○
N
S
H

● first choice
○ alternate choice

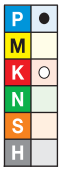
| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250HPM** | 12,500 | .4921 | C |
| **KSEM1270HPM** | 12,700 | .5000 | C |
| **KSEM1280HPM** | 12,800 | .5039 | C |
| **KSEM1300HPM** | 13,000 | .5118 | C |
| **KSEM1310HPM** | 13,100 | .5160 | C |
| **KSEM1320HPM** | 13,200 | .5197 | C |
| **KSEM1350HPM** | 13,500 | .5310 | C |
| **KSEM1370HPM** | 13,700 | .5394 | B |
| **KSEM1380HPM** | 13,800 | .5433 | B |
| **KSEM1389HPM** | 13,890 | .5470 | B |
| **KSEM1400HPM** | 14,000 | .5512 | B |
| **KSEM1410HPM** | 14,100 | .5551 | B |
| **KSEM1420HPM** | 14,200 | .5591 | B |
| **KSEM1429HPM** | 14,290 | .5630 | B |
| **KSEM1440HPM** | 14,400 | .5669 | B |
| **KSEM1450HPM** | 14,500 | .5709 | B |
| **KSEM1468HPM** | 14,680 | .5780 | A |
| **KSEM1480HPM** | 14,800 | .5827 | A |
| **KSEM1500HPM** | 15,000 | .5906 | A |
| **KSEM1508HPM** | 15,080 | .5940 | A |
| **KSEM1530HPM** | 15,300 | .6024 | A |
| **KSEM1550HPM** | 15,500 | .6102 | A |
| **KSEM1560HPM** | 15,600 | .6142 | A |
| **KSEM1570HPM** | 15,700 | .6181 | A |
| **KSEM1580HPM** | 15,800 | .6220 | A |
| **KSEM1588HPM** | 15,880 | .6250 | 1 |
| **KSEM1600HPM** | 16,000 | .6299 | 1 |
| **KSEM1609HPM** | 16,090 | .6340 | 1 |
| **KSEM1620HPM** | 16,200 | .6378 | 1 |
| **KSEM1627HPM** | 16,270 | .6410 | 1 |
| **KSEM1650HPM** | 16,500 | .6496 | 1 |
| **KSEM1667HPM** | 16,670 | .6560 | 1 |
| **KSEM1700HPM** | 17,000 | .6693 | 1 |
| **KSEM1707HPM** | 17,070 | .6720 | 1 |
| **KSEM1746HPM** | 17,460 | .6875 | 1 |
| **KSEM1750HPM** | 17,500 | .6890 | 1 |

P ●
M
K ○
N
S
H

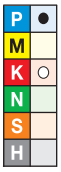
| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1786HPM** | 17,860 | .7030 | 1 |
| **KSEM1800HPM** | 18,000 | .7087 | 1 |
| **KSEM1826HPM** | 18,260 | .7190 | 2 |
| **KSEM1850HPM** | 18,500 | .7283 | 2 |
| **KSEM1865HPM** | 18,650 | .7340 | 2 |
| **KSEM1900HPM** | 19,000 | .7480 | 2 |
| **KSEM1905HPM** | 19,050 | .7500 | 2 |
| **KSEM1923HPM** | 19,228 | .7570 | 2 |
| **KSEM1927HPM** | 19,270 | .7590 | 2 |
| **KSEM1945HPM** | 19,450 | .7660 | 2 |
| **KSEM1950HPM** | 19,500 | .7677 | 2 |
| **KSEM1984HPM** | 19,840 | .7810 | 2 |
| **KSEM2000HPM** | 20,000 | .7874 | 3 |
| **KSEM2024HPM** | 20,240 | .7970 | 3 |
| **KSEM2050HPM** | 20,500 | .8071 | 3 |
| **KSEM2064HPM** | 20,640 | .8125 | 3 |
| **KSEM2100HPM** | 21,000 | .8268 | 3 |
| **KSEM2143HPM** | 21,430 | .8440 | 3 |
| **KSEM2150HPM** | 21,500 | .8460 | 3 |
| **KSEM2183HPM** | 21,830 | .8590 | 3 |
| **KSEM2200HPM** | 22,000 | .8661 | 3 |
| **KSEM2223HPM** | 22,230 | .8750 | 4 |
| **KSEM2244HPM** | 22,440 | .8840 | 4 |
| **KSEM2250HPM** | 22,500 | .8858 | 4 |
| **KSEM2300HPM** | 23,000 | .9055 | 4 |
| **KSEM2342HPM** | 23,420 | .9220 | 4 |
| **KSEM2350HPM** | 23,500 | .9252 | 4 |
| **KSEM2381HPM** | 23,810 | .9375 | 4 |
| **KSEM2400HPM** | 24,000 | .9449 | 4 |
| **KSEM2450HPM** | 24,500 | .9646 | 5 |
| **KSEM2461HPM** | 24,610 | .9690 | 5 |
| **KSEM2500HPM** | 25,000 | .9843 | 5 |
| **KSEM2540HPM** | 25,400 | 1.0000 | 5 |
| **KSEM2550HPM** | 25,500 | 1.0039 | 5 |
| **KSEM2560HPM** | 25,610 | 1.0080 | 5 |
| **KSEM2567HPM** | 25,670 | 1.0110 | 5 |

*(continued)*

*(KSEM Inserts • HP KC7315™ — continued)*




| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2600HPM** | 26,000 | 1.0236 | 5 |
| **KSEM2619HPM** | 26,190 | 1.0310 | 6 |
| **KSEM2650HPM** | 26,500 | 1.0433 | 6 |
| **KSEM2659HPM** | 26,590 | 1.0470 | 6 |
| **KSEM2700HPM** | 27,000 | 1.0630 | 6 |
| **KSEM2750HPM** | 27,500 | 1.0827 | 6 |
| **KSEM2778HPM** | 27,780 | 1.0940 | 6 |
| **KSEM2800HPM** | 28,000 | 1.1024 | 6 |
| **KSEM2818HPM** | 28,180 | 1.1090 | 7 |
| **KSEM2850HPM** | 28,500 | 1.1220 | 7 |
| **KSEM2858HPM** | 28,580 | 1.1250 | 7 |
| **KSEM2900HPM** | 29,000 | 1.1417 | 7 |
| **KSEM2937HPM** | 29,370 | 1.1563 | 7 |
| **KSEM2950HPM** | 29,500 | 1.1614 | 7 |
| **KSEM2977HPM** | 29,770 | 1.1720 | 7 |
| **KSEM3000HPM** | 30,000 | 1.1811 | 7 |
| **KSEM3016HPM** | 30,160 | 1.1875 | 8 |
| **KSEM3050HPM** | 30,500 | 1.2008 | 8 |
| **KSEM3096HPM** | 30,960 | 1.2190 | 8 |
| **KSEM3100HPM** | 31,000 | 1.2205 | 8 |




● first choice
○ alternate choice

| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM3150HPM** | 31,500 | 1.2402 | 8 |
| **KSEM3175HPM** | 31,750 | 1.2500 | 8 |
| **KSEM3200HPM** | 32,000 | 1.2598 | 8 |
| **KSEM3250HPM** | 32,500 | 1.2795 | 9 |
| **KSEM3300HPM** | 33,000 | 1.2992 | 9 |
| **KSEM3334HPM** | 33,340 | 1.3130 | 9 |
| **KSEM3400HPM** | 34,000 | 1.3386 | 9 |
| **KSEM3413HPM** | 34,130 | 1.3440 | 9 |
| **KSEM3493HPM** | 34,930 | 1.3750 | 9 |
| **KSEM3500HPM** | 35,000 | 1.3780 | 9 |
| **KSEM3550HPM** | 35,500 | 1.3976 | 9 |
| **KSEM3600HPM** | 36,000 | 1.4173 | 9 |
| **KSEM3750HPM** | 37,500 | 1.4764 | 10 |
| **KSEM3800HPM** | 38,000 | 1.4961 | 10 |
| **KSEM3810HPM** | 38,100 | 1.5000 | 10 |
| **KSEM3850HPM** | 38,500 | 1.5157 | 10 |
| **KSEM3900HPM** | 39,000 | 1.5354 | 10 |
| **KSEM3950HPM** | 39,500 | 1.5551 | 10 |
| **KSEM4000HPM** | 40,000 | 1.5748 | 10 |

**Tolerance HP • Metric**

| D1 metric | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance HP • Inch**

| D1 inch | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >.709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

## Application Data

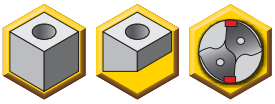
### Modular Drill Carbide Insert Blades • KSEM • HP Geometry • Grade KC7315 • Through Coolant • Metric

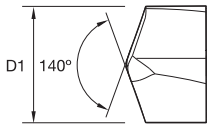
| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 70 | **90** | 110 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 2 | 80 | **100** | 120 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 3 | 65 | **75** | 80 | mm/r | 0,15–0,28 | 0,17–0,31 | 0,19–0,36 | 0,25–0,46 | 0,23–0,53 | 0,33–0,60 |
| | 4 | 50 | **65** | 75 | mm/r | 0,12–0,28 | 0,14–0,31 | 0,16–0,36 | 0,20–0,46 | 0,23–0,53 | 0,30–0,60 |
| | 5 | 45 | **50** | 65 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,12–0,21 | 0,15 –0,25 | 0,17–0,29 | 0,20–0,33 |
| | 6 | 45 | **50** | 65 | mm/r | 0,12–0,23 | 0,14–0,26 | 0,16–0,29 | 0,20 –0,38 | 0,23 –0,43 | 0,26–0,54 |

### Modular Drill Carbide Insert Blades • KSEM • HP Geometry • Grade KC7315 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 0.462 | 0.630 | 0.787 | 1.000 | 1.260 | 1.575 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 230 | **300** | 360 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 2 | 260 | **330** | 390 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .014–.024 | .016–.027 |
| | 3 | 210 | **250** | 260 | IPR | .006–.011 | .007–.012 | .007–.014 | .010–.018 | .009–.021 | .013–.024 |
| | 4 | 150 | **160** | 210 | IPR | .005–.011 | .006–.012 | .006–.014 | .008–.018 | .009–.021 | .012–.024 |
| | 5 | 150 | **160** | 210 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.013 |
| | 6 | 150 | **160** | 210 | IPR | .005–.009 | .006–.010 | .006–.011 | .008–.015 | .009–.017 | .010–.021 |

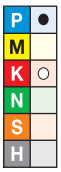
- KSEM KC7315™ HPG cutting edges enable high metal removal rates and superior tool life for steel applications.
- HPG geometry works with low cutting and feed forces and provides very good centering. Reinforced cutting edges and good chip forming improve tool life due to high wear and edge chipping resistance.
- KC7315 is a fine-grain carbide with a TiAlN-based PVD multilayer coating. Its high wear resistance enables very high cutting speeds in stable conditions.
- KC7315 HPG cutting edges are perfectly suited to drill alloyed and high-alloy steels.
- Use KC7315 HPG cutting edges as an alternative to cast iron materials.



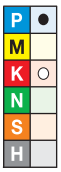


HPG

## KSEM Inserts • HPG KC7315




| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250HPGM** | 12,500 | .4921 | C |
| **KSEM1260HPGM** | 12,600 | .4961 | C |
| **KSEM1270HPGM** | 12,700 | .5000 | C |
| **KSEM1280HPGM** | 12,800 | .5039 | C |
| **KSEM1293HPGM** | 12,930 | .5090 | C |
| **KSEM1300HPGM** | 13,000 | .5118 | C |
| **KSEM1310HPGM** | 13,100 | .5160 | C |
| **KSEM1320HPGM** | 13,200 | .5197 | C |
| **KSEM1350HPGM** | 13,500 | .5310 | C |
| **KSEM1360HPGM** | 13,600 | .5354 | B |
| **KSEM1370HPGM** | 13,700 | .5394 | B |
| **KSEM1380HPGM** | 13,800 | .5433 | B |
| **KSEM1389HPGM** | 13,890 | .5470 | B |
| **KSEM1400HPGM** | 14,000 | .5512 | B |
| **KSEM1410HPGM** | 14,100 | .5551 | B |
| **KSEM1420HPGM** | 14,200 | .5591 | B |
| **KSEM1429HPGM** | 14,290 | .5630 | B |
| **KSEM1440HPGM** | 14,400 | .5669 | B |
| **KSEM1450HPGM** | 14,500 | .5709 | B |
| **KSEM1460HPGM** | 14,600 | .5748 | A |
| **KSEM1468HPGM** | 14,680 | .5780 | A |
| **KSEM1480HPGM** | 14,800 | .5827 | A |
| **KSEM1500HPGM** | 15,000 | .5906 | A |
| **KSEM1508HPGM** | 15,080 | .5940 | A |
| **KSEM1530HPGM** | 15,300 | .6024 | A |
| **KSEM1548HPGM** | 15,480 | .6090 | A |
| **KSEM1550HPGM** | 15,500 | .6102 | A |
| **KSEM1560HPGM** | 15,600 | .6142 | A |
| **KSEM1570HPGM** | 15,700 | .6181 | A |
| **KSEM1580HPGM** | 15,800 | .6220 | A |
| **KSEM1588HPGM** | 15,880 | .6250 | 1 |
| **KSEM1600HPGM** | 16,000 | .6299 | 1 |
| **KSEM1604HPGM** | 16,040 | .6315 | 1 |
| **KSEM1609HPGM** | 16,090 | .6340 | 1 |
| **KSEM1619HPGM** | 16,190 | .6374 | 1 |
| **KSEM1620HPGM** | 16,200 | .6378 | 1 |

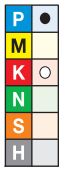



● first choice
○ alternate choice

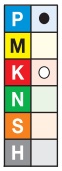
| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1627HPGM** | 16,270 | .6410 | 1 |
| **KSEM1650HPGM** | 16,500 | .6496 | 1 |
| **KSEM1660HPGM** | 16,600 | .6535 | 1 |
| **KSEM1667HPGM** | 16,670 | .6560 | 1 |
| **KSEM1700HPGM** | 17,000 | .6693 | 1 |
| **KSEM1707HPGM** | 17,070 | .6720 | 1 |
| **KSEM1735HPGM** | 17,350 | .6831 | 1 |
| **KSEM1746HPGM** | 17,460 | .6875 | 1 |
| **KSEM1750HPGM** | 17,500 | .6890 | 1 |
| **KSEM1760HPGM** | 17,600 | .6929 | 1 |
| **KSEM1770HPGM** | 17,700 | .6969 | 1 |
| **KSEM1786HPGM** | 17,860 | .7030 | 1 |
| **KSEM1800HPGM** | 18,000 | .7087 | 1 |
| **KSEM1826HPGM** | 18,260 | .7190 | 2 |
| **KSEM1850HPGM** | 18,500 | .7283 | 2 |
| **KSEM1860HPGM** | 18,600 | .7323 | 2 |
| **KSEM1865HPGM** | 18,650 | .7340 | 2 |
| **KSEM1880HPGM** | 18,800 | .7402 | 2 |
| **KSEM1900HPGM** | 19,000 | .7480 | 2 |
| **KSEM1905HPGM** | 19,050 | .7500 | 2 |
| **KSEM1925HPGM** | 19,250 | .7579 | 2 |
| **KSEM1927HPGM** | 19,270 | .7590 | 2 |
| **KSEM1932HPGM** | 19,320 | .7606 | 2 |
| **KSEM1935HPGM** | 19,350 | .7618 | 2 |
| **KSEM1945HPGM** | 19,450 | .7660 | 2 |
| **KSEM1950HPGM** | 19,500 | .7677 | 2 |
| **KSEM1970HPGM** | 19,700 | .7756 | 2 |
| **KSEM1984HPGM** | 19,840 | .7810 | 2 |
| **KSEM2000HPGM** | 20,000 | .7874 | 3 |
| **KSEM2024HPGM** | 20,240 | .7969 | 3 |
| **KSEM2050HPGM** | 20,500 | .8071 | 3 |
| **KSEM2064HPGM** | 20,640 | .8125 | 3 |
| **KSEM2070HPGM** | 20,700 | .8150 | 3 |
| **KSEM2100HPGM** | 21,000 | .8268 | 3 |
| **KSEM2110HPGM** | 21,100 | .8307 | 3 |
| **KSEM2120HPGM** | 21,200 | .8346 | 3 |

*(continued)*

*(KSEM Inserts • HPG KC7315™ — continued)*




| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| KSEM2133HPGM | 21,330 | .8398 | 3 |
| KSEM2143HPGM | 21,430 | .8440 | 3 |
| KSEM2150HPGM | 21,500 | .8460 | 3 |
| KSEM2170HPGM | 21,700 | .8543 | 3 |
| KSEM2183HPGM | 21,830 | .8590 | 3 |
| KSEM2200HPGM | 22,000 | .8661 | 3 |
| KSEM2210HPGM | 22,100 | .8701 | 4 |
| KSEM2215HPGM | 22,150 | .8720 | 4 |
| KSEM2223HPGM | 22,230 | .8750 | 4 |
| KSEM2244HPGM | 22,440 | .8840 | 4 |
| KSEM2250HPGM | 22,500 | .8858 | 4 |
| KSEM2262HPGM | 22,620 | .8906 | 4 |
| KSEM2300HPGM | 23,000 | .9055 | 4 |
| KSEM2305HPGM | 23,050 | .9075 | 4 |
| KSEM2310HPGM | 23,100 | .9094 | 4 |
| KSEM2325HPGM | 23,250 | .9154 | 4 |
| KSEM2330HPGM | 23,300 | .9173 | 4 |
| KSEM2342HPGM | 23,420 | .9220 | 4 |
| KSEM2350HPGM | 23,500 | .9252 | 4 |
| KSEM2381HPGM | 23,810 | .9375 | 4 |
| KSEM2400HPGM | 24,000 | .9449 | 4 |
| KSEM2430HPGM | 24,300 | .9567 | 5 |
| KSEM2450HPGM | 24,500 | .9646 | 5 |
| KSEM2461HPGM | 24,610 | .9690 | 5 |
| KSEM2470HPGM | 24,700 | .9724 | 5 |
| KSEM2500HPGM | 25,000 | .9843 | 5 |
| KSEM2540HPGM | 25,400 | 1.0000 | 5 |
| KSEM2550HPGM | 25,500 | 1.0039 | 5 |
| KSEM2554HPGM | 25,540 | 1.0055 | 5 |
| KSEM2560HPGM | 25,600 | 1.0080 | 5 |
| KSEM2565HPGM | 25,654 | 1.0100 | 5 |
| KSEM2567HPGM | 25,670 | 1.0110 | 5 |
| KSEM2600HPGM | 26,000 | 1.0236 | 5 |
| KSEM2619HPGM | 26,190 | 1.0310 | 6 |
| KSEM2650HPGM | 26,500 | 1.0433 | 6 |
| KSEM2653HPGM | 26,530 | 1.0445 | 6 |
| KSEM2659HPGM | 26,590 | 1.0470 | 6 |
| KSEM2670HPGM | 26,700 | 1.0512 | 6 |
| KSEM2700HPGM | 27,000 | 1.0630 | 6 |
| KSEM2750HPGM | 27,500 | 1.0827 | 6 |
| KSEM2778HPGM | 27,780 | 1.0940 | 6 |
| KSEM2800HPGM | 28,000 | 1.1024 | 6 |
| KSEM2818HPGM | 28,180 | 1.1090 | 7 |
| KSEM2850HPGM | 28,500 | 1.1220 | 7 |
| KSEM2858HPGM | 28,580 | 1.1250 | 7 |
| KSEM2900HPGM | 29,000 | 1.1417 | 7 |
| KSEM2937HPGM | 29,370 | 1.1563 | 7 |
| KSEM2950HPGM | 29,500 | 1.1614 | 7 |




● first choice
○ alternate choice

| KC7315 | D1 mm | D1 in | seat size |
|---|---|---|---|
| KSEM2955HPGM | 29,550 | 1.1634 | 7 |
| KSEM2973HPGM | 29,730 | 1.1705 | 7 |
| KSEM2977HPGM | 29,770 | 1.1720 | 7 |
| KSEM3000HPGM | 30,000 | 1.1811 | 7 |
| KSEM3016HPGM | 30,160 | 1.1875 | 8 |
| KSEM3050HPGM | 30,500 | 1.2008 | 8 |
| KSEM3056HPGM | 30,560 | 1.2030 | 8 |
| KSEM3096HPGM | 30,960 | 1.2190 | 8 |
| KSEM3100HPGM | 31,000 | 1.2205 | 8 |
| KSEM3125HPGM | 31,250 | 1.2303 | 8 |
| KSEM3150HPGM | 31,500 | 1.2402 | 8 |
| KSEM3175HPGM | 31,750 | 1.2500 | 8 |
| KSEM3200HPGM | 32,000 | 1.2598 | 8 |
| KSEM3220HPGM | 32,200 | 1.2677 | 9 |
| KSEM3234HPGM | 32,340 | 1.2732 | 9 |
| KSEM3250HPGM | 32,500 | 1.2795 | 9 |
| KSEM3254HPGM | 32,540 | 1.2810 | 9 |
| KSEM3294HPGM | 32,940 | 1.2970 | 9 |
| KSEM3300HPGM | 33,000 | 1.2992 | 9 |
| KSEM3334HPGM | 33,340 | 1.3130 | 9 |
| KSEM3350HPGM | 33,500 | 1.3189 | 9 |
| KSEM3373HPGM | 33,730 | 1.3280 | 9 |
| KSEM3400HPGM | 34,000 | 1.3386 | 9 |
| KSEM3413HPGM | 34,130 | 1.3440 | 9 |
| KSEM3450HPGM | 34,500 | 1.3583 | 9 |
| KSEM3493HPGM | 34,930 | 1.3750 | 9 |
| KSEM3500HPGM | 35,000 | 1.3780 | 9 |
| KSEM3550HPGM | 35,500 | 1.3976 | 9 |
| KSEM3572HPGM | 35,720 | 1.4060 | 9 |
| KSEM3600HPGM | 36,000 | 1.4173 | 9 |
| KSEM3612HPGM | 36,120 | 1.4220 | 10 |
| KSEM3650HPGM | 36,500 | 1.4375 | 10 |
| KSEM3651HPGM | 36,510 | 1.4375 | 10 |
| KSEM3700HPGM | 37,000 | 1.4567 | 10 |
| KSEM3731HPGM | 37,310 | 1.4690 | 10 |
| KSEM3750HPGM | 37,500 | 1.4764 | 10 |
| KSEM3800HPGM | 38,000 | 1.4961 | 10 |
| KSEM3810HPGM | 38,100 | 1.5000 | 10 |
| KSEM3846HPGM | 38,460 | 1.5142 | 10 |
| KSEM3850HPGM | 38,500 | 1.5157 | 10 |
| KSEM3900HPGM | 39,000 | 1.5354 | 10 |
| KSEM3950HPGM | 39,500 | 1.5551 | 10 |
| KSEM3975HPGM | 39,750 | 1.5650 | 10 |
| KSEM4000HPGM | 40,000 | 1.5748 | 10 |

**Tolerance HPG • Metric**

| D1 metric | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance HPG • Inch**

| D1 inch | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >.709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

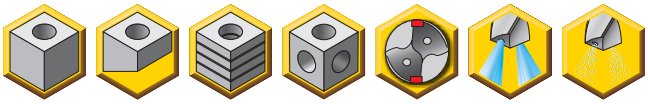
## Modular Drill Carbide Insert Blades • KSEM™ • HPG Geometry • Grade KC7315™ • Through Coolant • Metric

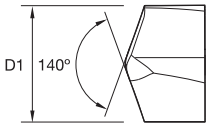
| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
| P | 1 | 75 | **110** | 140 | mm/r | 0,15–0,34 | 0,17–0,40 | 0,19–0,45 | 0,25–0,58 | 0,29–0,66 | 0,33–0,76 |
| | 2 | 90 | **120** | 150 | mm/r | 0,15–0,34 | 0,17–0,40 | 0,19–0,45 | 0,25–0,58 | 0,29–0,66 | 0,33–0,76 |
| | 3 | 50 | **75** | 100 | mm/r | 0,15–0,28 | 0,17–0,34 | 0,19–0,40 | 0,25–0,51 | 0,29–0,58 | 0,33–0,66 |
| | 4 | 55 | **75** | 95 | mm/r | 0,12–0,31 | 0,14–0,34 | 0,16–0,40 | 0,20–0,51 | 0,23–0,58 | 0,26–0,66 |
| | 5 | 50 | **65** | 80 | mm/r | 0,09–0,17 | 0,11–0,20 | 0,12–0,23 | 0,15–0,28 | 0,17–0,32 | 0,20–0,36 |
| | 6 | 50 | **65** | 80 | mm/r | 0,12–0,25 | 0,14–0,29 | 0,16–0,32 | 0,20–0,42 | 0,23–0,47 | 0,26–0,54 |
| K | 1 | 90 | **135** | 175 | mm/r | 0,17–0,35 | 0,21–0,42 | 0,25–0,48 | 0,31–0,59 | 0,37–0,70 | 0,43–0,81 |
| | 2 | 90 | **110** | 125 | mm/r | 0,17–0,33 | 0,21–0,41 | 0,25–0,48 | 0,31–0,59 | 0,37–0,70 | 0,43–0,81 |
| | 3 | 40 | **95** | 125 | mm/r | 0,18–0,36 | 0,20–0,41 | 0,21–0,44 | 0,23–0,48 | 0,25–0,53 | 0,27–0,57 |

## Modular Drill Carbide Insert Blades • KSEM • HPG Geometry • Grade KC7315 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 0.462 | 0.630 | 0.787 | 1.000 | 1.260 | 1.575 |
| P | 1 | 250 | **360** | 460 | IPR | .006–.013 | .007–.016 | .007–.018 | .010–.023 | .011–.026 | .013–.030 |
| | 2 | 300 | **390** | 490 | IPR | .006–.013 | .007–.016 | .007–.018 | .010–.023 | .011–.026 | .013–.030 |
| | 3 | 160 | **250** | 330 | IPR | .006–.011 | .007–.013 | .007–.016 | .010–.020 | .011–.023 | .013–.026 |
| | 4 | 160 | **210** | 260 | IPR | .005–.012 | .006–.011 | .006–.016 | .008–.020 | .009–.023 | .010–.026 |
| | 5 | 160 | **210** | 260 | IPR | .004–.007 | .004–.008 | .005–.009 | .006–.011 | .007–.013 | .008–.014 |
| | 6 | 160 | **210** | 260 | IPR | .005–.010 | .006–.011 | .006–.013 | .008–.017 | .009–.019 | .010–.021 |
| K | 1 | 300 | **440** | 570 | IPR | .007–.014 | .008–.017 | .010–.019 | .012–.023 | .015–.028 | .017–.032 |
| | 2 | 300 | **360** | 410 | IPR | .007–.013 | .008–.016 | .010–.019 | .012–.023 | .015–.028 | .017–.032 |
| | 3 | 130 | **310** | 410 | IPR | .007–.014 | .008–.016 | .008–.017 | .009–.019 | .010–.021 | .011–.022 |

- KSEM KCPM45™ HPG cutting edges provide increased productivity and improved tool life in steel in difficult conditions.
- HPG geometry works with low cutting and feed forces and provides very good centering. Reinforced cutting edges and good chip forming improve tool life due to high wear and edge chipping resistance.
- KCPM45 combines a very tough, fine-grain carbide substrate with an advanced multilayer TiAlN coating. It is capable of machining steel even in the most demanding conditions.
- Material snap back, stacked plates, cross holes, and inclined exits are some examples of where KCPM45 HPG edges will do a great job in your operations.
- Use KCPM45 HPG cutting edges as an effective alternative in stainless steel as well.





HPG



## KSEM Inserts • HPG KCPM45

P ● M ○ K N S H

● first choice
○ alternate choice

| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250HPGM** | 12,500 | .4921 | C |
| **KSEM1270HPGM** | 12,700 | .5000 | C |
| **KSEM1280HPGM** | 12,800 | .5039 | C |
| **KSEM1293HPGM** | 12,930 | .5090 | C |
| **KSEM1300HPGM** | 13,000 | .5118 | C |
| **KSEM1350HPGM** | 13,500 | .5310 | C |
| **KSEM1360HPGM** | 13,600 | .5354 | B |
| **KSEM1380HPGM** | 13,800 | .5433 | B |
| **KSEM1389HPGM** | 13,890 | .5470 | B |
| **KSEM1400HPGM** | 14,000 | .5512 | B |
| **KSEM1410HPGM** | 14,100 | .5551 | B |
| **KSEM1429HPGM** | 14,290 | .5630 | B |
| **KSEM1450HPGM** | 14,500 | .5709 | B |
| **KSEM1468HPGM** | 14,680 | .5780 | A |
| **KSEM1500HPGM** | 15,000 | .5906 | A |
| **KSEM1508HPGM** | 15,080 | .5940 | A |
| **KSEM1550HPGM** | 15,500 | .6102 | A |
| **KSEM1580HPGM** | 15,800 | .6220 | A |
| **KSEM1588HPGM** | 15,880 | .6250 | 1 |
| **KSEM1600HPGM** | 16,000 | .6299 | 1 |
| **KSEM1609HPGM** | 16,090 | .6340 | 1 |
| **KSEM1620HPGM** | 16,200 | .6378 | 1 |
| **KSEM1627HPGM** | 16,270 | .6410 | 1 |
| **KSEM1650HPGM** | 16,500 | .6496 | 1 |
| **KSEM1667HPGM** | 16,670 | .6560 | 1 |
| **KSEM1700HPGM** | 17,000 | .6693 | 1 |
| **KSEM1707HPGM** | 17,070 | .6720 | 1 |
| **KSEM1746HPGM** | 17,460 | .6875 | 1 |
| **KSEM1750HPGM** | 17,500 | .6890 | 1 |
| **KSEM1786HPGM** | 17,860 | .7030 | 1 |
| **KSEM1800HPGM** | 18,000 | .7087 | 1 |
| **KSEM1826HPGM** | 18,260 | .7190 | 2 |

P ● M ○ K N S H

| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1850HPGM** | 18,500 | .7283 | 2 |
| **KSEM1865HPGM** | 18,650 | .7340 | 2 |
| **KSEM1900HPGM** | 19,000 | .7480 | 2 |
| **KSEM1905HPGM** | 19,050 | .7500 | 2 |
| **KSEM1920HPGM** | 19,200 | .7559 | 2 |
| **KSEM1923HPGM** | 19,228 | .7570 | 2 |
| **KSEM1925HPGM** | 19,250 | .7579 | 2 |
| **KSEM1927HPGM** | 19,270 | .7590 | 2 |
| **KSEM1945HPGM** | 19,450 | .7660 | 2 |
| **KSEM1950HPGM** | 19,500 | .7677 | 2 |
| **KSEM1965HPGM** | 19,650 | .7736 | 2 |
| **KSEM1984HPGM** | 19,840 | .7810 | 2 |
| **KSEM2000HPGM** | 20,000 | .7874 | 3 |
| **KSEM2024HPGM** | 20,240 | .7969 | 3 |
| **KSEM2050HPGM** | 20,500 | .8071 | 3 |
| **KSEM2064HPGM** | 20,640 | .8125 | 3 |
| **KSEM2100HPGM** | 21,000 | .8268 | 3 |
| **KSEM2143HPGM** | 21,430 | .8440 | 3 |
| **KSEM2150HPGM** | 21,500 | .8460 | 3 |
| **KSEM2183HPGM** | 21,830 | .8590 | 3 |
| **KSEM2200HPGM** | 22,000 | .8661 | 3 |
| **KSEM2223HPGM** | 22,230 | .8750 | 4 |
| **KSEM2244HPGM** | 22,440 | .8840 | 4 |
| **KSEM2250HPGM** | 22,500 | .8858 | 4 |
| **KSEM2300HPGM** | 23,000 | .9055 | 4 |
| **KSEM2342HPGM** | 23,420 | .9220 | 4 |
| **KSEM2350HPGM** | 23,500 | .9252 | 4 |
| **KSEM2360HPGM** | 23,600 | .9291 | 4 |
| **KSEM2370HPGM** | 23,700 | .9331 | 4 |
| **KSEM2381HPGM** | 23,810 | .9375 | 4 |
| **KSEM2400HPGM** | 24,000 | .9449 | 4 |
| **KSEM2450HPGM** | 24,500 | .9646 | 5 |

*(continued)*

*(KSEM Inserts • HPG KCPM45™ — continued)*



| P ● M ○ K N S H | D1 | | seat size |
|---|---|---|---|
| KCPM45 | mm | in | |
| **KSEM2461HPGM** | 24,610 | .9690 | 5 |
| **KSEM2500HPGM** | 25,000 | .9843 | 5 |
| **KSEM2540HPGM** | 25,400 | 1.0000 | 5 |
| **KSEM2550HPGM** | 25,500 | 1.0039 | 5 |
| **KSEM2560HPGM** | 25,600 | 1.0080 | 5 |
| **KSEM2565HPGM** | 25,654 | 1.0100 | 5 |
| **KSEM2567HPGM** | 25,670 | 1.0106 | 5 |
| **KSEM2581HPGM** | 25,810 | 1.0161 | 5 |
| **KSEM2600HPGM** | 26,000 | 1.0236 | 5 |
| **KSEM2619HPGM** | 26,190 | 1.0310 | 6 |
| **KSEM2650HPGM** | 26,500 | 1.0433 | 6 |
| **KSEM2659HPGM** | 26,590 | 1.0470 | 6 |
| **KSEM2700HPGM** | 27,000 | 1.0630 | 6 |
| **KSEM2750HPGM** | 27,500 | 1.0827 | 6 |
| **KSEM2778HPGM** | 27,780 | 1.0940 | 6 |
| **KSEM2800HPGM** | 28,000 | 1.1024 | 6 |
| **KSEM2818HPGM** | 28,180 | 1.1090 | 7 |
| **KSEM2835HPGM** | 28,350 | 1.1161 | 7 |
| **KSEM2850HPGM** | 28,500 | 1.1220 | 7 |
| **KSEM2858HPGM** | 28,580 | 1.1250 | 7 |
| **KSEM2900HPGM** | 29,000 | 1.1417 | 7 |
| **KSEM2937HPGM** | 29,370 | 1.1563 | 7 |
| **KSEM2950HPGM** | 29,500 | 1.1614 | 7 |
| **KSEM2977HPGM** | 29,770 | 1.1720 | 7 |
| **KSEM3000HPGM** | 30,000 | 1.1811 | 7 |
| **KSEM3016HPGM** | 30,160 | 1.1875 | 8 |
| **KSEM3050HPGM** | 30,500 | 1.2008 | 8 |
| **KSEM3096HPGM** | 30,960 | 1.2190 | 8 |

● first choice
○ alternate choice

| P ● M ○ K N S H | D1 | | seat size |
|---|---|---|---|
| KCPM45 | mm | in | |
| **KSEM3100HPGM** | 31,000 | 1.2205 | 8 |
| **KSEM3115HPGM** | 31,150 | 1.2264 | 8 |
| **KSEM3150HPGM** | 31,500 | 1.2402 | 8 |
| **KSEM3175HPGM** | 31,750 | 1.2500 | 8 |
| **KSEM3200HPGM** | 32,000 | 1.2598 | 8 |
| **KSEM3250HPGM** | 32,500 | 1.2795 | 9 |
| **KSEM3254HPGM** | 32,540 | 1.2810 | 9 |
| **KSEM3300HPGM** | 33,000 | 1.2992 | 9 |
| **KSEM3334HPGM** | 33,340 | 1.3130 | 9 |
| **KSEM3350HPGM** | 33,500 | 1.3189 | 9 |
| **KSEM3400HPGM** | 34,000 | 1.3386 | 9 |
| **KSEM3450HPGM** | 34,500 | 1.3583 | 9 |
| **KSEM3493HPGM** | 34,930 | 1.3750 | 9 |
| **KSEM3500HPGM** | 35,000 | 1.3780 | 9 |
| **KSEM3600HPGM** | 36,000 | 1.4173 | 9 |
| **KSEM3651HPGM** | 36,510 | 1.4375 | 10 |
| **KSEM3700HPGM** | 37,000 | 1.4567 | 10 |
| **KSEM3731HPGM** | 37,310 | 1.4690 | 10 |
| **KSEM3750HPGM** | 37,500 | 1.4764 | 10 |
| **KSEM3800HPGM** | 38,000 | 1.4961 | 10 |
| **KSEM3810HPGM** | 38,100 | 1.5000 | 10 |
| **KSEM3846HPGM** | 38,460 | 1.5142 | 10 |
| **KSEM3900HPGM** | 39,000 | 1.5354 | 10 |
| **KSEM4000HPGM** | 40,000 | 1.5748 | 10 |

**Tolerance HPG • Metric**

| D1 metric | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance HPG • Inch**

| D1 inch | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >.709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

## Modular Drill Carbide Insert Blades • KSEM™ • HPG Geometry • Grade KCPM45™ • Through Coolant • Metric

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
| P | 1 | 100 | **110** | 120 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 2 | 80 | **95** | 110 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 3 | 65 | **70** | 80 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| M | 1 | 30 | **60** | 90 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 2 | 30 | **50** | 90 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 3 | 20 | **40** | 60 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |

## Modular Drill Carbide Insert Blades • KSEM • HPG Geometry • Grade KCPM45 • MQL* • Metric

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
| P | 1 | 60 | **70** | 80 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 2 | 50 | **60** | 70 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 3 | 65 | **45** | 80 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| M | 1 | 30 | **40** | 50 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 2 | 25 | **30** | 35 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 3 | 20 | **25** | 30 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |

*Recommended for drilling depths ≤1.5 x D.

## Modular Drill Carbide Insert Blades • KSEM • HPG Geometry • Grade KCPM45 • Through Coolant • Inch

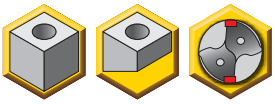
| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | .462 | .630 | .787 | 1.000 | 1.260 | 1.575 |
| P | 1 | 330 | **360** | 390 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 2 | 260 | **310** | 360 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 3 | 210 | **230** | 260 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| M | 1 | 100 | **200** | 300 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 2 | 100 | **160** | 300 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 3 | 70 | **130** | 200 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |

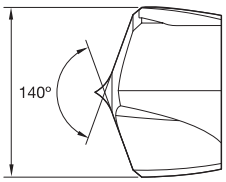
## Modular Drill Carbide Insert Blades • KSEM • HPG Geometry • Grade KCPM45 • MQL* • Inch

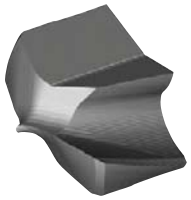
| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | .462 | .630 | .787 | 1.000 | 1.260 | 1.575 |
| P | 1 | 200 | **230** | 260 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 2 | 160 | **200** | 230 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 3 | 210 | **150** | 260 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| M | 1 | 100 | **130** | 160 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 2 | 80 | **100** | 110 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 3 | 70 | **80** | 100 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |

*Recommended for drilling depths ≤1.5 x D.

- KSEM KC7410™ HPCCL focuses on tool life and process reliability in cast iron materials in all cast iron materials. It offers increased feed forces in increases your productivity.
- HPCCL geometry offers a wide and strong HP-style chiseled edge that prevents material quenching in the center, enabling high feed rates. With a corner chamfer and strong edges, it creates high quality holes and increased tool life.
- KC7410 is a multilayer AlCr-based coating over fine-grain carbide. It is extraordinarily wear resistant in cast iron applications due to its high hot hardness.
- Use KC7410 HPCCL in all cast iron applications, especially when working in difficult conditions and CGI or ADI irons.





HPCCL

## KSEM Inserts • HPCCL KC7410

| KC7410 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250HPCCLM** | 12,500 | .4921 | C |
| **KSEM1270HPCCLM** * | 12,700 | .5000 | C |
| **KSEM1293HPCCLM** | 12,930 | .5091 | C |
| **KSEM1300HPCCLM** | 13,000 | .5118 | C |
| **KSEM1310HPCCLM** | 13,100 | .5157 | C |
| **KSEM1350HPCCLM** | 13,500 | .5315 | C |
| **KSEM1389HPCCLM** | 13,890 | .5469 | B |
| **KSEM1400HPCCLM** | 14,000 | .5512 | B |
| **KSEM1429HPCCLM** | 14,290 | .5626 | B |
| **KSEM1450HPCCLM** | 14,500 | .5709 | B |
| **KSEM1468HPCCLM** | 14,680 | .5780 | A |
| **KSEM1500HPCCLM** | 15,000 | .5906 | A |
| **KSEM1548HPCCLM** * | 15,480 | .6094 | A |
| **KSEM1550HPCCLM** | 15,500 | .6102 | A |
| **KSEM1588HPCCLM** * | 15,880 | .6252 | 1 |
| **KSEM1600HPCCLM** | 16,000 | .6299 | 1 |
| **KSEM1609HPCCLM** | 16,090 | .6335 | 1 |
| **KSEM1627HPCCLM** | 16,270 | .6406 | 1 |
| **KSEM1650HPCCLM** | 16,500 | .6496 | 1 |
| **KSEM1667HPCCLM** | 16,670 | .6563 | 1 |
| **KSEM1700HPCCLM** | 17,000 | .6693 | 1 |
| **KSEM1707HPCCLM** | 17,070 | .6720 | 1 |
| **KSEM1746HPCCLM** | 17,460 | .6874 | 1 |
| **KSEM1750HPCCLM** | 17,500 | .6890 | 1 |
| **KSEM1760HPCCLM** | 17,600 | .6929 | 1 |
| **KSEM1800HPCCLM** | 18,000 | .7087 | 1 |
| **KSEM1826HPCCLM** | 18,260 | .7189 | 2 |
| **KSEM1850HPCCLM** | 18,500 | .7283 | 2 |
| **KSEM1900HPCCLM** | 19,000 | .7480 | 2 |
| **KSEM1905HPCCLM** | 19,050 | .7500 | 2 |
| **KSEM1927HPCCLM** * | 19,270 | .7587 | 2 |
| **KSEM1945HPCCLM** * | 19,450 | .7657 | 2 |

● first choice
○ alternate choice

| KC7410 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1950HPCCLM** | 19,500 | .7677 | 2 |
| **KSEM1984HPCCLM** | 19,840 | .7811 | 2 |
| **KSEM2000HPCCLM** | 20,000 | .7874 | 3 |
| **KSEM2024HPCCLM** | 20,240 | .7969 | 3 |
| **KSEM2050HPCCLM** | 20,500 | .8071 | 3 |
| **KSEM2064HPCCLM** | 20,640 | .8126 | 3 |
| **KSEM2100HPCCLM** | 21,000 | .8268 | 3 |
| **KSEM2143HPCCLM** | 21,430 | .8437 | 3 |
| **KSEM2150HPCCLM** | 21,500 | .8465 | 3 |
| **KSEM2200HPCCLM** | 22,000 | .8661 | 3 |
| **KSEM2210HPCCLM** | 22,100 | .8701 | 4 |
| **KSEM2223HPCCLM** | 22,230 | .8752 | 4 |
| **KSEM2244HPCCLM** | 22,440 | .8835 | 4 |
| **KSEM2250HPCCLM** | 22,500 | .8858 | 4 |
| **KSEM2300HPCCLM** | 23,000 | .9055 | 4 |
| **KSEM2342HPCCLM** | 23,420 | .9220 | 4 |
| **KSEM2350HPCCLM** | 23,500 | .9252 | 4 |
| **KSEM2381HPCCLM** | 23,810 | .9374 | 4 |
| **KSEM2400HPCCLM** | 24,000 | .9449 | 4 |
| **KSEM2450HPCCLM** | 24,500 | .9646 | 5 |
| **KSEM2461HPCCLM** | 24,610 | .9689 | 5 |
| **KSEM2500HPCCLM** | 25,000 | .9843 | 5 |
| **KSEM2540HPCCLM** | 25,400 | 1.0000 | 5 |
| **KSEM2550HPCCLM** | 25,500 | 1.0039 | 5 |
| **KSEM2567HPCCLM** | 25,670 | 1.0106 | 5 |
| **KSEM2600HPCCLM** | 26,000 | 1.0236 | 5 |
| **KSEM2619HPCCLM** | 26,190 | 1.0311 | 6 |
| **KSEM2650HPCCLM** | 26,500 | 1.0433 | 6 |
| **KSEM2659HPCCLM** | 26,590 | 1.0469 | 6 |
| **KSEM2700HPCCLM** | 27,000 | 1.0630 | 6 |
| **KSEM2750HPCCLM** | 27,500 | 1.0827 | 6 |
| **KSEM2778HPCCLM** | 27,780 | 1.0937 | 6 |

*(continued)*

*(KSEM Inserts • HPCCL KC7410™ — continued)*

| KC7410 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2800HPCCLM** | 28,000 | 1.1024 | 6 |
| **KSEM2818HPCCLM** * | 28,180 | 1.0940 | 7 |
| **KSEM2850HPCCLM** | 28,500 | 1.1220 | 7 |
| **KSEM2858HPCCLM** | 28,580 | 1.1250 | 7 |
| **KSEM2900HPCCLM** | 29,000 | 1.1417 | 7 |
| **KSEM2937HPCCLM** | 29,370 | 1.1563 | 7 |
| **KSEM2950HPCCLM** * | 29,500 | 1.1614 | 7 |
| **KSEM2977HPCCLM** | 29,770 | 1.1720 | 7 |
| **KSEM3000HPCCLM** | 30,000 | 1.1811 | 7 |
| **KSEM3016HPCCLM** | 30,160 | 1.1875 | 8 |
| **KSEM3050HPCCLM** | 30,500 | 1.2008 | 8 |
| **KSEM3100HPCCLM** | 31,000 | 1.2205 | 8 |

● first choice
○ alternate choice

| KC7410 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM3175HPCCLM** | 31,750 | 1.2500 | 8 |
| **KSEM3200HPCCLM** | 32,000 | 1.2598 | 8 |
| **KSEM3300HPCCLM** | 33,000 | 1.2992 | 9 |
| **KSEM3400HPCCLM** * | 34,000 | 1.3386 | 9 |
| **KSEM3500HPCCLM** | 35,000 | 1.3780 | 9 |
| **KSEM3600HPCCLM** | 36,000 | 1.4173 | 9 |
| **KSEM3700HPCCLM** | 37,000 | 1.4567 | 10 |
| **KSEM3800HPCCLM** | 38,000 | 1.4961 | 10 |
| **KSEM3900HPCCLM** | 39,000 | 1.5354 | 10 |
| **KSEM3920HPCCLM** | 39,200 | 1.5433 | 10 |
| **KSEM4000HPCCLM** * | 40,000 | 1.5748 | 10 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Tolerance HPCCL • Metric**

| D1 | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance HPCCL • Inch**

| D1 | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >.709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

## Application Data

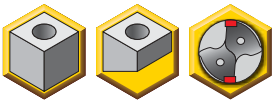
### Modular Drill Carbide Insert Blades • KSEM™ • HPCCL Geometry • Grade KC7410™ • Through Coolant • Metric

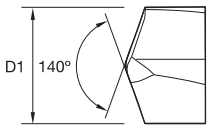
| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 1 | 100 | **175** | 200 | mm/r | 0,17–0,35 | 0,21–0,42 | 0,25–0,48 | 0,31–0,59 | 0,37–0,70 | 0,43–0,81 |
| K | 2 | 100 | **160** | 180 | mm/r | 0,17–0,33 | 0,21–0,41 | 0,25–0,48 | 0,31–0,59 | 0,37–0,70 | 0,43–0,81 |
| K | 3 | 70 | **85** | 100 | mm/r | 0,18–0,36 | 0,20–0,41 | 0,21–0,44 | 0,23–0,48 | 0,25–0,53 | 0,27–0,57 |

### Modular Drill Carbide Insert Blades • KSEM • HPCCL Geometry • Grade KC7410 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | | 0.462 | 0.630 | 0.787 | 1.000 | 1.260 | 1.575 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 1 | 330 | **570** | 660 | IPR | .007–.014 | .008–.017 | .010–.019 | .012–.023 | .015–.028 | .017–.032 |
| K | 2 | 330 | **520** | 590 | IPR | .007–.013 | .008–.016 | .010–.019 | .012–.023 | .015–.028 | .017–.032 |
| K | 3 | 230 | **280** | 330 | IPR | .007–.014 | .008–.016 | .008–.017 | .009–.019 | .010–.021 | .011–.022 |

- KSEM KC7320™ HPL cutting edges provide perfect results and very high productivity in stainless steel.
- HPL geometry forms two chips per cutting edge for an uninterrupted, smooth chip flow. Very high metal removal rates and a reliable drilling process up to 10 x D makes HPL the superior solution for drilling in stainless steels.
- Grade KC7320 features a high Al content TiAlN coating on a universal fine-grain carbide. Its excellent oxidation stability and carbide toughness enables a high level of wear resistance in austenitic and other stainless steels.





HPL

## KSEM Inserts • HPL KC7320

P M ● K N S H

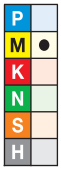
● first choice
○ alternate choice

| KC7320 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250HPLM** | 12,500 | .4921 | C |
| **KSEM1270HPLM** | 12,700 | .5000 | C |
| **KSEM1280HPLM** | 12,800 | .5039 | C |
| **KSEM1293HPLM** | 12,930 | .5090 | C |
| **KSEM1300HPLM** | 13,000 | .5118 | C |
| **KSEM1311HPLM** | 13,100 | .5157 | C |
| **KSEM1350HPLM** | 13,500 | .5310 | C |
| **KSEM1360HPLM** | 13,600 | .5354 | B |
| **KSEM1380HPLM** | 13,800 | .5433 | B |
| **KSEM1389HPLM** | 13,890 | .5470 | B |
| **KSEM1400HPLM** | 14,000 | .5512 | B |
| **KSEM1410HPLM** | 14,100 | .5551 | B |
| **KSEM1415HPLM** | 14,150 | .5571 | B |
| **KSEM1420HPLM** | 14,200 | .5591 | B |
| **KSEM1429HPLM** | 14,290 | .5630 | B |
| **KSEM1450HPLM** | 14,500 | .5709 | B |
| **KSEM1460HPLM** | 14,600 | .5748 | A |
| **KSEM1468HPLM** | 14,680 | .5780 | A |
| **KSEM1480HPLM** | 14,800 | .5827 | A |
| **KSEM1500HPLM** | 15,000 | .5906 | A |
| **KSEM1508HPLM** | 15,080 | .5940 | A |
| **KSEM1548HPLM** | 15,480 | .6090 | A |
| **KSEM1550HPLM** | 15,500 | .6102 | A |
| **KSEM1560HPLM** | 15,600 | .6142 | A |
| **KSEM1588HPLM** | 15,880 | .6250 | 1 |
| **KSEM1600HPLM** | 16,000 | .6299 | 1 |
| **KSEM1609HPLM** | 16,090 | .6340 | 1 |
| **KSEM1610HPLM** | 16,100 | .6339 | 1 |
| **KSEM1615HPLM** | 16,150 | .6358 | 1 |
| **KSEM1620HPLM** | 16,200 | .6378 | 1 |
| **KSEM1627HPLM** | 16,270 | .6410 | 1 |
| **KSEM1650HPLM** | 16,500 | .6496 | 1 |
| **KSEM1667HPLM** | 16,670 | .6560 | 1 |
| **KSEM1700HPLM** | 17,000 | .6693 | 1 |
| **KSEM1707HPLM** | 17,070 | .6720 | 1 |
| **KSEM1746HPLM** | 17,460 | .6875 | 1 |
| **KSEM1750HPLM** | 17,500 | .6890 | 1 |
| **KSEM1775HPLM** | 17,750 | .6988 | 1 |
| **KSEM1780HPLM** | 17,800 | .7008 | 1 |
| **KSEM1786HPLM** | 17,860 | .7030 | 1 |
| **KSEM1790HPLM** | 17,900 | .7047 | 1 |
| **KSEM1800HPLM** | 18,000 | .7087 | 1 |
| **KSEM1826HPLM** | 18,260 | .7190 | 2 |
| **KSEM1850HPLM** | 18,500 | .7283 | 2 |

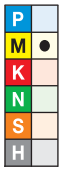
| KC7320 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1860HPLM** | 18,600 | .7323 | 2 |
| **KSEM1865HPLM** | 18,650 | .7340 | 2 |
| **KSEM1890HPLM** | 18,900 | .7441 | 2 |
| **KSEM1900HPLM** | 19,000 | .7480 | 2 |
| **KSEM1905HPLM** | 19,050 | .7500 | 2 |
| **KSEM1920HPLM** | 19,200 | .7559 | 2 |
| **KSEM1923HPLM** | 19,228 | .7570 | 2 |
| **KSEM1925HPLM** | 19,250 | .7579 | 2 |
| **KSEM1927HPLM** | 19,270 | .7590 | 2 |
| **KSEM1935HPLM** | 19,350 | .7618 | 2 |
| **KSEM1936HPLM** | 19,360 | .7622 | 2 |
| **KSEM1938HPLM** | 19,380 | .7630 | 2 |
| **KSEM1945HPLM** | 19,450 | .7660 | 2 |
| **KSEM1950HPLM** | 19,500 | .7677 | 2 |
| **KSEM1984HPLM** | 19,840 | .7810 | 2 |
| **KSEM2000HPLM** | 20,000 | .7874 | 3 |
| **KSEM2010HPLM** | 20,100 | .7913 | 3 |
| **KSEM2024HPLM** | 20,240 | .7970 | 3 |
| **KSEM2035HPLM** | 20,350 | .8012 | 3 |
| **KSEM2050HPLM** | 20,500 | .8071 | 3 |
| **KSEM2064HPLM** | 20,640 | .8125 | 3 |
| **KSEM2100HPLM** | 21,000 | .8268 | 3 |
| **KSEM2115HPLM** | 21,150 | .8327 | 3 |
| **KSEM2133HPLM** | 21,330 | .8398 | 3 |
| **KSEM2143HPLM** | 21,430 | .8440 | 3 |
| **KSEM2150HPLM** | 21,500 | .8460 | 3 |
| **KSEM2183HPLM** | 21,830 | .8590 | 3 |
| **KSEM2200HPLM** | 22,000 | .8661 | 3 |
| **KSEM2223HPLM** | 22,230 | .8750 | 4 |
| **KSEM2244HPLM** | 22,440 | .8840 | 4 |
| **KSEM2250HPLM** | 22,500 | .8858 | 4 |
| **KSEM2277HPLM** | 22,770 | .8965 | 4 |
| **KSEM2300HPLM** | 23,000 | .9055 | 4 |
| **KSEM2342HPLM** | 23,420 | .9220 | 4 |
| **KSEM2350HPLM** | 23,500 | .9252 | 4 |
| **KSEM2381HPLM** | 23,810 | .9375 | 4 |
| **KSEM2400HPLM** | 24,000 | .9449 | 4 |
| **KSEM2450HPLM** | 24,500 | .9646 | 5 |
| **KSEM2461HPLM** | 24,610 | .9690 | 5 |
| **KSEM2500HPLM** | 25,000 | .9843 | 5 |
| **KSEM2507HPLM** | 25,070 | .9870 | 5 |
| **KSEM2540HPLM** | 25,400 | 1.0000 | 5 |
| **KSEM2550HPLM** | 25,500 | 1.0039 | 5 |
| **KSEM2560HPLM** | 25,600 | 1.0080 | 5 |

*(continued)*

*(KSEM Inserts • HPL KC7320™ — continued)*




| KC7320 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2565HPLM** | 25,650 | 1.0098 | 5 |
| **KSEM2567HPLM** | 25,670 | 1.0110 | 5 |
| **KSEM2581HPLM** | 25,810 | 1.0161 | 5 |
| **KSEM2600HPLM** | 26,000 | 1.0236 | 5 |
| **KSEM2619HPLM** | 26,190 | 1.0310 | 6 |
| **KSEM2650HPLM** | 26,500 | 1.0433 | 6 |
| **KSEM2659HPLM** | 26,590 | 1.0470 | 6 |
| **KSEM2670HPLM** | 26,700 | 1.0512 | 6 |
| **KSEM2700HPLM** | 27,000 | 1.0630 | 6 |
| **KSEM2750HPLM** | 27,500 | 1.0827 | 6 |
| **KSEM2779HPLM** | 27,780 | 1.0940 | 6 |
| **KSEM2800HPLM** | 28,000 | 1.1024 | 6 |
| **KSEM2810HPLM** | 28,100 | 1.1063 | 7 |
| **KSEM2817HPLM** | 28,180 | 1.1090 | 7 |
| **KSEM2850HPLM** | 28,500 | 1.1220 | 7 |
| **KSEM2858HPLM** | 28,580 | 1.1250 | 7 |
| **KSEM2900HPLM** | 29,000 | 1.1417 | 7 |
| **KSEM2937HPLM** | 29,370 | 1.1563 | 7 |
| **KSEM2950HPLM** | 29,500 | 1.1614 | 7 |
| **KSEM2977HPLM** | 29,770 | 1.1720 | 7 |




● first choice
○ alternate choice

| KC7320 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM3000HPLM** | 30,000 | 1.1811 | 7 |
| **KSEM3016HPLM** | 30,160 | 1.1875 | 8 |
| **KSEM3050HPLM** | 30,500 | 1.2008 | 8 |
| **KSEM3100HPLM** | 31,000 | 1.2205 | 8 |
| **KSEM3150HPLM** | 31,500 | 1.2402 | 8 |
| **KSEM3175HPLM** | 31,750 | 1.2500 | 8 |
| **KSEM3200HPLM** | 32,000 | 1.2598 | 8 |
| **KSEM3254HPLM** | 32,540 | 1.2810 | 9 |
| **KSEM3300HPLM** | 33,000 | 1.2992 | 9 |
| **KSEM3335HPLM** | 33,400 | 1.3130 | 9 |
| **KSEM3400HPLM** | 34,000 | 1.3386 | 9 |
| **KSEM3493HPLM** | 34,930 | 1.3750 | 9 |
| **KSEM3500HPLM** | 35,000 | 1.3780 | 9 |
| **KSEM3571HPLM** | 35,720 | 1.4060 | 9 |
| **KSEM3600HPLM** | 36,000 | 1.4173 | 9 |
| **KSEM3700HPLM** | 37,000 | 1.4567 | 10 |
| **KSEM3750HPLM** | 37,500 | 1.4764 | 10 |
| **KSEM3800HPLM** | 38,000 | 1.4961 | 10 |
| **KSEM3810HPLM** | 38,100 | 1.5000 | 10 |
| **KSEM3846HPLM** | 38,460 | 1.5140 | 10 |
| **KSEM3900HPLM** | 39,000 | 1.5354 | 10 |
| **KSEM4000HPLM** | 40,000 | 1.5748 | 10 |

**Tolerance HPL • Metric**

| D1 metric | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance HPL • Inch**

| D1 inch | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >.709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

## Application Data

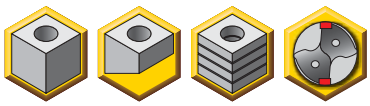
### Modular Drill Carbide Insert Blades • KSEM • HPL Geometry • Grade KC7320 • Through Coolant • Metric

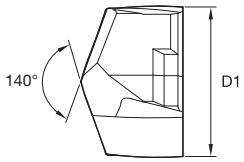
| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | Metric Recommended Feed Rate (f) by Diameter | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 1 | 30 | **60** | 90 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| M | 2 | 30 | **50** | 90 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| M | 3 | 20 | **40** | 60 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |

### Modular Drill Carbide Insert Blades • KSEM • HPL Geometry • Grade KC7320 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | Inch Recommended Feed Rate (f) by Diameter | 0.462 | 0.630 | 0.787 | 1.000 | 1.260 | 1.575 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 1 | 100 | **200** | 300 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| M | 2 | 100 | **160** | 300 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| M | 3 | 70 | **130** | 200 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |

- KSEM SPL geometry was made to offer extraordinary drilling performance in stainless steels, super alloys, and other demanding environments.
- KSEM SPL provides process reliability, ensuring longer tool life and productivity in difficult-to-machine materials. Its advanced-point geometry and web design greatly reduces cutting forces.
- KCMS35™ is based on a very tough, fine-grain carbide substrate with a high Al content TiAlN PVD coating. It offers a high level of wear resistance and oxidation stability in parallel with chipping resistance for center point and cutting edges.
- This insert style is ideally suited to drill heavy-duty and corrosion-resistant tube end sheets and other heat exchanger components (especially from M3 and type S materials).
- Use KSEM KCMS35 SPL inserts as an effective alternative for plain and alloyed steels, as well as in the most important Al and Cu applications.





SPL

## KSEM Inserts • SPL KCMS35

P ○
M ●
K
N ○
S ●
H

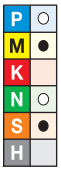
● first choice
○ alternate choice

| KCMS35 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250SPLM** | 12,500 | .4921 | C |
| **KSEM1270SPLM** | 12,700 | .5000 | C |
| **KSEM1300SPLM** | 13,000 | .5118 | C |
| **KSEM1350SPLM** | 13,500 | .5315 | C |
| **KSEM1400SPLM** | 14,000 | .5512 | B |
| **KSEM1429SPLM** | 14,290 | .5626 | B |
| **KSEM1450SPLM** | 14,500 | .5709 | B |
| **KSEM1500SPLM** | 15,000 | .5906 | A |
| **KSEM1550SPLM** | 15,500 | .6102 | A |
| **KSEM1588SPLM** | 15,880 | .6252 | 1 |
| **KSEM1600SPLM** | 16,000 | .6299 | 1 |
| **KSEM1609SPLM** | 16,090 | .6335 | 1 |
| **KSEM1615SPLM** | 16,150 | .6358 | 1 |
| **KSEM1627SPLM** | 16,270 | .6406 | 1 |
| **KSEM1650SPLM** | 16,500 | .6496 | 1 |
| **KSEM1667SPLM** | 16,670 | .6563 | 1 |
| **KSEM1700SPLM** | 17,000 | .6693 | 1 |
| **KSEM1746SPLM** | 17,460 | .6874 | 1 |
| **KSEM1750SPLM** | 17,500 | .6890 | 1 |
| **KSEM1800SPLM** | 18,000 | .7087 | 1 |
| **KSEM1830SPLM** | 18,300 | .7205 | 2 |
| **KSEM1850SPLM** | 18,500 | .7283 | 2 |
| **KSEM1900SPLM** | 19,000 | .7480 | 2 |
| **KSEM1905SPLM** | 19,050 | .7500 | 2 |
| **KSEM1920SPLM** | 19,200 | .7559 | 2 |
| **KSEM1923SPLM** | 19,230 | .7571 | 2 |
| **KSEM1925SPLM** | 19,250 | .7579 | 2 |
| **KSEM1927SPLM** | 19,270 | .7587 | 2 |
| **KSEM1935SPLM** | 19,350 | .7618 | 2 |
| **KSEM1945SPLM** | 19,450 | .7657 | 2 |
| **KSEM1950SPLM** | 19,500 | .7677 | 2 |
| **KSEM1984SPLM** | 19,840 | .7811 | 2 |

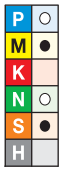
| KCMS35 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2000SPLM** | 20,000 | .7874 | 3 |
| **KSEM2024SPLM** | 20,240 | .7969 | 3 |
| **KSEM2050SPLM** | 20,500 | .8071 | 3 |
| **KSEM2064SPLM** | 20,640 | .8126 | 3 |
| **KSEM2100SPLM** | 21,000 | .8268 | 3 |
| **KSEM2150SPLM** | 21,500 | .8465 | 3 |
| **KSEM2200SPLM** | 22,000 | .8661 | 3 |
| **KSEM2223SPLM** | 22,230 | .8752 | 4 |
| **KSEM2250SPLM** | 22,500 | .8858 | 4 |
| **KSEM2300SPLM** | 23,000 | .9055 | 4 |
| **KSEM2350SPLM** | 23,500 | .9252 | 4 |
| **KSEM2381SPLM** | 23,810 | .9374 | 4 |
| **KSEM2400SPLM** | 24,000 | .9449 | 4 |
| **KSEM2450SPLM** | 24,500 | .9646 | 5 |
| **KSEM2500SPLM** | 25,000 | .9843 | 5 |
| **KSEM2525SPLM** | 25,250 | .9941 | 5 |
| **KSEM2530SPLM** | 25,300 | .9961 | 5 |
| **KSEM2540SPLM** | 25,400 | 1.0000 | 5 |
| **KSEM2550SPLM** | 25,500 | 1.0039 | 5 |
| **KSEM2560SPLM** | 25,600 | 1.0079 | 5 |
| **KSEM2565SPLM** | 25,650 | 1.0098 | 5 |
| **KSEM2567SPLM** | 25,670 | 1.0106 | 5 |
| **KSEM2581SPLM** | 25,810 | 1.0161 | 5 |
| **KSEM2600SPLM** | 26,000 | 1.0236 | 5 |
| **KSEM2619SPLM** | 26,190 | 1.0311 | 6 |
| **KSEM2630SPLM** | 26,300 | 1.0354 | 6 |
| **KSEM2650SPLM** | 26,500 | 1.0433 | 6 |
| **KSEM2659SPLM** | 26,590 | 1.0469 | 6 |
| **KSEM2700SPLM** | 27,000 | 1.0630 | 6 |
| **KSEM2750SPLM** | 27,500 | 1.0827 | 6 |
| **KSEM2800SPLM** | 28,000 | 1.1024 | 6 |
| **KSEM2850SPLM** | 28,500 | 1.1220 | 7 |

*(continued)*

*(KSEM Inserts • SPL KCMS35™ — continued)*




| KCMS35 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2858SPLM** | 28,580 | 1.1252 | 7 |
| **KSEM2900SPLM** | 29,000 | 1.1417 | 7 |
| **KSEM2950SPLM** | 29,500 | 1.1614 | 7 |
| **KSEM3000SPLM** | 30,000 | 1.1811 | 7 |
| **KSEM3050SPLM** | 30,500 | 1.2008 | 8 |
| **KSEM3100SPLM** | 31,000 | 1.2205 | 8 |
| **KSEM3150SPLM** | 31,500 | 1.2402 | 8 |
| **KSEM3175SPLM** | 31,750 | 1.2500 | 8 |
| **KSEM3200SPLM** | 32,000 | 1.2598 | 8 |
| **KSEM3250SPLM** | 32,500 | 1.2795 | 9 |
| **KSEM3350SPLM** | 33,500 | 1.3189 | 9 |
| **KSEM3400SPLM** | 34,000 | 1.3386 | 9 |




● first choice
○ alternate choice

| KCMS35 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM3450SPLM** | 34,500 | 1.3583 | 9 |
| **KSEM3500SPLM** | 35,000 | 1.3780 | 9 |
| **KSEM3550SPLM** | 35,500 | 1.3976 | 9 |
| **KSEM3600SPLM** | 36,000 | 1.4173 | 9 |
| **KSEM3650SPLM** | 36,500 | 1.4370 | 10 |
| **KSEM3700SPLM** | 37,000 | 1.4567 | 10 |
| **KSEM3750SPLM** | 37,500 | 1.4764 | 10 |
| **KSEM3800SPLM** | 38,000 | 1.4961 | 10 |
| **KSEM3846SPLM** | 38,460 | 1.5142 | 10 |
| **KSEM3850SPLM** | 38,500 | 1.5157 | 10 |
| **KSEM3900SPLM** | 39,000 | 1.5354 | 10 |
| **KSEM3950SPLM** | 39,500 | 1.5551 | 10 |
| **KSEM4000SPLM** | 40,000 | 1.5748 | 10 |

**Tolerance SPL • Metric**

| D1 metric | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance SPL • Inch**

| D1 inch | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

## Modular Drill Carbide Insert Blades • KSEM™ • SPL Geometry • Grade KCMS35™ • Through Coolant • Metric

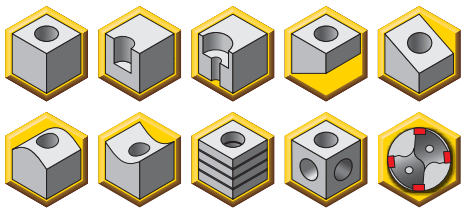
| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
| P | 1 | 110 | **140** | 170 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 2 | 100 | **120** | 140 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| | 3 | 80 | **100** | 120 | mm/r | 0,15–0,31 | 0,17–0,36 | 0,19–0,41 | 0,25–0,53 | 0,29–0,60 | 0,33–0,69 |
| M | 1 | 40 | **60** | 80 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 2 | 35 | **55** | 70 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 3 | 20 | **40** | 60 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| N | 1 | 90 | **155** | 220 | mm/r | 0,19–0,40 | 0,25–0,50 | 0,28–0,56 | 0,32–0,63 | 0,32–0,70 | 0,32–0,70 |
| | 2 | 90 | **155** | 220 | mm/r | 0,19–0,40 | 0,25–0,50 | 0,28–0,56 | 0,32–0,63 | 0,32–0,70 | 0,32–0,70 |
| | 3 | 80 | **120** | 160 | mm/r | 0,19–0,40 | 0,25–0,50 | 0,28–0,56 | 0,32–0,63 | 0,32–0,70 | 0,32–0,70 |
| | 4 | 90 | **155** | 220 | mm/r | 0,19–0,40 | 0,25–0,50 | 0,28–0,56 | 0,32–0,63 | 0,32–0,70 | 0,32–0,70 |
| S | 1 | 20 | **40** | 60 | mm/r | 0,05–0,10 | 0,07–0,12 | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 |
| | 2 | 15 | **30** | 45 | mm/r | 0,05–0,10 | 0,07–0,12 | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 |
| | 3 | 15 | **30** | 45 | mm/r | 0,05–0,10 | 0,07–0,12 | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 |
| | 4 | 10 | **25** | 40 | mm/r | 0,05–0,10 | 0,07–0,12 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |

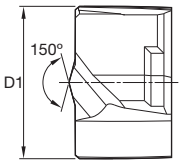
## Modular Drill Carbide Insert Blades • KSEM • SPL Geometry • Grade KCMS35 • Through Coolant • Inch

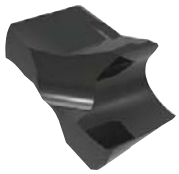
| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 0.462 | 0.630 | 0.787 | 1.000 | 1.260 | 1.575 |
| P | 1 | 360 | **460** | 560 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 2 | 330 | **390** | 460 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| | 3 | 260 | **330** | 390 | IPR | .006–.012 | .007–.014 | .007–.016 | .010–.021 | .011–.024 | .013–.027 |
| M | 1 | 130 | **200** | 260 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 2 | 110 | **180** | 230 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 3 | 70 | **130** | 200 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| N | 1 | 300 | **510** | 720 | IPR | .007–.016 | .010–.020 | .011–.022 | .013–.025 | .013–.028 | .013–.028 |
| | 2 | 300 | **510** | 720 | IPR | .007–.016 | .010–.020 | .011–.022 | .013–.025 | .013–.028 | .013–.028 |
| | 3 | 260 | **390** | 520 | IPR | .007–.016 | .010–.020 | .011–.022 | .013–.025 | .013–.028 | .013–.028 |
| | 4 | 300 | **510** | 720 | IPR | .007–.016 | .010–.020 | .011–.022 | .013–.025 | .013–.028 | .013–.028 |
| S | 1 | 70 | **130** | 200 | IPR | .002–.004 | .003–.005 | .004–.006 | .004–.007 | .005–.008 | .006–.010 |
| | 2 | 50 | **100** | 150 | IPR | .002–.004 | .003–.005 | .004–.006 | .004–.007 | .005–.008 | .006–.010 |
| | 3 | 50 | **100** | 150 | IPR | .002–.004 | .003–.005 | .004–.006 | .004–.007 | .005–.008 | .006–.010 |
| | 4 | 30 | **80** | 130 | IPR | .002–.004 | .003–.005 | .004–.006 | .004–.007 | .005–.008 | .006–.010 |

Application recommendation: We recommend pre-centering when drilling with SPL inserts >5 x D.
For deeper holes (> = 10 x D), and for drilling M1 and M2 materials in general, we recommend using KSEM HPL inserts as a first choice.

- KSEM FEG flat-bottom inserts create 180° flat holes — only a small cavity remains in the center of the hole ground. KSEM offers an extraordinarily strong pocket seat for your demanding flat-bottom applications.
- Whether it is a blind hole, a through hole, or if you need to countersink, these inserts are focused on versatility and will support you in many essential drilling applications.
- KSEM FEG inserts feature a small centering point as well as double margin lands for improved guidance and hole straightness. A corner chamfer serves to reduce bur formation and to improve tool life.
- KCPM45™ combines a very tough, fine-grain carbide substrate with an advanced multilayer TiAlN coating. It is capable of machining steel even in the most demanding conditions.
- Use KSEM FEG KCPM45 cutting edges as an effective alternative in cast iron, stainless steel, and high-temp alloys.





FEG



## KSEM Inserts • FEG KCPM45

P ● M ○ K ○ N S ○ H

● first choice
○ alternate choice

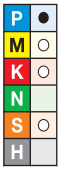
| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1600FEGM** | 16,000 | .6299 | 1 |
| **KSEM1650FEGM** | 16,500 | .6496 | 1 |
| **KSEM1700FEGM** | 17,000 | .6693 | 1 |
| **KSEM1750FEGM** | 17,500 | .6890 | 1 |
| **KSEM1800FEGM** | 18,000 | .7087 | 1 |
| **KSEM1850FEGM** | 18,500 | .7283 | 2 |
| **KSEM1900FEGM** | 19,000 | .7480 | 2 |
| **KSEM1905FEGM** | 19,050 | .7500 | 2 |
| **KSEM1950FEGM** | 19,500 | .7677 | 2 |
| **KSEM1984FEGM** | 19,840 | .7811 | 2 |
| **KSEM2000FEGM** | 20,000 | .7874 | 3 |
| **KSEM2050FEGM** | 20,500 | .8071 | 3 |
| **KSEM2100FEGM** | 21,000 | .8268 | 3 |
| **KSEM2150FEGM** | 21,500 | .8465 | 3 |
| **KSEM2200FEGM** | 22,000 | .8661 | 3 |
| **KSEM2250FEGM** | 22,500 | .8858 | 4 |
| **KSEM2300FEGM** | 23,000 | .9055 | 4 |
| **KSEM2350FEGM** | 23,500 | .9252 | 4 |
| **KSEM2400FEGM** | 24,000 | .9449 | 4 |
| **KSEM2450FEGM** | 24,500 | .9646 | 5 |
| **KSEM2500FEGM** | 25,000 | .9843 | 5 |
| **KSEM2540FEGM** | 25,400 | 1.0000 | 5 |
| **KSEM2550FEGM** | 25,500 | 1.0039 | 5 |
| **KSEM2580FEGM** | 25,800 | 1.0157 | 5 |

P ● M ○ K ○ N S ○ H

| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2581FEGM** | 25,810 | 1.0161 | 5 |
| **KSEM2600FEGM** | 26,000 | 1.0236 | 5 |
| **KSEM2619FEGM** | 26,190 | 1.0311 | 6 |
| **KSEM2650FEGM** | 26,500 | 1.0433 | 6 |
| **KSEM2670FEGM** | 26,700 | 1.0512 | 6 |
| **KSEM2700FEGM** | 27,000 | 1.0630 | 6 |
| **KSEM2750FEGM** | 27,500 | 1.0827 | 6 |
| **KSEM2800FEGM** | 28,000 | 1.1024 | 6 |
| **KSEM2850FEGM** | 28,500 | 1.1220 | 7 |
| **KSEM2900FEGM** | 29,000 | 1.1417 | 7 |
| **KSEM2950FEGM** | 29,500 | 1.1614 | 7 |
| **KSEM3000FEGM** | 30,000 | 1.1811 | 7 |
| **KSEM3050FEGM** | 30,500 | 1.2008 | 8 |
| **KSEM3100FEGM** | 31,000 | 1.2205 | 8 |
| **KSEM3150FEGM** | 31,500 | 1.2402 | 8 |
| **KSEM3175FEGM** | 31,750 | 1.2500 | 8 |
| **KSEM3200FEGM** | 32,000 | 1.2598 | 8 |
| **KSEM3250FEGM** | 32,500 | 1.2795 | 9 |
| **KSEM3300FEGM** | 33,000 | 1.2992 | 9 |
| **KSEM3350FEGM** | 33,500 | 1.3189 | 9 |
| **KSEM3400FEGM** | 34,000 | 1.3386 | 9 |
| **KSEM3450FEGM** | 34,500 | 1.3583 | 9 |
| **KSEM3500FEGM** | 35,000 | 1.3780 | 9 |
| **KSEM3550FEGM** | 35,500 | 1.3976 | 9 |

*(continued)*

*(KSEM Inserts • FEG KCPM45™ — continued)*




● first choice
○ alternate choice

| KCPM45 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM3600FEGM** | 36,000 | 1.4173 | 9 |
| **KSEM3650FEGM** | 36,500 | 1.4370 | 10 |
| **KSEM3700FEGM** | 37,000 | 1.4567 | 10 |
| **KSEM3750FEGM** | 37,500 | 1.4764 | 10 |
| **KSEM3800FEGM** | 38,000 | 1.4961 | 10 |
| **KSEM3810FEGM** | 38,100 | 1.5000 | 10 |
| **KSEM3850FEGM** | 38,500 | 1.5157 | 10 |
| **KSEM3900FEGM** | 39,000 | 1.5354 | 10 |
| **KSEM3950FEGM** | 39,500 | 1.5551 | 10 |
| **KSEM4000FEGM** | 40,000 | 1.5748 | 10 |

**Tolerance FEG • Metric**

| D1 metric | tolerance k7 |
|---|---|
| 12,5–18 | +0,001/+ 0,019 |
| >18–30 | +0,002/+ 0,023 |
| >30–40 | +0,002/+ 0,027 |

**Tolerance FEG • Inch**

| D1 inch | tolerance k7 |
|---|---|
| .500–.709 | +.0000/+.0008 |
| >.709–1.181 | +.0000/+.0009 |
| >1.181–1.575 | +.0000/+.0010 |

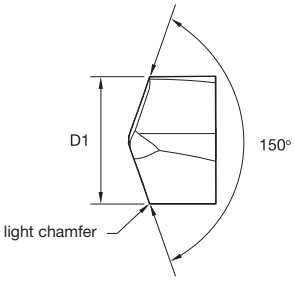
## Modular Drill Carbide Insert Blades • KSEM™ • FEG Geometry • Grade KCPM45™ • Through Coolant • Metric

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 | 40,0 |
| P | 1 | 110 | **140** | 170 | mm/r | 0,14–0,23 | 0,17–0,25 | 0,19–0,29 | 0,23–0,38 | 0,26–0,43 | 0,33–0,76 |
| | 2 | 100 | **120** | 140 | mm/r | 0,17–0,23 | 0,19–0,25 | 0,22–0,29 | 0,29–0,38 | 0,32–0,43 | 0,33–0,76 |
| | 3 | 80 | **100** | 120 | mm/r | 0,14–0,20 | 0,15–0,23 | 0,17–0,25 | 0,23–0,34 | 0,26–0,38 | 0,33–0,66 |
| | 4 | 70 | **90** | 110 | mm/r | 0,11–0,20 | 0,13–0,23 | 0,14–0,25 | 0,18–0,34 | 0,21–0,38 | 0,26–0,66 |
| M | 1 | 40 | **60** | 80 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 2 | 35 | **55** | 70 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 3 | 20 | **40** | 60 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| K | 1 | 90 | **135** | 175 | mm/r | 0,17–0,23 | 0,19–0,25 | 0,22–0,29 | 0,29– 0,38 | 0,32–0,43 | 0,33–0,76 |
| | 2 | 80 | **120** | 140 | mm/r | 0,17–0,23 | 0,19–0,25 | 0,22–0,29 | 0,29–0,38 | 0,32–0,43 | 0,33–0,76 |
| | 3 | 70 | **110** | 125 | mm/r | 0,15–0,24 | 0,18–0,26 | 0,21–0,29 | 0,23–0,37 | 0,25–0,42 | 0,27–0,57 |
| S | 1 | 20 | **40** | 60 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |
| | 3 | 15 | **30** | 45 | mm/r | 0,09–0,14 | 0,11–0,17 | 0,13–0,20 | 0,16–0,25 | 0,18–0,28 | 0,21–0,31 |

## Modular Drill Carbide Insert Blades • KSEM • FEG Geometry • Grade KCPM45 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | min | Starting Value | max | | 0.462 | 0.630 | 0.787 | 1.000 | 1.260 | 1.575 |
| P | 1 | 360 | **460** | 560 | IPR | .006–.009 | .007–.010 | .007–.011 | .009–.015 | .010–.017 | .013–.030 |
| | 2 | 330 | **390** | 460 | IPR | .007–.009 | .007–.010 | .009–.011 | .011–.015 | .013–.017 | .013–.030 |
| | 3 | 260 | **330** | 390 | IPR | .006–.008 | .006–.009 | .007–.010 | .009–.013 | .010–.015 | .013–.026 |
| | 4 | 230 | **300** | 360 | IPR | .004–.008 | .005–.009 | .006–.010 | .007–.013 | .008–.015 | .010–.026 |
| M | 1 | 130 | **200** | 260 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 2 | 110 | **180** | 230 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 3 | 70 | **130** | 200 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| K | 1 | 300 | **440** | 570 | IPR | .007–.009 | .007–.010 | .009–.011 | .011–.015 | .013–.017 | .013–.030 |
| | 2 | 260 | **390** | 460 | IPR | .007–.009 | .007–.010 | .009–.011 | .011–.015 | .013–.017 | .013–.030 |
| | 3 | 230 | **360** | 410 | IPR | .006–.009 | .007–.010 | .008–.011 | .009–.015 | .010–.017 | .011–.022 |
| S | 1 | 70 | **130** | 200 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |
| | 3 | 50 | **100** | 150 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.011 | .008–.012 |

- KSEM PC cutting edges serve mainly as precentering inserts, but can also be used in demanding conditions.
- Steep 150° degree angle with a light corner chamfer. Very good centering capability and edge chipping resistance.
- KC7135™ is a very resistant grade featuring a TiCN-TiN PVD coating.



## KSEM Inserts • PC KC7135

P ● M K ● N S H

● first choice
○ alternate choice

| KC7135 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM1250PCM** | 12,500 | .4921 | C |
| **KSEM1280PCM** | 12,800 | .5039 | C |
| **KSEM1300PCM** | 13,000 | .5118 | C |
| **KSEM1350PCM** | 13,500 | .5310 | C |
| **KSEM1380PCM** | 13,800 | .5433 | B |
| **KSEM1400PCM** | 14,000 | .5512 | B |
| **KSEM1410PCM** | 14,100 | .5551 | B |
| **KSEM1450PCM** | 14,500 | .5709 | B |
| **KSEM1460PCM** | 14,600 | .5748 | A |
| **KSEM1480PCM** | 14,800 | .5827 | A |
| **KSEM1500PCM** | 15,000 | .5906 | A |
| **KSEM1550PCM** | 15,500 | .6102 | A |
| **KSEM1560PCM** | 15,600 | .6142 | A |
| **KSEM1580PCM** | 15,800 | .6220 | A |
| **KSEM1600PCM** | 16,000 | .6299 | 1 |
| **KSEM1620PCM** | 16,200 | .6378 | 1 |
| **KSEM1650PCM** | 16,500 | .6496 | 1 |
| **KSEM1700PCM** | 17,000 | .6693 | 1 |
| **KSEM1750PCM** | 17,500 | .6890 | 1 |
| **KSEM1800PCM** | 18,000 | .7087 | 1 |
| **KSEM1850PCM** | 18,500 | .7283 | 2 |
| **KSEM1900PCM** | 19,000 | .7480 | 2 |
| **KSEM1950PCM** | 19,500 | .7677 | 2 |
| **KSEM2000PCM** | 20,000 | .7874 | 3 |
| **KSEM2050PCM** | 20,500 | .8071 | 3 |
| **KSEM2100PCM** | 21,000 | .8268 | 3 |
| **KSEM2150PCM** | 21,500 | .8460 | 3 |
| **KSEM2200PCM** | 22,000 | .8661 | 3 |

P ● M K ● N S H

| KC7135 | D1 mm | D1 in | seat size |
|---|---|---|---|
| **KSEM2250PCM** | 22,500 | .8858 | 4 |
| **KSEM2300PCM** | 23,000 | .9055 | 4 |
| **KSEM2350PCM** | 23,500 | .9252 | 4 |
| **KSEM2400PCM** | 24,000 | .9449 | 4 |
| **KSEM2450PCM** | 24,500 | .9646 | 5 |
| **KSEM2500PCM** | 25,000 | .9843 | 5 |
| **KSEM2550PCM** | 25,500 | 1.0039 | 5 |
| **KSEM2600PCM** | 26,000 | 1.0236 | 5 |
| **KSEM2650PCM** | 26,500 | 1.0433 | 6 |
| **KSEM2700PCM** | 27,000 | 1.0630 | 6 |
| **KSEM2800PCM** | 28,000 | 1.1024 | 6 |
| **KSEM2850PCM** | 28,500 | 1.1220 | 7 |
| **KSEM2900PCM** | 29,000 | 1.1417 | 7 |
| **KSEM2950PCM** | 29,500 | 1.1614 | 7 |
| **KSEM3000PCM** | 30,000 | 1.1811 | 7 |
| **KSEM3050PCM** | 30,500 | 1.2008 | 8 |
| **KSEM3100PCM** | 31,000 | 1.2205 | 8 |
| **KSEM3200PCM** | 32,000 | 1.2598 | 8 |
| **KSEM3300PCM** | 33,000 | 1.2992 | 9 |
| **KSEM3400PCM** | 34,000 | 1.3386 | 9 |
| **KSEM3500PCM** | 35,000 | 1.3780 | 9 |
| **KSEM3600PCM** | 36,000 | 1.4173 | 9 |
| **KSEM3700PCM** | 37,000 | 1.4567 | 10 |
| **KSEM3800PCM** | 38,000 | 1.4961 | 10 |
| **KSEM3900PCM** | 39,000 | 1.5354 | 10 |
| **KSEM4000PCM** | 40,000 | 1.5748 | 10 |

**Tolerance PC • Metric**

| D1 metric | tolerance k7 |
|---|---|
| 12,5–18 | +0,001/+0,019 |
| >18–30 | +0,002/+0,023 |
| >30–40 | +0,002/+0,027 |

**Tolerance PC • Inch**

| D1 inch | tolerance k7 |
|---|---|
| .500–.709 | +.0000/+.0008 |
| >.709–1.181 | +.0000/+.0009 |
| >1.181–1.575 | +.0000/+.0010 |

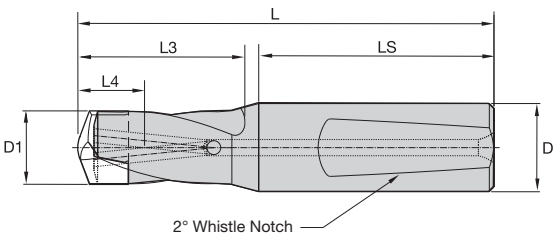
## Modular Drill Carbide Insert Blades • KSEM™ • PC Geometry • Grade KC7135™ • Through Coolant • Metric

| Material Group | | Cutting Speed — vc Range — m/min | | | Metric | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | min | Starting Value | max | | 12,5 | 16,0 | 20,0 | 25,4 | 32,0 |
| P | 1 | 90 | **100** | 110 | mm/r | 0,14–0,23 | 0,17–0,25 | 0,19–0,29 | 0,23–0,38 | 0,26–0,43 |
| | 2 | 80 | **90** | 100 | mm/r | 0,17–0,23 | 0,19–0,25 | 0,22–0,29 | 0,29–0,38 | 0,32–0,43 |
| | 3 | 55 | **65** | 75 | mm/r | 0,14–0,20 | 0,15–0,23 | 0,17–0,25 | 0,23–0,34 | 0,26–0,38 |
| | 4 | 50 | **60** | 70 | mm/r | 0,11–0,20 | 0,13–0,23 | 0,14–0,25 | 0,18–0,34 | 0,21–0,38 |
| | 5 | 45 | **50** | 60 | mm/r | 0,08–0,11 | 0,10–0,13 | 0,11–0,14 | 0,14–0,18 | 0,15–0,20 |
| | 6 | 45 | **55** | 65 | mm/r | 0,11–0,17 | 0,13–0,18 | 0,14–0,20 | 0,18–0,28 | 0,21–0,31 |
| K | 1 | 60 | **60** | 90 | mm/r | 0,08–0,24 | 0,09–0,28 | 0,11–0,31 | 0,14–0,43 | 0,15–0,48 |
| | 2 | 60 | **60** | 75 | mm/r | 0,18–0,24 | 0,21–0,28 | 0,23–0,31 | 0,28–0,37 | 0,32–0,42 |
| | 3 | 40 | **40** | 75 | mm/r | 0,15–0,24 | 0,18–0,26 | 0,21–0,29 | 0,23–0,37 | 0,25–0,42 |

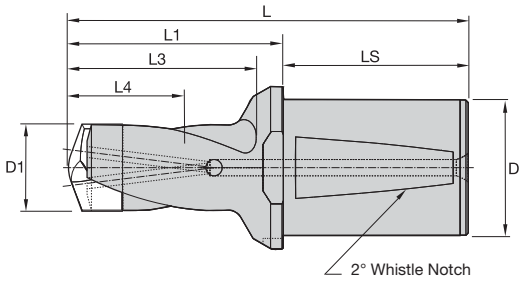
## Modular Drill Carbide Insert Blades • KSEM • PC Geometry • Grade KC7135 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM | | | Inch | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | min | Starting Value | max | | 0.462 | 0.630 | 0.787 | 1.000 | 1.260 |
| P | 1 | 300 | **330** | 360 | IPR | .006–.009 | .007–.010 | .007–.011 | .009–.015 | .010–.017 |
| | 2 | 260 | **300** | 330 | IPR | .007–.009 | .007–.010 | .009–.011 | .011–.015 | .013–.017 |
| | 3 | 180 | **210** | 250 | IPR | .006–.008 | .006–.009 | .007–.010 | .009–.013 | .010–.015 |
| | 4 | 150 | **160** | 200 | IPR | .004–.008 | .005–.009 | .006–.010 | .007–.013 | .008–.015 |
| | 5 | 150 | **180** | 210 | IPR | .003–.004 | .004–.005 | .004–.006 | .006–.007 | .006–.008 |
| | 6 | 150 | **180** | 210 | IPR | .004–.007 | .005–.007 | .006–.008 | .007–.011 | .008–.012 |
| K | 1 | 200 | **200** | 300 | IPR | .003–.009 | .004–.011 | .004–.012 | .006–.017 | .006–.019 |
| | 2 | 200 | **200** | 250 | IPR | .007–.009 | .008–.011 | .009–.012 | .011–.015 | .013–.017 |
| | 3 | 130 | **130** | 250 | IPR | .006–.009 | .007–.010 | .008–.011 | .009–.015 | .010–.017 |

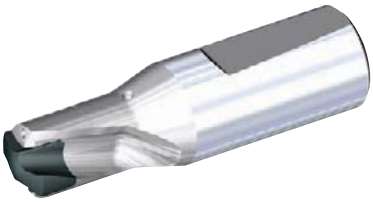
- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H52–H71.




Whistle Notch shank D1≤32mm



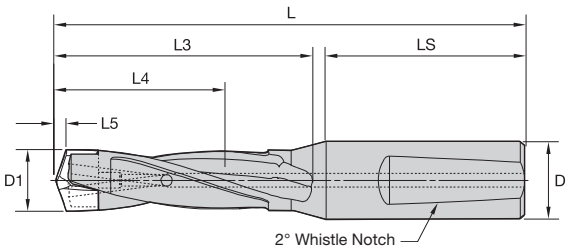

Whistle Notch shank with Drive D1≥32mm



## KSEM WN/WD50 Shank • 1 x D • Metric

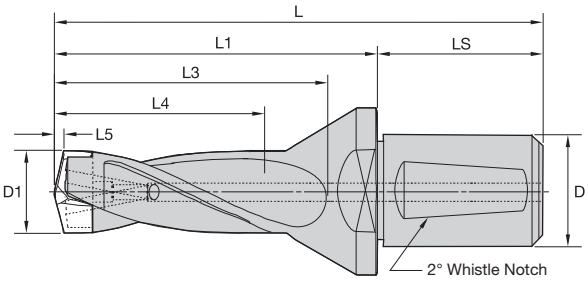
| 1 x D | D1 mm | D1 in | D1 max mm | D1 max in | L | L1 | L4 max | L5 | LS | D | seat size | central lock screw | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM125R1WN16M** | 12,500 | .4921 | 13,500 | .5314 | 78 | — | 14 | 2,0 | 48 | 16 | C | **364.017** | **170.294** |
| **KSEM136R1WN16M** | 13,510 | .5319 | 14,500 | .5708 | 81 | — | 15 | 2,2 | 48 | 16 | B | **364.016** | **170.289** |
| **KSEM146R1WN20M** | 14,510 | .5713 | 15,874 | .6249 | 85 | — | 16 | 2,3 | 50 | 20 | A | **364.016** | **170.289** |
| **KSEM160R1WN20M** | 16,000 | .6299 | 18,000 | .7086 | 88 | — | 18 | 2,5 | 50 | 20 | 1 | **364.010** | **170.270** |
| **KSEM181R1WN25M** | 18,010 | .7091 | 19,999 | .7873 | 99 | — | 20 | 2,9 | 56 | 25 | 2 | **364.010** | **170.270** |
| **KSEM200R1WN25M** | 20,000 | .7874 | 22,000 | .8661 | 102 | — | 22 | 3,2 | 56 | 25 | 3 | **364.011** | **170.272** |
| **KSEM221R1WN25M** | 22,010 | .8665 | 24,000 | .9448 | 107 | — | 24 | 3,5 | 56 | 25 | 4 | **364.011** | **170.272** |
| **KSEM241R1WN32M** | 24,010 | .9453 | 26,000 | 1.0236 | 115 | — | 26 | 3,8 | 60 | 32 | 5 | **364.012** | **170.274** |
| **KSEM261R1WN32M** | 26,010 | 1.0240 | 28,000 | 1.1023 | 119 | — | 28 | 4,0 | 60 | 32 | 6 | **364.012** | **170.274** |
| **KSEM281R1WN32M** | 28,016 | 1.1030 | 30,000 | 1.1811 | 123 | — | 30 | 4,3 | 60 | 32 | 7 | **364.013** | **170.276** |
| **KSEM301R1WN32M** | 30,010 | 1.1815 | 32,000 | 1.2598 | 127 | — | 32 | 4,6 | 60 | 32 | 8 | **364.013** | **170.276** |
| **KSEM321R1WD50M** | 32,010 | 1.2602 | 36,000 | 1.4173 | 147 | 79 | 36 | 4,9 | 68 | 50 | 9 | **364.015** | **170.276** |
| **KSEM361R1WD50M** | 36,010 | 1.4177 | 40,000 | 1.5748 | 155 | 87 | 40 | 5,5 | 68 | 50 | 10 | **364.015** | **170.276** |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H52–H71.

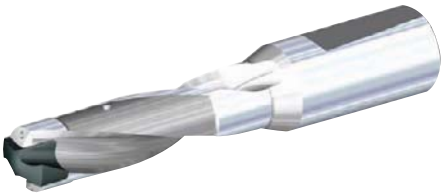



for diameters < 16mm, DIN 6535 - HE
for diameters > 16mm, DIN 1835 part 1 form E

Whistle Notch shank D1≤32mm




Whistle Notch shank with Drive D1≥32mm



## KSEM WN/WD50 Shank • 3 x D/5 x D • Metric

| 3 x D | 5 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM125R3WN16M** | **KSEM125R5WN16M** | 12,500 | .4921 | 13,000 | .5118 | 2,0 | 48 | 16 | C | **364.017** |
| **KSEM130R3WN16M** | **KSEM130R5WN16M** | 13,000 | .5118 | 13,500 | .5314 | 2,1 | 48 | 16 | C | **364.017** |
| **KSEM135R3WN16M** | **KSEM135R5WN16M** | 13,500 | .5315 | 13,500 | .5314 | 2,1 | 48 | 16 | C | **364.017** |
| **KSEM136R3WN16M** | **KSEM136R5WN16M** | 13,510 | .5319 | 14,000 | .5512 | 2,2 | 48 | 16 | B | **364.016** |
| **KSEM140R3WN16M** | **KSEM140R5WN16M** | 14,000 | .5512 | 14,500 | .5708 | 2,2 | 48 | 16 | B | **364.016** |
| **KSEM145R3WN20M** | **KSEM145R5WN20M** | 14,500 | .5709 | 14,500 | .5708 | 2,3 | 50 | 20 | B | **364.016** |
| **KSEM146R3WN20M** | **KSEM146R5WN20M** | 14,510 | .5713 | 15,000 | .5906 | 2,3 | 50 | 20 | A | **364.016** |
| **KSEM150R3WN20M** | **KSEM150R5WN20M** | 15,000 | .5906 | 15,500 | .6102 | 2,4 | 50 | 20 | A | **364.016** |
| **KSEM155R3WN20M** | **KSEM155R5WN20M** | 15,500 | .6102 | 15,874 | .6249 | 2,5 | 50 | 20 | A | **364.016** |
| **KSEM160R3WN20M** | **KSEM160R5WN20M** | 16,000 | .6299 | 16,500 | .6496 | 2,5 | 50 | 20 | 1 | **364.010** |
| **KSEM165R3WN20M** | **KSEM165R5WN20M** | 16,500 | .6496 | 17,000 | .6693 | 2,6 | 50 | 20 | 1 | **364.010** |
| **KSEM170R3WN20M** | **KSEM170R5WN20M** | 17,000 | .6693 | 17,500 | .6890 | 2,7 | 50 | 20 | 1 | **364.010** |
| **KSEM175R3WN20M** | **KSEM175R5WN20M** | 17,500 | .6890 | 18,000 | .7086 | 2,8 | 50 | 20 | 1 | **364.010** |
| **KSEM180R3WN20M** | **KSEM180R5WN20M** | 18,000 | .7087 | 18,000 | .7086 | 2,9 | 50 | 20 | 1 | **364.010** |
| – | **KSEM181R5WN25M** | 18,010 | .7091 | 18,500 | .7283 | 2,9 | 56 | 25 | 2 | **364.010** |
| **KSEM185R3WN25M** | **KSEM185R5WN25M** | 18,500 | .7283 | 19,000 | .7480 | 2,9 | 56 | 25 | 2 | **364.010** |
| **KSEM190R3WN25M** | **KSEM190R5WN25M** | 19,000 | .7480 | 19,500 | .7677 | 3,0 | 56 | 25 | 2 | **364.010** |
| **KSEM195R3WN25M** | **KSEM195R5WN25M** | 19,500 | .7677 | 19,999 | .7873 | 3,1 | 56 | 25 | 2 | **364.010** |
| **KSEM200R3WN25M** | **KSEM200R5WN25M** | 20,000 | .7874 | 20,500 | .8071 | 3,2 | 56 | 25 | 3 | **364.011** |
| **KSEM205R3WN25M** | **KSEM205R5WN25M** | 20,500 | .8071 | 21,000 | .8268 | 3,3 | 56 | 25 | 3 | **364.011** |
| **KSEM210R3WN25M** | **KSEM210R5WN25M** | 21,000 | .8268 | 21,500 | .8465 | 3,3 | 56 | 25 | 3 | **364.011** |
| **KSEM215R3WN25M** | **KSEM215R5WN25M** | 21,500 | .8465 | 22,000 | .8661 | 3,4 | 56 | 25 | 3 | **364.011** |
| **KSEM220R3WN25M** | **KSEM220R5WN25M** | 22,000 | .8661 | 22,000 | .8661 | 3,5 | 56 | 25 | 3 | **364.011** |
| – | **KSEM221R5WN25M** | 22,010 | .8665 | 22,500 | .8858 | 3,5 | 56 | 25 | 4 | **364.011** |

(*continued*)

*(KSEM WN/WD50 Shank • 3 x D/5 x D • Metric — continued)*

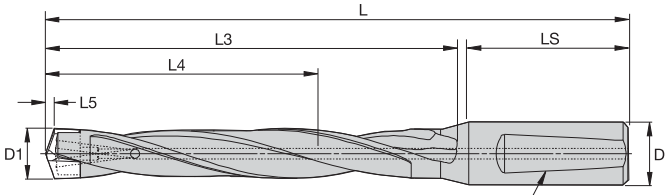


| 3 x D | 5 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|
| KSEM225R3WN25M | KSEM225R5WN25M | 22,500 | .8858 | 23,000 | .9055 | 3,6 | 56 | 25 | 4 | 364.011 |
| KSEM230R3WN25M | KSEM230R5WN25M | 23,000 | .9055 | 23,500 | .9252 | 3,7 | 56 | 25 | 4 | 364.011 |
| KSEM235R3WN25M | KSEM235R5WN25M | 23,500 | .9252 | 24,000 | .9448 | 3,7 | 56 | 25 | 4 | 364.011 |
| KSEM240R3WN25M | KSEM240R5WN25M | 24,000 | .9449 | 24,000 | .9448 | 3,8 | 56 | 25 | 4 | 364.011 |
| – | KSEM241R5WN32M | 24,010 | .9453 | 24,500 | .9646 | 3,8 | 60 | 32 | 5 | 364.012 |
| KSEM245R3WN32M | KSEM245R5WN32M | 24,500 | .9646 | 25,000 | .9843 | 3,9 | 60 | 32 | 5 | 364.012 |
| KSEM250R3WN32M | KSEM250R5WN32M | 25,000 | .9843 | 25,500 | 1.0039 | 3,8 | 60 | 32 | 5 | 364.012 |
| KSEM255R3WN32M | KSEM255R5WN32M | 25,500 | 1.0039 | 26,000 | 1.0236 | 3,9 | 60 | 32 | 5 | 364.012 |
| KSEM260R3WN32M | KSEM260R5WN32M | 26,000 | 1.0236 | 26,000 | 1.0236 | 4,0 | 60 | 32 | 5 | 364.012 |
| – | KSEM261R5WN32M | 26,010 | 1.0240 | 26,500 | 1.0433 | 4,0 | 60 | 32 | 6 | 364.012 |
| KSEM265R3WN32M | KSEM265R5WN32M | 26,500 | 1.0433 | 27,000 | 1.0630 | 4,1 | 60 | 32 | 6 | 364.012 |
| KSEM270R3WN32M | KSEM270R5WN32M | 27,000 | 1.0630 | 27,500 | 1.0827 | 4,2 | 60 | 32 | 6 | 364.012 |
| KSEM275R3WN32M | KSEM275R5WN32M | 27,500 | 1.0827 | 28,000 | 1.1023 | 4,2 | 60 | 32 | 6 | 364.012 |
| KSEM280R3WN32M | KSEM280R5WN32M | 28,000 | 1.1024 | 28,000 | 1.1023 | 4,3 | 60 | 32 | 6 | 364.012 |
| – | KSEM281R5WN32M | 28,016 | 1.1030 | 28,500 | 1.1220 | 4,3 | 60 | 32 | 7 | 364.013 |
| KSEM285R3WN32M | KSEM285R5WN32M | 28,500 | 1.1220 | 29,000 | 1.1417 | 4,4 | 60 | 32 | 7 | 364.013 |
| KSEM290R3WN32M | KSEM290R5WN32M | 29,000 | 1.1417 | 29,500 | 1.1614 | 4,5 | 60 | 32 | 7 | 364.013 |
| KSEM295R3WN32M | KSEM295R5WN32M | 29,500 | 1.1614 | 30,000 | 1.1811 | 4,5 | 60 | 32 | 7 | 364.013 |
| KSEM300R3WN32M | KSEM300R5WN32M | 30,000 | 1.1811 | 30,000 | 1.1811 | 4,6 | 60 | 32 | 7 | 364.013 |
| – | KSEM301R5WN32M | 30,010 | 1.1815 | 30,500 | 1.2008 | 4,6 | 60 | 32 | 8 | 364.013 |
| KSEM305R3WN32M | KSEM305R5WN32M | 30,500 | 1.2008 | 31,000 | 1.2205 | 4,7 | 60 | 32 | 8 | 364.013 |
| KSEM310R3WN32M | KSEM310R5WN32M | 31,000 | 1.2205 | 31,500 | 1.2402 | 4,8 | 60 | 32 | 8 | 364.013 |
| KSEM315R3WN32M | KSEM315R5WN32M | 31,500 | 1.2402 | 32,000 | 1.2598 | 4,8 | 60 | 32 | 8 | 364.013 |
| KSEM320R3WN32M | KSEM320R5WN32M | 32,000 | 1.2598 | 32,000 | 1.2598 | 4,9 | 60 | 32 | 8 | 364.013 |
| KSEM321R3WD50M | KSEM321R5WD50M | 32,010 | 1.2602 | 33,000 | 1.2992 | 4,9 | 68 | 50 | 9 | 364.015 |
| KSEM330R3WD50M | KSEM330R5WD50M | 33,000 | 1.2992 | 34,000 | 1.3386 | 5,1 | 68 | 50 | 9 | 364.015 |
| KSEM340R3WD50M | KSEM340R5WD50M | 34,000 | 1.3386 | 35,000 | 1.3780 | 5,2 | 68 | 50 | 9 | 364.015 |
| KSEM350R3WD50M | KSEM350R5WD50M | 35,000 | 1.3780 | 36,000 | 1.4173 | 5,4 | 68 | 50 | 9 | 364.015 |
| KSEM360R3WD50M | KSEM360R5WD50M | 36,000 | 1.4173 | 36,000 | 1.4173 | 5,5 | 68 | 50 | 9 | 364.015 |
| KSEM361R3WD50M | KSEM361R5WD50M | 36,010 | 1.4177 | 37,000 | 1.4567 | 5,5 | 68 | 50 | 10 | 364.015 |
| KSEM370R3WD50M | KSEM370R5WD50M | 37,000 | 1.4567 | 38,000 | 1.4961 | 5,7 | 68 | 50 | 10 | 364.015 |
| KSEM380R3WD50M | KSEM380R5WD50M | 38,000 | 1.4961 | 39,000 | 1.5354 | 5,8 | 68 | 50 | 10 | 364.015 |
| KSEM390R3WD50M | KSEM390R5WD50M | 39,000 | 1.5354 | 40,000 | 1.5748 | 6,0 | 68 | 50 | 10 | 364.015 |
| KSEM400R3WD50M | KSEM400R5WD50M | 40,000 | 1.5748 | 40,000 | 1.5748 | 6,2 | 68 | 50 | 10 | 364.015 |

## KSEM WD40 Shank • 3 x D/5 x D • Metric

| 3 x D | 5 x D | D1 mm | D1 in | L5 | LS | D | seat size | central lock screw |
|---|---|---|---|---|---|---|---|---|
| KSEM321R3WD40M | KSEM321R5WD40M | 32,010 | 1.2602 | 5,6 | 68 | 40 | 9 | 364.015 |
| KSEM330R3WD40M | KSEM330R5WD40M | 33,000 | 1.2992 | 5,8 | 68 | 40 | 9 | 364.015 |
| KSEM340R3WD40M | KSEM340R5WD40M | 34,000 | 1.3386 | 6,0 | 68 | 40 | 9 | 364.015 |
| KSEM350R3WD40M | KSEM350R5WD40M | 35,000 | 1.3780 | 6,1 | 68 | 40 | 9 | 364.015 |
| KSEM360R3WD40M | KSEM360R5WD40M | 36,000 | 1.4173 | 6,3 | 68 | 40 | 9 | 364.015 |
| KSEM361R3WD40M | KSEM361R5WD40M | 36,010 | 1.4177 | 6,3 | 68 | 40 | 10 | 364.015 |
| KSEM370R3WD40M | KSEM370R5WD40M | 37,000 | 1.4567 | 6,5 | 68 | 40 | 10 | 364.015 |
| KSEM380R3WD40M | KSEM380R5WD40M | 38,000 | 1.4961 | 6,7 | 68 | 40 | 10 | 364.015 |
| KSEM390R3WD40M | KSEM390R5WD40M | 39,000 | 1.5354 | 6,9 | 68 | 40 | 10 | 364.015 |
| KSEM400R3WD40M | KSEM400R5WD40M | 40,000 | 1.5748 | 7,0 | 68 | 40 | 10 | 364.015 |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H52–H71.




for diameter <16mm DIN 6535 — HE
for diameter >16mm DIN 1835 part 1 form E

For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H94–H95.

## KSEM WN Shank • 7 x D/10 x D • Metric

| 7x | 10x | D1 | | D1 max | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 x D | 10 x D | mm | in | mm | in | L5 | LS | D | seat size | central lock screw |
| KSEM125R7WN16M | KSEM125R10WN16M | 12,500 | .4921 | 13,000 | .5118 | 2,0 | 48 | 16 | C | 364.017 |
| KSEM130R7WN16M | KSEM130R10WN16M | 13,000 | .5118 | 13,500 | .5314 | 2,1 | 48 | 16 | C | 364.017 |
| KSEM135R7WN16M | KSEM135R10WN16M | 13,500 | .5315 | 13,500 | .5314 | 2,1 | 48 | 16 | C | 364.017 |
| KSEM136R7WN16M | KSEM136R10WN16M | 13,510 | .5319 | 14,000 | .5512 | 2,2 | 48 | 16 | B | 364.016 |
| KSEM140R7WN16M | KSEM140R10WN16M | 14,000 | .5512 | 14,500 | .5708 | 2,2 | 48 | 16 | B | 364.016 |
| KSEM145R7WN20M | KSEM145R10WN20M | 14,500 | .5709 | 14,500 | .5708 | 2,3 | 50 | 20 | B | 364.016 |
| KSEM146R7WN20M | KSEM146R10WN20M | 14,510 | .5713 | 15,000 | .5906 | 2,3 | 50 | 20 | A | 364.016 |
| KSEM150R7WN20M | KSEM150R10WN20M | 15,000 | .5906 | 15,500 | .6102 | 2,4 | 50 | 20 | A | 364.016 |
| KSEM155R7WN20M | KSEM155R10WN20M | 15,500 | .6102 | 15,874 | .6249 | 2,5 | 50 | 20 | A | 364.016 |
| KSEM160R7WN20M | KSEM160R10WN20M | 16,000 | .6299 | 16,500 | .6496 | 2,5 | 50 | 20 | 1 | 364.010 |
| KSEM165R7WN20M | KSEM165R10WN20M | 16,500 | .6496 | 17,000 | .6693 | 2,6 | 50 | 20 | 1 | 364.010 |
| KSEM170R7WN20M | KSEM170R10WN20M | 17,000 | .6693 | 17,500 | .6890 | 2,7 | 50 | 20 | 1 | 364.010 |
| KSEM175R7WN20M | KSEM175R10WN20M | 17,500 | .6890 | 18,000 | .7086 | 2,8 | 50 | 20 | 1 | 364.010 |
| KSEM180R7WN20M | KSEM180R10WN20M | 18,000 | .7087 | 18,000 | .7086 | 2,9 | 50 | 20 | 1 | 364.010 |
| — | KSEM181R10WN25M | 18,010 | .7091 | 18,500 | .7283 | 2,9 | 56 | 25 | 2 | 364.010 |
| KSEM185R7WN25M | KSEM185R10WN25M | 18,500 | .7283 | 19,000 | .7480 | 2,9 | 56 | 25 | 2 | 364.010 |
| KSEM190R7WN25M | KSEM190R10WN25M | 19,000 | .7480 | 19,500 | .7677 | 3,0 | 56 | 25 | 2 | 364.010 |
| KSEM195R7WN25M | KSEM195R10WN25M | 19,500 | .7677 | 19,999 | .7873 | 3,1 | 56 | 25 | 2 | 364.010 |
| KSEM200R7WN25M | KSEM200R10WN25M | 20,000 | .7874 | 20,500 | .8071 | 3,2 | 56 | 25 | 3 | 364.011 |
| KSEM205R7WN25M | KSEM205R10WN25M | 20,500 | .8071 | 21,000 | .8268 | 3,3 | 56 | 25 | 3 | 364.011 |
| KSEM210R7WN25M | KSEM210R10WN25M | 21,000 | .8268 | 21,500 | .8465 | 3,3 | 56 | 25 | 3 | 364.011 |
| KSEM215R7WN25M | KSEM215R10WN25M | 21,500 | .8465 | 22,000 | .8661 | 3,4 | 56 | 25 | 3 | 364.011 |
| KSEM220R7WN25M | KSEM220R10WN25M | 22,000 | .8661 | 22,000 | .8661 | 3,5 | 56 | 25 | 3 | 364.011 |
| — | KSEM221R10WN25M | 22,010 | .8665 | 22,500 | .8858 | 3,5 | 56 | 25 | 4 | 364.011 |
| KSEM225R7WN25M | KSEM225R10WN25M | 22,500 | .8858 | 23,000 | .9055 | 3,6 | 56 | 25 | 4 | 364.011 |
| KSEM230R7WN25M | KSEM230R10WN25M | 23,000 | .9055 | 23,500 | .9252 | 3,7 | 56 | 25 | 4 | 364.011 |
| KSEM235R7WN25M | KSEM235R10WN25M | 23,500 | .9252 | 24,000 | .9448 | 3,7 | 56 | 25 | 4 | 364.011 |
| KSEM240R7WN25M | KSEM240R10WN25M | 24,000 | .9449 | 24,000 | .9448 | 3,8 | 56 | 25 | 4 | 364.011 |
| — | KSEM241R10WN32M | 24,010 | .9453 | 24,500 | .9646 | 3,8 | 60 | 32 | 5 | 364.012 |
| KSEM245R7WN32M | KSEM245R10WN32M | 24,500 | .9646 | 25,000 | .9843 | 3,9 | 60 | 32 | 5 | 364.012 |
| KSEM250R7WN32M | KSEM250R10WN32M | 25,000 | .9843 | 25,500 | 1.0039 | 3,8 | 60 | 32 | 5 | 364.012 |
| KSEM255R7WN32M | KSEM255R10WN32M | 25,500 | 1.0039 | 26,000 | 1.0236 | 3,9 | 60 | 32 | 5 | 364.012 |

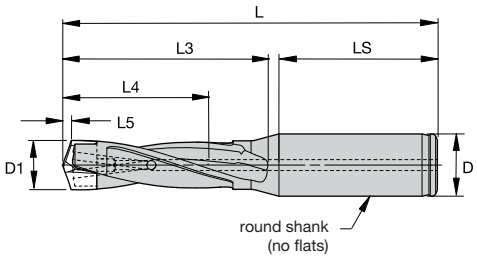
*(continued)*

*(KSEM WN Shank • 7 x D/10 x D • Metric — continued)*



| 7 x D | 10 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM260R7WN32M** | **KSEM260R10WN32M** | 26,000 | 1.0236 | 26,000 | 1.0236 | 4,0 | 60 | 32 | 5 | **364.012** |
| **–** | **KSEM261R10WN32M** | 26,010 | 1.0240 | 26,500 | 1.0433 | 4,0 | 60 | 32 | 6 | **364.012** |
| **KSEM265R7WN32M** | **KSEM265R10WN32M** | 26,500 | 1.0433 | 27,000 | 1.0630 | 4,1 | 60 | 32 | 6 | **364.012** |
| **KSEM270R7WN32M** | **KSEM270R10WN32M** | 27,000 | 1.0630 | 27,500 | 1.0827 | 4,2 | 60 | 32 | 6 | **364.012** |
| **KSEM275R7WN32M** | **KSEM275R10WN32M** | 27,500 | 1.0827 | 28,000 | 1.1023 | 4,2 | 60 | 32 | 6 | **364.012** |
| **KSEM280R7WN32M** | **KSEM280R10WN32M** | 28,000 | 1.1024 | 28,000 | 1.1023 | 4,3 | 60 | 32 | 6 | **364.012** |
| **–** | **KSEM281R10WN32M** | 28,016 | 1.1030 | 28,500 | 1.1220 | 4,3 | 60 | 32 | 7 | **364.013** |
| **KSEM285R7WN32M** | **KSEM285R10WN32M** | 28,500 | 1.1220 | 29,000 | 1.1417 | 4,4 | 60 | 32 | 7 | **364.013** |
| **KSEM290R7WN32M** | **KSEM290R10WN32M** | 29,000 | 1.1417 | 29,500 | 1.1614 | 4,5 | 60 | 32 | 7 | **364.013** |
| **KSEM295R7WN32M** | **KSEM295R10WN32M** | 29,500 | 1.1614 | 30,000 | 1.1811 | 4,5 | 60 | 32 | 7 | **364.013** |
| **KSEM300R7WN32M** | **KSEM300R10WN32M** | 30,000 | 1.1811 | 30,000 | 1.1811 | 4,6 | 60 | 32 | 7 | **364.013** |
| **–** | **KSEM301R10WN32M** | 30,010 | 1.1815 | 30,500 | 1.2008 | 4,6 | 60 | 32 | 8 | **364.013** |
| **KSEM305R7WN32M** | **–** | 30,500 | 1.2008 | 31,000 | 1.2205 | 4,7 | 60 | 32 | 8 | **364.013** |
| **KSEM310R7WN32M** | **KSEM310R10WN32M** | 31,000 | 1.2205 | 31,500 | 1.2402 | 4,8 | 60 | 32 | 8 | **364.013** |
| **KSEM315R7WN32M** | **–** | 31,500 | 1.2402 | 32,000 | 1.2598 | 4,8 | 60 | 32 | 8 | **364.013** |
| **KSEM320R7WN32M** | **KSEM320R10WN32M** | 32,000 | 1.2598 | 32,000 | 1.2598 | 4,9 | 60 | 32 | 8 | **364.013** |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H52–H71.



For information on L, L3, and L4 max, see page H97.

## KSEM Round Shank • 3 x D/5 x D • Inch

| 3 x D | 5 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|
| – | KSEM0500R5SS050 | 12,700 | .5000 | 13,200 | .5197 | .079 | 1.50 | .5000 | C | 364.017 |
| KSEM0500R3SS075 | KSEM0500R5SS075 | 12,700 | .5000 | 13,200 | .5197 | .079 | 2.00 | .7500 | C | 364.017 |
| KSEM0509R3SS075 | KSEM0509R5SS075 | 12,929 | .5090 | 13,429 | .5287 | .081 | 2.00 | .7500 | C | 364.017 |
| – | KSEM0516R5SS075 | 13,106 | .5160 | 13,500 | .5314 | .082 | 2.00 | .7500 | C | 364.017 |
| KSEM0531R3SS075 | KSEM0531R5SS075 | 13,494 | .5313 | 13,500 | .5314 | .084 | 2.00 | .7500 | C | 364.017 |
| KSEM0547R3SS075 | – | 13,891 | .5469 | 14,394 | .5667 | .087 | 2.00 | .7500 | B | 364.016 |
| – | KSEM0547R5SS075 | 13,894 | .5470 | 14,394 | .5667 | .087 | 2.00 | .7500 | B | 364.016 |
| KSEM0563R3SS075 | KSEM0563R5SS075 | 14,300 | .5630 | 14,500 | .5708 | .089 | 2.00 | .7500 | B | 364.016 |
| KSEM0578R3SS075 | KSEM0578R5SS075 | 14,681 | .5780 | 15,181 | .5977 | .092 | 2.00 | .7500 | A | 364.016 |
| KSEM0594R3SS075 | KSEM0594R5SS075 | 15,088 | .5940 | 15,588 | .6137 | .094 | 2.00 | .7500 | A | 364.016 |
| KSEM0609R3SS075 | KSEM0609R5SS075 | 15,469 | .6090 | 15,874 | .6249 | .097 | 2.00 | .7500 | A | 364.016 |
| KSEM0625R3SS075 | KSEM0625R5SS075 | 15,875 | .6250 | 16,375 | .6447 | .099 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0634R3SS075 | KSEM0634R5SS075 | 16,104 | .6340 | 16,604 | .6537 | .101 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0641R3SS075 | KSEM0641R5SS075 | 16,281 | .6410 | 16,781 | .6607 | .102 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0656R3SS075 | KSEM0656R5SS075 | 16,670 | .6563 | 17,170 | .6760 | .104 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0672R3SS075 | KSEM0672R5SS075 | 17,069 | .6720 | 17,569 | .6917 | .107 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0688R3SS075 | KSEM0688R5SS075 | 17,463 | .6875 | 17,963 | .7072 | .109 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0703R3SS075 | KSEM0703R5SS075 | 17,856 | .7030 | 18,000 | .7086 | .112 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0719R3SS075 | KSEM0719R5SS075 | 18,256 | .7187 | 18,756 | .7384 | .114 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0734R3SS075 | KSEM0734R5SS075 | 18,644 | .7340 | 19,144 | .7537 | .117 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0750R3SS075 | KSEM0750R5SS075 | 19,050 | .7500 | 19,550 | .7697 | .119 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0750R3SS100 | KSEM0750R5SS100 | 19,050 | .7500 | 19,550 | .7697 | .119 | 3.00 | 1.0000 | 2 | 364.010 |
| KSEM0759R3SS075 | KSEM0759R5SS075 | 19,279 | .7590 | 19,779 | .7787 | .121 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0766R3SS100 | KSEM0766R5SS100 | 19,456 | .7660 | 19,956 | .7857 | .122 | 3.00 | 1.0000 | 2 | 364.010 |
| KSEM0781R3SS100 | KSEM0781R5SS100 | 19,844 | .7813 | 19,999 | .7873 | .124 | 3.00 | 1.0000 | 2 | 364.010 |
| KSEM0797R3SS100 | KSEM0797R5SS100 | 20,244 | .7970 | 20,744 | .8167 | .127 | 3.00 | 1.0000 | 3 | 364.011 |
| KSEM0813R3SS100 | KSEM0813R5SS100 | 20,638 | .8125 | 21,138 | .8322 | .129 | 3.00 | 1.0000 | 3 | 364.011 |
| KSEM0844R3SS100 | KSEM0844R5SS100 | 21,431 | .8437 | 21,931 | .8634 | .134 | 3.00 | 1.0000 | 3 | 364.011 |
| KSEM0859R3SS100 | KSEM0859R5SS100 | 21,819 | .8590 | 22,000 | .8661 | .136 | 3.00 | 1.0000 | 3 | 364.011 |
| KSEM0875R3SS100 | KSEM0875R5SS100 | 22,225 | .8750 | 22,725 | .8947 | .139 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0875R3SS125 | KSEM0875R5SS125 | 22,225 | .8750 | 22,725 | .8947 | .139 | 3.25 | 1.2500 | 4 | 364.011 |
| KSEM0884R3SS100 | KSEM0884R5SS100 | 22,454 | .8840 | 22,954 | .9037 | .140 | 3.00 | 1.0000 | 4 | 364.011 |

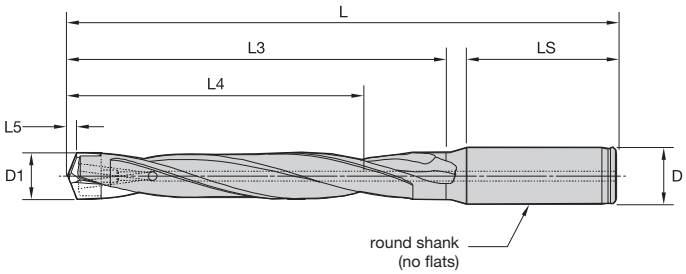
*(continued)*

*(KSEM Round Shank • 3 x D/5 x D • Inch — continued)*



| | | D1 | | D1 max | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 x D | 5 x D | mm | in | mm | in | L5 | LS | D | seat size | central lock screw |
| KSEM0906R3SS100 | KSEM0906R5SS100 | 23,019 | .9063 | 23,519 | .9260 | .144 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0922R3SS100 | KSEM0922R5SS100 | 23,419 | .9220 | 23,919 | .9417 | .146 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0938R3SS100 | KSEM0938R5SS100 | 23,813 | .9375 | 24,000 | .9448 | .149 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0969R3SS100 | KSEM0969R5SS100 | 24,606 | .9687 | 25,106 | .9884 | .154 | 3.00 | 1.0000 | 5 | 364.012 |
| KSEM0984R3SS100 | KSEM0984R5SS100 | 25,003 | .9844 | 25,503 | 1.0041 | .151 | 3.00 | 1.0000 | 5 | 364.012 |
| KSEM1000R3SS100 | KSEM1000R5SS100 | 25,400 | 1.0000 | 25,900 | 1.0197 | .154 | 3.00 | 1.0000 | 5 | 364.012 |
| – | KSEM1000R5SS125 | 25,400 | 1.0000 | 25,900 | 1.0197 | .154 | 3.25 | 1.2500 | 5 | 364.012 |
| KSEM1011R3SS125 | KSEM1011R5SS125 | 25,679 | 1.0110 | 26,000 | 1.0236 | .156 | 3.25 | 1.2500 | 5 | 364.012 |
| KSEM1031R3SS125 | KSEM1031R5SS125 | 26,195 | 1.0313 | 26,695 | 1.0510 | .159 | 3.25 | 1.2500 | 6 | 364.012 |
| – | KSEM1047R5SS125 | 26,594 | 1.0470 | 27,094 | 1.0667 | .161 | 3.25 | 1.2500 | 6 | 364.012 |
| KSEM1063R3SS125 | KSEM1063R5SS125 | 26,988 | 1.0625 | 27,488 | 1.0822 | .164 | 3.25 | 1.2500 | 6 | 364.012 |
| – | KSEM1094R5SS125 | 27,781 | 1.0937 | 28,000 | 1.1023 | .168 | 3.25 | 1.2500 | 6 | 364.012 |
| KSEM1109R3SS125 | KSEM1109R5SS125 | 28,169 | 1.1090 | 28,669 | 1.1287 | .171 | 3.25 | 1.2500 | 7 | 364.013 |
| KSEM1125R3SS125 | KSEM1125R5SS125 | 28,575 | 1.1250 | 29,075 | 1.1447 | .173 | 3.25 | 1.2500 | 7 | 364.013 |
| KSEM1156R3SS125 | KSEM1156R5SS125 | 29,370 | 1.1563 | 29,870 | 1.1760 | .178 | 3.25 | 1.2500 | 7 | 364.013 |
| KSEM1172R3SS125 | KSEM1172R5SS125 | 29,769 | 1.1720 | 30,000 | 1.1811 | .180 | 3.25 | 1.2500 | 7 | 364.013 |
| KSEM1188R3SS125 | KSEM1188R5SS125 | 30,163 | 1.1875 | 30,663 | 1.2072 | .183 | 3.25 | 1.2500 | 8 | 364.013 |
| – | KSEM1203R5SS125 | 30,556 | 1.2030 | 31,056 | 1.2227 | .185 | 3.25 | 1.2500 | 8 | 364.013 |
| KSEM1219R3SS125 | KSEM1219R5SS125 | 30,958 | 1.2188 | 31,458 | 1.2385 | .188 | 3.25 | 1.2500 | 8 | 364.013 |
| KSEM1250R3SS125 | KSEM1250R5SS125 | 31,750 | 1.2500 | 32,000 | 1.2598 | .192 | 3.25 | 1.2500 | 8 | 364.013 |
| KSEM1250R3SS150 | KSEM1250R5SS150 | 31,750 | 1.2500 | 32,000 | 1.2598 | .192 | 3.75 | 1.5000 | 8 | 364.013 |
| KSEM1281R3SS150 | KSEM1281R5SS150 | 32,537 | 1.2810 | 33,537 | 1.3204 | .197 | 3.75 | 1.5000 | 9 | 364.015 |
| KSEM1297R3SS150 | KSEM1297R5SS150 | 32,941 | 1.2969 | 33,941 | 1.3363 | .200 | 3.75 | 1.5000 | 9 | 364.015 |
| KSEM1313R3SS150 | KSEM1313R5SS150 | 33,350 | 1.3130 | 34,350 | 1.3524 | .202 | 3.75 | 1.5000 | 9 | 364.015 |
| KSEM1328R3SS150 | KSEM1328R5SS150 | 33,731 | 1.3280 | 34,731 | 1.3674 | .204 | 3.75 | 1.5000 | 9 | 364.015 |
| – | KSEM1344R5SS150 | 34,138 | 1.3440 | 35,138 | 1.3834 | .207 | 3.75 | 1.5000 | 9 | 364.015 |
| KSEM1375R3SS150 | KSEM1375R5SS150 | 34,925 | 1.3750 | 35,925 | 1.4144 | .212 | 3.75 | 1.5000 | 9 | 364.015 |
| KSEM1406R3SS150 | KSEM1406R5SS150 | 35,712 | 1.4060 | 36,000 | 1.4173 | .216 | 3.75 | 1.5000 | 9 | 364.015 |
| – | KSEM1422R5SS150 | 36,119 | 1.4220 | 37,119 | 1.4614 | .219 | 3.75 | 1.5000 | 10 | 364.015 |
| KSEM1438R3SS150 | KSEM1438R5SS150 | 36,513 | 1.4375 | 37,513 | 1.4769 | .221 | 3.75 | 1.5000 | 10 | 364.015 |
| – | KSEM1469R5SS150 | 37,313 | 1.4690 | 38,313 | 1.5084 | .226 | 3.75 | 1.5000 | 10 | 364.015 |
| KSEM1500R3SS150 | KSEM1500R5SS150 | 38,100 | 1.5000 | 39,100 | 1.5394 | .231 | 3.75 | 1.5000 | 10 | 364.015 |
| KSEM1514R3SS150 | KSEM1514R5SS150 | 38,456 | 1.5140 | 39,456 | 1.5534 | .233 | 3.75 | 1.5000 | 10 | 364.015 |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H52–H71.



For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H96.

## KSEM Round Shank • 7 x D/10 x D • Inch

| 10 x D | 7 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|
| – | KSEM0500R7SS050 | 12,700 | .5000 | 13,200 | .5197 | .079 | 1.50 | .5000 | C | 364.017 |
| KSEM0500R10SS075 | KSEM0500R7SS075 | 12,700 | .5000 | 13,200 | .5197 | .079 | 2.00 | .7500 | C | 364.017 |
| KSEM0509R10SS075 | KSEM0509R7SS075 | 12,929 | .5090 | 13,429 | .5287 | .081 | 2.00 | .7500 | C | 364.017 |
| KSEM0516R10SS075 | KSEM0516R7SS075 | 13,096 | .5156 | 13,500 | .5314 | .082 | 2.00 | .7500 | C | 364.017 |
| KSEM0531R10SS075 | KSEM0531R7SS075 | 13,494 | .5313 | 13,500 | .5314 | .084 | 2.00 | .7500 | C | 364.017 |
| KSEM0547R10SS075 | KSEM0547R7SS075 | 13,891 | .5469 | 14,394 | .5667 | .087 | 2.00 | .7500 | B | 364.016 |
| KSEM0563R10SS075 | KSEM0563R7SS075 | 14,288 | .5625 | 14,500 | .5708 | .089 | 2.00 | .7500 | B | 364.016 |
| KSEM0578R10SS075 | KSEM0578R7SS075 | 14,681 | .5780 | 15,181 | .5977 | .092 | 2.00 | .7500 | A | 364.016 |
| KSEM0594R10SS075 | KSEM0594R7SS075 | 15,083 | .5938 | 15,588 | .6137 | .094 | 2.00 | .7500 | A | 364.016 |
| KSEM0609R10SS075 | KSEM0609R7SS075 | 15,479 | .6094 | 15,874 | .6249 | .097 | 2.00 | .7500 | A | 364.016 |
| KSEM0625R10SS075 | KSEM0625R7SS075 | 15,875 | .6250 | 16,375 | .6447 | .099 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0634R10SS075 | KSEM0634R7SS075 | 16,104 | .6340 | 16,604 | .6537 | .101 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0656R10SS075 | KSEM0656R7SS075 | 16,670 | .6563 | 17,170 | .6760 | .104 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0688R10SS075 | KSEM0688R7SS075 | 17,463 | .6875 | 17,963 | .7072 | .109 | 2.00 | .7500 | 1 | 364.010 |
| KSEM0719R10SS075 | KSEM0719R7SS075 | 18,256 | .7187 | 18,756 | .7384 | .114 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0750R10SS075 | KSEM0750R7SS075 | 19,050 | .7500 | 19,550 | .7502 | .119 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0750R10SS100 | KSEM0750R7SS100 | 19,050 | .7500 | 19,550 | .7502 | .119 | 3.00 | 1.0000 | 2 | 364.010 |
| – | KSEM0759R7SS075 | 19,279 | .7590 | 19,779 | .7787 | .121 | 2.00 | .7500 | 2 | 364.010 |
| KSEM0759R10SS100 | – | 19,279 | .7590 | 19,779 | .7787 | .121 | 3.00 | 1.0000 | 2 | 364.010 |
| KSEM0781R10SS100 | KSEM0781R7SS100 | 19,844 | .7813 | 19,999 | .7873 | .124 | 3.00 | 1.0000 | 2 | 364.010 |
| KSEM0813R10SS100 | KSEM0813R7SS100 | 20,638 | .8125 | 21,138 | .8322 | .129 | 3.00 | 1.0000 | 3 | 364.011 |
| KSEM0844R10SS100 | KSEM0844R7SS100 | 21,431 | .8437 | 21,931 | .8634 | .134 | 3.00 | 1.0000 | 3 | 364.011 |
| KSEM0875R10SS100 | KSEM0875R7SS100 | 22,225 | .8750 | 22,725 | .8947 | .139 | 3.00 | 1.0000 | 4 | 364.011 |
| – | KSEM0875R7SS125 | 22,225 | .8750 | 22,725 | .8947 | .139 | 3.25 | 1.2500 | 4 | 364.011 |
| KSEM0884R10SS100 | KSEM0884R7SS100 | 22,454 | .8840 | 22,954 | .9037 | .140 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0906R10SS100 | KSEM0906R7SS100 | 23,019 | .9063 | 23,519 | .9260 | .144 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0938R10SS100 | KSEM0938R7SS100 | 23,813 | .9375 | 24,000 | .9448 | .149 | 3.00 | 1.0000 | 4 | 364.011 |
| KSEM0969R10SS100 | KSEM0969R7SS100 | 24,606 | .9687 | 25,106 | .9884 | .154 | 3.00 | 1.0000 | 5 | 364.012 |
| KSEM0984R10SS100 | KSEM0984R7SS100 | 25,003 | .9844 | 25,503 | 1.0041 | .151 | 3.00 | 1.0000 | 5 | 364.012 |
| KSEM1000R10SS100 | KSEM1000R7SS100 | 25,400 | 1.0000 | 25,900 | 1.0197 | .154 | 3.00 | 1.0000 | 5 | 364.012 |
| KSEM1000R10SS125 | KSEM1000R7SS125 | 25,400 | 1.0000 | 25,900 | 1.0197 | .154 | 3.25 | 1.2500 | 5 | 364.012 |
| KSEM1011R10SS125 | KSEM1011R7SS125 | 25,679 | 1.0110 | 26,000 | 1.0236 | .156 | 3.25 | 1.2500 | 5 | 364.012 |

*(continued)*

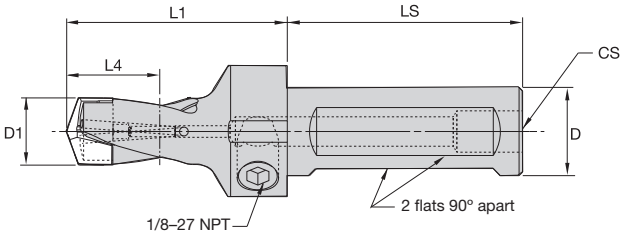
*(KSEM Round Shank • 7 x D/10 x D • Inch — continued)*



| | | D1 | | D1 max | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 x D | 7 x D | mm | in | mm | in | L5 | LS | D | seat size | central lock screw |
| **KSEM1031R10SS125** | **KSEM1031R7SS125** | 26,195 | 1.0313 | 26,695 | 1.0510 | .159 | 3.25 | 1.2500 | 6 | **364.012** |
| **KSEM1063R10SS125** | **KSEM1063R7SS125** | 26,988 | 1.0625 | 27,488 | 1.0822 | .164 | 3.25 | 1.2500 | 6 | **364.012** |
| **KSEM1094R10SS125** | **KSEM1094R7SS125** | 27,781 | 1.0937 | 28,000 | 1.1023 | .168 | 3.25 | 1.2500 | 6 | **364.012** |
| **KSEM1125R10SS125** | **KSEM1125R7SS125** | 28,575 | 1.1250 | 29,075 | 1.1447 | .173 | 3.25 | 1.2500 | 7 | **364.013** |
| **KSEM1156R10SS125** | **KSEM1156R7SS125** | 29,370 | 1.1563 | 29,870 | 1.1760 | .178 | 3.25 | 1.2500 | 7 | **364.013** |
| **KSEM1188R10SS125** | **KSEM1188R7SS125** | 30,163 | 1.1875 | 30,663 | 1.2072 | .183 | 3.25 | 1.2500 | 8 | **364.013** |
| **KSEM1219R10SS125** | **KSEM1219R7SS125** | 30,958 | 1.2188 | 31,458 | 1.2385 | .188 | 3.25 | 1.2500 | 8 | **364.013** |
| **KSEM1250R10SS125** | **KSEM1250R7SS125** | 31,750 | 1.2500 | 32,000 | 1.2598 | .192 | 3.25 | 1.2500 | 8 | **364.013** |
| **KSEM1250R10SS150** | **KSEM1250R7SS150** | 31,750 | 1.2500 | 32,000 | 1.2598 | .192 | 3.75 | 1.5000 | 8 | **364.013** |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H52–H71.



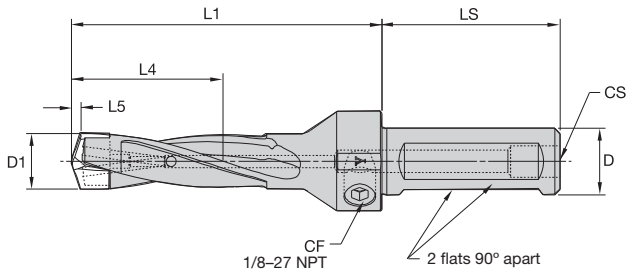


## KSEM Flanged Shank • 1 x D • Inch

| 1 x D | D1 mm | D1 in | D1 max mm | D1 max in | L | L1 | L4 max | L5 | LS | D | seat size | CS | central lock screw | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM0493R1SSF075** | 12,522 | .4930 | 13,500 | .5314 | 3.94 | 1.94 | .53 | .07 | 2.00 | .750 | C | 1/8-27 NPT | **364.017** | **170.294** |
| **KSEM0532R1SSF075** | 13,513 | .5320 | 14,500 | .5708 | 4.00 | 2.00 | .61 | .08 | 2.00 | .750 | B | 1/8-27 NPT | **364.016** | **170.289** |
| **KSEM0571R1SSF075** | 14,503 | .5710 | 15,874 | .6249 | 4.00 | 2.00 | .63 | .09 | 2.00 | .750 | A | 1/8-27 NPT | **364.016** | **170.289** |
| **KSEM0625R1SSF075** | 15,875 | .6250 | 18,000 | .7086 | 4.19 | 2.19 | .71 | .10 | 2.00 | .750 | 1 | 1/8-27 NPT | **364.010** | **170.270** |
| **KSEM0709R1SSF075** | 18,009 | .7090 | 19,999 | .7873 | 4.25 | 2.25 | .78 | .11 | 2.00 | .750 | 2 | 1/8-27 NPT | **364.010** | **170.270** |
| **KSEM0788R1SSF100** | 20,015 | .7880 | 22,000 | .8661 | 5.50 | 2.50 | .87 | .13 | 3.00 | 1.000 | 3 | 1/4-18 NPT | **364.011** | **170.272** |
| **KSEM0867R1SSF100** | 22,022 | .8670 | 24,000 | .9448 | 5.56 | 2.56 | .95 | .14 | 3.00 | 1.000 | 4 | 1/4-18 NPT | **364.011** | **170.272** |
| **KSEM0945R1SSF100** | 24,003 | .9450 | 26,000 | 1.0236 | 5.63 | 2.63 | 1.02 | .15 | 3.00 | 1.000 | 5 | 1/4-18 NPT | **364.012** | **170.274** |
| **KSEM1024R1SSF125** | 26,010 | 1.0240 | 28,000 | 1.1023 | 6.13 | 2.88 | 1.11 | .16 | 3.25 | 1.250 | 6 | 1/4-18 NPT | **364.012** | **170.274** |
| **KSEM1103R1SSF125** | 28,016 | 1.1030 | 30,000 | 1.1811 | 6.19 | 2.94 | 1.18 | .17 | 3.25 | 1.250 | 7 | 1/4-18 NPT | **364.013** | **170.276** |
| **KSEM1182R1SSF125** | 30,023 | 1.1820 | 32,000 | 1.2598 | 6.25 | 3.00 | 1.27 | .18 | 3.25 | 1.250 | 8 | 1/4-18 NPT | **364.013** | **170.276** |
| **KSEM1260R1SSF125** | 32,004 | 1.2600 | 36,000 | 1.4173 | 6.50 | 3.25 | 1.42 | .19 | 3.25 | 1.250 | 9 | 1/4-18 NPT | **364.015** | **170.276** |
| **KSEM1418R1SSF125** | 36,017 | 1.4180 | 40,000 | 1.5748 | 6.63 | 3.38 | 1.57 | .22 | 3.25 | 1.250 | 10 | 1/4-18 NPT | **364.015** | **170.276** |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H52–H71.





For information on L, L3, and L4 max, see the Modular Drills Dimension Tables on page H96.

## KSEM Flanged Shank • 3 x D/5 x D • Inch

| 3 x D | 5 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | CS | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KSEM0500R3SSF075 | KSEM0500R5SSF075 | 12,700 | .5000 | 13,200 | .5197 | .08 | 2.00 | .750 | C | 1/8-27 NPT | 364.017 |
| KSEM0509R3SSF075 | KSEM0509R5SSF075 | 12,929 | .5090 | 13,429 | .5287 | .08 | 2.00 | .750 | C | 1/8-27 NPT | 364.017 |
| KSEM0516R3SSF075 | KSEM0516R5SSF075 | 13,106 | .5160 | 13,500 | .5314 | .08 | 2.00 | .750 | C | 1/8-27 NPT | 364.017 |
| KSEM0531R3SSF075 | KSEM0531R5SSF075 | 13,487 | .5310 | 13,500 | .5314 | .08 | 2.00 | .750 | C | 1/8-27 NPT | 364.017 |
| KSEM0547R3SSF075 | KSEM0547R5SSF075 | 13,894 | .5470 | 14,394 | .5667 | .09 | 2.00 | .750 | B | 1/8-27 NPT | 364.016 |
| KSEM0563R3SSF075 | KSEM0563R5SSF075 | 14,300 | .5630 | 14,500 | .5708 | .09 | 2.00 | .750 | B | 1/8-27 NPT | 364.016 |
| KSEM0578R3SSF075 | KSEM0578R5SSF075 | 14,681 | .5780 | 15,181 | .5977 | .09 | 2.00 | .750 | A | 1/8-27 NPT | 364.016 |
| KSEM0594R3SSF075 | KSEM0594R5SSF075 | 15,088 | .5940 | 15,588 | .6137 | .09 | 2.00 | .750 | A | 1/8-27 NPT | 364.016 |
| KSEM0609R3SSF075 | KSEM0609R5SSF075 | 15,469 | .6090 | 15,874 | .6249 | .10 | 2.00 | .750 | A | 1/8-27 NPT | 364.016 |
| KSEM0625R3SSF075 | KSEM0625R5SSF075 | 15,875 | .6250 | 16,375 | .6447 | .10 | 2.00 | .750 | 1 | 1/8-27 NPT | 364.010 |
| KSEM0634R3SSF075 | – | 16,104 | .6340 | 16,604 | .6537 | .10 | 2.00 | .750 | 1 | 1/8-27 NPT | 364.010 |
| KSEM0641R3SSF075 | – | 16,281 | .6410 | 16,781 | .6607 | .10 | 2.00 | .750 | 1 | 1/8-27 NPT | 364.010 |
| KSEM0672R3SSF075 | – | 17,069 | .6720 | 17,569 | .6917 | .11 | 2.00 | .750 | 1 | 1/8-27 NPT | 364.010 |
| KSEM0688R3SSF075 | KSEM0688R5SSF075 | 17,463 | .6875 | 17,963 | .7072 | .11 | 2.00 | .750 | 1 | 1/8-27 NPT | 364.010 |
| KSEM0703R3SSF075 | – | 17,856 | .7030 | 18,000 | .7086 | .11 | 2.00 | .750 | 1 | 1/8-27 NPT | 364.010 |
| KSEM0734R3SSF075 | – | 18,644 | .7340 | 19,144 | .7537 | .12 | 2.00 | .750 | 2 | 1/8-27 NPT | 364.010 |
| KSEM0750R3SSF075 | KSEM0750R5SSF075 | 19,050 | .7500 | 19,550 | .7502 | .12 | 2.00 | .750 | 2 | 1/8-27 NPT | 364.010 |
| KSEM0750R3SSF100 | KSEM0750R5SSF100 | 19,050 | .7500 | 19,550 | .7502 | .12 | 3.00 | 1.000 | 2 | 1/4-18 NPT | 364.010 |
| KSEM0759R3SSF100 | – | 19,279 | .7590 | 19,779 | .7787 | .12 | 3.00 | 1.000 | 2 | 1/4-18 NPT | 364.010 |
| KSEM0766R3SSF100 | – | 19,456 | .7660 | 19,956 | .7857 | .12 | 3.00 | 1.000 | 2 | 1/4-18 NPT | 364.010 |
| KSEM0781R3SSF100 | – | 19,844 | .7813 | 19,999 | .7873 | .12 | 3.00 | 1.000 | 2 | 1/4-18 NPT | 364.010 |
| KSEM0797R3SSF100 | – | 20,244 | .7970 | 20,744 | .8167 | .13 | 3.00 | 1.000 | 3 | 1/4-18 NPT | 364.011 |
| KSEM0813R3SSF100 | KSEM0813R5SSF100 | 20,638 | .8125 | 21,138 | .8322 | .13 | 3.00 | 1.000 | 3 | 1/4-18 NPT | 364.011 |
| KSEM0859R3SSF100 | – | 21,819 | .8590 | 22,000 | .8661 | .14 | 3.00 | 1.000 | 3 | 1/4-18 NPT | 364.011 |
| KSEM0875R3SSF100 | KSEM0875R5SSF100 | 22,225 | .8750 | 22,725 | .8947 | .14 | 3.00 | 1.000 | 4 | 1/4-18 NPT | 364.011 |
| KSEM0875R3SSF125 | KSEM0875R5SSF125 | 22,225 | .8750 | 22,725 | .8947 | .14 | 3.25 | 1.250 | 4 | 1/4-18 NPT | 364.011 |
| KSEM0884R3SSF100 | – | 22,454 | .8840 | 22,954 | .9037 | .14 | 3.00 | 1.000 | 4 | 1/4-18 NPT | 364.011 |
| KSEM0906R3SSF100 | – | 23,019 | .9063 | 23,519 | .9260 | .14 | 3.00 | 1.000 | 4 | 1/4-18 NPT | 364.011 |
| KSEM0922R3SSF100 | – | 23,419 | .9220 | 23,919 | .9417 | .15 | 3.00 | 1.000 | 4 | 1/4-18 NPT | 364.011 |
| KSEM0938R3SSF100 | KSEM0938R5SSF100 | 23,813 | .9375 | 24,000 | .9448 | .15 | 3.00 | 1.000 | 4 | 1/4-18 NPT | 364.011 |
| KSEM0969R3SSF100 | KSEM0969R5SSF100 | 24,606 | .9687 | 25,106 | .9884 | .15 | 3.00 | 1.000 | 5 | 1/4-18 NPT | 364.012 |
| KSEM0984R3SSF100 | KSEM0984R5SSF100 | 25,003 | .9844 | 25,503 | 1.0041 | .15 | 3.00 | 1.000 | 5 | 1/4-18 NPT | 364.012 |

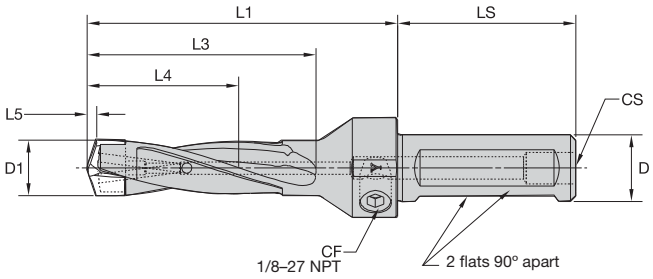
*(continued)*

*(KSEM Flanged Shank • 3 x D/5 x D • Inch — continued)*

| 3 x D | 5 x D | D1 mm | D1 in | D1 max mm | D1 max in | L5 | LS | D | seat size | CS | central lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM1000R3SSF100** | **KSEM1000R5SSF100** | 25,400 | 1.0000 | 25,900 | 1.0197 | .15 | 3.00 | 1.000 | 5 | 1/4-18 NPT | **364.012** |
| **KSEM1000R3SSF125** | **KSEM1000R5SSF125** | 25,400 | 1.0000 | 25,900 | 1.0197 | .15 | 3.25 | 1.250 | 5 | 1/4-18 NPT | **364.012** |
| **KSEM1011R3SSF100** | – | 25,679 | 1.0110 | 26,000 | 1.0236 | .16 | 3.00 | 1.000 | 5 | 1/4-18 NPT | **364.012** |
| **KSEM1031R3SSF125** | – | 26,195 | 1.0313 | 26,695 | 1.0510 | .16 | 3.25 | 1.250 | 6 | 1/4-18 NPT | **364.012** |
| **KSEM1047R3SSF125** | – | 26,594 | 1.0470 | 27,094 | 1.0667 | .16 | 3.25 | 1.250 | 6 | 1/4-18 NPT | **364.012** |
| **KSEM1063R3SSF125** | **KSEM1063R5SSF125** | 26,988 | 1.0625 | 27,488 | 1.0822 | .16 | 3.25 | 1.250 | 6 | 1/4-18 NPT | **364.012** |
| **KSEM1094R3SSF125** | – | 27,781 | 1.0937 | 28,000 | 1.1023 | .17 | 3.25 | 1.250 | 6 | 1/4-18 NPT | **364.012** |
| **KSEM1109R3SSF125** | – | 28,169 | 1.1090 | 28,669 | 1.1287 | .17 | 3.25 | 1.250 | 7 | 1/4-18 NPT | **364.013** |
| **KSEM1125R3SSF125** | **KSEM1125R5SSF125** | 28,575 | 1.1250 | 29,075 | 1.1447 | .17 | 3.25 | 1.250 | 7 | 1/4-18 NPT | **364.013** |
| **KSEM1156R3SSF125** | – | 29,370 | 1.1563 | 29,870 | 1.1760 | .18 | 3.25 | 1.250 | 7 | 1/4-18 NPT | **364.013** |
| **KSEM1188R3SSF125** | **KSEM1188R5SSF125** | 30,163 | 1.1875 | 30,663 | 1.2072 | .18 | 3.25 | 1.250 | 8 | 1/4-18 NPT | **364.013** |
| **KSEM1203R3SSF125** | – | 30,556 | 1.2030 | 31,056 | 1.2227 | .19 | 3.25 | 1.250 | 8 | 1/4-18 NPT | **364.013** |
| **KSEM1250R3SSF125** | **KSEM1250R5SSF125** | 31,750 | 1.2500 | 32,000 | 1.2598 | .19 | 3.25 | 1.250 | 8 | 1/4-18 NPT | **364.013** |
| **KSEM1250R3SSF150** | **KSEM1250R5SSF150** | 31,750 | 1.2500 | 32,000 | 1.2598 | .19 | 3.75 | 1.500 | 8 | 1/4-18 NPT | **364.013** |
| **KSEM1281R3SSF150** | – | 32,540 | 1.2811 | 36,000 | 1.4173 | .20 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1281R5SSF150** | – | 32,540 | 1.2811 | 36,000 | 1.4173 | .22 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1297R3SSF150** | **KSEM1297R5SSF150** | 32,940 | 1.2969 | 36,000 | 1.4173 | .23 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1313R3SSF150** | **KSEM1313R5SSF150** | 33,340 | 1.3126 | 36,000 | 1.4173 | .23 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1328R3SSF150** | – | 33,730 | 1.3280 | 36,000 | 1.4173 | .23 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| – | **KSEM1328R5SSF150** | 33,730 | 1.2380 | 36,000 | 1.4173 | .23 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1344R3SSF150** | **KSEM1344R5SSF150** | 34,130 | 1.3437 | 36,000 | 1.4173 | .24 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1375R3SSF150** | **KSEM1375R5SSF150** | 34,930 | 1.3752 | 36,000 | 1.4173 | .24 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1406R3SSF150** | **KSEM1406R5SSF150** | 35,720 | 1.4063 | 36,000 | 1.4173 | .25 | 3.75 | 1.500 | 9 | 1/4-18 NPT | **364.015** |
| **KSEM1422R3SSF150** | **KSEM1422R5SSF150** | 36,120 | 1.4220 | 40,000 | 1.5748 | .25 | 3.75 | 1.500 | 10 | 1/4-18 NPT | **364.015** |
| **KSEM1438R3SSF150** | **KSEM1438R5SSF150** | 36,520 | 1.4378 | 40,000 | 1.5748 | .25 | 3.75 | 1.500 | 10 | 1/4-18 NPT | **364.015** |
| **KSEM1469R3SSF150** | **KSEM1469R5SSF150** | 37,310 | 1.4689 | 40,000 | 1.5748 | .26 | 3.75 | 1.500 | 10 | 1/4-18 NPT | **364.015** |
| **KSEM1500R3SSF150** | **KSEM1500R5SSF150** | 38,100 | 1.5000 | 40,000 | 1.5748 | .26 | 3.75 | 1.500 | 10 | 1/4-18 NPT | **364.015** |
| **KSEM1514R3SSF150** | **KSEM1514R5SSF150** | 38,460 | 1.5142 | 40,000 | 1.5748 | .27 | 3.75 | 1.500 | 10 | 1/4-18 NPT | **364.015** |

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H91–H92.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H52–H71.



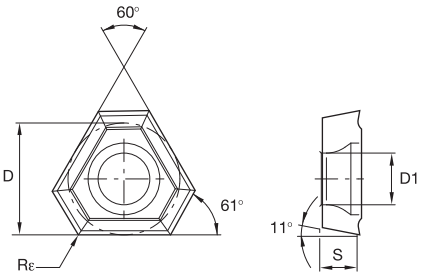


## KSEM Flanged Shank • 8 x D • Inch

| 8 x D | D1 mm | D1 in | D1 max mm | D1 max in | L1 | L3 | L4 max | L5 | LS | D | seat size | CS | central lock screw | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM0625R8SSF075** | 15,875 | .6250 | 16,375 | .6447 | 6.25 | 5.63 | 5.00 | .10 | 2.00 | .750 | 1 | 1/8-27 NPT | **364.010** | **170.271** |
| **KSEM0688R8SSF075** | 17,463 | .6875 | 17,963 | .7072 | 7.00 | 6.38 | 5.50 | .11 | 2.00 | .750 | 1 | 1/8-27 NPT | **364.010** | **170.271** |
| **KSEM0750R8SSF075** | 19,050 | .7500 | 19,550 | .7502 | 7.50 | 6.88 | 6.00 | .12 | 2.00 | .750 | 2 | 1/8-27 NPT | **364.010** | **170.281** |
| **KSEM0750R8SSF100** | 19,050 | .7500 | 19,550 | .7502 | 7.50 | 6.88 | 6.00 | .12 | 3.00 | 1.000 | 2 | 1/4-18 NPT | **364.010** | **170.281** |
| **KSEM0813R8SSF100** | 20,638 | .8125 | 21,138 | .8322 | 8.00 | 7.38 | 6.50 | .13 | 3.00 | 1.000 | 3 | 1/4-18 NPT | **364.011** | **170.282** |
| **KSEM0875R8SSF100** | 22,225 | .8750 | 22,725 | .8947 | 8.50 | 7.88 | 7.00 | .14 | 3.00 | 1.000 | 4 | 1/4-18 NPT | **364.011** | **170.282** |
| **KSEM0875R8SSF125** | 22,225 | .8750 | 22,725 | .8947 | 8.50 | 7.88 | 7.00 | .14 | 3.25 | 1.250 | 4 | 1/4-18 NPT | **364.011** | **170.282** |
| **KSEM0938R8SSF100** | 23,813 | .9375 | 24,000 | .9448 | 9.13 | 8.51 | 7.50 | .15 | 3.00 | 1.000 | 4 | 1/4-18 NPT | **364.011** | **170.282** |
| **KSEM0984R8SSF100** | 25,003 | .9844 | 25,503 | 1.0041 | 9.50 | 8.88 | 7.88 | .15 | 3.00 | 1.000 | 5 | 1/4-18 NPT | **364.012** | **170.283** |
| **KSEM1000R8SSF100** | 25,400 | 1.0000 | 25,900 | 1.0197 | 9.63 | 9.01 | 8.00 | .15 | 3.00 | 1.000 | 5 | 1/4-18 NPT | **364.012** | **170.283** |
| **KSEM1000R8SSF125** | 25,400 | 1.0000 | 25,900 | 1.0197 | 9.63 | 9.01 | 8.00 | .15 | 3.25 | 1.250 | 5 | 1/4-18 NPT | **364.012** | **170.283** |
| **KSEM1063R8SSF125** | 26,988 | 1.0625 | 27,488 | 1.0822 | 10.25 | 9.63 | 8.50 | .16 | 3.25 | 1.250 | 6 | 1/4-18 NPT | **364.012** | **170.283** |
| **KSEM1125R8SSF125** | 28,575 | 1.1250 | 29,075 | 1.1447 | 10.75 | 10.13 | 9.00 | .17 | 3.25 | 1.250 | 7 | 1/4-18 NPT | **364.013** | **170.284** |
| **KSEM1188R8SSF125** | 30,163 | 1.1875 | 30,663 | 1.2072 | 11.38 | 10.76 | 9.50 | .18 | 3.25 | 1.250 | 8 | 1/4-18 NPT | **364.013** | **170.284** |
| **KSEM1250R8SSF125** | 31,750 | 1.2500 | 32,000 | 1.2598 | 11.88 | 11.26 | 10.00 | .19 | 3.25 | 1.250 | 8 | 1/4-18 NPT | **364.013** | **170.284** |
| **KSEM1250R8SSF150** | 31,750 | 1.2500 | 32,000 | 1.2598 | 11.88 | 11.26 | 10.00 | .19 | 3.75 | 1.500 | 8 | 1/4-18 NPT | **364.013** | **170.284** |

## KSEM Chamfering Solutions

- Drilling and chamfering in one operation.
- No height adjustment required.
- Low setup time.
- Use standard inserts.
- Tool bodies available as standard.



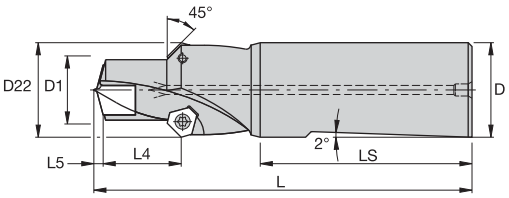

● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | | ● | ○ |
| M | ● | ○ | ○ |
| K | | ○ | ● |
| N | ○ | ● | ○ |
| S | | ○ | ● |
| H | | | |

## TPGX-GD Geometry

| | D | | S | | Rε | | D1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | KC7015 | KC7315 | KC7140 |
| **TPGX0902ZPRGD** | 5,56 | .219 | 2,38 | .094 | 0,20 | .008 | 2,50 | .098 | ● | ● | ● |
| **TPGX1102ZPRGD** | 6,35 | .250 | 2,38 | .094 | 0,20 | .008 | 2,85 | .112 | ● | ● | ● |
| **TPGX1303ZPRGD** | 7,94 | .313 | 3,18 | .125 | 0,20 | .008 | 3,40 | .134 | ● | ● | ● |
| **TPGX1603ZPRGD** | 9,52 | .375 | 3,18 | .125 | 0,20 | .008 | 4,40 | .173 | ● | ● | ● |

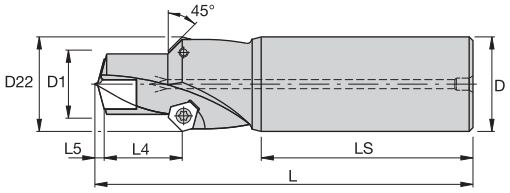
- Use any KSEM insert blade diameter within the designated seat size.
- Drill shipped with central lock screw, insert screw, and wrenches.
- Order insert blades separately; see pages H52–H71.
- Order TPGX chamfering insert separately; see page H85.



## KSEM Bodies • WN/WD50 Shank with Chamfer • 1 x D • Metric

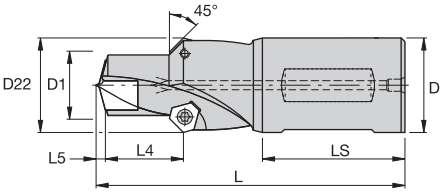
| 1 x D | D1 mm | D1 in | D1 max mm | D1 max in | D22 | L | L4 max | L5 | LS | D | seat size | chamfer insert | central lock screw | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM125R1WN16F45M** | 12,500 | .4921 | 13,500 | .5314 | 18 | 107 | 14 | 2,0 | 48,0 | 16 | C | KSEM1250 | **364.017** | **170.051** |
| **KSEM136R1WN16F45M** | 13,510 | .5319 | 14,500 | .5708 | 19 | 107 | 15 | 2,2 | 48,0 | 16 | B | KSEM1351 | **364.016** | **170.289** |
| **KSEM146R1WN20F45M** | 14,510 | .5713 | 15,874 | .6249 | 20 | 109 | 16 | 2,3 | 50,0 | 20 | A | KSEM1451 | **364.016** | **170.289** |
| **KSEM160R1WN20F45M** | 16,000 | .6299 | 18,000 | .7086 | 22 | 110 | 18 | 2,5 | 50,0 | 20 | 1 | KSEM1600 | **364.010** | **170.270** |
| **KSEM181R1WN25F45M** | 18,010 | .7091 | 19,999 | .7873 | 25 | 118 | 20 | 2,9 | 56,0 | 25 | 2 | KSEM1801 | **364.010** | **170.270** |
| **KSEM200R1WN25F45M** | 20,000 | .7874 | 22,000 | .8661 | 28 | 120 | 22 | 3,2 | 56,0 | 25 | 3 | KSEM2000 | **364.011** | **170.272** |
| **KSEM221R1WN25F45M** | 22,010 | .8665 | 24,000 | .9448 | 30 | 123 | 24 | 3,5 | 56,0 | 25 | 4 | KSEM2201 | **364.011** | **170.272** |
| **KSEM241R1WN32F45M** | 24,010 | .9453 | 26,000 | 1.0236 | 34 | 129 | 26 | 3,8 | 60,0 | 32 | 5 | KSEM2401 | **364.012** | **170.055** |
| **KSEM261R1WN32F45M** | 26,010 | 1.0240 | 28,000 | 1.1023 | 36 | 131 | 28 | 4,0 | 60,0 | 32 | 6 | KSEM2601 | **364.012** | **170.055** |
| **KSEM281R1WN32F45M** | 28,016 | 1.1030 | 30,000 | 1.1811 | 38 | 134 | 30 | 4,3 | 60,0 | 32 | 7 | KSEM2801 | **364.013** | **170.276** |
| **KSEM301R1WN32F45M** | 30,010 | 1.1815 | 32,000 | 1.2598 | 40 | 136 | 32 | 4,6 | 60,0 | 32 | 8 | KSEM3001 | **364.013** | **170.276** |
| **KSEM321R1WD50F45M** | 32,010 | 1.2602 | 36,000 | 1.4173 | 42 | 155 | 36 | 4,9 | 68,0 | 50 | 9 | KSEM3201 | **364.015** | **170.276** |
| **KSEM361R1WD50F45M** | 36,010 | 1.4177 | 40,000 | 1.5748 | 46 | 165 | 40 | 5,5 | 68,0 | 50 | 10 | KSEM3601 | **364.015** | **170.276** |

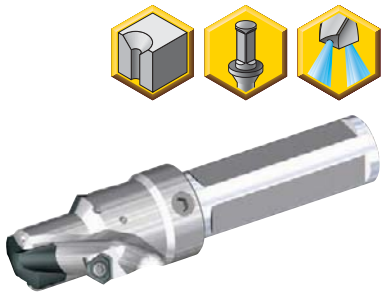
- Use any KSEM insert blade diameter within the designated seat size.
- Drill shipped with central lock screw, insert screw, and wrenches.
- Order insert blades separately; see pages H52–H71.
- Order TPGX chamfering insert separately; see page H85.



## KSEM Bodies • WN/WD50 Shank with Chamfer • 1 x D • Metric

| 1 x D | D1 mm | D1 in | D1 max mm | D1 max in | D22 | L | L4 max | L5 | LS | D | seat size | chamfer insert | central lock screw | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM125R1WN16F45M** | 12,500 | .4921 | 13,500 | .5314 | 18 | 107 | 14 | 2,0 | 48,0 | 16 | C | KSEM1250 | **364.017** | **170.051** |
| **KSEM136R1WN16F45M** | 13,510 | .5319 | 14,500 | .5708 | 19 | 107 | 15 | 2,2 | 48,0 | 16 | B | KSEM1351 | **364.016** | **170.289** |
| **KSEM146R1WN20F45M** | 14,510 | .5713 | 15,874 | .6249 | 20 | 109 | 16 | 2,3 | 50,0 | 20 | A | KSEM1451 | **364.016** | **170.289** |
| **KSEM160R1WN20F45M** | 16,000 | .6299 | 18,000 | .7086 | 22 | 110 | 18 | 2,5 | 50,0 | 20 | 1 | KSEM1600 | **364.010** | **170.270** |
| **KSEM181R1WN25F45M** | 18,010 | .7091 | 19,999 | .7873 | 25 | 118 | 20 | 2,9 | 56,0 | 25 | 2 | KSEM1801 | **364.010** | **170.270** |
| **KSEM200R1WN25F45M** | 20,000 | .7874 | 22,000 | .8661 | 28 | 120 | 22 | 3,2 | 56,0 | 25 | 3 | KSEM2000 | **364.011** | **170.272** |
| **KSEM221R1WN25F45M** | 22,010 | .8665 | 24,000 | .9448 | 30 | 123 | 24 | 3,5 | 56,0 | 25 | 4 | KSEM2201 | **364.011** | **170.272** |
| **KSEM241R1WN32F45M** | 24,010 | .9453 | 26,000 | 1.0236 | 34 | 129 | 26 | 3,8 | 60,0 | 32 | 5 | KSEM2401 | **364.012** | **170.055** |
| **KSEM261R1WN32F45M** | 26,010 | 1.0240 | 28,000 | 1.1023 | 36 | 131 | 28 | 4,0 | 60,0 | 32 | 6 | KSEM2601 | **364.012** | **170.055** |
| **KSEM281R1WN32F45M** | 28,016 | 1.1030 | 30,000 | 1.1811 | 38 | 134 | 30 | 4,3 | 60,0 | 32 | 7 | KSEM2801 | **364.013** | **170.276** |
| **KSEM301R1WN32F45M** | 30,010 | 1.1815 | 32,000 | 1.2598 | 40 | 136 | 32 | 4,6 | 60,0 | 32 | 8 | KSEM3001 | **364.013** | **170.276** |
| **KSEM321R1WD50F45M** | 32,010 | 1.2602 | 36,000 | 1.4173 | 42 | 155 | 36 | 4,9 | 68,0 | 50 | 9 | KSEM3201 | **364.015** | **170.276** |
| **KSEM361R1WD50F45M** | 36,010 | 1.4177 | 40,000 | 1.5748 | 46 | 165 | 40 | 5,5 | 68,0 | 50 | 10 | KSEM3601 | **364.015** | **170.276** |

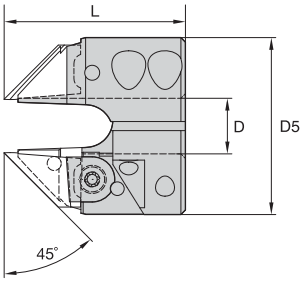


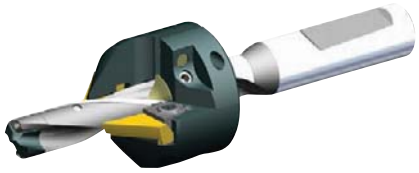



## KSEM Bodies • Flanged Shank with Chamfer • 1 x D • Inch

| 1 x D | D1 mm | D1 in | D1 max mm | D1 max in | D22 | L | L4 max | L5 | LS | D | seat size | chamfer insert | central lock screw | pipe plug | wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KSEM0493R1SSF075F45** | 12,500 | .4921 | 13,500 | .5314 | .70 | 4.00 | .53 | .08 | 2.00 | .750 | C | KSEM1250 | **364.017** | **HSFS0125** | **170.051** |
| **KSEM0532R1SSF075F45** | 13,600 | .5354 | 14,500 | .5708 | .74 | 4.25 | .57 | .08 | 2.00 | .750 | B | KSEM1360 | **364.016** | **HSFS0125** | **170.289** |
| **KSEM0571R1SSF075F45** | 14,600 | .5748 | 15,874 | .6249 | .77 | 4.25 | .62 | .09 | 2.00 | .750 | A | KSEM1460 | **364.016** | **HSFS0125** | **170.289** |
| **KSEM0625R1SSF075F45** | 15,880 | .6252 | 18,000 | .7086 | .88 | 4.25 | .71 | .10 | 2.00 | .750 | 1 | KSEM0625 | **364.010** | **HSFS0125** | **170.270** |
| **KSEM0709R1SSF075F45** | 18,260 | .7189 | 19,999 | .7873 | .96 | 4.25 | .78 | .11 | 2.00 | .750 | 2 | KSEM0719 | **364.010** | **HSFS0125** | **170.270** |
| **KSEM0788R1SSF100F45** | 20,000 | .7874 | 22,000 | .8661 | 1.11 | 5.50 | .87 | .13 | 3.00 | 1.000 | 3 | KSEM2000 | **364.011** | **HSFS0125** | **170.272** |
| **KSEM0867R1SSF100F45** | 22,230 | .8752 | 24,000 | .9448 | 1.19 | 5.50 | .94 | .14 | 3.00 | 1.000 | 4 | KSEM0875 | **364.011** | **HSFS0125** | **170.272** |
| **KSEM0945R1SSF100F45** | 24,500 | .9646 | 26,000 | 1.0236 | 1.34 | 5.75 | 1.02 | .15 | 3.00 | 1.000 | 5 | KSEM2450 | **364.012** | **HSFS0125** | **170.055** |
| **KSEM1024R1SSF125F45** | 26,187 | 1.0310 | 28,000 | 1.1023 | 1.42 | 5.75 | 1.10 | .16 | 3.25 | 1.250 | 6 | KSEM1031 | **364.012** | **HSFS0125** | **170.055** |
| **KSEM1103R1SSF125F45** | 28,169 | 1.1090 | 30,000 | 1.1811 | 1.50 | 6.25 | 1.18 | .17 | 3.25 | 1.250 | 7 | KSEM1109 | **364.013** | **HSFS0125** | **170.276** |
| **KSEM1182R1SSF125F45** | 30,160 | 1.1874 | 32,000 | 1.2598 | 1.58 | 6.25 | 1.26 | .18 | 3.25 | 1.250 | 8 | KSEM1188 | **364.013** | **HSFS0125** | **170.276** |
| **KSEM1260R1SSF125F45** | 32,500 | 1.2795 | 36,000 | 1.4173 | 1.66 | 6.25 | 1.42 | .19 | 3.25 | 1.250 | 9 | KSEM3250 | **364.015** | **HSFS0125** | **170.276** |
| **KSEM1418R1SSF125F45** | 36,119 | 1.4220 | 40,000 | 1.5748 | 1.82 | 6.25 | 1.57 | .22 | 3.25 | 1.250 | 10 | KSEM1422 | **364.015** | **HSFS0125** | **170.276** |

- The NEW chamfering rings for KSEM are available in a diameter range of 12,5–32mm.
- The KSEM SEF ring is double-edged, features a more rigid design to withstand high feed rates, and reduces time-consuming deburring and small chamfer operations.
- Reduce machining time — combine drilling and chamfering in one operation.
- Short-term availability — standard tooling off-the-shelf — KSEM body and inserts, SEF ring, and SEFAS™ inserts.
- Flexibility — adjustable drilling depth.
- For speed and feed recommendations, please refer to catalog recommendations based on geometry and tool body length of the carrying KSEM tool.
- Small chamfers up to 1mm do not need further feed reduction.
- At deeper chamfers, a feed rate reduction of 50% is highly recommended to avoid vibrations and movement of the ring during operation.
- For inserts, please refer to SEFAS System.



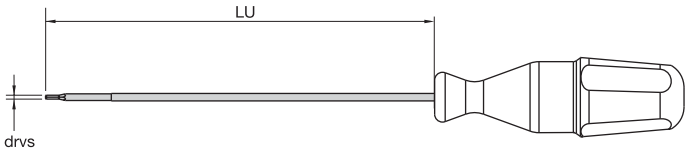





## KSEM Chamfer Rings

| | D | | L | | D5 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | clamp assembly | chip deflector | chip deflector screw | drill clamp screw |
| **KSEM125SEFM** | 12,5 | .4921 | 40 | 1.57 | 39 | 1.54 | 360.551 | 360.660 | 128.508 | 191.726 |
| **KSEM130SEFM** | 13,0 | .5118 | 40 | 1.57 | 39 | 1.54 | 360.551 | 360.660 | 128.508 | 191.726 |
| **KSEM135SEFM** | 13,5 | .5315 | 40 | 1.57 | 39 | 1.54 | 360.551 | 360.660 | 128.508 | 191.726 |
| **KSEM140SEFM** | 14,0 | .5512 | 40 | 1.57 | 40 | 1.57 | 360.551 | 360.661 | 128.508 | 199.123 |
| **KSEM145SEFM** | 14,5 | .5709 | 40 | 1.57 | 40 | 1.57 | 360.551 | 360.661 | 128.508 | 199.123 |
| **KSEM150SEFM** | 15,0 | .5906 | 40 | 1.57 | 40 | 1.57 | 360.551 | 360.662 | 128.508 | 199.123 |
| **KSEM155SEFM** | 15,5 | .6102 | 40 | 1.57 | 40 | 1.57 | 360.551 | 360.662 | 128.508 | 199.123 |
| **KSEM160SEFM** | 16,0 | .6299 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.663 | 128.508 | 199.123 |
| **KSEM165SEFM** | 16,5 | .6496 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.663 | 128.508 | 199.123 |
| **KSEM170SEFM** | 17,0 | .6693 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.663 | 128.508 | 199.123 |
| **KSEM175SEFM** | 17,5 | .6890 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.663 | 128.508 | 199.123 |
| **KSEM180SEFM** | 18,0 | .7087 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.663 | 128.508 | 199.123 |
| **KSEM185SEFM** | 18,5 | .7283 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.664 | 128.508 | 199.123 |
| **KSEM190SEFM** | 19,0 | .7480 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.664 | 128.508 | 199.123 |
| **KSEM195SEFM** | 19,5 | .7677 | 42 | 1.65 | 43 | 1.69 | 360.551 | 360.664 | 128.508 | 199.123 |
| **KSEM200SEFM** | 20,0 | .7874 | 48 | 1.89 | 50 | 1.97 | 360.551 | 360.665 | 128.510 | 199.123 |
| **KSEM205SEFM** | 20,5 | .8071 | 48 | 1.89 | 50 | 1.97 | 360.551 | 360.665 | 128.510 | 199.123 |
| **KSEM210SEFM** | 21,0 | .8268 | 48 | 1.89 | 50 | 1.97 | 360.551 | 360.665 | 128.510 | 199.123 |
| **KSEM215SEFM** | 21,5 | .8465 | 48 | 1.89 | 50 | 1.97 | 360.551 | 360.665 | 128.510 | 199.123 |
| **KSEM220SEFM** | 22,0 | .8661 | 48 | 1.89 | 50 | 1.97 | 360.551 | 360.665 | 128.510 | 199.123 |
| **KSEM225SEFM** | 22,5 | .8858 | 50 | 1.97 | 50 | 1.97 | 360.551 | 360.666 | 128.510 | – |
| **KSEM230SEFM** | 23,0 | .9055 | 50 | 1.97 | 50 | 1.97 | 360.551 | 360.666 | 128.510 | – |
| **KSEM235SEFM** | 23,5 | .9252 | 50 | 1.97 | 50 | 1.97 | 360.551 | 360.666 | 128.510 | – |
| **KSEM240SEFM** | 24,0 | .9449 | 50 | 1.97 | 50 | 1.97 | 360.551 | 360.666 | 128.510 | – |
| **KSEM245SEFM** | 24,5 | .9646 | 54 | 2.13 | 55 | 2.17 | 360.551 | 360.667 | 128.510 | – |
| **KSEM250SEFM** | 25,0 | .9843 | 54 | 2.13 | 55 | 2.17 | 360.551 | 360.667 | 128.510 | – |
| **KSEM255SEFM** | 25,5 | 1.0039 | 54 | 2.13 | 55 | 2.17 | 360.551 | 360.667 | 128.510 | – |
| **KSEM260SEFM** | 26,0 | 1.0236 | 54 | 2.13 | 55 | 2.17 | 360.551 | 360.667 | 128.510 | – |
| **KSEM265SEFM** | 26,5 | 1.0433 | 56 | 2.20 | 55 | 2.17 | 360.551 | 360.668 | 128.510 | – |
| **KSEM270SEFM** | 27,0 | 1.0630 | 56 | 2.20 | 55 | 2.17 | 360.551 | 360.668 | 128.510 | – |
| **KSEM275SEFM** | 27,5 | 1.0827 | 56 | 2.20 | 55 | 2.17 | 360.551 | 360.668 | 128.510 | – |
| **KSEM280SEFM** | 28,0 | 1.1024 | 56 | 2.20 | 55 | 2.17 | 360.551 | 360.668 | 128.510 | – |
| **KSEM285SEFM** | 28,5 | 1.1220 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.669 | 128.510 | – |
| **KSEM290SEFM** | 29,0 | 1.1417 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.669 | 128.510 | – |
| **KSEM295SEFM** | 29,5 | 1.1614 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.669 | 128.510 | – |
| **KSEM300SEFM** | 30,0 | 1.1811 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.669 | 128.510 | – |
| **KSEM305SEFM** | 30,5 | 1.2008 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.670 | 128.510 | – |
| **KSEM310SEFM** | 31,0 | 1.2205 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.670 | 128.510 | – |
| **KSEM315SEFM** | 31,5 | 1.2402 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.670 | 128.510 | – |
| **KSEM320SEFM** | 32,0 | 1.2598 | 61 | 2.40 | 60 | 2.36 | 360.551 | 360.670 | 128.510 | – |

NOTE: Order inserts separately; see the SEFAS system on page I30.

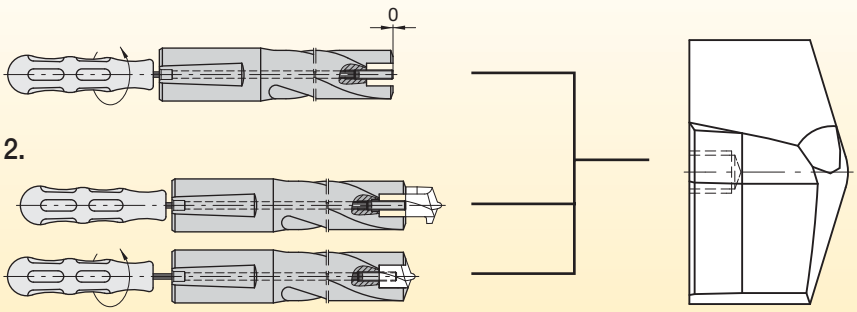


## KSEM Wrenches

| order number | catalog number | central lock screw D1<32mm | central lock screw D1≥32mm | DRVS | LU mm | LU in |
|---|---|---|---|---|---|---|
| **1126021** | **170.270** | 364.010 | – | 1.5 mm | 185,00 | 7 |
| **1126032** | **170.271** | 364.010 | – | 1.5 mm | 225,00 | 9 |
| **1510773** | **170.281** | 364.010 | – | 1.5 mm | 297,00 | 12 |
| **1255899** | **170.285** | 364.010 | – | 1.5 mm | 351,00 | 14 |
| **1126040** | **170.272** | 364.011 | – | 2 mm | 210,00 | 8 |
| **1126049** | **170.273** | 364.011 | – | 2 mm | 260,00 | 10 |
| **1510776** | **170.282** | 364.011 | – | 2 mm | 343,00 | 14 |
| **1255900** | **170.286** | 364.011 | – | 2 mm | 405,00 | 16 |
| **1126066** | **170.274** | 364.012 | – | 2.5 mm | 240,00 | 9 |
| **1126072** | **170.275** | 364.012 | – | 2.5 mm | 295,00 | 12 |
| **1510779** | **170.283** | 364.012 | – | 2.5 mm | 393,00 | 15 |
| **1255901** | **170.287** | 364.012 | – | 2.5 mm | 459,00 | 18 |
| **1126079** | **170.276** | 364.101 | 364.015 | 3 mm | 265,00 | 10 |
| **1126088** | **170.277** | 364.101 | 364.015 | 3 mm | 330,00 | 13 |
| **1510781** | **170.284** | 364.101 | 364.015 | 3 mm | 439,00 | 17 |
| **1255902** | **170.288** | 364.101 | 364.015 | 3 mm | 513,00 | 20 |
| **1834819** | **170.294** | 364.017 | – | T5 | 156,00 | 6 |
| **1836470** | **170.295** | 364.017 | – | T5 | 188,00 | 7 |
| **1836471** | **170.296** | 364.017 | – | T5 | 290,00 | 11 |
| **1795811** | **170.289** | 364.016 | – | T6 | 156,00 | 6 |
| **1795956** | **170.290** | 364.016 | – | T6 | 188,00 | 7 |
| **1795960** | **170.291** | 364.016 | – | T6 | 290,00 | 11 |

## Mounting the Inserts

1.




### Inserts (<32mm) without Connector Pin

1) Use the screwdriver to set the threaded pin:
   - For inserts up to Ø 32mm, flush with the drill face.
   - For inserts bigger Ø 32mm, set 2mm below the drill face.

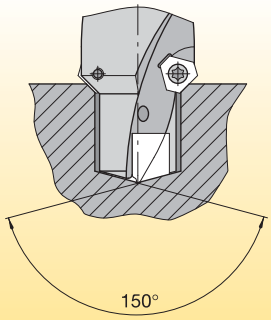
2) Tighten the insert using the screwdriver to fit securely in the insert seat.

To change the insert, turn the clamping screw counter-clockwise until the insert is released.

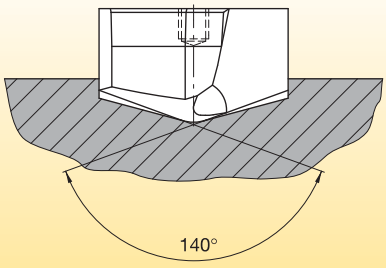
## Repair of Damaged Threaded Pin

In the event that the central threaded pin becomes damaged, it can be removed after severing it in the tool body. To do this, drill beneath the insert seat in the tool body. The insert and threaded pin can then be removed. For information regarding the position and diameter of this repair hole, please refer to the manual (sheet **290.001 D/GB**) supplied with the tool body.

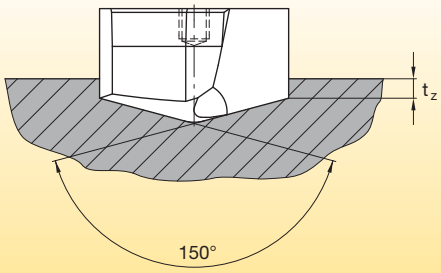
NOTE: For inserts without a connector pin, avoid jamming during mounting through precise positioning.




Precentering with FAS centering tool




HP inserts of the follower drill




Centering using PC inserts

## Why is pre-centering necessary?

- Generally speaking, for drilling depths 5x the nominal diameter and above (5 x D).
- In unstable conditions (workpiece and tool clamping).

## Why pre-center using PC inserts?

- Soft-cut entry of follower drill due to 150° point angle of the PC insert.
- No extension of the follower drill in the entry area.
- Prevent chipping and breaking on the cutting edges.
- To avoid deflection, it is recommended to pre-center with PC inserts using toolholders as short as possible (1 x D).

## What happens if...
## ...a center cannot be used for technical reasons?

- Spot drill with normal insert at normal and reduced cutting data (approximately 1/2 vc and approximately 1/2 vf), then continue drilling with regular cutting data without lifting off/stopping.

## ...there is no suitable PC cutting insert in the standard range (ø)?

- Use a made-to-order PC insert with k7 tolerance in the required nominal diameter.

  OR

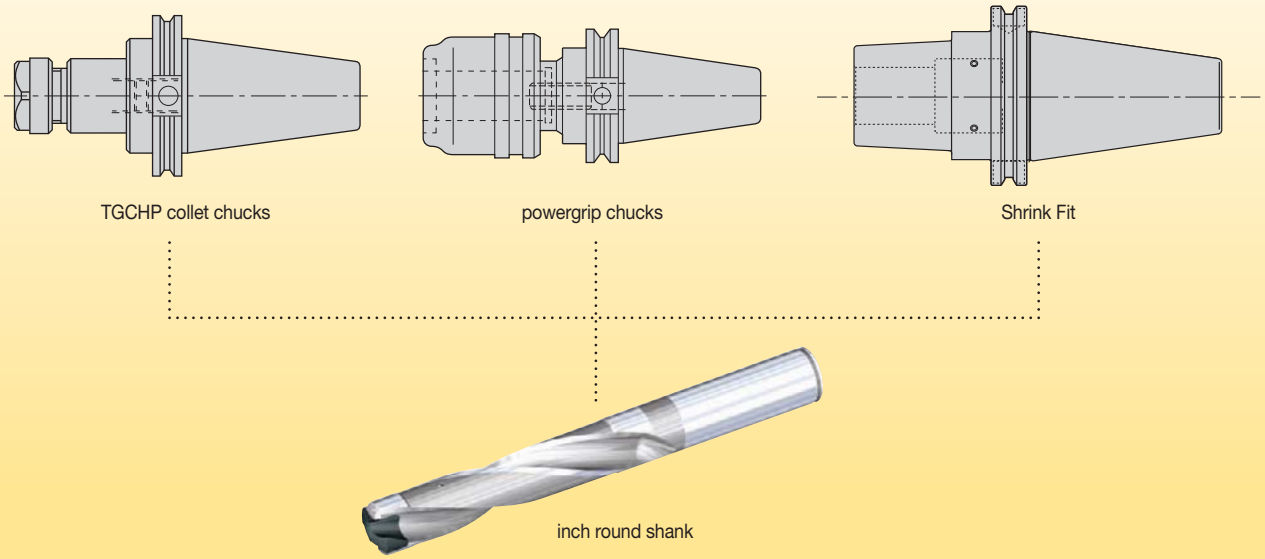
- Pre-center, using the same cutting insert as used for the follower drill but without the cutting edges penetrating the workpiece (spot drill ø approximately 90% of drill ø D1).

## ...only one tool body is required?

- Enter the workpiece with 50% feed until the cutting edges and the heels have penetrated the hole, then continue drilling without lifting off/stopping using regular cutting data.

## Rotating Applications

KSEM inch drills with round shanks (no flats) are specifically designed for rotating applications where the drill rotates and the workpiece remains stationary.
The shank to drill-point location of these drills is held to an extremely close tolerance. To maintain accuracy, and get maximum performance from the KSEM drill, use only the approved toolholding method shown below.



TGCHP collet chucks | powergrip chucks | Shrink Fit

inch round shank

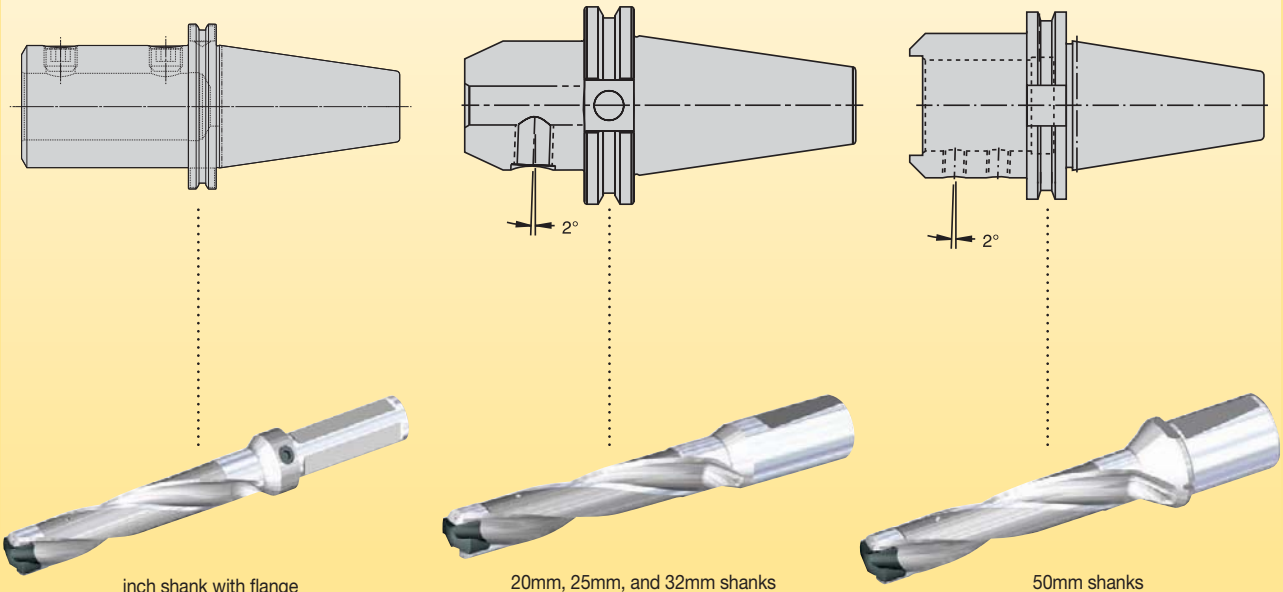
## Inch Drill Bodies with Flange

KSEM inch drills with a flange can be used in rotating applications where the drill rotates and the workpiece remains stationary. To maintain accuracy and get maximum performance from the drill, use only the approved toolholding method shown here.

## Metric Drill Bodies with a 2° Whistle Notch

KSEM metric drills come equipped with 2° Whistle Notch shanks. The 20mm, 25mm, and 32mm diameter shanks use WN adapters. The 50mm shank uses a WD adapter. Choose the correct adapter to minimize runout and securely hold the drill.

SSF straight-shank flanged adapter | WN adapters | WD adapters




inch shank with flange

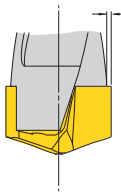
20mm, 25mm, and 32mm shanks
(DIN 1835, Form E)

50mm shanks

Insert blades may be used, within limits, on different drill bodies. The insert blade must be of the same seat size. Overhang (see Figure 1) must be kept under .0098" (0,250mm) per side. For best drilling performance, rigidity, and efficient chip evacuation, always use the first-choice steel body. Performance may be compromised by using alternatives. In some applications, chips may bind between the drill body and the hole wall — especially when machining long-chipping materials like austenitic stainless steel and low-carbon steel.

(does not apply to stub length drills)

Figure 1






**diameter D**

| inch | mm | insert blade | seat size | first choice | alternate body 1 | alternate body 2 | alternate body 3 | alternate body 4 |
|---|---|---|---|---|---|---|---|---|
| .492 | 12,50 | KSEM1250 | C | KSEM125..M | – | – | – | – |
| .500 | 12,70 | KSEM0500 | C | KSEM0500.. | KSEM125..M | – | – | – |
| .509 | 12,93 | KSEM0509 | C | KSEM0509.. | KSEM0500.. | KSEM125..M | – | – |
| .512 | 13,00 | KSEM1300 | C | KSEM130..M | KSEM0509.. | KSEM0500.. | KSEM125..M | – |
| .516 | 13,10 | KSEM0516 | C | KSEM0516.. | KSEM130..M | KSEM0509.. | KSEM0500.. | – |
| .531 | 13,50 | KSEM1350 | C | KSEM135..M | KSEM0531.. | KSEM0516.. | KSEM130..M | – |
| .547 | 13.89 | KSEM0547 | B | KSEM0547.. | KSEM136..M | – | – | – |
| .551 | 14,00 | KSEM1400 | B | KSEM140..M | KSEM136..M | KSEM0547.. | – | – |
| .563 | 14,29 | KSEM0563 | B | KSEM0563.. | KSEM140..M | KSEM0547.. | – | – |
| .571 | 14,50 | KSEM1450 | B | KSEM145..M | KSEM0563.. | KSEM140..M | – | – |
| .578 | 14,68 | KSEM0578 | A | KSEM0578.. | KSEM146..M | – | – | – |
| .591 | 15,00 | KSEM1500 | A | KSEM150..M | KSEM146..M | KSEM0578.. | – | – |
| .594 | 15,08 | KSEM0594 | A | KSEM0594.. | KSEM150..M | KSEM0578.. | – | – |
| .609 | 15,48 | KSEM0609 | A | KSEM0609.. | KSEM0594.. | KSEM150..M | – | – |
| .610 | 15,50 | KSEM1550 | A | KSEM155..M | KSEM0609.. | KSEM0594.. | KSEM150..M | – |
| .625 | 15,88 | KSEM0625 | 1 | KSEM0625.. | – | – | – | – |
| .630 | 16,00 | KSEM1600 | 1 | KSEM160..M | KSEM0625.. | – | – | – |
| .634 | 16,09 | KSEM0634 | 1 | KSEM0634.. | KSEM160..M | KSEM0625.. | – | – |
| .641 | 16,27 | KSEM0641 | 1 | KSEM0641.. | KSEM0634.. | KSEM160..M | KSEM0625.. | – |
| .650 | 16,50 | KSEM1650 | 1 | KSEM165..M | KSEM0641.. | KSEM0634.. | – | – |
| .656 | 16,67 | KSEM0656 | 1 | KSEM0656.. | KSEM165..M | KSEM0641.. | – | – |
| .669 | 17,00 | KSEM1700 | 1 | KSEM170..M | KSEM0656.. | KSEM165..M | – | – |
| .672 | 17,07 | KSEM0672 | 1 | KSEM0672.. | KSEM170..M | KSEM0656.. | – | – |
| .688 | 17,46 | KSEM0688 | 1 | KSEM0688.. | KSEM0672.. | KSEM170..M | – | – |
| .689 | 17,50 | KSEM1750 | 1 | KSEM175..M | KSEM0688.. | KSEM0672.. | KSEM170..M | – |
| .700 | 17,78 | KSEM0700 | 1 | N/A | KSEM175..M | KSEM0688.. | – | – |
| .703 | 17,86 | KSEM0703 | 1 | KSEM0703.. | KSEM175..M | KSEM0688.. | – | – |
| .709 | 18,00 | KSEM1800 | 1 | KSEM180..M | KSEM0703.. | KSEM175..M | – | – |
| .719 | 18,26 | KSEM0719 | 2 | KSEM0719.. | KSEM181..M | – | – | – |
| .728 | 18,50 | KSEM1850 | 2 | KSEM185..M | KSEM0719.. | KSEM181..M | – | – |
| .734 | 18,65 | KSEM0734 | 2 | KSEM0734.. | KSEM185..M | KSEM0719.. | – | – |
| .748 | 19,00 | KSEM1900 | 2 | KSEM190..M | KSEM0734.. | KSEM185..M | – | – |
| .750 | 19,05 | KSEM0750 | 2 | KSEM0750.. | KSEM190..M | KSEM0734.. | – | – |
| .759 | 19,27 | KSEM0759 | 2 | KSEM0759.. | KSEM0750.. | KSEM190..M | – | – |
| .766 | 19,45 | KSEM0766 | 2 | KSEM0766.. | KSEM0759.. | KSEM0750.. | KSEM190..M | – |
| .768 | 19,50 | KSEM1950 | 2 | KSEM195..M | KSEM0766.. | KSEM0759.. | KSEM0750.. | KSEM190..M |
| .781 | 19,84 | KSEM0781 | 2 | KSEM0781.. | KSEM195..M | KSEM0766.. | – | – |
| .787 | 20,00 | KSEM2000 | 3 | KSEM200..M | – | – | – | – |
| .797 | 20,24 | KSEM0797 | 3 | KSEM0797.. | KSEM200..M | – | – | – |
| .800 | 20,32 | KSEM0800 | 3 | N/A | KSEM0797.. | KSEM200..M | – | – |
| .807 | 20,50 | KSEM2050 | 3 | KSEM205..M | KSEM0797.. | KSEM200..M | – | – |
| .813 | 20,64 | KSEM0813 | 3 | KSEM0813.. | KSEM205..M | KSEM0797.. | – | – |
| .827 | 21,00 | KSEM2100 | 3 | KSEM210..M | KSEM0813.. | KSEM205..M | – | – |
| .844 | 21,43 | KSEM0844 | 3 | KSEM0844.. | KSEM210..M | – | – | – |
| .847 | 21,50 | KSEM2150 | 3 | KSEM215..M | KSEM0844.. | KSEM210..M | – | – |
| .859 | 21,83 | KSEM0859 | 3 | KSEM0859.. | KSEM215..M | KSEM0844.. | – | – |
| .866 | 22,00 | KSEM2200 | 3 | KSEM220..M | KSEM0859.. | KSEM215..M | – | – |
| .875 | 22,23 | KSEM0875 | 4 | KSEM0875.. | KSEM221..M | – | – | – |
| .884 | 22,44 | KSEM0884 | 4 | KSEM0884.. | KSEM0875.. | KSEM221..M | – | – |
| .886 | 22,50 | KSEM2250 | 4 | KSEM225..M | KSEM0884.. | KSEM0875.. | KSEM221..M | – |
| .906 | 23,00 | KSEM2300 | 4 | KSEM230..M | KSEM0906.. | KSEM225..M | – | – |
| .922 | 23,42 | KSEM0922 | 4 | KSEM0922.. | KSEM230..M | – | – | – |
| .925 | 23,50 | KSEM2350 | 4 | KSEM235..M | KSEM0922.. | KSEM230..M | – | – |
| .938 | 23,81 | KSEM0938 | 4 | KSEM0938.. | KSEM235..M | KSEM0922.. | – | – |
| .945 | 24,00 | KSEM2400 | 4 | KSEM240..M | KSEM0938.. | KSEM235..M | – | – |

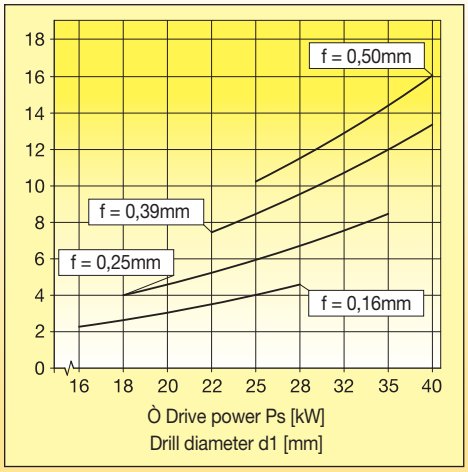
*(continued)*

*(continued)*

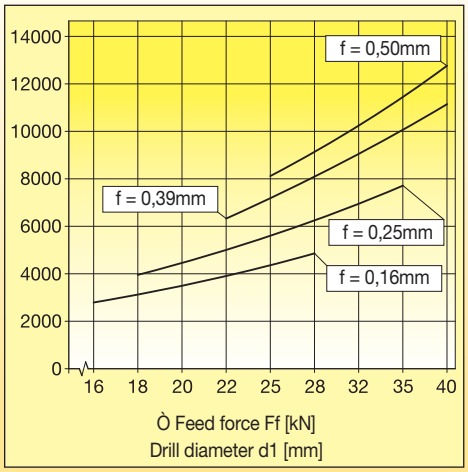
**diameter D**

| inch | mm | insert blade | seat size | first choice | alternate body 1 | alternate body 2 | alternate body 3 | alternate body 4 |
|---|---|---|---|---|---|---|---|---|
| .965 | 24,50 | KSEM2450 | 5 | KSEM245..M | KSEM241..M | – | – | – |
| .969 | 24,61 | KSEM0969 | 5 | KSEM0969.. | KSEM245..M | – | – | – |
| .984 | 25,00 | KSEM2500 | 5 | KSEM250..M | KSEM0984.. | KSEM0969.. | KSEM245..M | – |
| 1.000 | 25,40 | KSEM1000 | 5 | KSEM1000.. | KSEM250..M | – | – | – |
| 1.004 | 25,50 | KSEM2550 | 5 | KSEM255..M | KSEM1000.. | KSEM250..M | – | – |
| 1.011 | 25,67 | KSEM1011 | 5 | KSEM1011.. | KSEM255..M | – | – | – |
| 1.024 | 26,00 | KSEM2600 | 5 | KSEM260..M | KSEM1011.. | KSEM255..M | – | – |
| 1.031 | 26,19 | KSEM1031 | 6 | KSEM1031.. | KSEM261..M | – | – | – |
| 1.043 | 26,50 | KSEM2650 | 6 | KSEM265..M | KSEM1031.. | KSEM261..M | – | – |
| 1.047 | 26,59 | KSEM1047 | 6 | KSEM1047.. | KSEM265..M | KSEM1031.. | KSEM261..M | – |
| 1.063 | 27,00 | KSEM2700 | 6 | KSEM270..M | KSEM1063.. | KSEM1047.. | KSEM265..M | – |
| 1.083 | 27,50 | KSEM2750 | 6 | KSEM275..M | KSEM270..M | KSEM1063.. | – | – |
| 1.094 | 27,78 | KSEM1094 | 6 | KSEM1094.. | KSEM275..M | – | – | – |
| 1.102 | 28,00 | KSEM2800 | 6 | KSEM280..M | KSEM1094.. | KSEM275..M | – | – |
| 1.109 | 28,18 | KSEM1109 | 7 | KSEM1109.. | KSEM281..M | – | – | – |
| 1.122 | 28,50 | KSEM2850 | 7 | KSEM285..M | KSEM1109.. | KSEM281..M | – | – |
| 1.125 | 28,58 | KSEM1125 | 7 | KSEM1125.. | KSEM285..M | KSEM1109.. | KSEM281..M | – |
| 1.142 | 29,00 | KSEM2900 | 7 | KSEM290..M | KSEM1125.. | KSEM285..M | – | – |
| 1.156 | 29,37 | KSEM1156 | 7 | KSEM1156.. | KSEM290..M | – | – | – |
| 1.161 | 29,50 | KSEM2950 | 7 | KSEM295..M | KSEM1156.. | KSEM290..M | – | – |
| 1.172 | 29,77 | KSEM1172 | 7 | KSEM1172.. | KSEM295..M | KSEM1156.. | – | – |
| 1.181 | 30,00 | KSEM3000 | 7 | KSEM300..M | KSEM1172.. | KSEM295..M | – | – |
| 1.188 | 30,16 | KSEM1188 | 8 | KSEM1188.. | KSEM301..M | – | – | – |
| 1.201 | 30,50 | KSEM3050 | 8 | KSEM305..M | KSEM1188.. | KSEM301..M | – | – |
| 1.203 | 30,56 | KSEM1203 | 8 | KSEM1203.. | KSEM305..M | KSEM1188.. | KSEM301..M | – |
| 1.219 | 30,96 | KSEM1219 | 8 | KSEM1219.. | KSEM1203.. | KSEM305..M | – | – |
| 1.220 | 31,00 | KSEM3100 | 8 | KSEM310..M | KSEM1219.. | KSEM1203.. | KSEM305..M | – |
| 1.240 | 31,50 | KSEM3150 | 8 | KSEM315..M | KSEM310..M | – | – | – |
| 1.250 | 31,75 | KSEM1250 | 8 | KSEM1250.. | KSEM315..M | – | – | – |
| 1.260 | 32,00 | KSEM3200 | 8 | KSEM320..M | KSEM1250.. | KSEM315..M | – | – |
| 1.280 | 32,50 | KSEM3250 | 9 | – | KSEM321..M | – | – | – |
| 1.281 | 32,54 | KSEM1281 | 9 | KSEM1281.. | KSEM321..M | – | – | – |
| 1.297 | 32,94 | KSEM1297 | 9 | KSEM1297.. | KSEM1281.. | – | – | – |
| 1.299 | 33,00 | KSEM3300 | 9 | KSEM330..M | KSEM1297.. | KSEM1281.. | – | – |
| 1.313 | 33,34 | KSEM1313 | 9 | KSEM1313.. | KSEM330..M | KSEM1297.. | – | – |
| 1.319 | 33,50 | KSEM3350 | 9 | – | – | KSEM1313.. | KSEM330..M | – |
| 1.328 | 33,73 | KSEM1328 | 9 | KSEM1328.. | KSEM1313.. | – | – | – |
| 1.339 | 34,00 | KSEM3400 | 9 | KSEM340..M | KSEM1328.. | – | – | – |
| 1.344 | 34,13 | KSEM1344 | 9 | KSEM1344.. | KSEM340..M | KSEM1328.. | – | – |
| 1.358 | 34,50 | KSEM3450 | 9 | – | – | KSEM1344.. | KSEM340..M | – |
| 1.375 | 34,93 | KSEM1375 | 9 | KSEM1375.. | – | – | – | – |
| 1.378 | 35,00 | KSEM3500 | 9 | KSEM350..M | KSEM1375.. | – | – | – |
| 1.398 | 35,50 | KSEM3550 | 9 | – | – | KSEM350..M | – | – |
| 1.406 | 35,72 | KSEM1406 | 9 | KSEM1406.. | – | – | – | – |
| 1.417 | 36,00 | KSEM3600 | 9 | KSEM360..M | KSEM1406.. | – | – | – |
| 1.422 | 36,12 | KSEM1422 | 10 | KSEM1422.. | KSEM361..M | – | – | – |
| 1.437 | 36,50 | KSEM3650 | 10 | – | – | KSEM1422.. | KSEM361..M | – |
| 1.438 | 36,51 | KSEM1438 | 10 | KSEM1438.. | KSEM1422.. | KSEM361..M | – | – |
| 1.457 | 37,00 | KSEM3700 | 10 | KSEM370..M | KSEM1438.. | – | – | – |
| 1.469 | 37,31 | KSEM1469 | 10 | KSEM1469.. | KSEM370..M | – | – | – |
| 1.476 | 37,50 | KSEM3750 | 10 | – | – | KSEM1469.. | KSEM370..M | – |
| 1.496 | 38,00 | KSEM3800 | 10 | KSEM380..M | – | – | – | – |
| 1.500 | 38,10 | KSEM1500 | 10 | KSEM1500.. | KSEM380..M | – | – | – |
| 1.514 | 38,46 | KSEM1514 | 10 | KSEM1514.. | KSEM1500.. | KSEM380..M | – | – |
| 1.516 | 38,50 | KSEM3850 | 10 | – | – | KSEM1514.. | KSEM1500.. | KSEM380..M |
| 1.535 | 39,00 | KSEM3900 | 10 | KSEM390..M | – | – | – | – |
| 1.555 | 39,50 | KSEM3950 | 10 | – | – | KSEM390..M | – | – |
| 1.575 | 40,00 | KSEM4000 | 10 | KSEM400..M | – | – | – | – |

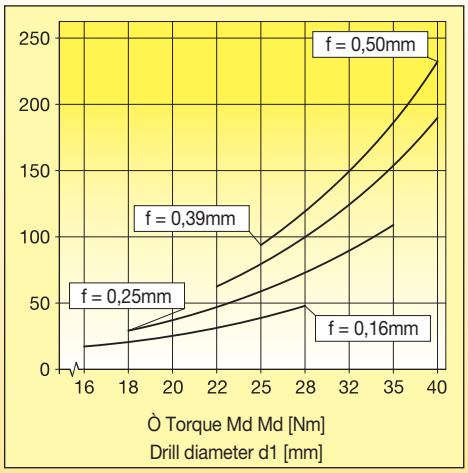
## Drive Power (kW)



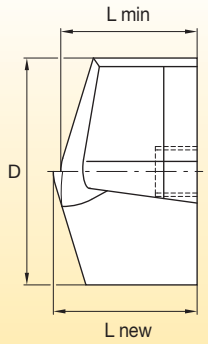

## Feed Force (kN)




## Torque (Nm)




NOTE: The diagrams above are used to determine the drive power, feed force, and torque. They are based on cutting force measurement in tempered steels in Cgr. 6. Tensile strength: Rm = 600 N/mm$^2$. The base cutting speed used is: vc = 80 m/min.



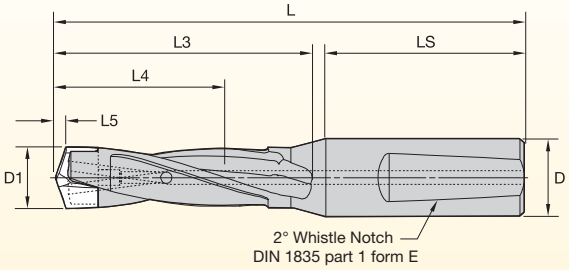

## The following coolant pressure is recommended:

| relative drilling depth | coolant pressure |
|---|---|
| 1–3 x D | 8 bars |
| 5 x D | 12 bars |
| 7 x D | 20 bars |
| 10 x D | 30 bars |

| insert seat size | diameter range D (mm) | L min. (mm) | L new (mm) |
|---|---|---|---|
| C | 12,50–13,50 | 8,5 | 9,6 |
| B | 13,51–14,50 | 8,9 | 10,1 |
| A | 14,51–15,88 | 9,4 | 10,6 |
| 1 | 15,88–18,00 | 10,3 | 11,6 |
| 2 | 18,01–19,99 | 11,2 | 12,6 |
| 3 | 20,00–22,00 | 12,1 | 13,6 |
| 4 | 22,01–24,00 | 13,0 | 14,6 |
| 5 | 24,01–26,00 | 13,9 | 15,6 |
| 6 | 26,01–28,00 | 14,8 | 16,6 |
| 7 | 28,01–30,00 | 15,7 | 17,6 |
| 8 | 30,01–32,00 | 16,6 | 18,6 |
| 9 | 32,01–36,00 | 18,4 | 20,6 |
| 10 | 36,01–40,00 | 20,2 | 22,6 |

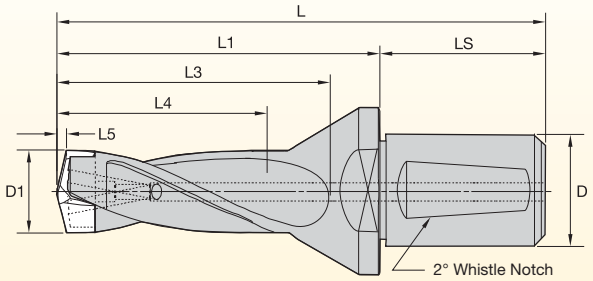
## Modular Drills • Dimension Tables

### Dimensions for KSEM™ Whistle Notch Shank • WN/WD 3 x D to 10 x D • Metric




for diameters < 16mm, DIN 6535 - HE
for diameters > 16mm, DIN 1835 part 1 form E

Whistle Notch shank D1≤32mm




Whistle Notch shank with Drive D1≥32mm

| D1 | | WN/WD Shank Metric | | | | | | | | WN Shank Metric | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 x D | | | | 5 x D | | | | 7 x D | | | 10 x D | | |
| mm | inch | L | L1 | L4 max | wrench | L | L1 | L4 max | wrench | L | L4 max | wrench | L | L4 max | wrench |
| 12,50 | .4921 | 111 | – | 42 | **170.294** | 139 | – | 70 | **170.294** | 167 | 98 | **170.295** | 195 | 125 | **170.296** |
| 13,00 | .5118 | 111 | – | 42 | **170.294** | 139 | – | 70 | **170.294** | 167 | 98 | **170.295** | 200 | 130 | **170.296** |
| 13,50 | .5315 | 111 | – | 42 | **170.294** | 139 | – | 70 | **170.294** | 167 | 98 | **170.295** | 205 | 135 | **170.296** |
| 13,51 | .5319 | 111 | – | 42 | **170.289** | 139 | – | 70 | **170.289** | 167 | 98 | **170.290** | 205 | 135 | **170.291** |
| 14,00 | .5512 | 111 | – | 42 | **170.289** | 139 | – | 70 | **170.289** | 167 | 98 | **170.290** | 210 | 140 | **170.291** |
| 14,50 | .5709 | 122 | – | 48 | **170.289** | 154 | – | 80 | **170.289** | 186 | 112 | **170.290** | 220 | 145 | **170.291** |
| 14,51 | .5713 | 122 | – | 48 | **170.289** | 154 | – | 80 | **170.289** | 186 | 112 | **170.290** | 220 | 145 | **170.291** |
| 15,00 | .5906 | 122 | – | 48 | **170.289** | 154 | – | 80 | **170.289** | 186 | 112 | **170.290** | 225 | 150 | **170.291** |
| 15,50 | .6102 | 122 | – | 48 | **170.289** | 154 | – | 80 | **170.289** | 186 | 112 | **170.290** | 230 | 155 | **170.291** |
| 16,00 | .6299 | 122 | – | 48 | **170.270** | 154 | – | 80 | **170.270** | 186 | 112 | **170.270** | 234 | 160 | **170.271** |
| 16,50 | .6496 | 130 | – | 54 | **170.270** | 166 | – | 90 | **170.270** | 202 | 126 | **170.271** | 241 | 165 | **170.281** |
| 17,00 | .6693 | 130 | – | 54 | **170.270** | 166 | – | 90 | **170.270** | 202 | 126 | **170.271** | 246 | 170 | **170.281** |
| 17,50 | .6890 | 130 | – | 54 | **170.270** | 166 | – | 90 | **170.270** | 202 | 126 | **170.271** | 251 | 175 | **170.281** |
| 18,00 | .7087 | 130 | – | 54 | **170.270** | 166 | – | 90 | **170.270** | 202 | 126 | **170.271** | 256 | 180 | **170.281** |
| 18,01 | .7091 | – | – | – | **–** | 184 | – | 100 | **170.270** | – | – | **170.271** | 269 | 185 | **170.281** |
| 18,50 | .7283 | 144 | – | 60 | **170.270** | 184 | – | 100 | **170.270** | 224 | 140 | **170.271** | 269 | 185 | **170.281** |
| 19,00 | .7480 | 144 | – | 60 | **170.270** | 184 | – | 100 | **170.270** | 224 | 140 | **170.271** | 274 | 190 | **170.281** |
| 19,50 | .7677 | 144 | – | 60 | **170.270** | 184 | – | 100 | **170.270** | 224 | 140 | **170.271** | 279 | 195 | **170.281** |
| 20,00 | .7874 | 153 | – | 60 | **170.272** | 197 | – | 100 | **170.272** | 241 | 140 | **170.273** | 297 | 200 | **170.282** |
| 20,50 | .8071 | 153 | – | 66 | **170.272** | 197 | – | 110 | **170.272** | 241 | 154 | **170.273** | 297 | 205 | **170.282** |
| 21,00 | .8268 | 153 | – | 66 | **170.272** | 197 | – | 110 | **170.272** | 241 | 154 | **170.273** | 297 | 210 | **170.282** |
| 21,50 | .8465 | 153 | – | 66 | **170.272** | 197 | – | 110 | **170.272** | 241 | 154 | **170.273** | 307 | 215 | **170.282** |
| 22,00 | .8661 | 153 | – | 66 | **170.272** | 197 | – | 110 | **170.272** | 241 | 154 | **170.273** | 307 | 220 | **170.282** |
| 22,01 | .8665 | – | – | – | **–** | 209 | – | 120 | **170.272** | – | – | **170.273** | 319 | 225 | **170.282** |
| 22,50 | .8858 | 161 | – | 72 | **170.272** | 209 | – | 120 | **170.272** | 257 | 168 | **170.273** | 319 | 225 | **170.282** |
| 23,00 | .9055 | 161 | – | 72 | **170.272** | 209 | – | 120 | **170.272** | 257 | 168 | **170.273** | 319 | 230 | **170.282** |
| 23,50 | .9252 | 161 | – | 72 | **170.272** | 209 | – | 120 | **170.272** | 257 | 168 | **170.273** | 329 | 235 | **170.282** |
| 24,00 | .9449 | 161 | – | 72 | **170.272** | 209 | – | 120 | **170.272** | 257 | 168 | **170.273** | 329 | 240 | **170.282** |
| 24,01 | .9453 | – | – | – | **–** | 226 | – | 130 | **170.274** | – | – | **–** | 346 | 245 | **170.283** |
| 24,50 | .9646 | 174 | – | 78 | **170.274** | 226 | – | 130 | **170.274** | 278 | 182 | **170.275** | 346 | 245 | **170.283** |
| 25,00 | .9843 | 174 | – | 78 | **170.274** | 226 | – | 130 | **170.274** | 278 | 182 | **170.275** | 346 | 250 | **170.283** |
| 25,50 | 10.039 | 174 | – | 78 | **170.274** | 226 | – | 130 | **170.274** | 278 | 182 | **170.275** | 356 | 255 | **170.283** |
| 26,00 | 10.236 | 174 | – | 78 | **170.274** | 226 | – | 130 | **170.274** | 278 | 182 | **170.275** | 356 | 260 | **170.283** |
| 26,01 | 10.240 | – | – | – | **–** | 238 | – | 140 | **170.274** | – | – | **170.275** | 363 | 265 | **170.283** |
| 26,50 | 10.433 | 182 | – | 84 | **170.274** | 238 | – | 140 | **170.274** | 294 | 196 | **170.275** | 363 | 265 | **170.283** |
| 27,00 | 10.630 | 182 | – | 84 | **170.274** | 238 | – | 140 | **170.274** | 294 | 196 | **170.275** | 368 | 270 | **170.283** |
| 27,50 | 10.827 | 182 | – | 84 | **170.274** | 238 | – | 140 | **170.274** | 294 | 196 | **170.275** | 378 | 275 | **170.283** |
| 28,00 | 11.024 | 182 | – | 84 | **170.274** | 238 | – | 140 | **170.274** | 294 | 196 | **170.275** | 378 | 280 | **170.283** |
| 28,02 | 11.028 | – | – | – | **–** | 250 | – | 150 | **170.276** | – | – | **–** | 390 | 285 | **170.284** |
| 28,50 | 11.220 | 190 | – | 90 | **170.276** | 250 | – | 150 | **170.276** | 310 | 210 | **170.277** | 390 | 285 | **170.284** |
| 29,00 | 11.417 | 190 | – | 90 | **170.276** | 250 | – | 150 | **170.276** | 310 | 210 | **170.277** | 390 | 290 | **170.284** |
| 29,50 | 11.614 | 190 | – | 90 | **170.276** | 250 | – | 150 | **170.276** | 310 | 210 | **170.277** | 400 | 295 | **170.284** |

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

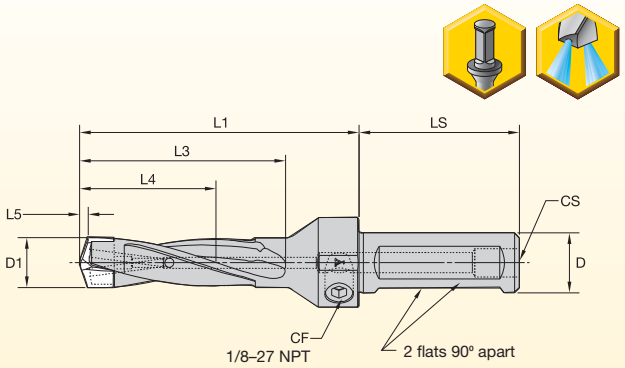
### Dimensions for KSEM™ Whistle Notch Shank • WN/WD 3 x D to 10 x D • Metric

| D1 | | WN/WD Shank Metric | | | | | | | | WN Shank Metric | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3 x D | | | | 5 x D | | | | 7 x D | | | 10 x D | | |
| mm | inch | L | L1 | L4 max | wrench | L | L1 | L4 max | wrench | L | L4 max | wrench | L | L4 max | wrench |
| 30,00 | 11.811 | 190 | – | 90 | **170.276** | 250 | – | 150 | **170.276** | 310 | 210 | **170.277** | 400 | 300 | **170.284** |
| 30,01 | 11.815 | – | – | – | **–** | 264 | – | 160 | **170.276** | – | – | **170.277** | 414 | 305 | **170.284** |
| 30,50 | 12.008 | 200 | – | 96 | **170.276** | 264 | – | 160 | **170.276** | 328 | 224 | **170.277** | – | – | **–** |
| 31,00 | 12.205 | 200 | – | 96 | **170.276** | 264 | – | 160 | **170.276** | 328 | 224 | **170.277** | 414 | 310 | **170.284** |
| 31,50 | 12.402 | 200 | – | 96 | **170.276** | 264 | – | 160 | **170.276** | 328 | 224 | **170.277** | – | – | **–** |
| 32,00 | 12.598 | 200 | – | 96 | **170.276** | 264 | – | 160 | **170.276** | 328 | 224 | **170.277** | 424 | 320 | **170.284** |
| 32,01 | 12.602 | 220 | 159 | 99 | **170.276** | 293 | 225 | 165 | **170.277** | – | – | **–** | – | – | **–** |
| 33,00 | 12.992 | 227 | 159 | 99 | **170.276** | 293 | 225 | 165 | **170.277** | – | – | **–** | – | – | **–** |
| 34,00 | 13.386 | 225 | 157 | 102 | **170.276** | 293 | 225 | 170 | **170.277** | – | – | **–** | – | – | **–** |
| 35,00 | 13.780 | 235 | 167 | 105 | **170.276** | 305 | 237 | 175 | **170.277** | – | – | **–** | – | – | **–** |
| 36,00 | 14.173 | 233 | 165 | 108 | **170.276** | 305 | 237 | 180 | **170.277** | – | – | **–** | – | – | **–** |
| 36,01 | 14.177 | 237 | 176 | 111 | **170.276** | 318 | 250 | 185 | **170.277** | – | – | **–** | – | – | **–** |
| 37,00 | 14.567 | 244 | 176 | 111 | **170.276** | 318 | 250 | 185 | **170.277** | – | – | **–** | – | – | **–** |
| 38,00 | 14.961 | 242 | 174 | 114 | **170.276** | 318 | 250 | 190 | **170.277** | – | – | **–** | – | – | **–** |
| 39,00 | 15.354 | 252 | 184 | 117 | **170.276** | 330 | 262 | 195 | **170.277** | – | – | **–** | – | – | **–** |
| 40,00 | 15.748 | 250 | 182 | 120 | **170.276** | 330 | 262 | 200 | **170.277** | – | – | **–** | – | – | **–** |

*(continued)*

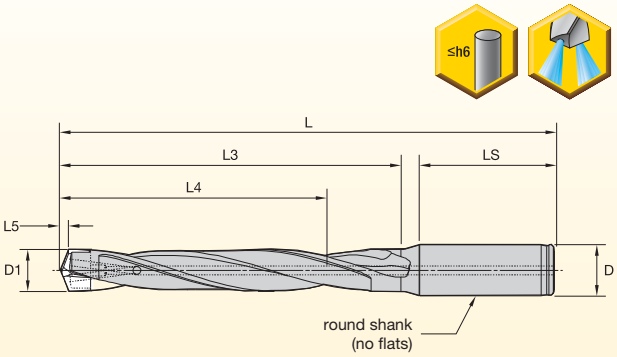
## Modular Drills • Dimension Tables *(continued)*

### Dimensions for KSEM Flanged Shank • 5 x D/8 x D • Inch




| D1 | | 5 x D | | | 8 x D | | |
|---|---|---|---|---|---|---|---|
| | | | L4 | | | L4 | |
| mm | inch | L1 | max | wrench | L1 | max | wrench |
| 12,700 | .5000 | 3.94 | 2.50 | **170.294** | – | – | **–** |
| 12,929 | .5090 | 4.00 | 2.55 | **170.294** | – | – | **–** |
| 13,106 | .5160 | 4.00 | 2.58 | **170.294** | – | – | **–** |
| 13,487 | .5310 | 4.13 | 2.66 | **170.294** | – | – | **–** |
| 13,894 | .5470 | 4.13 | 2.73 | **170.289** | – | – | **–** |
| 14,300 | .5630 | 4.25 | 2.81 | **170.289** | – | – | **–** |
| 14,681 | .5780 | 4.31 | 2.89 | **170.289** | – | – | **–** |
| 15,088 | .5940 | 4.38 | 2.97 | **170.289** | – | – | **–** |
| 15,469 | .6090 | 4.5 | 3.05 | **170.289** | – | – | **–** |
| 15,875 | .6250 | 4.75 | 3.15 | **170.270** | 6.25 | 5.00 | **170.271** |
| 17,463 | .6875 | 5.25 | 3.54 | **170.270** | 7.00 | 5.50 | **170.271** |
| 19,050 | .7500 | 5.88 | 3.94 | **170.271** | 7.50 | 6.00 | **170.281** |
| 19,050 | .7500 | 6.00 | 3.94 | **170.271** | 7.50 | 6.00 | **170.281** |
| 20,637 | .8125 | 6.25 | 4.33 | **170.273** | 8.00 | 6.50 | **170.282** |
| 20,638 | .8125 | 6.25 | 4.33 | **170.273** | – | – | **170.282** |
| 22,225 | .8750 | 6.63 | 4.72 | **170.273** | 8.50 | 7.00 | **170.282** |
| 22,225 | .8750 | 6.75 | 4.72 | **170.273** | 8.50 | 7.00 | **170.282** |
| 23,813 | .9375 | 6.63 | 4.72 | **170.273** | 9.13 | 7.50 | **170.282** |
| 24,606 | .9688 | 7.13 | 5.12 | **170.275** | – | – | **–** |
| 25,003 | .9844 | 7.13 | 5.12 | **170.275** | 9.50 | 7.88 | **170.283** |
| 25,400 | 1.0000 | 7.25 | 5.12 | **170.275** | 9.63 | 8.00 | **170.283** |
| 25,400 | 1.0000 | 7.25 | 5.12 | **170.275** | 9.63 | 8.00 | **170.283** |
| 26,988 | 1.0625 | 7.63 | 5.51 | **170.275** | 10.25 | 8.50 | **170.283** |
| 28,575 | 1.1250 | 8.13 | 5.91 | **170.277** | 10.75 | 9.00 | **170.284** |
| 30,163 | 1.1875 | 8.50 | 6.30 | **170.277** | 11.38 | 9.50 | **170.284** |
| 31,750 | 1.2500 | 8.50 | 6.30 | **170.277** | 11.88 | 10.00 | **170.284** |
| 31,750 | 1.2500 | 8.75 | 6.30 | **170.277** | 11.88 | 10.00 | **170.284** |

### Dimensions for KSEM Round Shank • 7 x D/10 x D • Inch




| D1 | | 7 x D | | | 10 x D | | |
|---|---|---|---|---|---|---|---|
| | | | L4 | | | L4 | |
| mm | inch | L1 | max | wrench | L1 | max | wrench |
| 12,70 | .5000 | 5.63 | 3.50 | **170.295** | 7.75 | 5.00 | **170.296** |
| 12,70 | .5000 | 6.13 | 3.50 | **170.295** | – | – | **–** |
| 12,93 | .5090 | 6.25 | 3.56 | **170.295** | 7.88 | 5.09 | **170.296** |
| 13,10 | .5160 | 6.25 | 3.61 | **170.295** | 8.00 | 5.16 | **170.296** |
| 13,49 | .5310 | 6.38 | 3.72 | **170.295** | 8.13 | 5.31 | **170.296** |
| 13,89 | .5470 | 6.50 | 3.83 | **170.290** | 8.25 | 5.47 | **170.291** |
| 14,29 | .5630 | 6.63 | 3.94 | **170.290** | 8.38 | 5.63 | **170.291** |
| 14,68 | .5780 | 6.75 | 4.05 | **170.290** | 8.50 | 5.78 | **170.291** |
| 15,08 | .5940 | 6.88 | 4.16 | **170.290** | 8.75 | 5.94 | **170.291** |
| 15,48 | .6090 | 7.00 | 4.27 | **170.290** | 8.88 | 6.09 | **170.291** |
| 15,88 | .6250 | 7.38 | 4.41 | **170.270** | 9.00 | 6.25 | **170.281** |
| 16,10 | .6335 | 8.00 | 4.59 | **170.271** | 9.13 | 6.34 | **170.281** |
| 16,67 | .6563 | 8.00 | 4.96 | **170.271** | 9.38 | 6.56 | **170.281** |
| 17,46 | .6875 | 8.00 | 4.96 | **170.271** | 9.75 | 6.88 | **170.281** |
| 18,25 | .7188 | 8.88 | 5.51 | **170.271** | 10.25 | 7.19 | **170.281** |
| 19,05 | .7500 | 8.88 | 5.51 | **170.271** | 10.50 | 7.50 | **170.281** |
| 19,05 | .7500 | 9.88 | 5.51 | **170.281** | 11.50 | 7.50 | **170.281** |
| 19,28 | .7585 | 8.88 | 5.51 | **170.271** | – | – | **–** |
| 19,28 | .7585 | – | – | **–** | 11.50 | 7.59 | **170.281** |
| 19,85 | .7813 | 9.88 | 5.51 | **170.281** | 11.75 | 7.81 | **170.281** |
| 20,64 | .8125 | 10.25 | 6.06 | **170.273** | 12.13 | 8.13 | **170.282** |
| 21,43 | .8438 | 10.25 | 6.06 | **170.273** | 12.50 | 8.44 | **170.282** |
| 22,23 | .8750 | 10.88 | 6.61 | **170.282** | 12.75 | 8.75 | **170.282** |
| 22,23 | .8750 | 11.13 | 6.61 | **170.282** | – | – | **–** |
| 22,45 | .8835 | 10.88 | 6.61 | **170.282** | 12.88 | 8.84 | **170.282** |
| 23,02 | .9063 | 10.88 | 6.61 | **170.282** | 13.13 | 9.06 | **170.282** |
| 23,81 | .9375 | 10.88 | 6.61 | **170.282** | 13.44 | 9.38 | **170.282** |
| 24,61 | .9688 | 11.63 | 7.17 | **170.275** | 13.88 | 9.69 | **170.283** |
| 25,00 | .9844 | 11.63 | 7.17 | **170.283** | 14.00 | 9.84 | **170.283** |
| 25,40 | 1.0000 | 11.63 | 7.17 | **170.283** | 14.13 | 10.00 | **170.283** |
| 25,40 | 1.0000 | 11.88 | 7.17 | **170.283** | 14.38 | 10.00 | **170.283** |
| 25,68 | 1.0105 | 12.25 | 7.08 | **170.283** | 14.50 | 10.11 | **170.283** |
| 26,20 | 1.0313 | 12.50 | 7.72 | **170.283** | 14.75 | 10.31 | **170.283** |
| 26,99 | 1.0625 | 12.50 | 7.72 | **170.283** | 15.13 | 10.63 | **170.283** |
| 27,78 | 1.0938 | 12.50 | 7.72 | **170.283** | 15.50 | 10.94 | **170.283** |
| 28,58 | 1.1250 | 13.13 | 8.27 | **170.284** | 15.75 | 11.25 | **170.284** |
| 29,37 | 1.1563 | 13.13 | 8.27 | **170.284** | 16.13 | 11.56 | **170.284** |
| 30,16 | 1.1875 | 13.75 | 8.82 | **170.284** | 16.50 | 11.88 | **170.284** |
| 30,96 | 1.2188 | 13.75 | 8.82 | **170.284** | 16.88 | 12.19 | **170.284** |
| 31,75 | 1.2500 | 13.75 | 8.82 | **170.284** | 17.13 | 12.50 | **170.284** |
| 31,75 | 1.2500 | 14.25 | 8.82 | **170.284** | 17.63 | 12.50 | **170.284** |

*(continued)*

## Modular Drills • Dimension Tables *(continued)*

### Dimensions for KSEM Round Shank • 3 x D/5 x D • Inch

| D1 | | 3 x D | | | 5 x D | | |
|---|---|---|---|---|---|---|---|
| | | | L4 | | | L4 | |
| mm | inch | L1 | max | wrench | L1 | max | wrench |
| 12,700 | .5000 | – | – | **170.294** | 4.63 | 2.50 | **170.294** |
| 12,700 | .5000 | 4.13 | 1.50 | **170.294** | 5.13 | 2.50 | **170.294** |
| 12,929 | .5090 | 4.25 | 1.53 | **170.294** | 5.25 | 2.55 | **170.294** |
| 13,106 | .5160 | – | – | **170.294** | 5.25 | 2.58 | **170.294** |
| 13,487 | .5310 | 4.25 | 1.59 | **170.294** | 5.38 | 2.66 | **170.294** |
| 13,894 | .5470 | 4.38 | 1.64 | **170.289** | 5.44 | 2.73 | **170.289** |
| 14,300 | .5630 | 4.38 | 1.69 | **170.289** | 5.50 | 2.81 | **170.289** |
| 14,681 | .5780 | 4.50 | 1.73 | **170.289** | 5.63 | 2.89 | **170.289** |
| 15,088 | .5940 | 4.50 | 1.78 | **170.289** | 5.75 | 2.97 | **170.289** |
| 15,469 | .6090 | 4.63 | 1.83 | **170.289** | 5.88 | 3.05 | **170.289** |
| 15,875 | .6250 | 4.63 | 1.88 | **170.270** | 6.00 | 3.15 | **170.270** |
| 16,091 | .6335 | – | – | **170.270** | 6.50 | 3.54 | **170.270** |
| 16,104 | .6340 | 4.75 | 1.90 | **170.270** | – | – | **170.270** |
| 16,281 | .6410 | 4.75 | 1.92 | **170.270** | 6.50 | 3.54 | **170.270** |
| 16,662 | .6560 | 4.88 | 1.97 | **170.270** | – | – | **170.270** |
| 16,669 | .6563 | – | – | **170.270** | 6.50 | 3.54 | **170.270** |
| 17,069 | .6720 | 4.88 | 2.02 | **170.270** | 6.50 | 3.54 | **170.270** |
| 17,463 | .6875 | 4.88 | 2.06 | **170.270** | 6.50 | 3.54 | **170.270** |
| 17,856 | .7030 | 5.00 | 2.11 | **170.270** | 6.50 | 3.54 | **170.270** |
| 18,256 | .7188 | – | – | **170.270** | 7.25 | 3.94 | **170.270** |
| 18,263 | .7190 | 5.00 | 2.16 | **170.270** | – | – | **170.270** |
| 18,644 | .7340 | 5.13 | 2.20 | **170.270** | 7.25 | 3.94 | **170.270** |
| 19,050 | .7500 | 6.13 | 2.25 | **170.270** | 8.25 | 3.94 | **170.271** |
| 19,050 | .7500 | 5.13 | 2.25 | **170.270** | 7.25 | 3.94 | **170.270** |
| 19,279 | .7585 | 5.25 | 2.28 | **170.270** | 7.25 | 3.94 | **170.270** |
| 19,456 | .7660 | 6.25 | 2.30 | **170.270** | 8.25 | 3.94 | **170.271** |
| 19,845 | .7813 | 6.25 | 2.34 | **170.270** | 8.13 | 3.94 | **170.271** |
| 19,837 | .7810 | – | – | **–** | – | – | **170.271** |
| 20,244 | .7970 | 6.38 | 2.39 | **170.272** | 8.50 | 4.33 | **170.272** |
| 20,638 | .8125 | 6.38 | 2.44 | **170.272** | 8.50 | 4.33 | **170.272** |
| 21,431 | .8438 | – | – | **170.272** | 8.50 | 4.33 | **170.272** |
| 21,438 | .8440 | 6.50 | 2.53 | **170.272** | – | – | **170.272** |
| 21,829 | .8590 | 6.63 | 2.58 | **170.272** | 8.50 | 4.33 | **170.272** |
| 21,819 | .8590 | – | – | **170.272** | – | – | **170.272** |
| 22,225 | .8750 | 6.88 | 2.63 | **170.272** | 9.00 | 4.72 | **170.273** |
| 22,225 | .8750 | 6.63 | 2.63 | **170.272** | 9.25 | 4.72 | **170.273** |
| 22,454 | .8835 | 6.75 | 2.65 | **170.272** | 9.00 | 4.72 | **170.273** |
| 22,454 | .8840 | – | – | **170.272** | – | – | **170.273** |
| 23,012 | .9060 | 6.75 | 2.72 | **170.272** | – | – | **170.273** |
| 23,019 | .9063 | – | – | **170.272** | 9.00 | 4.72 | **170.273** |

| D1 | | 3 x D | | | 5 x D | | |
|---|---|---|---|---|---|---|---|
| | | | L4 | | | L4 | |
| mm | inch | L1 | max | wrench | L1 | max | wrench |
| 23,419 | .9220 | 6.88 | 2.77 | **170.272** | 9.00 | 4.72 | **170.273** |
| 23,813 | .9375 | 6.88 | 2.81 | **170.272** | 9.00 | 4.72 | **170.273** |
| 24,606 | .9688 | – | – | **170.272** | 9.50 | 5.12 | **170.274** |
| 24,613 | .9690 | 7.00 | 2.91 | **170.274** | – | – | **170.274** |
| 25,003 | .9844 | 7.13 | 2.95 | **170.274** | 9.50 | 5.12 | **170.274** |
| 25,400 | 1.0000 | 7.13 | 3.00 | **170.274** | 9.75 | 5.12 | **170.274** |
| 25,400 | 1.0000 | – | – | **170.274** | 9.50 | 5.12 | **170.274** |
| 25,679 | 1.0105 | – | – | **170.274** | 10.00 | 5.06 | **170.274** |
| 25,679 | 1.0110 | 7.50 | 3.03 | **170.274** | – | – | **–** |
| 26,187 | 1.0310 | 7.50 | 3.09 | **170.274** | – | – | **–** |
| 26,195 | 1.0313 | – | – | **170.274** | 10.25 | 5.51 | **170.275** |
| 26,594 | 1.0470 | – | – | **170.274** | 10.25 | 5.51 | **170.275** |
| 26,988 | 1.0625 | 7.63 | 3.19 | **170.274** | 10.25 | 5.51 | **170.275** |
| 27,781 | 1.0938 | – | – | **170.274** | 10.25 | 5.51 | **170.275** |
| 28,169 | 1.1090 | 7.88 | 3.33 | **170.274** | 10.75 | 5.91 | **170.276** |
| 28,575 | 1.1250 | 7.88 | 3.38 | **170.276** | 10.75 | 5.91 | **170.276** |
| 29,362 | 1.1560 | 8.00 | 3.47 | **170.276** | – | – | **–** |
| 29,370 | 1.1563 | – | – | **170.276** | 10.75 | 5.91 | **170.276** |
| 29,769 | 1.1720 | 8.13 | 3.52 | **170.276** | 10.75 | 5.91 | **170.276** |
| 30,163 | 1.1875 | 8.13 | 3.56 | **170.276** | 11.25 | 6.30 | **170.277** |
| 30,556 | 1.2030 | – | – | **170.276** | 11.25 | 6.30 | **170.277** |
| 30,958 | 1.2188 | – | – | **170.276** | 11.25 | 6.30 | **170.277** |
| 30,963 | 1.2190 | 8.25 | 3.66 | **170.276** | – | – | **–** |
| 31,750 | 1.2500 | 8.38 | 3.75 | **170.276** | 11.75 | 6.30 | **170.277** |
| 31,750 | 1.2500 | 8.88 | 3.75 | **170.276** | 11.25 | 6.30 | **170.277** |
| 32,537 | 1.2810 | 9.00 | 3.84 | **170.276** | 12.50 | 6.41 | **170.277** |
| 32,941 | 1.2970 | – | – | **170.276** | 12.50 | 6.48 | **170.277** |
| 32,944 | 1.2970 | 9.13 | 3.89 | **170.276** | – | – | **–** |
| 33,350 | 1.3130 | 9.13 | 3.94 | **170.276** | 12.50 | 6.56 | **170.277** |
| 33,731 | 1.3280 | 9.25 | 3.98 | **170.276** | – | – | **–** |
| 33,734 | 1.3280 | – | – | **170.276** | 12.50 | 6.64 | **170.277** |
| 34,138 | 1.3440 | – | – | **170.276** | 13.00 | 6.72 | **170.277** |
| 34,925 | 1.3750 | 9.38 | 4.13 | **170.276** | 13.00 | 6.87 | **170.277** |
| 35,712 | 1.4060 | 9.50 | 4.22 | **170.276** | 13.00 | 7.03 | **170.277** |
| 36,119 | 1.4220 | – | – | **170.276** | 13.50 | 7.11 | **170.277** |
| 36,513 | 1.4380 | – | – | **170.276** | 13.50 | 7.19 | **170.277** |
| 36,525 | 1.4380 | 9.63 | 4.31 | **170.276** | – | – | **–** |
| 37,313 | 1.4690 | – | – | **170.276** | 13.50 | 7.34 | **170.277** |
| 38,100 | 1.5000 | 9.88 | 4.50 | **170.276** | 13.50 | 7.50 | **170.277** |
| 38,456 | 1.5140 | 10.00 | 4.54 | **170.276** | 13.50 | 7.57 | **170.277** |

# KGEM Tube Sheet Grooving Tool

## Primary Application

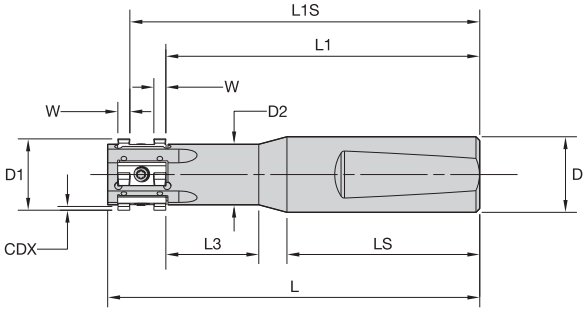
The new Kennametal grooving tool features a unique approach for manufacturing two grooves simultaneously in minimal time, especially in heat exchanger manufacturing. All tubes need a finish operation to connect them. This new grooving insert features a geometry designed for bur-free cutting and is made with KCU45™, a special grade for machining a wide variety of materials in the heat exchanger industry, including A516-grade 70 low-carbon steel, 304 stainless steel, duplex, and Hastelloy®. The minimal amount of tungsten carbide in the insert eliminates the need for refurbishment, enabling the tool to work faster with a lower cost per hole.

# Features and Benefits

## Higher Productivity and Profitablity

- Two edges per insert.
- Up to four inserts working at the same time.
- Rigid tool body design for highest productivity and grooving quality.
- Milling tool for maximum flexibility in hole diameter and interrupted cut for chip control.
- KCU45 grade for machining a variety of materials used for heat exchangers.
- Internal coolant supply for optimal tool life, groove quality, and chip evacuation.
- One-path-to-finish tool.
- Flexibility in groove position.

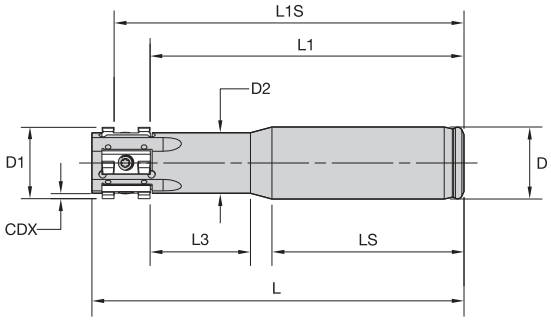
KENNAMETAL
KENNAMETAL



## KGEM Groover Body • Metric

| order number | catalog number | D1 mm | D1 in | D2 | D mm | D in | L | LS | L1 | L1S | L3 | CDX | insert screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5408657 | KGEM1588R1WN20M | 15,88 | .625 | 13,50 | 20,00 | .787 | 101,00 | 51,00 | 85,00 | 94,52 | 25,63 | 1,00 | MS1861 |
| 5134143 | KGEM1905R1WN20M | 18,87 | .743 | 16,00 | 20,00 | .787 | 98,42 | 50,80 | 83,03 | 92,55 | 24,58 | 1,00 | MS1861 |
| 5134145 | KGEM1905R3WN20M | 18,87 | .743 | 16,00 | 20,00 | .787 | 123,82 | 50,80 | 108,44 | 117,96 | 49,99 | 1,00 | MS1861 |

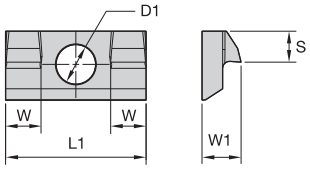
NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.



## KGEM Groover Body • Inch

| order number | catalog number | D1 mm | D1 in | D2 | D | L | LS | L1 | L1S | L3 | CDX | insert screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5134142 | KGEM0750R1SS075 | 18,87 | .743 | .63 | .75 | 3 7/8 | 2.000 | 3.269 | 3.644 | 1.045 | .039 | MS1861 |
| 5134144 | KGEM0750R3SS075 | 18,87 | .743 | .63 | .75 | 4 7/8 | 2.000 | 4.269 | 4.644 | 2.045 | .039 | MS1861 |

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.




● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | ● |
| M | | ● |
| K | | |
| N | | |
| S | | ● |
| H | | |



## KGEM Groover Insert

| order number | catalog number | D1 mm | D1 in | W1 mm | W1 in | W mm | W in | S mm | S in | KCU45 |
|---|---|---|---|---|---|---|---|---|---|---|
| 5134141 | KGIP0125N0189GD | 2,80 | .110 | 3,56 | .140 | 3,18 | .125 | 2,82 | .111 | ● |
| 5986819 | KGIP0300N0189GD | 2,80 | .110 | 3,56 | .140 | 3,00 | .118 | 2,82 | .111 | ● |

## Application Data

| | |
|---|---|
| P | A516-Grade70 |
| M | 304SS/Duplex |
| S | Hastelloy |

## KGEM Tube Sheet Groover • KGIP GD Geometry • Grade KCU45™ • Through Coolant • Metric

| Material Group | fz (mm/tooth) | tooth | RPM | vc (m/min) | VFC (mm/min) | VFL (mm/min) | DH (mm) | DT (mm) |
|---|---|---|---|---|---|---|---|---|
| P | 0,05–0,075 | 4 | 1300–1500 | 77–89 | 2,46–4,27 | 264–457 | 19,05 | 18,87 |
| M | 0,05–0,075 | 4 | 600–900 | 35–53 | 1,70–2,57 | 183–274 | 19,05 | 18,87 |
| S | 0,05–0,075 | 4 | 250–300 | 15–18 | 0,48–0,86 | 51–91 | 19,05 | 18,87 |

## KGEM Tube Sheet Groover • KGIP GD Geometry • Grade KCU45 • Through Coolant • Inch

| Material Group | fz (inch/tooth) | tooth | RPM | vc (SFM) | VFC (inch/min) | VFL (inch/min) | DH (inch) | DT (inch) |
|---|---|---|---|---|---|---|---|---|
| P | 0.002–0.003 | 4 | 1300–1500 | 252–291 | 0.097–0.168 | 10.4–18.0 | 0.75 | 0.743 |
| M | 0.002–0.003 | 4 | 600–900 | 116–174 | 0.067–0.101 | 7.2–10.8 | 0.75 | 0.743 |
| S | 0.002–0.003 | 4 | 250–300 | 48–58 | 0.019–0.034 | 2.0–3.6 | 0.75 | 0.743 |

Nomenclature:
fz: feed per tooth
VFL: linear feed rate = fz x number of tooth x RPM
VFC: compensated feed = VFL x (DH - DT)/DH
DT: tool diameter
DH: hole diameter

NOTE: Choose low-feed (fz) for long tools and less rigid machine tools.
Choose low RPM for lower coolant.

# KSEM PLUS™ Modular Drill System

Our KSEM PLUS drill concept is simple but effective. It combines the benefits of the KSEM™ modular drill (high feeds and length-to-diameter [L/D] ratios) with the benefits of an indexable drill (high speeds and low consumable costs). The KSEM PLUS system is a modular drilling platform, offering a pre-mountable HSS head with pocket seats for carbide inserts. The KSEM PLUS modular drill system features two head styles that are interchangeable on fitting tool bodies with our flexible FDS interface.

### Primary Application

The KSEM PLUS system performs in steel, cast iron, stainless steel, and advanced materials. It is perfectly suited to exchange older HSS tools or low performance indexable drills for a very high performance drilling solution. The KSEM PLUS range comprises 28–101mm (1.102–4") from 1.5–10 x D. There is a wide range of applications in the energy market, and in general engineering (e.g., bearing rings for windmills, hydraulic manifolds, large engine parts, generator housings, etc.). This tool will deliver vast improvements in productivity, and greatly attribute to increasing your machining capacity.

## Features and Benefits

### Replaceable Heads with FDS-Interface Coupling

- Quickly and easily replace inserts or drill heads without removing tool bodies from the machine.
- Save money and reduce tool stock by replacing just the worn drill head.
- Use one tool body for different sizes and styles of drill head (a head fits any drill body of the same FDS size).

### Two Effective Cutting Edges

- The KSEM PLUS system has two full cutting edges in action when operating.
- Achieve up to 100% increased productivity versus an indexable drill of the same diameter.
- High L/D ratios possible from 1.5 x D up to 10 x D as stocked standards. Longer drills are possible as custom solutions.

### KSEM PLUS A1 Heads

- High metal removal rates.
- Very stable in normal cutting conditions.
- Cost-effective indexable Drill Fix™ DFT inserts.

### KSEM PLUS Pilot Insert

- Very high feed rates, comparable to modular drills.
- Very long tool life of KSEM PLUS center inserts and modular heads due to better chip flow.
- No precentering necessary for drill depths up to 5 x D.

### KSEM PLUS B1 Heads

- High-speed drilling in difficult conditions.
- Drills stacked plates and cored holes.
- Capable of machining through cross holes.
- Works with slanted exits up to 15º.

### DFR™/DFT™/DFC™ Outboard Inserts

- Very high cutting speeds for high metal removal rates.
- Improved stability in all cutting conditions.
- Indexable inserts provide good surface finish and hole diameter accuracy.

**KSEM PLUS™ A1 Heads**
Economic, high-performance drilling.

**KSEM PLUS B1 Heads**
High-performance drilling in difficult conditions.

NEW! All KSEMP Heads >70mm now available in 1mm and 1/8" pitch as standard product.

NEW! DS geometry for long chipping materials.

NEW! 1.5 x D toolholders now available with WD and SSF shanks.

## Tailored Grades

### Center Inserts

- KC7315™ grade — TiAlN-based PVD grade for superior performance in steel and stainless steel applications.
- KC7410™ grade — multilayered PVD coating for outstanding wear resistance when drilling cast irons.
- KC7135™ grade — chip-resistant universal grade with a TiCN-TiN PVD coating for challenging applications in steel and stainless steel materials.

### Drill Fix™ Lateral Inserts

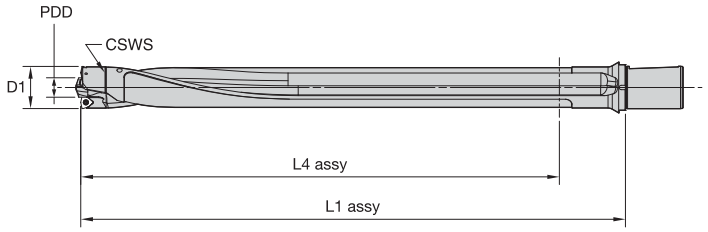
- KCU25™ grade — high metal removal rates, advanced TiCN-Al-CVD coating, and superior tool life in stable working conditions.
- KCU40™ grade — multilayered TiAlN-PVD coating with high wear resistance and reliability in most materials at medium cutting speeds.
- KC7140™ grade — TiCN-based, PVD-coated alloyed carbide for machining alloyed steel and stainless steel on KSEM PLUS systems.
- KC7225™ grade — TiAlN PVD-coated fine-grain carbide offers extreme process safety for non-ferrous materials, super alloys, and titanium.

## NEW! DFT™ and DFC™ Lateral Inserts with DS Geometry

- Excellent performance and process stability in applications with long-chipping materials.
- Use for low carbon steel, difficult stainless steel, and non-ferrous materials where long chips can be an issue.
- Available in the KCU40™ grade.

## Customization

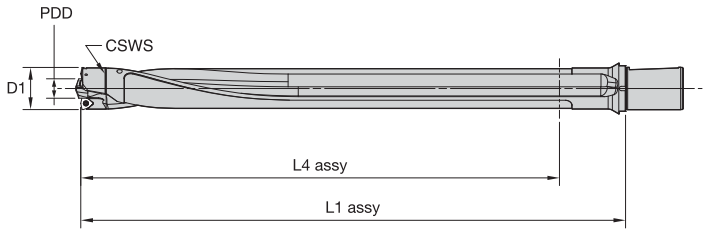
- Heads are available in intermediate diameters, and up to Ø 127mm as semi-standards.
- Tool bodies available in all popular shank styles up to shank length of 1200mm. Some restrictions with L/D ratios over 20 x D apply.
- Toolholders can be designed with helical chip flutes for better chip evacuation (e.g. drilling in cast iron).
- Heads for use with reground center inserts are available as semi-standards.
- The KSEM PLUS system features a high level of available customization. Please contact us about for your individual metalcutting applications.




| available KSEM PLUS heads | | | | requested insert size reference per head | | | available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | | KSEM PLUS head order number | KSEM PLUS head ANSI catalog number | PDD (mm) center insert size reference | outboard insert Drill Fix™ DFC DPA guiding pads | CSWS | KSEM PLUS body order number | KSEM PLUS body ANSI catalog number | L/D ratio | L4 assembly (mm) | L1 assembly (mm) |
| mm | in | | | | | | | | | | |
| 28.000 | 1.1024 | **4000408** | **KSEMP2800FDS28A1M** | 14.000 | DFR040304D28 | 28 | **6123570** | **WD32FDS28076M** | 1.5 x D | 57 | 101 |
| 28.575 | 1.1250 | **4047811** | **KSEMP1125FDS28A1** | 15.000 | DFR040304D28 | | **4000409** | **WD32FDS28128M** | 3 x D | 96 | 153 |
| 29.000 | 1.1417 | **4047812** | **KSEMP2900FDS28A1M** | 15.000 | DFR040304D28 | | **4051136** | **WD32FDS28190M** | 5 x D | 158 | 215 |
| 29.362 | 1.1563 | **4047823** | **KSEMP1156FDS28A1** | 16.000 | DFR040304D28 | | **4051137** | **WD32FDS28283M** | 8 x D | 251 | 308 |
| 30.000 | 1.1811 | **4047824** | **KSEMP3000FDS28A1M** | 16.000 | DFR040304D28 | | **4000411** | **WD32FDS28345M** | 10 x D | 313 | 370 |
| 30.175 | 1.1875 | **4047825** | **KSEMP1188FDS28A1** | 17.000 | DFR040304D28 | | **6123582** | **SSF150FDS280299** | 1.5 x D | 57 | 101 |
| 30.963 | 1.2188 | **4047826** | **KSEMP1219FDS28A1** | 17.000 | DFR040304D28 | | **4051138** | **SSF150FDS280502** | 3 x D | 96 | 153 |
| 31.000 | 1.2205 | **4047827** | **KSEMP3100FDS28A1M** | 17.000 | DFR040304D28 | | **4051139** | **SSF150FDS280746** | 5 x D | 158 | 215 |
| | | | | | | | **4051140** | **SSF150FDS281112** | 8 x D | 251 | 308 |
| | | | | | | | **4051141** | **SSF150FDS281356** | 10 x D | 313 | 370 |
| 31.750 | 1.2500 | **3794916** | **KSEMP1250FDS32A1** | 15.000 | DFT05T308D32 | 32 | **6123571** | **WD32FDS32082M** | 1.5 x D | 59 | 107 |
| 32.000 | 1.2598 | **3794291** | **KSEMP3200FDS32A1M** | 15.000 | DFT05T308D32 | | **3950219** | **WD32FDS32146M** | 3 x D | 110 | 171 |
| 33.000 | 1.2992 | **3742210** | **KSEMP3300FDS32A1M** | 16.000 | DFT05T308D33 | | **3794428** | **WD32FDS32216M** | 5 x D | 180 | 241 |
| 33.200 | 1.3071 | **3793949** | **KSEMP3320FDS32A1M** | 16.000 | DFT05T308D33 | | **3742293** | **WD32FDS32321M** | 8 x D | 285 | 346 |
| 33.350 | 1.3130 | **3794917** | **KSEMP1313FDS32A1** | 17.000 | DFT05T308D33 | | **3794429** | **WD32FDS32391M** | 10 x D | 355 | 416 |
| 34.000 | 1.3386 | **3794292** | **KSEMP3400FDS32A1M** | 17.000 | DFT05T308D33 | | **6123583** | **SSF150FDS320323** | 1.5 x D | 59 | 107 |
| 34.925 | 1.3750 | **3794918** | **KSEMP1375FDS32A1** | 18.000 | DFT05T308D33 | | **3952192** | **SSF150FDS320573** | 3 x D | 110 | 171 |
| 35.000 | 1.3780 | **3794393** | **KSEMP3500FDS32A1M** | 18.000 | DFT05T308D33 | | **3794835** | **SSF150FDS320850** | 5 x D | 180 | 241 |
| | | | | | | | **3794836** | **SSF150FDS321263** | 8 x D | 285 | 346 |
| | | | | | | | **3794837** | **SSF150FDS321539** | 10 x D | 355 | 416 |
| 36.000 | 1.4173 | **3794394** | **KSEMP3600FDS36A1M** | 13.000 | DFT06T308D36 | 36 | **6123572** | **WD32FDS36092M** | 1.5 x D | 65 | 117 |
| 36.525 | 1.4380 | **3794919** | **KSEMP1438FDS36A1** | 14.000 | DFT06T308D36 | | **3950220** | **WD32FDS36166M** | 3 x D | 122 | 191 |
| 37.000 | 1.4567 | **3794395** | **KSEMP3700FDS36A1M** | 14.000 | DFT06T308D36 | | **3794430** | **WD32FDS36244M** | 5 x D | 200 | 269 |
| 37.500 | 1.4764 | **3794427** | **KSEMP3750FDS36A1M** | 15.000 | DFT06T308D36 | | **3794431** | **WD32FDS36361M** | 8 x D | 317 | 386 |
| 38.000 | 1.4961 | **3794396** | **KSEMP3800FDS36A1M** | 15.000 | DFT06T308D36 | | **3794432** | **WD32FDS36439M** | 10 x D | 395 | 464 |
| 38.100 | 1.5000 | **3794920** | **KSEMP1500FDS36A1** | 15.000 | DFT06T308D36 | | **6123584** | **SSF150FDS360362** | 1.5 x D | 65 | 117 |
| 39.000 | 1.5354 | **3794397** | **KSEMP3900FDS36A1M** | 16.000 | DFT06T308D39 | | **3952343** | **SSF150FDS360652** | 3 x D | 122 | 191 |
| 39.200 | 1.5433 | **3793950** | **KSEMP3920FDS36A1M** | 16.000 | DFT06T308D39 | | **3794838** | **SSF150FDS360960** | 5 x D | 200 | 269 |
| 39.700 | 1.5630 | **3794921** | **KSEMP1563FDS36A1** | 17.000 | DFT06T308D39 | | **3794839** | **SSF150FDS361421** | 8 x D | 317 | 386 |
| | | | | | | | **3794840** | **SSF150FDS361728** | 10 x D | 395 | 464 |
| 40.000 | 1.5748 | **3794398** | **KSEMP4000FDS40A1M** | 17.000 | DFT06T308D39 | 40 | **6123573** | **WD50FDS40100M** | 1.5 x D | 73 | 125 |
| 41.000 | 1.6142 | **3794399** | **KSEMP4100FDS40A1M** | 18.000 | DFT06T308D39 | | **3872075** | **WD50FDS40183M** | 3 x D | 137 | 213 |
| 41.275 | 1.6250 | **3794922** | **KSEMP1625FDS40A1** | 18.000 | DFT06T308D39 | | **3794443** | **WD50FDS40271M** | 5 x D | 225 | 301 |
| 42.000 | 1.6535 | **3794400** | **KSEMP4200FDS40A1M** | 19.000 | DFT06T308D39 | | **3794444** | **WD50FDS40403M** | 8 x D | 357 | 433 |
| 43.000 | 1.6929 | **3794401** | **KSEMP4300FDS40A1M** | 20.000 | DFT06T308D39 | | **3794445** | **WD50FDS40491M** | 10 x D | 445 | 521 |
| 44.000 | 1.7323 | **3794402** | **KSEMP4400FDS40A1M** | 21.000 | DFT06T308D44 | | **6123585** | **SSF200FDS400394** | 1.5 x D | 73 | 125 |
| 44.450 | 1.7500 | **3794933** | **KSEMP1750FDS40A1** | 22.000 | DFT06T308D44 | | **3952344** | **SSF200FDS400721** | 3 x D | 137 | 213 |
| | | | | | | | **3794841** | **SSF200FDS401066** | 5 x D | 225 | 301 |
| | | | | | | | **3794842** | **SSF200FDS401586** | 8 x D | 357 | 433 |
| | | | | | | | **3794903** | **SSF200FDS401933** | 10 x D | 445 | 521 |

*(continued)*

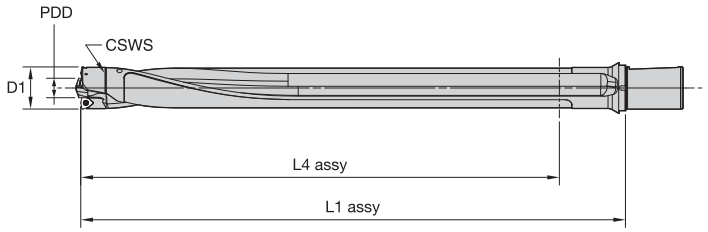
*(KSEM PLUS Overview and Assembly for Systems Using A1 Heads — continued)*




| available KSEM PLUS heads | | | | requested insert size reference per head | | | available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | | KSEM PLUS head order number | KSEM PLUS head ANSI catalog number | PDD (mm) center insert size reference | outboard insert Drill Fix™ DFC DPA guiding pads | CSWS | KSEM PLUS body order number | KSEM PLUS body ANSI catalog number | L/D ratio | L4 assembly (mm) | L1 assembly (mm) |
| mm | in | | | | | | | | | | |
| 45.000 | 1.7717 | **3794403** | **KSEMP4500FDS45A1M** | 18.000 | DFT070408D45 | 45 | **6123575** | **WD50FDS45112M** | 1.5 x D | 85 | 147 |
| 46.000 | 1.8110 | **3794404** | **KSEMP4600FDS45A1M** | 19.000 | DFT070408D45 | | **3872709** | **WD50FDS45206M** | 3 x D | 152 | 236 |
| 47.000 | 1.8504 | **3794405** | **KSEMP4700FDS45A1M** | 20.000 | DFT070408D45 | | **3794446** | **WD50FDS45304M** | 5 x D | 250 | 334 |
| 47.625 | 1.8750 | **3794934** | **KSEMP1875FDS45A1** | 21.000 | DFT070408D45 | | **3794447** | **WD50FDS45451M** | 8 x D | 397 | 481 |
| 48.000 | 1.8898 | **3794406** | **KSEMP4800FDS45A1M** | 21.000 | DFT070408D45 | | **3794448** | **WD50FDS45549M** | 10 x D | 495 | 579 |
| 49.000 | 1.9291 | **3794407** | **KSEMP4900FDS45A1M** | 22.000 | DFT070408D45 | | **6123586** | **SSF200FDS450441** | 1.5 x D | 85 | 147 |
| | | | | | | | **3952345** | **SSF200FDS450809** | 3 x D | 152 | 236 |
| | | | | | | | **3794904** | **SSF200FDS451196** | 5 x D | 250 | 334 |
| | | | | | | | **3794905** | **SSF200FDS451775** | 8 x D | 397 | 481 |
| | | | | | | | **3794906** | **SSF200FDS452161** | 10 x D | 495 | 579 |
| 50.000 | 1.9685 | **3742211** | **KSEMP5000FDS50A1M** | 23.000 | DFT070408D50 | 50 | **6123576** | **WD50FDS50122M** | 1.5 x D | 89 | 157 |
| 50.800 | 2.0000 | **3794935** | **KSEMP2000FDS50A1** | 24.000 | DFT070408D50 | | **3950221** | **WD50FDS50228M** | 3 x D | 170 | 263 |
| 51.000 | 2.0079 | **3794408** | **KSEMP5100FDS50A1M** | 24.000 | DFT070408D50 | | **3794449** | **WD50FDS50338M** | 5 x D | 280 | 373 |
| 52.000 | 2.0472 | **3794409** | **KSEMP5200FDS50A1M** | 25.000 | DFT070408D50 | | **3742294** | **WD50FDS50503M** | 8 x D | 445 | 538 |
| 53.000 | 2.0866 | **3794410** | **KSEMP5300FDS50A1M** | 26.000 | DFT070408D50 | | **3794450** | **WD50FDS50613M** | 10 x D | 555 | 648 |
| 53.975 | 2.1250 | **3794936** | **KSEMP2125FDS50A1** | 27.000 | DFT070408D50 | | **6123587** | **SSF200FDS500480** | 1.5 x D | 89 | 157 |
| 54.000 | 2.1260 | **3794411** | **KSEMP5400FDS50A1M** | 27.000 | DFT070408D50 | | **3952346** | **SSF200FDS500896** | 3 x D | 170 | 263 |
| 55.000 | 2.1654 | **3794412** | **KSEMP5500FDS50A1M** | 28.000 | DFT070408D50 | | **3794907** | **SSF200FDS501330** | 5 x D | 280 | 373 |
| | | | | | | | **3794908** | **SSF200FDS501980** | 8 x D | 445 | 538 |
| | | | | | | | **3794909** | **SSF200FDS502413** | 10 x D | 555 | 648 |
| 56.000 | 2.2047 | **3794413** | **KSEMP5600FDS56A1M** | 20.000 | DFT090508D56 | 56 | **6123577** | **WD50FDS56140M** | 1.5 x D | 130 | 175 |
| 57.000 | 2.2441 | **3794414** | **KSEMP5700FDS56A1M** | 21.000 | DFT090508D56 | | **3950222** | **WD50FDS56259M** | 3 x D | 191 | 294 |
| 57.150 | 2.2500 | **3794937** | **KSEMP2250FDS56A1** | 21.000 | DFT090508D56 | | **3794451** | **WD50FDS56383M** | 5 x D | 315 | 418 |
| 58.000 | 2.2835 | **3794415** | **KSEMP5800FDS56A1M** | 22.000 | DFT090508D56 | | **3794452** | **WD50FDS56569M** | 8 x D | 501 | 604 |
| 59.000 | 2.3228 | **3794416** | **KSEMP5900FDS56A1M** | 23.000 | DFT090508D56 | | **3794453** | **WD50FDS56693M** | 10 x D | 625 | 728 |
| 60.000 | 2.3622 | **3794417** | **KSEMP6000FDS56A1M** | 24.000 | DFT090508D56 | | **6123588** | **SSF200FDS560551** | 1.5 x D | 130 | 175 |
| 60.330 | 2.3750 | **3794938** | **KSEMP2375FDS56A1** | 24.000 | DFT090508D56 | | **3952347** | **SSF200FDS561020** | 3 x D | 191 | 294 |
| 61.000 | 2.4016 | **3794418** | **KSEMP6100FDS56A1M** | 25.000 | DFT090508D56 | | **3794910** | **SSF200FDS561507** | 5 x D | 315 | 418 |
| 62.000 | 2.4409 | **3794419** | **KSEMP6200FDS56A1M** | 26.000 | DFT090508D56 | | **3794911** | **SSF200FDS562240** | 8 x D | 501 | 604 |
| | | | | | | | **3794912** | **SSF200FDS562783** | 10 x D | 625 | 728 |
| 63.000 | 2.4803 | **3794420** | **KSEMP6300FDS63A1M** | 27.000 | DFT090508D63 | 63 | **6123578** | **WD50FDS63154M** | 1.5 x D | 111 | 194 |
| 63.500 | 2.5000 | **3794939** | **KSEMP2500FDS63A1** | 28.000 | DFT090508D63 | | **3950333** | **WD50FDS63289M** | 3 x D | 214 | 329 |
| 64.000 | 2.5197 | **3794421** | **KSEMP6400FDS63A1M** | 28.000 | DFT090508D63 | | **3794454** | **WD50FDS63429M** | 5 x D | 354 | 469 |
| 65.000 | 2.5591 | **3794422** | **KSEMP6500FDS63A1M** | 29.000 | DFT090508D63 | | **3794455** | **WD50FDS63639M** | 8 x D | 564 | 679 |
| 66.000 | 2.5984 | **3794423** | **KSEMP6600FDS63A1M** | 30.000 | DFT090508D63 | | **3742296** | **WD50FDS63779M** | 10 x D | 704 | 819 |
| 66.680 | 2.6250 | **3794940** | **KSEMP2625FDS63A1** | 31.000 | DFT090508D63 | | **6123589** | **SSF200FDS630606** | 1.5 x D | 111 | 194 |
| 67.000 | 2.6378 | **3794424** | **KSEMP6700FDS63A1M** | 31.000 | DFT090508D63 | | **3952348** | **SSF200FDS631138** | 3 x D | 214 | 329 |
| 68.000 | 2.6772 | **3794425** | **KSEMP6800FDS63A1M** | 32.000 | DFT090508D63 | | **3794913** | **SSF200FDS631688** | 5 x D | 354 | 469 |
| 69.000 | 2.7165 | **3794426** | **KSEMP6900FDS63A1M** | 33.000 | DFT090508D63 | | **3794914** | **SSF200FDS632515** | 8 x D | 564 | 679 |
| 69.850 | 2.7500 | **3794941** | **KSEMP2750FDS63A1** | 34.000 | DFT090508D63 | | **3794915** | **SSF200FDS633066** | 10 x D | 704 | 819 |
| 70.000 | 2.7559 | **3742212** | **KSEMP7000FDS63A1M** | 34.000 | DFT090508D63 | | | | | | |

*(continued)*

*(KSEM PLUS Overview and Assembly for Systems Using A1 Heads — continued)*




| available KSEM PLUS heads | | | | requested insert size reference per head | | | available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | | KSEM PLUS head order number | KSEM PLUS head ANSI catalog number | PDD (mm) center insert size reference | outboard insert Drill Fix™ DFC DPA guiding pads | CSWS | KSEM PLUS body order number | KSEM PLUS body ANSI catalog number | L/D ratio | L4 assembly (mm) | L1 assembly (mm) |
| mm | in | | | | | | | | | | |
| 71.000 | 2.7950 | **6041904** | **KSEMP7100FDS71A1M** | 26.000 | 4x DFT06T308D44 | 71 | **6123579** | **WD50FDS71172M** | 1.5 x D | 128 | 217 |
| 72.000 | 2.8350 | **5397513** | **KSEMP7200FDS71A1M** | 27.000 | | | **5397942** | **WD50FDS71292M** | 3 x D | 241 | 333 |
| 73.000 | 2.8740 | **6041906** | **KSEMP7300FDS71A1M** | 28.000 | | | **5397943** | **WD50FDS71452M** | 5 x D | 401 | 493 |
| 73.025 | 2.8750 | **6041931** | **KSEMP2875FDS71A1** | 28.000 | | | **6123590** | **SSF200FDS710677** | 1.5 x D | 128 | 217 |
| 74.000 | 2.9130 | **5397514** | **KSEMP7400FDS71A1M** | 29.000 | | | **5397948** | **SSF200FDS711150** | 3 x D | 241 | 333 |
| 75.000 | 2.9530 | **6041907** | **KSEMP7500FDS71A1M** | 30.000 | | | **5397949** | **SSF200FDS711780** | 5 x D | 401 | 493 |
| 76.000 | 2.9920 | **5397515** | **KSEMP7600FDS71A1M** | 31.000 | | | | | | | |
| 76.200 | 3.0000 | **5397516** | **KSEMP3000FDS71A1** | 31.000 | | | | | | | |
| 77.000 | 3.0310 | **6041908** | **KSEMP7700FDS71A1M** | 32.000 | | | | | | | |
| 78.000 | 3.0710 | **5397517** | **KSEMP7800FDS71A1M** | 33.000 | | | | | | | |
| 79.000 | 3.1100 | **6041909** | **KSEMP7900FDS71A1M** | 34.000 | | | | | | | |
| 79.375 | 3.1250 | **6041932** | **KSEMP3125FDS80A1** | 31.000 | 2x DFT06T308D44 & 2x DFT070408D50 | 80 | **6123580** | **WD50FDS80192M** | 1.5 x D | 145 | 247 |
| 80.000 | 3.1500 | **5397518** | **KSEMP8000FDS80A1M** | 31.000 | | | **5397944** | **WD50FDS80327M** | 3 x D | 271 | 373 |
| 81.000 | 3.1890 | **6041910** | **KSEMP8100FDS80A1M** | 32.000 | | | **5397945** | **WD50FDS80507M** | 5 x D | 451 | 553 |
| 82.000 | 3.2280 | **5397519** | **KSEMP8200FDS80A1M** | 33.000 | | | **6123591** | **SSF200FDS800756** | 1.5 x D | 145 | 247 |
| 83.000 | 3.2680 | **6041921** | **KSEMP8300FDS80A1M** | 34.000 | | | **5398010** | **SSF200FDS801287** | 3 x D | 271 | 373 |
| 82.550 | 3.2500 | **5397550** | **KSEMP3250FDS80A1** | 34.000 | | | **5398011** | **SSF200FDS801996** | 5 x D | 451 | 553 |
| 84.000 | 3.3070 | **5397551** | **KSEMP8400FDS80A1M** | 35.000 | | | | | | | |
| 85.000 | 3.3070 | **6041922** | **KSEMP8500FDS80A1M** | 36.000 | | | | | | | |
| 85.725 | 3.3750 | **6041933** | **KSEMP3375FDS80A1** | 37.000 | | | | | | | |
| 86.000 | 3.3860 | **5397552** | **KSEMP8600FDS80A1M** | 37.000 | | | | | | | |
| 87.000 | 3.4250 | **6041923** | **KSEMP8700FDS80A1M** | 38.000 | | | | | | | |
| 88.000 | 3.4650 | **5397553** | **KSEMP8800FDS80A1M** | 39.000 | | | | | | | |
| 88.900 | 3.5000 | **5397554** | **KSEMP3500FDS80A1** | 40.000 | | | | | | | |
| 89.000 | 3.5040 | **6041924** | **KSEMP8900FDS80A1M** | 40.000 | | | | | | | |
| 90.000 | 3.5430 | **5397555** | **KSEMP9000FDS90A1M** | 37.000 | 4x DFT070408D50 | 90 | **6123581** | **WD50FDS90212M** | 1.5 x D | 160 | 272 |
| 91.000 | 3.5830 | **6041925** | **KSEMP9100FDS90A1M** | 38.000 | | | **5397946** | **WD50FDS90362M** | 3 x D | 302 | 414 |
| 92.000 | 3.6220 | **5397556** | **KSEMP9200FDS90A1M** | 39.000 | | | **5397947** | **WD50FDS90562M** | 5 x D | 502 | 614 |
| 92.075 | 3.6250 | **6041934** | **KSEMP3625FDS90A1** | 39.000 | | | **6123592** | **SSF200FDS900835** | 1.5 x D | 160 | 272 |
| 93.000 | 3.6610 | **6041926** | **KSEMP9300FDS90A1M** | 40.000 | | | **5398012** | **SSF200FDS901425** | 3 x D | 302 | 414 |
| | | | | | | | **5398013** | **SSF200FDS902213** | 5 x D | 502 | 614 |
| 94.000 | 3.7010 | **5397557** | **KSEMP9400FDS90A1M** | 26.000 | 6x DFT06T308D44 | | | | | | |
| 95.000 | 3.7400 | **6041927** | **KSEMP9500FDS90A1M** | 27.000 | | | | | | | |
| 95.250 | 3.7500 | **5397558** | **KSEMP3750FDS90A1** | 27.000 | | | | | | | |
| 96.000 | 3.7800 | **5397559** | **KSEMP9600FDS90A1M** | 28.000 | | | | | | | |
| 97.000 | 3.8190 | **6041928** | **KSEMP9700FDS90A1M** | 29.000 | | | | | | | |
| 98.000 | 3.8580 | **5397560** | **KSEMP9800FDS90A1M** | 30.000 | | | | | | | |
| 98.425 | 3.8750 | **6041935** | **KSEMP3875FDS90A1** | 31.000 | | | | | | | |
| 99.000 | 3.8980 | **6041929** | **KSEMP9900FDS90A1M** | 31.000 | | | | | | | |
| 100.000 | 3.9370 | **6041930** | **KSEMP10000FDS90A1M** | 32.000 | | | | | | | |
| 101.600 | 4.0000 | **5397561** | **KSEMP4000FDS90A1** | 34.000 | | | | | | | |

# **Keep it Short** and **Simple…**

## Achieve short chips in long-chipping materials with our new DS/LP geometries for indexable drills and KSEM PLUS™.

- High metal removal rates without long chips, especially in low-carbon steel applications.
- Improved control of chip flow, chip breakage, and chip curling. Eliminates chip jamming by providing excellent chip forming and chipbreaking capabilities.
- Avoid bird nesting and long, stringy chips to reduce idle time and improve process stability.

See pages J4–J59 for Drill Fix™ Indexable Drills.

See pages H102–H106, H108–H125, and H133 for KSEM PLUS A1 and B1 head systems.

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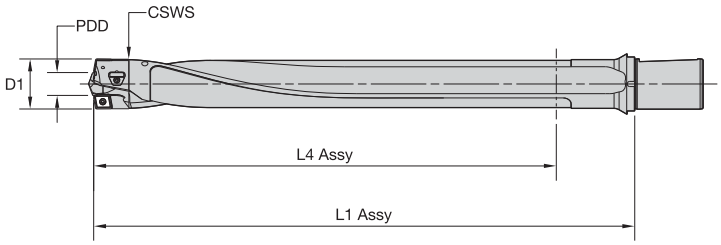
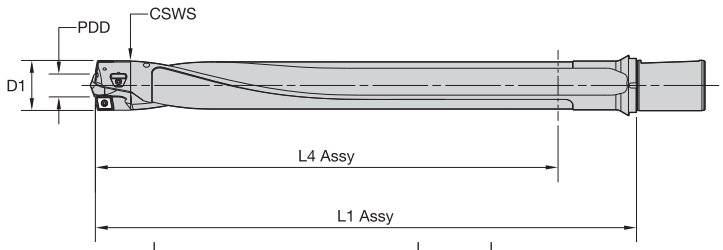



| available KSEM PLUS heads | | | | requested insert size reference per head | | available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | | KSEM PLUS head order number | KSEM PLUS head ANSI catalog number | PDD (mm) center insert size reference | outboard insert Drill Fix™ DFC DPA guiding pads | CSWS | KSEM PLUS body order number | KSEM PLUS body ANSI catalog number | L/D ratio | L4 assembly (mm) | L1 assembly (mm) |
| mm | in | | | | | | | | | | |
| 28.000 | 1.1020 | **5115736** | **KSEMP2800FDS28B1M** | 14.000 | **DFC inserts** DFC040310D28 **DPA guiding pads** DPA07T3D25 | 28 | **6123570** | **WD32FDS28076M** | 1.5 x D | 54 | 98 |
| 28.575 | 1.1250 | **5115737** | **KSEMP1125FDS28B1** | 15.000 | | | **4000409** | **WD32FDS28128M** | 3 x D | 93 | 150 |
| 29.000 | 1.1420 | **5115738** | **KSEMP2900FDS28B1M** | 15.000 | | | **4051136** | **WD32FDS28190M** | 5 x D | 155 | 212 |
| 29.362 | 1.1560 | **5115739** | **KSEMP1156FDS28B1** | 16.000 | | | **4051137** | **WD32FDS28283M** | 8 x D | 248 | 305 |
| 30.000 | 1.1810 | **5116010** | **KSEMP3000FDS28B1M** | 16.000 | | | **4000411** | **WD32FDS28345M** | 10 x D | 310 | 367 |
| 30.175 | 1.1880 | **5116011** | **KSEMP1188FDS28B1** | 17.000 | | | **6123582** | **SSF150FDS280299** | 1.5 x D | 54 | 98 |
| 30.963 | 1.2190 | **5116012** | **KSEMP1219FDS28B1** | 17.000 | | | **4051138** | **SSF150FDS280502** | 3 x D | 93 | 150 |
| 31.000 | 1.2200 | **5116013** | **KSEMP3100FDS28B1M** | 17.000 | | | **4051139** | **SSF150FDS280746** | 5 x D | 155 | 212 |
| | | | | | | | **4051140** | **SSF150FDS281112** | 8 x D | 248 | 305 |
| | | | | | | | **4051141** | **SSF150FDS281356** | 10 x D | 310 | 367 |
| 31.750 | 1.2500 | **5116014** | **KSEMP1250FDS32B1** | 15.000 | **DFC inserts** DFC05T312D32 **DPA guiding pads** DPA09T4D32 | 32 | **6123571** | **WD32FDS32082M** | 1.5 x D | 54 | 102 |
| 32.000 | 1.2600 | **5116015** | **KSEMP3200FDS32B1M** | 15.000 | | | **3950219** | **WD32FDS32146M** | 3 x D | 105 | 166 |
| 33.000 | 1.2990 | **5116016** | **KSEMP3300FDS32B1M** | 16.000 | | | **3794428** | **WD32FDS32216M** | 5 x D | 175 | 236 |
| 33.200 | 1.3070 | **5116017** | **KSEMP3320FDS32B1M** | 16.000 | | | **3742293** | **WD32FDS32321M** | 8 x D | 280 | 341 |
| 33.350 | 1.3130 | **5116018** | **KSEMP1313FDS32B1** | 17.000 | | | **3794429** | **WD32FDS32391M** | 10 x D | 350 | 411 |
| 34.000 | 1.3390 | **5116019** | **KSEMP3400FDS32B1M** | 17.000 | | | **6123583** | **SSF150FDS320323** | 1.5 x D | 54 | 102 |
| 34.925 | 1.3750 | **5116030** | **KSEMP1375FDS32B1** | 18.000 | | | **3952192** | **SSF150FDS320573** | 3 x D | 105 | 166 |
| 35.000 | 1.3780 | **5116031** | **KSEMP3500FDS32B1M** | 18.000 | | | **3794835** | **SSF150FDS320850** | 5 x D | 175 | 236 |
| | | | | | | | **3794836** | **SSF150FDS321263** | 8 x D | 280 | 341 |
| | | | | | | | **3794837** | **SSF150FDS321539** | 10 x D | 350 | 411 |
| 36.000 | 1.4170 | **5116032** | **KSEMP3600FDS36B1M** | 13.000 | **DFC inserts** DFC06T312D36 **DPA guiding pads** DPA09T4D32 | 36 | **6123572** | **WD32FDS36092M** | 1.5 x D | 60 | 112 |
| 36.525 | 1.4380 | **5116033** | **KSEMP1438FDS36B1** | 14.000 | | | **3950220** | **WD32FDS36166M** | 3 x D | 117 | 186 |
| 37.000 | 1.4570 | **5116034** | **KSEMP3700FDS36B1M** | 14.000 | | | **3794430** | **WD32FDS36244M** | 5 x D | 195 | 264 |
| 37.500 | 1.4760 | **5116035** | **KSEMP3750FDS36B1M** | 15.000 | | | **3794431** | **WD32FDS36361M** | 8 x D | 312 | 381 |
| 38.000 | 1.4960 | **5116036** | **KSEMP3800FDS36B1M** | 15.000 | | | **3794432** | **WD32FDS36439M** | 10 x D | 390 | 459 |
| 38.100 | 1.5000 | **5116037** | **KSEMP1500FDS36B1** | 15.000 | | | **6123584** | **SSF150FDS360362** | 1.5 x D | 60 | 112 |
| 39.000 | 1.5350 | **5116038** | **KSEMP3900FDS36B1M** | 16.000 | | | **3952343** | **SSF150FDS360652** | 3 x D | 117 | 186 |
| 39.200 | 1.5430 | **5116039** | **KSEMP3920FDS36B1M** | 16.000 | | | **3794838** | **SSF150FDS360960** | 5 x D | 195 | 264 |
| 39.700 | 1.5630 | **5116040** | **KSEMP1563FDS36B1** | 17.000 | | | **3794839** | **SSF150FDS361421** | 8 x D | 312 | 381 |
| | | | | | | | **3794840** | **SSF150FDS361728** | 10 x D | 390 | 459 |
| 40.000 | 1.5750 | **5116041** | **KSEMP4000FDS40B1M** | 17.000 | **DFC inserts** DFC06T312D36 **DPA guiding pads** DPA09T4D32 | 40 | **6123573** | **WD50FDS40100M** | 1.5 x D | 68 | 120 |
| 41.000 | 1.6140 | **5116042** | **KSEMP4100FDS40B1M** | 18.000 | | | **3872075** | **WD50FDS40183M** | 3 x D | 132 | 208 |
| 41.275 | 1.6250 | **5116043** | **KSEMP1625FDS40B1** | 18.000 | | | **3794443** | **WD50FDS40271M** | 5 x D | 220 | 296 |
| 42.000 | 1.6540 | **5116044** | **KSEMP4200FDS40B1M** | 19.000 | | | **3794444** | **WD50FDS40403M** | 8 x D | 352 | 428 |
| 43.000 | 1.6930 | **5116045** | **KSEMP4300FDS40B1M** | 20.000 | | | **3794445** | **WD50FDS40491M** | 10 x D | 440 | 516 |
| 44.000 | 1.7320 | **5116046** | **KSEMP4400FDS40B1M** | 21.000 | | | **6123585** | **SSF200FDS400394** | 1.5 x D | 68 | 120 |
| 44.450 | 1.7500 | **5116047** | **KSEMP1750FDS40B1** | 22.000 | | | **3952344** | **SSF200FDS400721** | 3 x D | 132 | 208 |
| | | | | | | | **3794841** | **SSF200FDS401066** | 5 x D | 220 | 296 |
| | | | | | | | **3794842** | **SSF200FDS401586** | 8 x D | 352 | 428 |
| | | | | | | | **3794903** | **SSF200FDS401933** | 10 x D | 440 | 516 |

*(continued)*

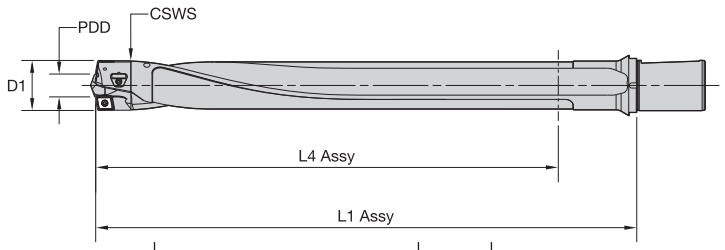
*(KSEM PLUS Overview and Assembly for Systems Using B1 Heads — continued)*




| available KSEM PLUS heads | | | | requested insert size reference per head | | | available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | | KSEM PLUS head order number | KSEM PLUS head ANSI catalog number | PDD (mm) center insert size reference | outboard insert Drill Fix™ DFC DPA guiding pads | CSWS | KSEM PLUS body order number | KSEM PLUS body ANSI catalog number | L/D ratio | L4 assembly (mm) | L1 assembly (mm) |
| mm | in | | | | | | | | | | |
| 45.000 | 1.7720 | 5116098 | KSEMP4500FDS45B1M | 18.000 | DFC inserts DFC070416D45 DPA guiding pads DPA09T4D32 | 45 | 6123575 | WD50FDS45112M | 1.5 x D | 80 | 142 |
| 46.000 | 1.8110 | 5116099 | KSEMP4600FDS45B1M | 19.000 | | | 3872709 | WD50FDS45206M | 3 x D | 147 | 231 |
| 47.000 | 1.8500 | 5116110 | KSEMP4700FDS45B1M | 20.000 | | | 3794446 | WD50FDS45304M | 5 x D | 245 | 329 |
| 47.625 | 1.8750 | 5116111 | KSEMP1875FDS45B1 | 21.000 | | | 3794447 | WD50FDS45451M | 8 x D | 392 | 476 |
| 48.000 | 1.8900 | 5116112 | KSEMP4800FDS45B1M | 21.000 | | | 3794448 | WD50FDS45549M | 10 x D | 490 | 574 |
| 49.000 | 1.9290 | 5116113 | KSEMP4900FDS45B1M | 22.000 | | | 6123586 | SSF200FDS450441 | 1.5 x D | 80 | 142 |
| | | | | | | | 3952345 | SSF200FDS450809 | 3 x D | 147 | 231 |
| | | | | | | | 3794904 | SSF200FDS451196 | 5 x D | 245 | 329 |
| | | | | | | | 3794905 | SSF200FDS451775 | 8 x D | 392 | 476 |
| | | | | | | | 3794906 | SSF200FDS452161 | 10 x D | 490 | 574 |
| 50.000 | 1.9690 | 5116114 | KSEMP5000FDS50B1M | 23.000 | DFC inserts DFC070416D45 DPA guiding pads DPA13T5D50 | 50 | 6123576 | WD50FDS50122M | 1.5 x D | 84 | 152 |
| 50.800 | 2.0000 | 5116115 | KSEMP2000FDS50B1 | 24.000 | | | 3950221 | WD50FDS50228M | 3 x D | 165 | 258 |
| 51.000 | 2.0080 | 5116116 | KSEMP5100FDS50B1M | 24.000 | | | 3794449 | WD50FDS50338M | 5 x D | 275 | 368 |
| 52.000 | 2.0470 | 5116117 | KSEMP5200FDS50B1M | 25.000 | | | 3742294 | WD50FDS50503M | 8 x D | 440 | 533 |
| 53.000 | 2.0870 | 5116118 | KSEMP5300FDS50B1M | 26.000 | | | 3794450 | WD50FDS50613M | 10 x D | 550 | 643 |
| 53.975 | 2.1250 | 5116119 | KSEMP2125FDS50B1 | 27.000 | | | 6123587 | SSF200FDS500480 | 1.5 x D | 84 | 152 |
| 54.000 | 2.1260 | 5116120 | KSEMP5400FDS50B1M | 27.000 | | | 3952346 | SSF200FDS500896 | 3 x D | 165 | 258 |
| 55.000 | 2.1650 | 5116121 | KSEMP5500FDS50B1M | 28.000 | | | 3794907 | SSF200FDS501330 | 5 x D | 275 | 368 |
| | | | | | | | 3794908 | SSF200FDS501980 | 8 x D | 440 | 533 |
| | | | | | | | 3794909 | SSF200FDS502413 | 10 x D | 550 | 643 |
| 56.000 | 2.2050 | 5116122 | KSEMP5600FDS56B1M | 20.000 | DFC inserts DFC090520D56 DPA guiding pads DPA13T5D50 | 56 | 6123577 | WD50FDS56140M | 1.5 x D | 125 | 170 |
| 57.000 | 2.2440 | 5116123 | KSEMP5700FDS56B1M | 21.000 | | | 3950222 | WD50FDS56259M | 3 x D | 186 | 289 |
| 57.150 | 2.2500 | 5116124 | KSEMP2250FDS56B1 | 21.000 | | | 3794451 | WD50FDS56383M | 5 x D | 310 | 413 |
| 58.000 | 2.2830 | 5116125 | KSEMP5800FDS56B1M | 22.000 | | | 3794452 | WD50FDS56569M | 8 x D | 496 | 599 |
| 59.000 | 2.3230 | 5116126 | KSEMP5900FDS56B1M | 23.000 | | | 3794453 | WD50FDS56693M | 10 x D | 620 | 723 |
| 60.000 | 2.3620 | 5116127 | KSEMP6000FDS56B1M | 24.000 | | | 6123588 | SSF200FDS560551 | 1.5 x D | 125 | 170 |
| 60.330 | 2.3750 | 5116128 | KSEMP2375FDS56B1 | 24.000 | | | 3952347 | SSF200FDS561020 | 3 x D | 186 | 289 |
| 61.000 | 2.4020 | 5116129 | KSEMP6100FDS56B1M | 25.000 | | | 3794910 | SSF200FDS561507 | 5 x D | 310 | 413 |
| 62.000 | 2.4410 | 5116130 | KSEMP6200FDS56B1M | 26.000 | | | 3794911 | SSF200FDS562240 | 8 x D | 496 | 599 |
| | | | | | | | 3794912 | SSF200FDS562783 | 10 x D | 620 | 723 |
| 63.000 | 2.4800 | 5116131 | KSEMP6300FDS63B1M | 27.000 | DFC inserts DFC090520D56 DPA guiding pads DPA13T5D50 | 63 | 6123578 | WD50FDS63154M | 1.5 x D | 107 | 190 |
| 63.500 | 2.5000 | 5116132 | KSEMP2500FDS63B1 | 28.000 | | | 3950333 | WD50FDS63289M | 3 x D | 210 | 325 |
| 64.000 | 2.5200 | 5116133 | KSEMP6400FDS63B1M | 28.000 | | | 3794454 | WD50FDS63429M | 5 x D | 350 | 465 |
| 65.000 | 2.5590 | 5116134 | KSEMP6500FDS63B1M | 29.000 | | | 3794455 | WD50FDS63639M | 8 x D | 560 | 675 |
| 66.000 | 2.5980 | 5116135 | KSEMP6600FDS63B1M | 30.000 | | | 3742296 | WD50FDS63779M | 10 x D | 700 | 815 |
| 66.680 | 2.6250 | 5116136 | KSEMP2625FDS63B1 | 31.000 | | | 6123589 | SSF200FDS630606 | 1.5 x D | 107 | 190 |
| 67.000 | 2.6380 | 5116137 | KSEMP6700FDS63B1M | 31.000 | | | 3952348 | SSF200FDS631138 | 3 x D | 210 | 325 |
| 68.000 | 2.6770 | 5116138 | KSEMP6800FDS63B1M | 32.000 | | | 3794913 | SSF200FDS631688 | 5 x D | 350 | 465 |
| 69.000 | 2.7170 | 5116139 | KSEMP6900FDS63B1M | 33.000 | | | 3794914 | SSF200FDS632515 | 8 x D | 560 | 675 |
| 69.850 | 2.7500 | 5116140 | KSEMP2750FDS63B1 | 34.000 | | | 3794915 | SSF200FDS633066 | 10 x D | 700 | 815 |
| 70.000 | 2.7560 | 5116141 | KSEMP7000FDS63B1M | 34.000 | | | | | | | |

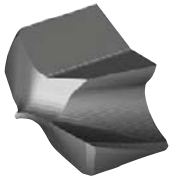
*(continued)*

*(KSEM PLUS Overview and Assembly for Systems Using B1 Heads — continued)*

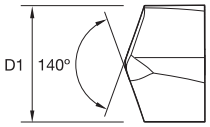



| available KSEM PLUS heads | | | | requested insert size reference per head | | | available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D1 | | KSEM PLUS head order number | KSEM PLUS head ANSI catalog number | PDD (mm) center insert size reference | outboard insert Drill Fix™ DFC DPA guiding pads | CSWS | KSEM PLUS body order number | KSEM PLUS body ANSI catalog number | L/D ratio | L4 assembly (mm) | L1 assembly (mm) |
| mm | in | | | | | | | | | | |
| 71.000 | 2.7950 | **6041937** | **KSEMP7100FDS71B1M** | 26.000 | **DFC inserts** 4x DFC06T312D36 **DPA guiding pads** DPA13T5D50 | 71 | **6123579** | **WD50FDS71172M** | 1.5 x D | 127 | 216 |
| 72.000 | 2.8350 | **6041797** | **KSEMP7200FDS71B1M** | 27.000 | | | **5397942** | **WD50FDS71292M** | 3 x D | 240 | 332 |
| 73.000 | 2.8740 | **6041938** | **KSEMP7300FDS71B1M** | 28.000 | | | **5397943** | **WD50FDS71452M** | 5 x D | 400 | 492 |
| 73.025 | 2.8750 | **6042002** | **KSEMP2875FDS71B1** | 28.000 | | | **6123590** | **SSF200FDS710677** | 1.5 x D | 127 | 216 |
| 74.000 | 2.9130 | **6041798** | **KSEMP7400FDS71B1M** | 29.000 | | | **5397948** | **SSF200FDS711150** | 3 x D | 240 | 332 |
| 75.000 | 2.9530 | **6041939** | **KSEMP7500FDS71B1M** | 30.000 | | | **5397949** | **SSF200FDS711780** | 5 x D | 400 | 492 |
| 76.000 | 2.9920 | **6041799** | **KSEMP7600FDS71B1M** | 31.000 | | | | | | | |
| 77.000 | 3.0310 | **6041940** | **KSEMP7700FDS71B1M** | 32.000 | | | | | | | |
| 76.200 | 3.0000 | **5397562** | **KSEMP3000FDS71B1** | 31.000 | | | | | | | |
| 78.000 | 3.0710 | **6041800** | **KSEMP7800FDS71B1M** | 33.000 | | | | | | | |
| 79.000 | 3.1100 | **6041991** | **KSEMP7900FDS71B1M** | 34.000 | | | | | | | |
| 79.375 | 3.1250 | **6042003** | **KSEMP3125FDS80B1** | 31.000 | **DFC inserts** 2x DFC06T312D36 & 2x DFC070416D45 **DPA guiding pads** DPA13T5D50 | 80 | **6123580** | **WD50FDS80192M** | 1.5 x D | 144 | 246 |
| 80.000 | 3.1500 | **6041881** | **KSEMP8000FDS80B1M** | 31.000 | | | **5397944** | **WD50FDS80327M** | 3 x D | 270 | 372 |
| 81.000 | 3.1890 | **6041992** | **KSEMP8100FDS80B1M** | 32.000 | | | **5397945** | **WD50FDS80507M** | 5 x D | 450 | 552 |
| 82.000 | 3.2280 | **6041882** | **KSEMP8200FDS80B1M** | 33.000 | | | **6123591** | **SSF200FDS800756** | 1.5 x D | 144 | 246 |
| 82.550 | 3.2500 | **5397563** | **KSEMP3250FDS80B1** | 34.000 | | | **5398010** | **SSF200FDS801287** | 3 x D | 270 | 372 |
| 83.000 | 3.2680 | **6041993** | **KSEMP8300FDS80B1M** | 34.000 | | | **5398011** | **SSF200FDS801996** | 5 x D | 450 | 552 |
| 84.000 | 3.3070 | **6041883** | **KSEMP8400FDS80B1M** | 35.000 | | | | | | | |
| 85.000 | 3.3460 | **6041994** | **KSEMP8500FDS80B1M** | 36.000 | | | | | | | |
| 85.725 | 3.3750 | **6042004** | **KSEMP3375FDS80B1** | 37.000 | | | | | | | |
| 86.000 | 3.3860 | **6041884** | **KSEMP8600FDS80B1M** | 37.000 | | | | | | | |
| 87.000 | 3.4250 | **6041995** | **KSEMP8700FDS80B1M** | 38.000 | | | | | | | |
| 88.000 | 3.4650 | **6041885** | **KSEMP8800FDS80B1M** | 39.000 | | | | | | | |
| 88.900 | 3.5000 | **5397564** | **KSEMP3500FDS80B1** | 40.000 | | | | | | | |
| 89.000 | 3.5040 | **6041996** | **KSEMP8900FDS80B1M** | 40.000 | | | | | | | |
| 90.000 | 3.5430 | **6041886** | **KSEMP9000FDS90B1M** | 37.000 | **DFC inserts** 4x DFC070416D45 **DPA guiding pads** DPA13T5D50 | 90 | **6123581** | **WD50FDS90212M** | 1.5 x D | 158 | 270 |
| 91.000 | 3.5830 | **6041997** | **KSEMP9100FDS90B1M** | 38.000 | | | **5397946** | **WD50FDS90362M** | 3 x D | 300 | 412 |
| 92.000 | 3.6220 | **6041887** | **KSEMP9200FDS90B1M** | 39.000 | | | **5397947** | **WD50FDS90562M** | 5 x D | 500 | 612 |
| 92.075 | 3.6250 | **6042005** | **KSEMP3625FDS90B1** | 39.000 | | | **6123592** | **SSF200FDS900835** | 1.5 x D | 158 | 270 |
| 93.000 | 3.6610 | **6041998** | **KSEMP9300FDS90B1M** | 40.000 | | | **5398012** | **SSF200FDS901425** | 3 x D | 300 | 412 |
| | | | | | | | **5398013** | **SSF200FDS902213** | 5 x D | 500 | 612 |
| 94.000 | 3.7010 | **6041888** | **KSEMP9400FDS90B1M** | 26.000 | **DFC inserts** 6x DFC06T312D36 **DPA guiding pads** DPA13T5D50 | | | | | | |
| 95.000 | 3.7400 | **6041999** | **KSEMP9500FDS90B1M** | 27.000 | | | | | | | |
| 95.250 | 3.7500 | **5397565** | **KSEMP3750FDS90B1** | 27.000 | | | | | | | |
| 96.000 | 3.7800 | **6041889** | **KSEMP9600FDS90B1M** | 28.000 | | | | | | | |
| 97.000 | 3.8190 | **6042000** | **KSEMP9700FDS90B1M** | 29.000 | | | | | | | |
| 98.000 | 3.8580 | **6041890** | **KSEMP9800FDS90B1M** | 30.000 | | | | | | | |
| 98.425 | 3.8750 | **6042006** | **KSEMP3875FDS90B1** | 31.000 | | | | | | | |
| 99.000 | 3.8980 | **6042001** | **KSEMP9900FDS90B1M** | 31.000 | | | | | | | |
| 100.000 | 3.9370 | **6041901** | **KSEMP10000FDS90B1M** | 32.000 | | | | | | | |
| 101.600 | 4.0000 | **5397566** | **KSEMP4000FDS90B1** | 34.000 | | | | | | | |

- To ensure 100% system stability, KSEM™ inserts used for KSEM PLUS should not be reground.
- The callout D1 (mm) = PDD. PDD is used in reference to the KSEM PLUS heads.
- Please refer to KSEMP insert recommendation on page H116 to configure your insert setup depending on the application.

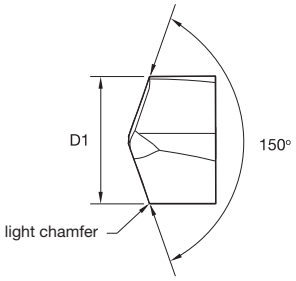


HPG/HPCCL




D1 (mm) = PDD

PC




D1 (mm) = PDD

## KSEM PLUS Center Inserts

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ● | ● | ○ | ○ | ○ | |

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| | | ● | | | |

| P | M | K | N | S | H |
|---|---|---|---|---|---|
| ○ | ● | ○ | ○ | ● | ● |

● first choice
○ alternate choice

| HPG • KC7315 | HPCCL • KC7410 | PC • KC7135 | D1 mm | D1 in | seat size |
|---|---|---|---|---|---|
| KSEMP1300HPGM | KSEM1300HPCCLM | KSEM1300PCM | 13,000 | .5118 | C |
| KSEMP1400HPGM | KSEM1400HPCCLM | KSEM1400PCM | 14,000 | .5512 | B |
| KSEMP1500HPGM | KSEM1500HPCCLM | KSEM1500PCM | 15,000 | .5906 | A |
| KSEMP1600HPGM | KSEM1600HPCCLM | KSEM1600PCM | 16,000 | .6299 | 1 |
| KSEMP1700HPGM | KSEM1700HPCCLM | KSEM1700PCM | 17,000 | .6693 | 1 |
| KSEMP1800HPGM | KSEM1800HPCCLM | KSEM1800PCM | 18,000 | .7087 | 1 |
| KSEMP1900HPGM | KSEM1900HPCCLM | KSEM1900PCM | 19,000 | .7480 | 2 |
| KSEMP2000HPGM | KSEM2000HPCCLM | KSEM2000PCM | 20,000 | .7874 | 3 |
| KSEMP2100HPGM | KSEM2100HPCCLM | KSEM2100PCM | 21,000 | .8268 | 3 |
| KSEMP2200HPGM | KSEM2200HPCCLM | KSEM2200PCM | 22,000 | .8661 | 3 |
| KSEMP2300HPGM | KSEM2300HPCCLM | KSEM2300PCM | 23,000 | .9055 | 4 |
| KSEMP2400HPGM | KSEM2400HPCCLM | KSEM2400PCM | 24,000 | .9449 | 4 |
| KSEMP2500HPGM | KSEM2500HPCCLM | KSEM2500PCM | 25,000 | .9843 | 5 |
| KSEMP2600HPGM | KSEM2600HPCCLM | KSEM2600PCM | 26,000 | 1.0236 | 5 |
| KSEMP2700HPGM | KSEM2700HPCCLM | KSEM2700PCM | 27,000 | 1.0630 | 6 |
| KSEMP2800HPGM | KSEM2800HPCCLM | KSEM2800PCM | 28,000 | 1.1024 | 6 |
| KSEMP2900HPGM | KSEM2900HPCCLM | KSEM2900PCM | 29,000 | 1.1417 | 7 |
| KSEMP3000HPGM | KSEM3000HPCCLM | KSEM3000PCM | 30,000 | 1.1811 | 7 |
| KSEMP3100HPGM | KSEM3100HPCCLM | KSEM3100PCM | 31,000 | 1.2205 | 8 |
| KSEMP3200HPGM | KSEM3200HPCCLM | KSEM3200PCM | 32,000 | 1.2598 | 8 |
| KSEMP3300HPGM | KSEM3300HPCCLM | KSEM3300PCM | 33,000 | 1.2992 | 9 |
| KSEMP3400HPGM | KSEM3400HPCCLM | KSEM3400PCM | 34,000 | 1.3386 | 9 |
| KSEMP3500HPGM | KSEM3500HPCCLM | KSEM3500PCM | 35,000 | 1.3780 | 9 |
| KSEMP3600HPGM | KSEM3600HPCCLM | KSEM3600PCM | 36,000 | 1.4173 | 9 |
| KSEMP3700HPGM | KSEM3700HPCCLM | KSEM3700PCM | 37,000 | 1.4567 | 10 |
| KSEMP3800HPGM | KSEM3800HPCCLM | KSEM3800PCM | 38,000 | 1.4961 | 10 |
| KSEMP3900HPGM | KSEM3900HPCCLM | KSEM3900PCM | 39,000 | 1.5354 | 10 |
| KSEMP4000HPGM | KSEM4000HPCCLM | KSEM4000PCM | 40,000 | 1.5748 | 10 |

**Tolerance KSEMP HPG • KSEM HPCCL • Metric**

| D1 | tolerance h8 |
|---|---|
| 12,5–18 | +0,000/-0,027 |
| >18–30 | +0,000/-0,033 |
| >30–40 | +0,000/-0,039 |

**Tolerance KSEMP HPG • KSEM HPCCL • Inch**

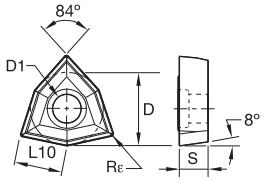
| D1 | tolerance h8 |
|---|---|
| .500–.709 | +.000/-.0010 |
| >.709–1.181 | +.000/-.0013 |
| >1.181–1.575 | +.000/-.0015 |

**Tolerance KSEM PC • Metric**

| D1 metric | tolerance k7 |
|---|---|
| 12,5–18 | +0,001/+ 0,019 |
| >18–30 | +0,002/+ 0,023 |
| >30–40 | +0,002/+ 0,027 |

**Tolerance KSEM PC • Inch**

| D1 inch | tolerance k7 |
|---|---|
| .500–.709 | +.0000/+.0008 |
| >.709–1.181 | +.0000/+.0009 |
| >1.181–1.575 | +.0000/+.0010 |

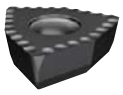


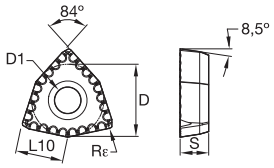

● first choice
○ alternate choice

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | | | | ● | ● |
| M | | | | | | | | | | | ○ | ○ |
| K | | | | | | | | | | | ● | ○ |
| N | | | | | | | | | | | ○ | ○ |
| S | | | | | | | | | | | ○ | ● |
| H | | | | | | | | | | | | |

## DFT-HP

| | L10 | | D | | D1 | | S | | Rε | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCU25 | KCU40 |
| **DFT05T308D32HP** | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● | ● |
| **DFT05T308D33HP** | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● | ● |
| **DFT06T308D36HP** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● | ● |
| **DFT06T308D39HP** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● | ● |
| **DFT06T308D44HP** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● | ● |
| **DFT070408D45HP** | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● | ● |
| **DFT070408D50HP** | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● | ● |
| **DFT090508D56HP** | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● | ● |
| **DFT090508D63HP** | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● | ● |



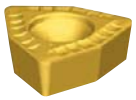


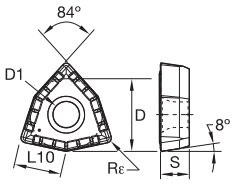

● first choice
○ alternate choice

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | | | | ● | |
| M | | | | | | | | | | | ○ | |
| K | | | | | | | | | | | | |
| N | | | | | | | | | | | ○ | |
| S | | | | | | | | | | | ○ | |
| H | | | | | | | | | | | | |

## DFT • DS

| | L10 | | D | | D1 | | S | | Rε | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCU40 |
| **DFT05T308D32DS** | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT05T308D33DS** | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT06T308D36DS** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT06T308D39DS** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT06T308D44DS** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT070408D45DS** | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| **DFT070408D50DS** | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| **DFT090508D56DS** | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● |
| **DFT090508D63DS** | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● |






● first choice
○ alternate choice

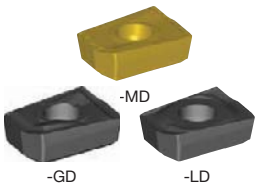
| | |
|---|---|
| P | ● |
| M | ● |
| K | ○ |
| N | ○ |
| S | ○ |
| H | |

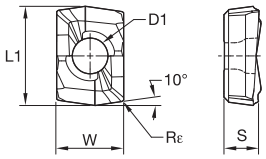


## DFT-MD

| | L10 | | D | | D1 | | S | | Rε | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KC7140 |
| DFT05T308D32MD | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| DFT05T308D33MD | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| DFT06T308D36MD | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| DFT06T308D39MD | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| DFT06T308D44MD | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| DFT070408D45MD | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| DFT070408D50MD | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| DFT090508D56MD | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● |
| DFT090508D63MD | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● |





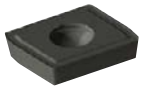



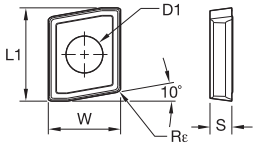

● first choice
○ alternate choice

| | | | | |
|---|---|---|---|---|
| P | ● | ○ | ● | ● |
| M | ● | ○ | ○ | ○ |
| K | ○ | ● | ● | ○ |
| N | ○ | ● | ○ | ○ |
| S | ○ | ○ | ○ | ● |
| H | | | | |

## DFR-GD, -MD, -LD

| | LI | | W | | D1 | | S | | Rε | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KC7140 | KC7225 | KCU25 | KCU40 |
| DFR040304D28GD | 10,76 | .424 | 7,26 | 0.29 | 2,85 | .112 | 3,79 | .149 | 0,40 | .016 | – | – | ● | ● |
| DFR040304D28LD | 10,76 | .424 | 7,26 | 0.29 | 2,85 | .112 | 3,78 | .149 | 0,40 | .016 | – | ● | – | – |
| DFR040304D28MD | 10,76 | .424 | 7,26 | 0.29 | 2,85 | .112 | 3,79 | .149 | 0,40 | .016 | ● | – | – | – |



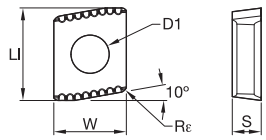



● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ● | ● |
| M | ○ | ○ |
| K | ● | ○ |
| N | ○ | ● |
| S | ○ | ● |
| H | | |

## DFC-HP

| | LI | | W | | D1 | | S | | Rε | | KCU25 | KCU40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | | |
| DFC040310D28HP | 10,00 | .3940 | 7,60 | .2990 | 2,85 | .1120 | 3,18 | .1250 | 0,50 | .0200 | ● | ● |
| DFC05T312D32HP | 12,00 | .4720 | 9,40 | .3700 | 3,40 | .1340 | 3,75 | .1480 | 0,80 | .0320 | ● | ● |
| DFC06T312D36HP | 16,00 | .6300 | 12,40 | .4880 | 4,40 | .1730 | 3,75 | .1480 | 0,80 | .0320 | ● | ● |
| DFC070416D45HP | 18,00 | .7090 | 14,50 | .5710 | 4,40 | .1730 | 4,75 | .1870 | 0,80 | .0320 | ● | ● |
| DFC090520D56HP | 24,00 | .9450 | 19,00 | .7480 | 5,50 | .2170 | 5,25 | .2070 | 0,80 | .0310 | ● | ● |



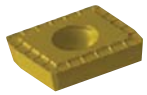

● first choice
○ alternate choice

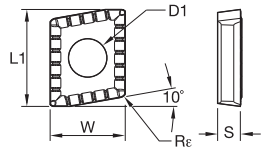
| | | |
|---|---|---|
| P | ● | |
| M | ○ | |
| K | ○ | |
| N | ● | |
| S | ● | |
| H | | |

## DFC-DS

NEW!

| | LI | | W | | D1 | | S | | Rε | | KCU40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | |
| DFC040310D28DS | 10,00 | .394 | 7,60 | .299 | 2,85 | .112 | 3,18 | .125 | 0,50 | .020 | ● |
| DFC05T312D32DS | 12,00 | .472 | 9,40 | .370 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| DFC06T312D36DS | 16,00 | .630 | 12,40 | .488 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| DFC070416D45DS | 18,00 | .709 | 14,50 | .571 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| DFC090520D56DS | 24,00 | .945 | 19,00 | .748 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● |



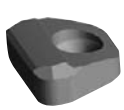


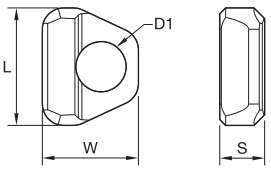

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ● | |
| M | ● | |
| K | ○ | |
| N | ○ | |
| S | ○ | |
| H | | |

## DFC-MD

| | LI | | W | | D1 | | S | | Rε | | KC7140 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | |
| DFC040310D28MD | 10,00 | .3940 | 7,60 | .2990 | 2,85 | .1120 | 3,18 | .1250 | 0,50 | .0200 | ● |
| DFC05T312D32MD | 12,00 | .4720 | 9,40 | .3700 | 3,40 | .1340 | 3,75 | .1480 | 0,80 | .0310 | ● |
| DFC06T312D36MD | 16,00 | .6300 | 12,40 | .4880 | 4,40 | .1730 | 3,75 | .1480 | 0,80 | .0310 | ● |
| DFC070416D45MD | 18,00 | .7090 | 14,50 | .5710 | 4,40 | .1730 | 4,75 | .1870 | 0,80 | .0310 | ● |
| DFC090520D56MD | 24,00 | .9450 | 19,00 | .7480 | 5,50 | .2170 | 5,25 | .2070 | 0,80 | .0310 | ● |






● first choice
○ alternate choice

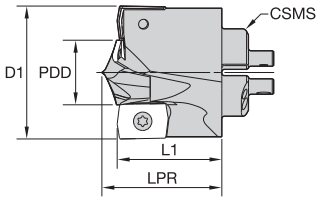
| | | |
|---|---|---|
| P | ● | |
| M | ● | |
| K | ● | |
| N | ● | |
| S | ● | |
| H | | |

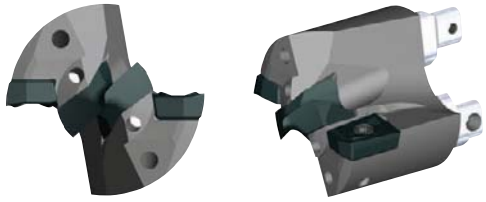
## DPA Guiding Pads

| | L | | W | | D1 | | S | | KCU40 |
|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | |
| DPA07T3D25 | 8,60 | .3390 | 7,00 | .2760 | 2,85 | .1120 | 3,50 | .1380 | ● |
| DPA09T4D32 | 11,00 | .4330 | 9,00 | .3540 | 3,40 | .1340 | 4,20 | .1650 | ● |
| DPA13T5D50 | 16,00 | .6300 | 13,00 | .5120 | 4,40 | .1730 | 5,20 | .2050 | ● |

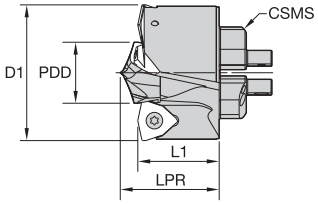
- To ensure 100% system stability, KSEM™ inserts used for KSEM PLUS should not be reground.
- KSEM PLUS heads are shipped with all insert screws.
- KSEM PLUS heads are shipped with two wrenches, one for the KSEM insert and one to be used for the DFT™/DFR™ inserts as well as for the assembly of the body to the head.
- Order KSEM PLUS shanks using connection coupling size (CSMS) to determine which heads go with each shank.
- PDD in the callout drawing refers to the D1 of the KSEM HPG and HPCCL inserts for use with KSEM PLUS.
- Order inserts (KSEM, DFT, and DFR) for KSEM PLUS separately.



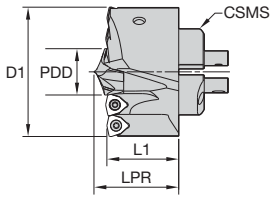


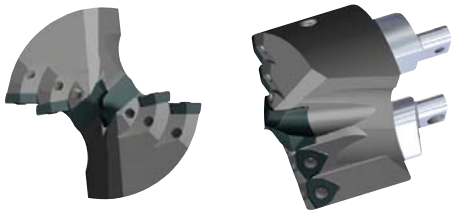



**2 x DFR**
diameter: 28–<31,75mm

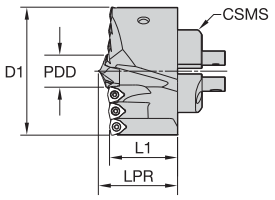


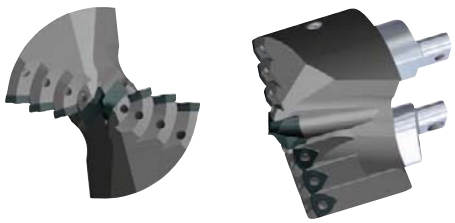
**2 x DFT**
diameter: 31,75–70,34mm



**4 x DFT**
diameter: 70,35–93,34mm



**6 x DFT**
diameter: 93,35–127mm

## KSEM PLUS A1 Heads 1.102–4" (28–101,60mm)

| order number | ISO catalog number | ANSI catalog number | D1 mm | D1 in | PDD mm | PDD in | LPR mm | LPR in | L1 mm | L1 in | CSMS system size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4000408 | KSEMP2800FDS28A1M | KSEMP2800FDS28A1M | 28,00 | 1.102 | 14,00 | .5512 | 24,9 | .980 | 22,0 | .866 | FDS28 |
| 4047811 | KSEMP2858FDS28A1M | KSEMP1125FDS28A1 | 28,58 | 1.125 | 15,00 | .5906 | 25,0 | .984 | 22,0 | .866 | FDS28 |
| 4047812 | KSEMP2900FDS28A1M | KSEMP2900FDS28A1M | 29,00 | 1.142 | 15,00 | .5906 | 25,0 | .984 | 22,0 | .866 | FDS28 |
| 4047823 | KSEMP2937FDS28A1M | KSEMP1156FDS28A1 | 29,36 | 1.156 | 16,00 | .6299 | 25,2 | .992 | 22,0 | .866 | FDS28 |
| 4047824 | KSEMP3000FDS28A1M | KSEMP3000FDS28A1M | 30,00 | 1.181 | 16,00 | .6299 | 25,2 | .992 | 22,0 | .866 | FDS28 |
| 4047825 | KSEMP3017FDS28A1M | KSEMP1188FDS28A1 | 30,18 | 1.188 | 17,00 | .6693 | 25,4 | 1.000 | 22,0 | .866 | FDS28 |
| 4047826 | KSEMP3096FDS28A1M | KSEMP1219FDS28A1 | 30,96 | 1.219 | 17,00 | .6693 | 25,4 | 1.000 | 22,0 | .866 | FDS28 |
| 4047827 | KSEMP3100FDS28A1M | KSEMP3100FDS28A1M | 31,00 | 1.221 | 17,00 | .6693 | 25,4 | 1.000 | 22,0 | .866 | FDS28 |
| 3794916 | KSEMP3175FDS32A1M | KSEMP1250FDS32A1 | 31,75 | 1.250 | 15,00 | .5906 | 23,0 | .907 | 20,0 | .787 | FDS32 |
| 3794291 | KSEMP3200FDS32A1M | KSEMP3200FDS32A1M | 32,00 | 1.260 | 15,00 | .5906 | 23,0 | .907 | 20,0 | .787 | FDS32 |
| 3742210 | KSEMP3300FDS32A1M | KSEMP3300FDS32A1M | 33,00 | 1.299 | 16,00 | .6299 | 23,2 | .913 | 20,0 | .787 | FDS32 |
| 3793949 | KSEMP3320FDS32A1M | KSEMP3320FDS32A1M | 33,20 | 1.307 | 16,00 | .6299 | 23,2 | .913 | 20,0 | .787 | FDS32 |
| 3794917 | KSEMP3334FDS32A1M | KSEMP1313FDS32A1 | 33,35 | 1.313 | 17,00 | .6693 | 23,4 | .920 | 20,0 | .787 | FDS32 |
| 3794292 | KSEMP3400FDS32A1M | KSEMP3400FDS32A1M | 34,00 | 1.339 | 17,00 | .6693 | 23,4 | .920 | 20,0 | .787 | FDS32 |
| 3794918 | KSEMP3493FDS32A1M | KSEMP1375FDS32A1 | 34,93 | 1.375 | 18,00 | .7087 | 23,6 | .928 | 20,0 | .787 | FDS32 |
| 3794393 | KSEMP3500FDS32A1M | KSEMP3500FDS32A1M | 35,00 | 1.378 | 18,00 | .7087 | 23,6 | .928 | 20,0 | .787 | FDS32 |

*(continued)*

*(KSEM PLUS A1 Heads 1.102–4" (28–101,60mm) — continued)*



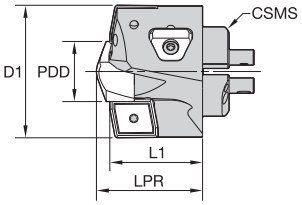
| order number | ISO catalog number | ANSI catalog number | D1 mm | D1 in | PDD mm | PDD in | LPR mm | LPR in | L1 mm | L1 in | CSMS system size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3794394 | KSEMP3600FDS36A1M | KSEMP3600FDS36A1M | 36,00 | 1.417 | 13,00 | .5118 | 22,7 | .893 | 20,0 | .787 | FDS36 |
| 3794919 | KSEMP3651FDS36A1M | KSEMP1438FDS36A1 | 36,53 | 1.438 | 14,00 | .5512 | 22,9 | .900 | 20,0 | .787 | FDS36 |
| 3794395 | KSEMP3700FDS36A1M | KSEMP3700FDS36A1M | 37,00 | 1.457 | 14,00 | .5512 | 22,9 | .900 | 20,0 | .787 | FDS36 |
| 3794427 | KSEMP3750FDS36A1M | KSEMP3750FDS36A1M | 37,50 | 1.476 | 15,00 | .5906 | 23,0 | .907 | 20,0 | .787 | FDS36 |
| 3794396 | KSEMP3800FDS36A1M | KSEMP3800FDS36A1M | 38,00 | 1.496 | 15,00 | .5906 | 23,0 | .907 | 20,0 | .787 | FDS36 |
| 3794920 | KSEMP3810FDS36A1M | KSEMP1500FDS36A1 | 38,10 | 1.500 | 15,00 | .5906 | 23,0 | .907 | 20,0 | .787 | FDS36 |
| 3794397 | KSEMP3900FDS36A1M | KSEMP3900FDS36A1M | 39,00 | 1.535 | 16,00 | .6299 | 23,2 | .913 | 20,0 | .787 | FDS36 |
| 3793950 | KSEMP3920FDS36A1M | KSEMP3920FDS36A1M | 39,20 | 1.543 | 16,00 | .6299 | 23,2 | .913 | 20,0 | .787 | FDS36 |
| 3794921 | KSEMP3970FDS36A1M | KSEMP1563FDS36A1 | 39,70 | 1.563 | 17,00 | .6693 | 23,4 | .920 | 20,0 | .787 | FDS36 |
| 3794398 | KSEMP4000FDS40A1M | KSEMP4000FDS40A1M | 40,00 | 1.575 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS40 |
| 3794399 | KSEMP4100FDS40A1M | KSEMP4100FDS40A1M | 41,00 | 1.614 | 18,00 | .7087 | 28,8 | 1.132 | 25,0 | .984 | FDS40 |
| 3794922 | KSEMP4128FDS40A1M | KSEMP1625FDS40A1 | 41,28 | 1.625 | 18,00 | .7087 | 28,8 | 1.132 | 25,0 | .984 | FDS40 |
| 3794400 | KSEMP4200FDS40A1M | KSEMP4200FDS40A1M | 42,00 | 1.654 | 19,00 | .7480 | 28,9 | 1.139 | 25,0 | .984 | FDS40 |
| 3794401 | KSEMP4300FDS40A1M | KSEMP4300FDS40A1M | 43,00 | 1.693 | 20,00 | .7874 | 29,1 | 1.146 | 25,0 | .984 | FDS40 |
| 3794402 | KSEMP4400FDS40A1M | KSEMP4400FDS40A1M | 44,00 | 1.732 | 21,00 | .8268 | 29,3 | 1.153 | 25,0 | .984 | FDS40 |
| 3794933 | KSEMP4445FDS40A1M | KSEMP1750FDS40A1 | 44,45 | 1.750 | 22,00 | .8661 | 29,5 | 1.160 | 25,0 | .984 | FDS40 |
| 3794403 | KSEMP4500FDS45A1M | KSEMP4500FDS45A1M | 45,00 | 1.772 | 18,00 | .7087 | 28,8 | 1.132 | 25,0 | .984 | FDS45 |
| 3794404 | KSEMP4600FDS45A1M | KSEMP4600FDS45A1M | 46,00 | 1.811 | 19,00 | .7480 | 28,9 | 1.139 | 25,0 | .984 | FDS45 |
| 3794405 | KSEMP4700FDS45A1M | KSEMP4700FDS45A1M | 47,00 | 1.850 | 20,00 | .7874 | 29,1 | 1.146 | 25,0 | .984 | FDS45 |
| 3794934 | KSEMP4763FDS45A1M | KSEMP1875FDS45A1 | 47,63 | 1.875 | 21,00 | .8268 | 29,3 | 1.153 | 25,0 | .984 | FDS45 |
| 3794406 | KSEMP4800FDS45A1M | KSEMP4800FDS45A1M | 48,00 | 1.890 | 21,00 | .8268 | 29,3 | 1.153 | 25,0 | .984 | FDS45 |
| 3794407 | KSEMP4900FDS45A1M | KSEMP4900FDS45A1M | 49,00 | 1.929 | 22,00 | .8661 | 29,5 | 1.160 | 25,0 | .984 | FDS45 |
| 3742211 | KSEMP5000FDS50A1M | KSEMP5000FDS50A1M | 50,00 | 1.969 | 23,00 | .9055 | 34,8 | 1.372 | 30,0 | 1.181 | FDS50 |
| 3794935 | KSEMP5080FDS50A1M | KSEMP2000FDS50A1 | 50,80 | 2.000 | 24,00 | .9449 | 35,0 | 1.379 | 30,0 | 1.181 | FDS50 |
| 3794408 | KSEMP5100FDS50A1M | KSEMP5100FDS50A1M | 51,00 | 2.008 | 24,00 | .9449 | 35,0 | 1.379 | 30,0 | 1.181 | FDS50 |
| 3794409 | KSEMP5200FDS50A1M | KSEMP5200FDS50A1M | 52,00 | 2.047 | 25,00 | .9843 | 35,2 | 1.386 | 30,0 | 1.181 | FDS50 |
| 3794410 | KSEMP5300FDS50A1M | KSEMP5300FDS50A1M | 53,00 | 2.087 | 26,00 | 1.0236 | 35,4 | 1.392 | 30,0 | 1.181 | FDS50 |
| 3794936 | KSEMP5398FDS50A1M | KSEMP2125FDS50A1 | 53,98 | 2.125 | 27,00 | 1.0630 | 35,6 | 1.399 | 30,0 | 1.181 | FDS50 |
| 3794411 | KSEMP5400FDS50A1M | KSEMP5400FDS50A1M | 54,00 | 2.126 | 27,00 | 1.0630 | 35,6 | 1.399 | 30,0 | 1.181 | FDS50 |
| 3794412 | KSEMP5500FDS50A1M | KSEMP5500FDS50A1M | 55,00 | 2.165 | 28,00 | 1.1024 | 35,7 | 1.406 | 30,0 | 1.181 | FDS50 |
| 3794413 | KSEMP5600FDS56A1M | KSEMP5600FDS56A1M | 56,00 | 2.205 | 20,00 | .7874 | 34,3 | 1.351 | 30,0 | 1.181 | FDS56 |
| 3794414 | KSEMP5700FDS56A1M | KSEMP5700FDS56A1M | 57,00 | 2.244 | 21,00 | .8268 | 34,5 | 1.358 | 30,0 | 1.181 | FDS56 |
| 3794937 | KSEMP5715FDS56A1M | KSEMP2250FDS56A1 | 57,15 | 2.250 | 21,00 | .8268 | 34,5 | 1.358 | 30,0 | 1.181 | FDS56 |
| 3794415 | KSEMP5800FDS56A1M | KSEMP5800FDS56A1M | 58,00 | 2.284 | 22,00 | .8661 | 34,7 | 1.365 | 30,0 | 1.181 | FDS56 |
| 3794416 | KSEMP5900FDS56A1M | KSEMP5900FDS56A1M | 59,00 | 2.323 | 23,00 | .9055 | 34,8 | 1.372 | 30,0 | 1.181 | FDS56 |
| 3794417 | KSEMP6000FDS56A1M | KSEMP6000FDS56A1M | 60,00 | 2.362 | 24,00 | .9449 | 35,0 | 1.379 | 30,0 | 1.181 | FDS56 |
| 3794938 | KSEMP6033FDS56A1M | KSEMP2375FDS56A1 | 60,33 | 2.375 | 24,00 | .9449 | 35,0 | 1.379 | 30,0 | 1.181 | FDS56 |
| 3794418 | KSEMP6100FDS56A1M | KSEMP6100FDS56A1M | 61,00 | 2.402 | 25,00 | .9843 | 35,2 | 1.386 | 30,0 | 1.181 | FDS56 |
| 3794419 | KSEMP6200FDS56A1M | KSEMP6200FDS56A1M | 62,00 | 2.441 | 26,00 | 1.0236 | 35,4 | 1.392 | 30,0 | 1.181 | FDS56 |
| 3794420 | KSEMP6300FDS63A1M | KSEMP6300FDS63A1M | 63,00 | 2.480 | 27,00 | 1.0630 | 41,8 | 1.643 | 36,0 | 1.417 | FDS63 |
| 3794939 | KSEMP6350FDS63A1M | KSEMP2500FDS63A1 | 63,50 | 2.500 | 28,00 | 1.1024 | 41,9 | 1.650 | 36,0 | 1.417 | FDS63 |
| 3794421 | KSEMP6400FDS63A1M | KSEMP6400FDS63A1M | 64,00 | 2.520 | 28,00 | 1.1024 | 41,9 | 1.650 | 36,0 | 1.417 | FDS63 |
| 3794422 | KSEMP6500FDS63A1M | KSEMP6500FDS63A1M | 65,00 | 2.559 | 29,00 | 1.1417 | 42,1 | 1.657 | 36,0 | 1.417 | FDS63 |
| 3794423 | KSEMP6600FDS63A1M | KSEMP6600FDS63A1M | 66,00 | 2.598 | 30,00 | 1.1811 | 42,3 | 1.664 | 36,0 | 1.417 | FDS63 |
| 3794940 | KSEMP6668FDS63A1M | KSEMP2625FDS63A1 | 66,68 | 2.625 | 31,00 | 1.2205 | 42,5 | 1.671 | 36,0 | 1.417 | FDS63 |
| 3794424 | KSEMP6700FDS63A1M | KSEMP6700FDS63A1M | 67,00 | 2.638 | 31,00 | 1.2205 | 42,5 | 1.671 | 36,0 | 1.417 | FDS63 |
| 3794425 | KSEMP6800FDS63A1M | KSEMP6800FDS63A1M | 68,00 | 2.677 | 32,00 | 1.2598 | 42,6 | 1.678 | 36,0 | 1.417 | FDS63 |
| 3794426 | KSEMP6900FDS63A1M | KSEMP6900FDS63A1M | 69,00 | 2.717 | 33,00 | 1.2992 | 42,8 | 1.685 | 36,0 | 1.417 | FDS63 |
| 3794941 | KSEMP6985FDS63A1M | KSEMP2750FDS63A1 | 69,85 | 2.750 | 34,00 | 1.3386 | 43,0 | 1.692 | 36,0 | 1.417 | FDS63 |
| 3742212 | KSEMP7000FDS63A1M | KSEMP7000FDS63A1M | 70,00 | 2.756 | 34,00 | 1.3386 | 43,0 | 1.692 | 36,0 | 1.417 | FDS63 |
| 6041904 | KSEMP7100FDS71A1M | KSEMP7100FDS71A1M | 71,00 | 2.795 | 26,00 | 1.0240 | 46,8 | 1.842 | 46,8 | 1.842 | FDS71 |
| 5397513 | KSEMP7200FDS71A1M | KSEMP7200FDS71A1M | 72,00 | 2.835 | 27,00 | 1.0630 | 47,0 | 1.849 | 47,0 | 1.849 | FDS71 |
| 6041906 | KSEMP7300FDS71A1M | KSEMP7300FDS71A1M | 73,00 | 2.874 | 28,00 | 1.1020 | 47,1 | 1.855 | 47,1 | 1.855 | FDS71 |
| 6041931 | KSEMP7303FDS71A1M | KSEMP2875FDS71A1 | 73,03 | 2.875 | 28,00 | 1.1020 | 47,1 | 1.855 | 47,1 | 1.855 | FDS71 |
| 5397514 | KSEMP7400FDS71A1M | KSEMP7400FDS71A1M | 74,00 | 2.913 | 29,00 | 1.1420 | 47,3 | 1.863 | 47,3 | 1.863 | FDS71 |
| 6041907 | KSEMP7500FDS71A1M | KSEMP7500FDS71A1M | 75,00 | 2.953 | 30,00 | 1.1810 | 47,5 | 1.869 | 47,5 | 1.869 | FDS71 |

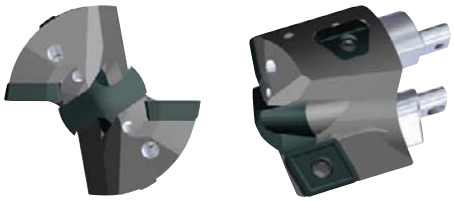
*(continued)*

*(KSEM PLUS A1 Heads 1.102–4" (28–101,60mm) — continued)*

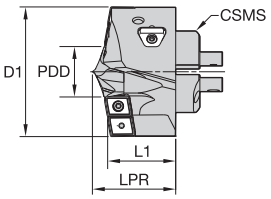
| order number | ISO catalog number | ANSI catalog number | D1 | | PDD | | LPR | | L1 | | CSMS system size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mm | in | mm | in | mm | in | mm | in | |
| 5397515 | KSEMP7600FDS71A1M | KSEMP7600FDS71A1M | 76,00 | 2.992 | 31,00 | 1.2200 | 47,7 | 1.876 | 47,7 | 1.876 | FDS71 |
| 5397516 | KSEMP7620FDS71A1M | KSEMP3000FDS71A1 | 76,20 | 3.000 | 31,00 | 1.2200 | 47,7 | 1.876 | 47,7 | 1.876 | FDS71 |
| 6041908 | KSEMP7700FDS71A1M | KSEMP7700FDS71A1M | 77,00 | 3.031 | 32,00 | 1.2600 | 47,8 | 1.883 | 47,8 | 1.883 | FDS71 |
| 5397517 | KSEMP7800FDS71A1M | KSEMP7800FDS71A1M | 78,00 | 3.071 | 33,00 | 1.2990 | 48,0 | 1.890 | 48,0 | 1.890 | FDS71 |
| 6041909 | KSEMP7900FDS71A1M | KSEMP7900FDS71A1M | 79,00 | 3.110 | 34,00 | 1.3390 | 48,2 | 1.897 | 48,2 | 1.897 | FDS71 |
| 6041932 | KSEMP7938FDS80A1M | KSEMP3125FDS80A1 | 79,38 | 3.125 | 31,00 | 1.2200 | 52,8 | 2.077 | 52,8 | 2.077 | FDS80 |
| 5397518 | KSEMP8000FDS80A1M | KSEMP8000FDS80A1M | 80,00 | 3.150 | 31,00 | 1.2200 | 52,8 | 2.077 | 52,8 | 2.077 | FDS80 |
| 6041910 | KSEMP8100FDS80A1M | KSEMP8100FDS80A1M | 81,00 | 3.189 | 32,00 | 1.2600 | 52,9 | 2.085 | 52,9 | 2.085 | FDS80 |
| 5397519 | KSEMP8200FDS80A1M | KSEMP8200FDS80A1M | 82,00 | 3.228 | 33,00 | 1.2992 | 53,1 | 2.091 | 53,1 | 2.091 | FDS80 |
| 5397550 | KSEMP8255FDS80A1M | KSEMP3250FDS80A1 | 82,55 | 3.250 | 34,00 | 1.3386 | 53,3 | 2.098 | 53,3 | 2.098 | FDS80 |
| 6041921 | KSEMP8300FDS80A1M | KSEMP8300FDS80A1M | 83,00 | 3.268 | 34,00 | 1.3390 | 53,3 | 2.098 | 53,3 | 2.098 | FDS80 |
| 5397551 | KSEMP8400FDS80A1M | KSEMP8400FDS80A1M | 84,00 | 3.307 | 35,00 | 1.3780 | 53,5 | 2.105 | 53,5 | 2.105 | FDS80 |
| 6041922 | KSEMP8500FDS80A1M | KSEMP8500FDS80A1M | 85,00 | 3.346 | 36,00 | 1.4170 | 53,6 | 2.112 | 53,6 | 2.112 | FDS80 |
| 6041933 | KSEMP8573FDS80A1M | KSEMP3375FDS80A1 | 85,73 | 3.375 | 37,00 | 1.4570 | 53,8 | 2.119 | 53,8 | 2.119 | FDS80 |
| 5397552 | KSEMP8600FDS80A1M | KSEMP8600FDS80A1M | 86,00 | 3.386 | 37,00 | 1.4567 | 53,8 | 2.119 | 53,8 | 2.119 | FDS80 |
| 6041923 | KSEMP8700FDS80A1M | KSEMP8700FDS80A1M | 87,00 | 3.425 | 38,00 | 1.4960 | 54,0 | 2.126 | 54,0 | 2.126 | FDS80 |
| 5397553 | KSEMP8800FDS80A1M | KSEMP8800FDS80A1M | 88,00 | 3.465 | 39,00 | 1.5354 | 54,2 | 2.133 | 54,2 | 2.133 | FDS80 |
| 5397554 | KSEMP8890FDS80A1M | KSEMP3500FDS80A1 | 88,90 | 3.500 | 40,00 | 1.5748 | 54,3 | 2.140 | 54,3 | 2.140 | FDS80 |
| 6041924 | KSEMP8900FDS80A1M | KSEMP8900FDS80A1M | 89,00 | 3.504 | 40,00 | 1.5750 | 54,3 | 2.140 | 54,3 | 2.140 | FDS80 |
| 5397555 | KSEMP9000FDS90A1M | KSEMP9000FDS90A1M | 90,00 | 3.543 | 37,00 | 1.4567 | 59,2 | 2.332 | 59,2 | 2.332 | FDS90 |
| 6041925 | KSEMP9100FDS90A1M | KSEMP9100FDS90A1M | 91,00 | 3.583 | 38,00 | 1.4960 | 59,4 | 2.339 | 59,4 | 2.339 | FDS90 |
| 5397556 | KSEMP9200FDS90A1M | KSEMP9200FDS90A1M | 92,00 | 3.622 | 39,00 | 1.5354 | 59,6 | 2.346 | 59,6 | 2.346 | FDS90 |
| 6041934 | KSEMP9208FDS90A1M | KSEMP3625FDS90A1 | 92,08 | 3.625 | 39,00 | 1.5350 | 59,6 | 2.346 | 59,6 | 2.346 | FDS90 |
| 6041926 | KSEMP9300FDS90A1M | KSEMP9300FDS90A1M | 93,00 | 3.661 | 40,00 | 1.5750 | 59,7 | 2.352 | 59,7 | 2.352 | FDS90 |
| 5397557 | KSEMP9400FDS90A1M | KSEMP9400FDS90A1M | 94,00 | 3.701 | 26,00 | 1.0236 | 58,0 | 2.283 | 58,0 | 2.283 | FDS90 |
| 6041927 | KSEMP9500FDS90A1M | KSEMP9500FDS90A1M | 95,00 | 3.740 | 27,00 | 1.0630 | 58,2 | 2.290 | 58,2 | 2.290 | FDS90 |
| 5397558 | KSEMP9525FDS90A1M | KSEMP3750FDS90A1 | 95,25 | 3.750 | 27,00 | 1.0630 | 58,3 | 2.297 | 58,3 | 2.297 | FDS90 |
| 5397559 | KSEMP9600FDS90A1M | KSEMP9600FDS90A1M | 96,00 | 3.780 | 28,00 | 1.1024 | 58,3 | 2.297 | 58,3 | 2.297 | FDS90 |
| 6041928 | KSEMP9700FDS90A1M | KSEMP9700FDS90A1M | 97,00 | 3.819 | 29,00 | 1.1420 | 58,5 | 2.304 | 58,5 | 2.304 | FDS90 |
| 5397560 | KSEMP9800FDS90A1M | KSEMP9800FDS90A1M | 98,00 | 3.858 | 30,00 | 1.1811 | 58,7 | 2.311 | 58,7 | 2.311 | FDS90 |
| 6041935 | KSEMP9843FDS90A1M | KSEMP3875FDS90A1 | 98,43 | 3.875 | 31,00 | 1.2200 | 58,9 | 2.317 | 58,9 | 2.317 | FDS90 |
| 6041929 | KSEMP9900FDS90A1M | KSEMP9900FDS90A1M | 99,00 | 3.898 | 31,00 | 1.2200 | 58,9 | 2.317 | 58,9 | 2.317 | FDS90 |
| 6041930 | KSEMP10000FDS90A1M | KSEMP10000FDS90A1M | 100,00 | 3.937 | 32,00 | 1.2600 | 59,0 | 2.324 | 59,0 | 2.324 | FDS90 |
| 5397561 | KSEMP10160FDS90A1M | KSEMP4000FDS90A1 | 101,60 | 4.000 | 34,00 | 1.3390 | 59,4 | 2.338 | 59,4 | 2.338 | FDS90 |

- To ensure 100% system stability, KSEM inserts used for KSEM PLUS should not be reground.
- KSEM PLUS heads are shipped with all insert screws.
- KSEM PLUS B1 heads are shipped with two or three wrenches, one for the KSEM insert, one for DFC™ inserts and DPA guiding pads, as well as for assembling the head onto the tool body. One additional wrench might be added depending on the size of the guiding pad.
- Order KSEM PLUS shanks using connection coupling size (CSMS) to determine which heads go with each shank.
- PDD in the callout drawing refers to the D1 of the KSEM, HPGM, and HPCM inserts for use with KSEM PLUS.
- Order inserts (KSEM, DFC) for KSEM PLUS separately.

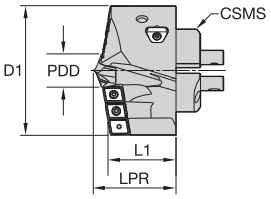


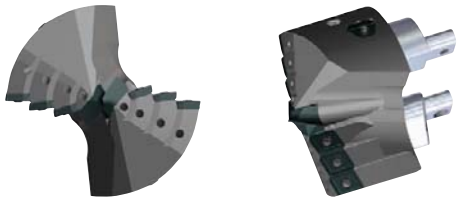



**2 x DFC**
diameter: 28–70,34mm



**4 x DFC**
diameter: 70,35–93,34mm



**6 x DFC**
diameter: 93,35–127mm

## KSEM PLUS B1 Heads 1.102–4" (28–101,60mm)

| order number | ISO catalog number | ANSI catalog number | D1 | | PDD | | LPR | | L1 | | CSMS system size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mm | in | mm | in | mm | in | mm | in | |
| 5115736 | KSEMP2800FDS28B1M | KSEMP2800FDS28B1M | 28,00 | 1.102 | 14,00 | .5512 | 28,1 | 1.105 | 25,0 | .984 | FDS28 |
| 5115737 | KSEMP2858FDS28B1M | KSEMP1125FDS28B1 | 28,58 | 1.125 | 15,00 | .5906 | 28,2 | 1.110 | 25,0 | .984 | FDS28 |
| 5115738 | KSEMP2900FDS28B1M | KSEMP2900FDS28B1M | 29,00 | 1.142 | 15,00 | .5906 | 28,2 | 1.111 | 25,0 | .984 | FDS28 |
| 5115739 | KSEMP2937FDS28B1M | KSEMP1156FDS28B1 | 29,36 | 1.156 | 16,00 | .6299 | 28,4 | 1.118 | 25,0 | .984 | FDS28 |
| 5116010 | KSEMP3000FDS28B1M | KSEMP3000FDS28B1M | 30,00 | 1.181 | 16,00 | .6299 | 28,4 | 1.118 | 25,0 | .984 | FDS28 |
| 5116011 | KSEMP3017FDS28B1M | KSEMP1188FDS28B1 | 30,18 | 1.188 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS28 |
| 5116012 | KSEMP3096FDS28B1M | KSEMP1219FDS28B1 | 30,96 | 1.219 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS28 |
| 5116013 | KSEMP3100FDS28B1M | KSEMP3100FDS28B1M | 31,00 | 1.220 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS28 |
| 5116014 | KSEMP3175FDS32B1M | KSEMP1250FDS32B1 | 31,75 | 1.250 | 15,00 | .5906 | 28,2 | 1.111 | 25,0 | .984 | FDS32 |
| 5116015 | KSEMP3200FDS32B1M | KSEMP3200FDS32B1M | 32,00 | 1.260 | 15,00 | .5906 | 28,2 | 1.111 | 25,0 | .984 | FDS32 |
| 5116016 | KSEMP3300FDS32B1M | KSEMP3300FDS32B1M | 33,00 | 1.299 | 16,00 | .6299 | 28,4 | 1.118 | 25,0 | .984 | FDS32 |
| 5116017 | KSEMP3320FDS32B1M | KSEMP3320FDS32B1M | 33,20 | 1.307 | 16,00 | .6299 | 28,4 | 1.118 | 25,0 | .984 | FDS32 |
| 5116018 | KSEMP3334FDS32B1M | KSEMP1313FDS32B1 | 33,35 | 1.313 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS32 |
| 5116019 | KSEMP3400FDS32B1M | KSEMP3400FDS32B1M | 34,00 | 1.339 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS32 |
| 5116030 | KSEMP3493FDS32B1M | KSEMP1375FDS32B1 | 34,93 | 1.375 | 18,00 | .7087 | 28,8 | 1.132 | 25,0 | .984 | FDS32 |
| 5116031 | KSEMP3500FDS32B1M | KSEMP3500FDS32B1M | 35,00 | 1.378 | 18,00 | .7087 | 28,8 | 1.132 | 25,0 | .984 | FDS32 |
| 5116032 | KSEMP3600FDS36B1M | KSEMP3600FDS36B1M | 36,00 | 1.417 | 13,00 | .5118 | 27,9 | 1.098 | 25,0 | .984 | FDS36 |
| 5116033 | KSEMP3651FDS36B1M | KSEMP1438FDS36B1 | 36,53 | 1.438 | 14,00 | .5512 | 28,1 | 1.105 | 25,0 | .984 | FDS36 |
| 5116034 | KSEMP3700FDS36B1M | KSEMP3700FDS36B1M | 37,00 | 1.457 | 14,00 | .5512 | 28,1 | 1.105 | 25,0 | .984 | FDS36 |
| 5116035 | KSEMP3750FDS36B1M | KSEMP3750FDS36B1M | 37,50 | 1.476 | 15,00 | .5906 | 28,2 | 1.111 | 25,0 | .984 | FDS36 |

*(continued)*

*(KSEM PLUS B1 Heads 1.102–4" (28–101,60mm) — continued)*

| order number | ISO catalog number | ANSI catalog number | D1 | | PDD | | LPR | | L1 | | CSMS system size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mm | in | mm | in | mm | in | mm | in | |
| 5116036 | KSEMP3800FDS36B1M | KSEMP3800FDS36B1M | 38,00 | 1.496 | 15,00 | .5906 | 28,2 | 1.111 | 25,0 | .984 | FDS36 |
| 5116037 | KSEMP3810FDS36B1M | KSEMP1500FDS36B1 | 38,10 | 1.500 | 15,00 | .5906 | 28,2 | 1.111 | 25,0 | .984 | FDS36 |
| 5116038 | KSEMP3900FDS36B1M | KSEMP3900FDS36B1M | 39,00 | 1.535 | 16,00 | .6299 | 28,4 | 1.118 | 25,0 | .984 | FDS36 |
| 5116039 | KSEMP3920FDS36B1M | KSEMP3920FDS36B1M | 39,20 | 1.543 | 16,00 | .6299 | 28,4 | 1.118 | 25,0 | .984 | FDS36 |
| 5116040 | KSEMP3970FDS36B1M | KSEMP1563FDS36B1 | 39,70 | 1.563 | 17,00 | .6693 | 28,6 | 1.125 | 25,0 | .984 | FDS36 |
| 5116041 | KSEMP4000FDS40B1M | KSEMP4000FDS40B1M | 40,00 | 1.575 | 17,00 | .6693 | 33,8 | 1.330 | 30,0 | 1.181 | FDS40 |
| 5116042 | KSEMP4100FDS40B1M | KSEMP4100FDS40B1M | 41,00 | 1.614 | 18,00 | .7087 | 34,0 | 1.337 | 30,0 | 1.181 | FDS40 |
| 5116043 | KSEMP4128FDS40B1M | KSEMP1625FDS40B1 | 41,28 | 1.625 | 18,00 | .7087 | 34,0 | 1.337 | 30,0 | 1.181 | FDS40 |
| 5116044 | KSEMP4200FDS40B1M | KSEMP4200FDS40B1M | 42,00 | 1.654 | 19,00 | .7480 | 34,1 | 1.344 | 30,0 | 1.181 | FDS40 |
| 5116045 | KSEMP4300FDS40B1M | KSEMP4300FDS40B1M | 43,00 | 1.693 | 20,00 | .7874 | 34,3 | 1.351 | 30,0 | 1.181 | FDS40 |
| 5116046 | KSEMP4400FDS40B1M | KSEMP4400FDS40B1M | 44,00 | 1.732 | 21,00 | .8268 | 34,5 | 1.358 | 30,0 | 1.181 | FDS40 |
| 5116047 | KSEMP4445FDS40B1M | KSEMP1750FDS40B1 | 44,45 | 1.750 | 22,00 | .8661 | 34,7 | 1.365 | 30,0 | 1.181 | FDS40 |
| 5116098 | KSEMP4500FDS45B1M | KSEMP4500FDS45B1M | 45,00 | 1.772 | 18,00 | .7087 | 34,0 | 1.337 | 30,0 | 1.181 | FDS45 |
| 5116099 | KSEMP4600FDS45B1M | KSEMP4600FDS45B1M | 46,00 | 1.811 | 19,00 | .7480 | 34,1 | 1.344 | 30,0 | 1.181 | FDS45 |
| 5116110 | KSEMP4700FDS45B1M | KSEMP4700FDS45B1M | 47,00 | 1.850 | 20,00 | .7874 | 34,3 | 1.351 | 30,0 | 1.181 | FDS45 |
| 5116111 | KSEMP4763FDS45B1M | KSEMP1875FDS45B1 | 47,63 | 1.875 | 21,00 | .8268 | 34,5 | 1.358 | 30,0 | 1.181 | FDS45 |
| 5116112 | KSEMP4800FDS45B1M | KSEMP4800FDS45B1M | 48,00 | 1.890 | 21,00 | .8268 | 34,5 | 1.358 | 30,0 | 1.181 | FDS45 |
| 5116113 | KSEMP4900FDS45B1M | KSEMP4900FDS45B1M | 49,00 | 1.929 | 22,00 | .8661 | 34,7 | 1.365 | 30,0 | 1.181 | FDS45 |
| 5116114 | KSEMP5000FDS50B1M | KSEMP5000FDS50B1M | 50,00 | 1.969 | 23,00 | .9055 | 40,0 | 1.577 | 35,0 | 1.378 | FDS50 |
| 5116115 | KSEMP5080FDS50B1M | KSEMP2000FDS50B1 | 50,80 | 2.000 | 24,00 | .9449 | 40,2 | 1.584 | 35,0 | 1.378 | FDS50 |
| 5116116 | KSEMP5100FDS50B1M | KSEMP5100FDS50B1M | 51,00 | 2.008 | 24,00 | .9449 | 40,2 | 1.584 | 35,0 | 1.378 | FDS50 |
| 5116117 | KSEMP5200FDS50B1M | KSEMP5200FDS50B1M | 52,00 | 2.047 | 25,00 | .9843 | 40,4 | 1.590 | 35,0 | 1.378 | FDS50 |
| 5116118 | KSEMP5300FDS50B1M | KSEMP5300FDS50B1M | 53,00 | 2.087 | 26,00 | 1.0236 | 40,6 | 1.597 | 35,0 | 1.378 | FDS50 |
| 5116119 | KSEMP5398FDS50B1M | KSEMP2125FDS50B1 | 53,98 | 2.125 | 27,00 | 1.0630 | 40,8 | 1.604 | 35,0 | 1.378 | FDS50 |
| 5116120 | KSEMP5400FDS50B1M | KSEMP5400FDS50B1M | 54,00 | 2.126 | 27,00 | 1.0630 | 40,8 | 1.604 | 35,0 | 1.378 | FDS50 |
| 5116121 | KSEMP5500FDS50B1M | KSEMP5500FDS50B1M | 55,00 | 2.165 | 28,00 | 1.1024 | 40,9 | 1.611 | 35,0 | 1.378 | FDS50 |
| 5116122 | KSEMP5600FDS56B1M | KSEMP5600FDS56B1M | 56,00 | 2.205 | 20,00 | .7874 | 39,5 | 1.556 | 35,0 | 1.378 | FDS56 |
| 5116123 | KSEMP5700FDS56B1M | KSEMP5700FDS56B1M | 57,00 | 2.244 | 21,00 | .8268 | 39,7 | 1.563 | 35,0 | 1.378 | FDS56 |
| 5116124 | KSEMP5715FDS56B1M | KSEMP2250FDS56B1 | 57,15 | 2.250 | 21,00 | .8268 | 39,7 | 1.563 | 35,0 | 1.378 | FDS56 |
| 5116125 | KSEMP5800FDS56B1M | KSEMP5800FDS56B1M | 58,00 | 2.283 | 22,00 | .8661 | 39,9 | 1.570 | 35,0 | 1.378 | FDS56 |
| 5116126 | KSEMP5900FDS56B1M | KSEMP5900FDS56B1M | 59,00 | 2.323 | 23,00 | .9055 | 40,0 | 1.577 | 35,0 | 1.378 | FDS56 |
| 5116127 | KSEMP6000FDS56B1M | KSEMP6000FDS56B1M | 60,00 | 2.362 | 24,00 | .9449 | 40,2 | 1.584 | 35,0 | 1.378 | FDS56 |
| 5116128 | KSEMP6033FDS56B1M | KSEMP2375FDS56B1 | 60,33 | 2.375 | 24,00 | .9449 | 40,2 | 1.584 | 35,0 | 1.378 | FDS56 |
| 5116129 | KSEMP6100FDS56B1M | KSEMP6100FDS56B1M | 61,00 | 2.402 | 25,00 | .9843 | 40,4 | 1.590 | 35,0 | 1.378 | FDS56 |
| 5116130 | KSEMP6200FDS56B1M | KSEMP6200FDS56B1M | 62,00 | 2.441 | 26,00 | 1.0236 | 40,6 | 1.597 | 35,0 | 1.378 | FDS56 |
| 5116131 | KSEMP6300FDS63B1M | KSEMP6300FDS63B1M | 63,00 | 2.480 | 27,00 | 1.0630 | 46,0 | 1.809 | 40,0 | 1.575 | FDS63 |
| 5116132 | KSEMP6350FDS63B1M | KSEMP2500FDS63B1 | 63,50 | 2.500 | 28,00 | 1.1024 | 46,1 | 1.816 | 40,0 | 1.575 | FDS63 |
| 5116133 | KSEMP6400FDS63B1M | KSEMP6400FDS63B1M | 64,00 | 2.520 | 28,00 | 1.1024 | 46,1 | 1.816 | 40,0 | 1.575 | FDS63 |
| 5116134 | KSEMP6500FDS63B1M | KSEMP6500FDS63B1M | 65,00 | 2.559 | 29,00 | 1.1417 | 46,3 | 1.823 | 40,0 | 1.575 | FDS63 |
| 5116135 | KSEMP6600FDS63B1M | KSEMP6600FDS63B1M | 66,00 | 2.598 | 30,00 | 1.1811 | 46,5 | 1.830 | 40,0 | 1.575 | FDS63 |
| 5116136 | KSEMP6668FDS63B1M | KSEMP2625FDS63B1 | 66,68 | 2.625 | 31,00 | 1.2205 | 46,7 | 1.837 | 40,0 | 1.575 | FDS63 |
| 5116137 | KSEMP6700FDS63B1M | KSEMP6700FDS63B1M | 67,00 | 2.638 | 31,00 | 1.2205 | 46,7 | 1.837 | 40,0 | 1.575 | FDS63 |
| 5116138 | KSEMP6800FDS63B1M | KSEMP6800FDS63B1M | 68,00 | 2.677 | 32,00 | 1.2598 | 46,8 | 1.844 | 40,0 | 1.575 | FDS63 |
| 5116139 | KSEMP6900FDS63B1M | KSEMP6900FDS63B1M | 69,00 | 2.717 | 33,00 | 1.2992 | 47,0 | 1.851 | 40,0 | 1.575 | FDS63 |
| 5116140 | KSEMP6985FDS63B1M | KSEMP2750FDS63B1 | 69,85 | 2.750 | 34,00 | 1.3386 | 47,2 | 1.858 | 40,0 | 1.575 | FDS63 |
| 5116141 | KSEMP7000FDS63B1M | KSEMP7000FDS63B1M | 70,00 | 2.756 | 34,00 | 1.3386 | 47,2 | 1.858 | 40,0 | 1.575 | FDS63 |
| 6041937 | KSEMP7100FDS71B1M | KSEMP7100FDS71B1M | 71,00 | 2.795 | 26,00 | 1.0240 | 47,9 | 1.885 | 40,0 | 1.575 | FDS71 |
| 6041797 | KSEMP7200FDS71B1M | KSEMP7200FDS71B1M | 72,00 | 2.835 | 27,00 | 1.0630 | 48,1 | 1.892 | 40,0 | 1.575 | FDS71 |
| 6041938 | KSEMP7300FDS71B1M | KSEMP7300FDS71B1M | 73,00 | 2.874 | 28,00 | 1.1020 | 48,2 | 1.899 | 40,0 | 1.575 | FDS71 |
| 6042002 | KSEMP7303FDS71B1M | KSEMP2875FDS71B1 | 73,03 | 2.875 | 28,00 | 1.1020 | 48,2 | 1.899 | 40,0 | 1.575 | FDS71 |
| 6041798 | KSEMP7400FDS71B1M | KSEMP7400FDS71B1M | 74,00 | 2.913 | 29,00 | 1.1420 | 48,4 | 1.906 | 40,0 | 1.575 | FDS71 |
| 6041939 | KSEMP7500FDS71B1M | KSEMP7500FDS71B1M | 75,00 | 2.953 | 30,00 | 1.1810 | 48,6 | 1.913 | 40,0 | 1.575 | FDS71 |
| 6041799 | KSEMP7600FDS71B1M | KSEMP7600FDS71B1M | 76,00 | 2.992 | 31,00 | 1.2200 | 48,8 | 1.919 | 40,0 | 1.575 | FDS71 |
| 5397562 | KSEMP7620FDS71B1M | KSEMP3000FDS71B1 | 76,20 | 3.000 | 31,00 | 1.2200 | 48,8 | 1.919 | 48,8 | 1.919 | FDS71 |
| 6041940 | KSEMP7700FDS71B1M | KSEMP7700FDS71B1M | 77,00 | 3.031 | 32,00 | 1.2600 | 48,9 | 1.927 | 40,0 | 1.575 | FDS71 |
| 6041800 | KSEMP7800FDS71B1M | KSEMP7800FDS71B1M | 78,00 | 3.071 | 33,00 | 1.2990 | 49,1 | 1.933 | 40,0 | 1.575 | FDS71 |

*(continued)*

*(KSEM PLUS B1 Heads 1.102–4" (28–101,60mm) — continued)*

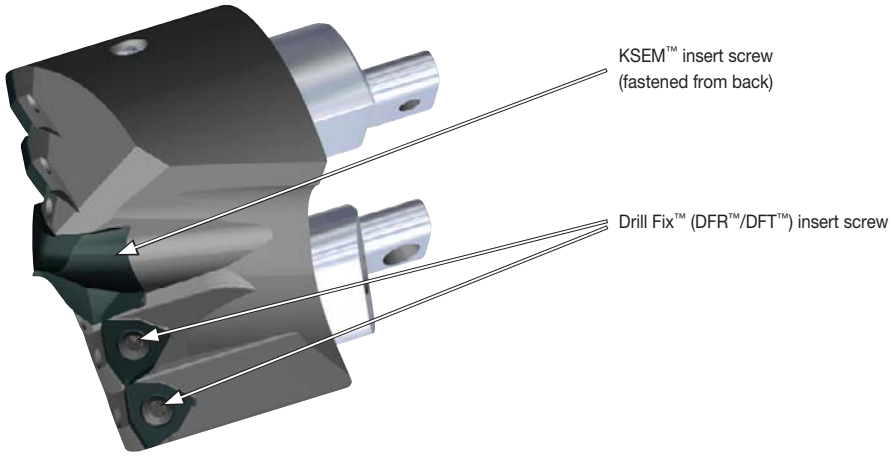


| order number | ISO catalog number | ANSI catalog number | D1 | | PDD | | LPR | | L1 | | CSMS system size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mm | in | mm | in | mm | in | mm | in | |
| 6041991 | KSEMP7900FDS71B1M | KSEMP7900FDS71B1M | 79,00 | 3.110 | 34,00 | 1.3390 | 49,3 | 1.940 | 40,0 | 1.575 | FDS71 |
| 6042003 | KSEMP7938FDS80B1M | KSEMP3125FDS80B1 | 79,38 | 3.125 | 31,00 | 1.2200 | 54,1 | 2.128 | 45,0 | 1.772 | FDS80 |
| 6041881 | KSEMP8000FDS80B1M | KSEMP8000FDS80B1M | 80,00 | 3.150 | 31,00 | 1.2200 | 54,1 | 2.128 | 45,0 | 1.772 | FDS80 |
| 6041992 | KSEMP8100FDS80B1M | KSEMP8100FDS80B1M | 81,00 | 3.189 | 32,00 | 1.2600 | 54,2 | 2.135 | 45,0 | 1.772 | FDS80 |
| 6041882 | KSEMP8200FDS80B1M | KSEMP8200FDS80B1M | 82,00 | 3.228 | 33,00 | 1.2990 | 54,4 | 2.142 | 45,0 | 1.772 | FDS80 |
| 5397563 | KSEMP8255FDS80B1M | KSEMP3250FDS80B1 | 82,55 | 3.250 | 34,00 | 1.3386 | 54,6 | 2.149 | 54,6 | 2.149 | FDS80 |
| 6041993 | KSEMP8300FDS80B1M | KSEMP8300FDS80B1M | 83,00 | 3.268 | 34,00 | 1.3390 | 54,6 | 2.149 | 45,0 | 1.772 | FDS80 |
| 6041883 | KSEMP8400FDS80B1M | KSEMP8400FDS80B1M | 84,00 | 3.307 | 35,00 | 1.3780 | 54,8 | 2.156 | 45,0 | 1.772 | FDS80 |
| 6041994 | KSEMP8500FDS80B1M | KSEMP8500FDS80B1M | 85,00 | 3.346 | 36,00 | 1.4170 | 54,9 | 2.163 | 45,0 | 1.772 | FDS80 |
| 6042004 | KSEMP8573FDS80B1M | KSEMP3375FDS80B1 | 85,73 | 3.375 | 37,00 | 1.4570 | 55,1 | 2.170 | 45,0 | 1.772 | FDS80 |
| 6041884 | KSEMP8600FDS80B1M | KSEMP8600FDS80B1M | 86,00 | 3.386 | 37,00 | 1.4570 | 55,1 | 2.170 | 45,0 | 1.772 | FDS80 |
| 6041995 | KSEMP8700FDS80B1M | KSEMP8700FDS80B1M | 87,00 | 3.425 | 38,00 | 1.4960 | 55,3 | 2.177 | 45,0 | 1.772 | FDS80 |
| 6041885 | KSEMP8800FDS80B1M | KSEMP8800FDS80B1M | 88,00 | 3.465 | 39,00 | 1.5350 | 55,5 | 2.184 | 45,0 | 1.772 | FDS80 |
| 5397564 | KSEMP8890FDS80B1M | KSEMP3500FDS80B1 | 88,90 | 3.500 | 40,00 | 1.5748 | 55,6 | 2.190 | 55,6 | 2.190 | FDS80 |
| 6041996 | KSEMP8900FDS80B1M | KSEMP8900FDS80B1M | 89,00 | 3.504 | 40,00 | 1.5750 | 55,6 | 2.190 | 45,0 | 1.772 | FDS80 |
| 6041886 | KSEMP9000FDS90B1M | KSEMP9000FDS90B1M | 90,00 | 3.543 | 37,00 | 1.4570 | 60,3 | 2.375 | 50,0 | 1.969 | FDS90 |
| 6041997 | KSEMP9100FDS90B1M | KSEMP9100FDS90B1M | 91,00 | 3.583 | 38,00 | 1.4960 | 60,5 | 2.382 | 50,0 | 1.969 | FDS90 |
| 6041887 | KSEMP9200FDS90B1M | KSEMP9200FDS90B1M | 92,00 | 3.622 | 39,00 | 1.5350 | 60,7 | 2.389 | 50,0 | 1.969 | FDS90 |
| 6042005 | KSEMP9208FDS90B1M | KSEMP3625FDS90B1 | 92,08 | 3.625 | 39,00 | 1.5350 | 60,7 | 2.389 | 50,0 | 1.969 | FDS90 |
| 6041998 | KSEMP9300FDS90B1M | KSEMP9300FDS90B1M | 93,00 | 3.661 | 40,00 | 1.5750 | 60,8 | 2.395 | 50,0 | 1.969 | FDS90 |
| 6041888 | KSEMP9400FDS90B1M | KSEMP9400FDS90B1M | 94,00 | 3.701 | 26,00 | 1.0240 | 60,4 | 2.376 | 50,0 | 1.968 | FDS90 |
| 6041999 | KSEMP9500FDS90B1M | KSEMP9500FDS90B1M | 95,00 | 3.740 | 27,00 | 1.0630 | 60,6 | 2.383 | 50,0 | 1.968 | FDS90 |
| 5397565 | KSEMP9525FDS90B1M | KSEMP3750FDS90B1 | 95,25 | 3.750 | 27,00 | 1.0630 | 60,6 | 2.383 | 60,6 | 2.383 | FDS90 |
| 6041889 | KSEMP9600FDS90B1M | KSEMP9600FDS90B1M | 96,00 | 3.780 | 28,00 | 1.1020 | 60,7 | 2.390 | 50,0 | 1.968 | FDS90 |
| 6042000 | KSEMP9700FDS90B1M | KSEMP9700FDS90B1M | 97,00 | 3.819 | 29,00 | 1.1420 | 60,9 | 2.398 | 50,0 | 1.968 | FDS90 |
| 6041890 | KSEMP9800FDS90B1M | KSEMP9800FDS90B1M | 98,00 | 3.858 | 30,00 | 1.1810 | 61,1 | 2.404 | 50,0 | 1.968 | FDS90 |
| 6042006 | KSEMP9843FDS90B1M | KSEMP3875FDS90B1 | 98,43 | 3.875 | 31,00 | 1.2200 | 61,3 | 2.411 | 50,0 | 1.968 | FDS90 |
| 6042001 | KSEMP9900FDS90B1M | KSEMP9900FDS90B1M | 99,00 | 3.898 | 31,00 | 1.2200 | 61,3 | 2.412 | 50,0 | 1.969 | FDS90 |
| 6041901 | KSEMP10000FDS90B1M | KSEMP10000FDS90B1M | 100,00 | 3.937 | 32,00 | 1.2600 | 61,4 | 2.418 | 50,0 | 1.968 | FDS90 |
| 5397566 | KSEMP10160FDS90B1M | KSEMP4000FDS90B1 | 101,60 | 4.000 | 34,00 | 1.3390 | 61,8 | 2.432 | 61,8 | 2.432 | FDS90 |

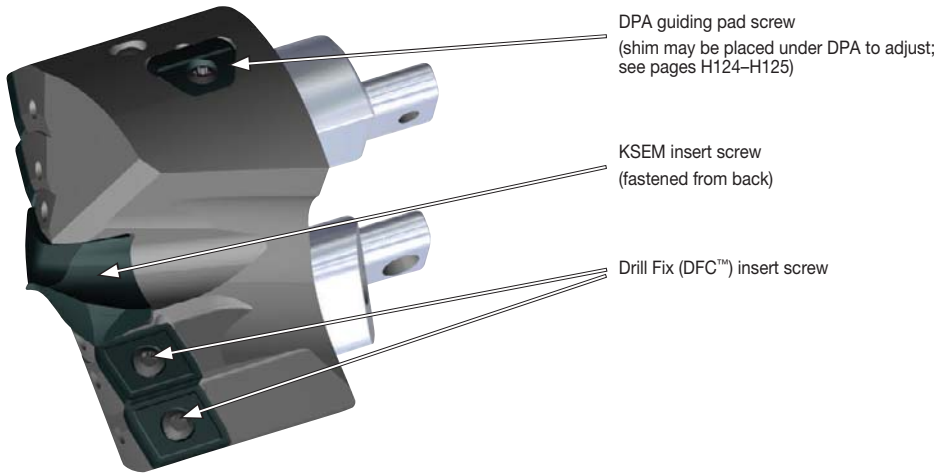
NOTE: When one screw is listed, it is for both insert and guiding pad. When two screws are listed, the first one is for the insert screw, and the second one is for the guiding pad. Find complete KSEM PLUS B1 product overview on pages H108–H110.

- The following pages consolidate required spare parts for KSEM PLUS heads.
- Tables show each spare part followed by required screw driver (if applicable).
- Adjustment shims for DPA guide pads on KSEM PLUS B1 heads come as easy-to-use shim packs.
- Please find reference for spare part location below.

## KSEM PLUS A1 Heads • Spare Parts




## KSEM PLUS B1 Heads • Spare Parts



## KSEM PLUS A1 Heads 1.102–4" (28–101,60mm) • Spare Parts

| D1 | | PDD | | | | | | |
|---|---|---|---|---|---|---|---|---|
| mm | in | mm | in | CSMS system size | KSEM insert screw | KSEM wrench | Drill Fix insert screw | Drill Fix wrench |
| 28,00 | 1.102 | 14,00 | .551 | FDS28 | 364.016 | 170.350 | 192.432 | 170.352 |
| 28,58 | 1.125 | 15,00 | .591 | FDS28 | 364.016 | 170.350 | 192.432 | 170.352 |
| 29,00 | 1.142 | 15,00 | .591 | FDS28 | 364.016 | 170.350 | 192.432 | 170.352 |
| 29,36 | 1.156 | 16,00 | .630 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 |
| 30,00 | 1.181 | 16,00 | .630 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 |
| 30,18 | 1.188 | 17,00 | .669 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 |
| 30,96 | 1.219 | 17,00 | .669 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 |
| 31,00 | 1.221 | 17,00 | .669 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 |
| 31,75 | 1.250 | 15,00 | .591 | FDS32 | 364.016 | 170.350 | 191.924 | 170.353 |
| 32,00 | 1.260 | 15,00 | .591 | FDS32 | 364.016 | 170.350 | 191.924 | 170.353 |
| 33,00 | 1.299 | 16,00 | .630 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 |
| 33,20 | 1.307 | 16,00 | .630 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 |
| 33,35 | 1.313 | 17,00 | .669 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 |
| 34,00 | 1.339 | 17,00 | .669 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 |
| 34,93 | 1.375 | 18,00 | .709 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 |
| 35,00 | 1.378 | 18,00 | .709 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 |
| 36,00 | 1.417 | 13,00 | .512 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 |
| 36,53 | 1.438 | 14,00 | .551 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 |
| 37,00 | 1.457 | 14,00 | .551 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 |
| 37,50 | 1.476 | 15,00 | .591 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 |
| 38,00 | 1.496 | 15,00 | .591 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 |
| 38,10 | 1.500 | 15,00 | .591 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 |
| 39,00 | 1.535 | 16,00 | .630 | FDS36 | 364.010 | 170.345 | 191.916 | 170.355 |
| 39,20 | 1.543 | 16,00 | .630 | FDS36 | 364.010 | 170.345 | 191.916 | 170.355 |
| 39,70 | 1.563 | 17,00 | .669 | FDS36 | 364.010 | 170.345 | 191.916 | 170.355 |
| 40,00 | 1.575 | 17,00 | .669 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 |
| 41,00 | 1.614 | 18,00 | .709 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 |
| 41,28 | 1.625 | 18,00 | .709 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 |
| 42,00 | 1.654 | 19,00 | .748 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 |
| 43,00 | 1.693 | 20,00 | .787 | FDS40 | 364.011 | 170.346 | 191.916 | 170.355 |
| 44,00 | 1.732 | 21,00 | .827 | FDS40 | 364.011 | 170.346 | 191.916 | 170.355 |
| 44,45 | 1.750 | 22,00 | .866 | FDS40 | 364.011 | 170.346 | 191.916 | 170.355 |
| 45,00 | 1.772 | 18,00 | .709 | FDS45 | 364.010 | 170.345 | 191.698 | 170.355 |
| 46,00 | 1.811 | 19,00 | .748 | FDS45 | 364.010 | 170.345 | 191.698 | 170.355 |
| 47,00 | 1.850 | 20,00 | .787 | FDS45 | 364.011 | 170.346 | 191.698 | 170.355 |
| 47,63 | 1.875 | 21,00 | .827 | FDS45 | 364.011 | 170.346 | 191.698 | 170.355 |
| 48,00 | 1.890 | 21,00 | .827 | FDS45 | 364.011 | 170.346 | 191.698 | 170.355 |
| 49,00 | 1.929 | 22,00 | .866 | FDS45 | 364.011 | 170.346 | 191.698 | 170.355 |
| 50,00 | 1.969 | 23,00 | .906 | FDS50 | 364.011 | 170.346 | 191.698 | 170.355 |
| 50,80 | 2.000 | 24,00 | .945 | FDS50 | 364.011 | 170.346 | 191.698 | 170.355 |
| 51,00 | 2.008 | 24,00 | .945 | FDS50 | 364.011 | 170.346 | 191.698 | 170.355 |
| 52,00 | 2.047 | 25,00 | .984 | FDS50 | 364.012 | 170.347 | 191.698 | 170.355 |
| 53,00 | 2.087 | 26,00 | 1.024 | FDS50 | 364.012 | 170.347 | 191.698 | 170.355 |
| 53,98 | 2.125 | 27,00 | 1.063 | FDS50 | 364.012 | 170.347 | 191.698 | 170.355 |
| 54,00 | 2.126 | 27,00 | 1.063 | FDS50 | 364.012 | 170.347 | 191.698 | 170.355 |
| 55,00 | 2.165 | 28,00 | 1.102 | FDS50 | 364.012 | 170.347 | 191.698 | 170.355 |
| 56,00 | 2.205 | 20,00 | .787 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 57,00 | 2.244 | 21,00 | .827 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 57,15 | 2.250 | 21,00 | .827 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 58,00 | 2.284 | 22,00 | .866 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 59,00 | 2.323 | 23,00 | .906 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 60,00 | 2.362 | 24,00 | .945 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 60,33 | 2.375 | 24,00 | .945 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 |
| 61,00 | 2.402 | 25,00 | .984 | FDS56 | 364.012 | 170.347 | 191.726 | 170.356 |
| 62,00 | 2.441 | 26,00 | 1.024 | FDS56 | 364.012 | 170.347 | 191.726 | 170.356 |
| 63,00 | 2.480 | 27,00 | 1.063 | FDS63 | 364.012 | 170.347 | 191.726 | 170.356 |

*(continued)*

*(KSEM PLUS A1 Heads 1.102–4" (28–101,60mm) • Spare Parts — continued)*

| D1 | | PDD | | | | | | |
|---|---|---|---|---|---|---|---|---|
| mm | in | mm | in | CSMS system size | KSEM insert screw | KSEM wrench | Drill Fix insert screw | Drill Fix wrench |
| 63,50 | 2.500 | 28,00 | 1.102 | FDS63 | 364.012 | 170.347 | 191.726 | 170.356 |
| 64,00 | 2.520 | 28,00 | 1.102 | FDS63 | 364.012 | 170.347 | 191.726 | 170.356 |
| 65,00 | 2.559 | 29,00 | 1.142 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 |
| 66,00 | 2.598 | 30,00 | 1.181 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 |
| 66,68 | 2.625 | 31,00 | 1.221 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 |
| 67,00 | 2.638 | 31,00 | 1.221 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 |
| 68,00 | 2.677 | 32,00 | 1.260 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 |
| 69,00 | 2.717 | 33,00 | 1.299 | FDS63 | 364.015 | 170.348 | 191.726 | 170.356 |
| 69,85 | 2.750 | 34,00 | 1.339 | FDS63 | 364.015 | 170.348 | 191.726 | 170.356 |
| 70,00 | 2.756 | 34,00 | 1.339 | FDS63 | 364.015 | 170.348 | 191.726 | 170.356 |
| 71,00 | 2.795 | 26,00 | 1.024 | FDS71 | 364.012 | 170.347 | 191.916 | 170.355 |
| 72,00 | 2.835 | 27,00 | 1.063 | FDS71 | 364.012 | 170.347 | 191.916 | 170.355 |
| 73,00 | 2.874 | 28,00 | 1.102 | FDS71 | 364.012 | 170.347 | 191.916 | 170.355 |
| 73,03 | 2.875 | 28,00 | 1.102 | FDS71 | 364.012 | 170.347 | 191.916 | 170.355 |
| 74,00 | 2.913 | 29,00 | 1.142 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 |
| 75,00 | 2.953 | 30,00 | 1.181 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 |
| 76,00 | 2.992 | 31,00 | 1.220 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 |
| 76,20 | 3.000 | 31,00 | 1.220 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 |
| 77,00 | 3.031 | 32,00 | 1.260 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 |
| 78,00 | 3.071 | 33,00 | 1.299 | FDS71 | 364.015 | 170.365 | 191.916 | 170.355 |
| 79,00 | 3.110 | 34,00 | 1.339 | FDS71 | 364.015 | 170.365 | 191.916 | 170.355 |
| 79,38 | 3.125 | 31,00 | 1.220 | FDS80 | 364.013 | 170.365 | 191.916 | 170.355 |
| 80,00 | 3.150 | 31,00 | 1.220 | FDS80 | 364.013 | 170.365 | 191.916 | 170.355 |
| 81,00 | 3.189 | 32,00 | 1.260 | FDS80 | 364.013 | 170.365 | 191.916 | 170.355 |
| 82,00 | 3.228 | 33,00 | 1.299 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 82,55 | 3.250 | 34,00 | 1.339 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 83,00 | 3.268 | 34,00 | 1.339 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 84,00 | 3.307 | 35,00 | 1.378 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 85,00 | 3.346 | 36,00 | 1.417 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 85,73 | 3.375 | 37,00 | 1.457 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 86,00 | 3.386 | 37,00 | 1.457 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 87,00 | 3.425 | 38,00 | 1.496 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 88,00 | 3.465 | 39,00 | 1.535 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 88,90 | 3.500 | 40,00 | 1.575 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 89,00 | 3.504 | 40,00 | 1.575 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 |
| 90,00 | 3.543 | 37,00 | 1.457 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 |
| 91,00 | 3.583 | 38,00 | 1.496 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 |
| 92,00 | 3.622 | 39,00 | 1.535 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 |
| 92,08 | 3.625 | 39,00 | 1.535 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 |
| 93,00 | 3.661 | 40,00 | 1.575 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 |
| 94,00 | 3.701 | 26,00 | 1.024 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 |
| 95,00 | 3.740 | 27,00 | 1.063 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 |
| 95,25 | 3.750 | 27,00 | 1.063 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 |
| 96,00 | 3.780 | 28,00 | 1.102 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 |
| 97,00 | 3.819 | 29,00 | 1.142 | FDS90 | 364.013 | 170.365 | 191.916 | 170.355 |
| 98,00 | 3.858 | 30,00 | 1.181 | FDS90 | 364.013 | 170.365 | 191.916 | 170.355 |
| 98,43 | 3.875 | 31,00 | 1.220 | FDS90 | 364.013 | 170.365 | 191.916 | 170.355 |
| 99,00 | 3.898 | 31,00 | 1.220 | FDS90 | 364.013 | 170.365 | 191.916 | 170.355 |
| 100,00 | 3.937 | 32,00 | 1.260 | FDS90 | 364.013 | 170.365 | 191.916 | 170.355 |
| 101,60 | 4.000 | 34,00 | 1.339 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 |

## KSEM PLUS B1 Heads 1.102–4" (28–101,60mm) • Spare Parts

| D1 | | PDD | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | mm | in | CSMS system size | KSEM insert screw | Torx wrench | DFC insert screw | Torx wrench | DPA guiding pad screw | Torx wrench | shim pack |
| 28,00 | 1.102 | 14,00 | .551 | FDS28 | 364.016 | 170.350 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 28,58 | 1.125 | 15,00 | .591 | FDS28 | 364.016 | 170.350 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 29,00 | 1.142 | 15,00 | .591 | FDS28 | 364.016 | 170.350 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 29,36 | 1.156 | 16,00 | .630 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 30,00 | 1.181 | 16,00 | .630 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 30,18 | 1.188 | 17,00 | .669 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 30,96 | 1.219 | 17,00 | .669 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 31,00 | 1.220 | 17,00 | .669 | FDS28 | 364.010 | 170.345 | 192.432 | 170.352 | 192.432 | 170.352 | 193.554 |
| 31,75 | 1.250 | 15,00 | .591 | FDS32 | 364.016 | 170.350 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 32,00 | 1.260 | 15,00 | .591 | FDS32 | 364.016 | 170.350 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 33,00 | 1.299 | 16,00 | .630 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 33,20 | 1.307 | 16,00 | .630 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 33,35 | 1.313 | 17,00 | .669 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 34,00 | 1.339 | 17,00 | .669 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 34,93 | 1.375 | 18,00 | .709 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 35,00 | 1.378 | 18,00 | .709 | FDS32 | 364.010 | 170.345 | 191.924 | 170.353 | 191.924 | 170.353 | 193.555 |
| 36,00 | 1.417 | 13,00 | .512 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 36,53 | 1.438 | 14,00 | .551 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 37,00 | 1.457 | 14,00 | .551 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 37,50 | 1.476 | 15,00 | .591 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 38,00 | 1.496 | 15,00 | .591 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 38,10 | 1.500 | 15,00 | .591 | FDS36 | 364.016 | 170.350 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 39,00 | 1.535 | 16,00 | .630 | FDS36 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 39,20 | 1.543 | 16,00 | .630 | FDS36 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 39,70 | 1.563 | 17,00 | .669 | FDS36 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 40,00 | 1.575 | 17,00 | .669 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 41,00 | 1.614 | 18,00 | .709 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 41,28 | 1.625 | 18,00 | .709 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 42,00 | 1.654 | 19,00 | .748 | FDS40 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 43,00 | 1.693 | 20,00 | .787 | FDS40 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 44,00 | 1.732 | 21,00 | .827 | FDS40 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 44,45 | 1.750 | 22,00 | .866 | FDS40 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 45,00 | 1.772 | 18,00 | .709 | FDS45 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 46,00 | 1.811 | 19,00 | .748 | FDS45 | 364.010 | 170.345 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 47,00 | 1.850 | 20,00 | .787 | FDS45 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 47,63 | 1.875 | 21,00 | .827 | FDS45 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 48,00 | 1.890 | 21,00 | .827 | FDS45 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 49,00 | 1.929 | 22,00 | .866 | FDS45 | 364.011 | 170.346 | 191.916 | 170.355 | 191.924 | 170.353 | 193.555 |
| 50,00 | 1.969 | 23,00 | .906 | FDS50 | 364.011 | 170.346 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 50,80 | 2.000 | 24,00 | .945 | FDS50 | 364.011 | 170.346 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 51,00 | 2.008 | 24,00 | .945 | FDS50 | 364.011 | 170.346 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 52,00 | 2.047 | 25,00 | .984 | FDS50 | 364.012 | 170.347 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 53,00 | 2.087 | 26,00 | 1.024 | FDS50 | 364.012 | 170.347 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 53,98 | 2.125 | 27,00 | 1.063 | FDS50 | 364.012 | 170.347 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 54,00 | 2.126 | 27,00 | 1.063 | FDS50 | 364.012 | 170.347 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 55,00 | 2.165 | 28,00 | 1.102 | FDS50 | 364.012 | 170.347 | 191.916 | 170.355 | 191.916 | 170.355 | 193.556 |
| 56,00 | 2.205 | 20,00 | .787 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 57,00 | 2.244 | 21,00 | .827 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 57,15 | 2.250 | 21,00 | .827 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 58,00 | 2.283 | 22,00 | .866 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 59,00 | 2.323 | 23,00 | .906 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 60,00 | 2.362 | 24,00 | .945 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 60,33 | 2.375 | 24,00 | .945 | FDS56 | 364.011 | 170.346 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 61,00 | 2.402 | 25,00 | .984 | FDS56 | 364.012 | 170.347 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 62,00 | 2.441 | 26,00 | 1.024 | FDS56 | 364.012 | 170.347 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 63,00 | 2.480 | 27,00 | 1.063 | FDS63 | 364.012 | 170.347 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |

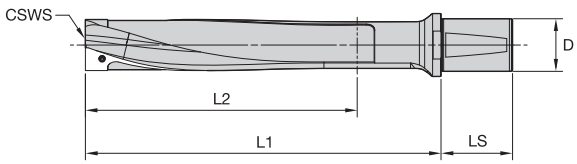
*(continued)*

*(KSEM PLUS B1 Heads 1.102–4" (28–101,60mm) • Spare Parts — continued)*

| D1 | | PDD | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | mm | in | CSMS system size | KSEM insert screw | Torx wrench | DFC insert screw | Torx wrench | DPA guiding pad screw | Torx wrench | shim pack |
| 63,50 | 2.500 | 28,00 | 1.102 | FDS63 | 364.012 | 170.347 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 64,00 | 2.520 | 28,00 | 1.102 | FDS63 | 364.012 | 170.347 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 65,00 | 2.559 | 29,00 | 1.142 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 66,00 | 2.598 | 30,00 | 1.181 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 66,68 | 2.625 | 31,00 | 1.221 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 67,00 | 2.638 | 31,00 | 1.221 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 68,00 | 2.677 | 32,00 | 1.260 | FDS63 | 364.013 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 69,00 | 2.717 | 33,00 | 1.299 | FDS63 | 364.015 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 69,85 | 2.750 | 34,00 | 1.339 | FDS63 | 364.015 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 70,00 | 2.756 | 34,00 | 1.339 | FDS63 | 364.015 | 170.348 | 191.726 | 170.356 | 191.916 | 170.355 | 193.556 |
| 71,00 | 2.795 | 26,00 | 1.024 | FDS71 | 364.012 | 170.347 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 72,00 | 2.835 | 27,00 | 1.063 | FDS71 | 364.012 | 170.347 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 73,00 | 2.874 | 28,00 | 1.102 | FDS71 | 364.012 | 170.347 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 73,03 | 2.875 | 28,00 | 1.102 | FDS71 | 364.012 | 170.347 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 74,00 | 2.913 | 29,00 | 1.142 | FDS71 | 364.013 | 170.365 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 75,00 | 2.953 | 30,00 | 1.181 | FDS71 | 364.013 | 170.365 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 76,00 | 2.992 | 31,00 | 1.220 | FDS71 | 364.013 | 170.365 | 191.916 | 170.356 | 191.916 | 170.355 | 193.556 |
| 76,20 | 3.000 | 31,00 | 1.220 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 77,00 | 3.031 | 32,00 | 1.260 | FDS71 | 364.013 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 78,00 | 3.071 | 33,00 | 1.299 | FDS71 | 364.015 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 79,00 | 3.110 | 34,00 | 1.339 | FDS71 | 364.015 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 79,38 | 3.125 | 31,00 | 1.220 | FDS80 | 364.013 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 80,00 | 3.150 | 31,00 | 1.220 | FDS80 | 364.013 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 81,00 | 3.189 | 32,00 | 1.260 | FDS80 | 364.013 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 82,00 | 3.228 | 33,00 | 1.299 | FDS80 | 364.015 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 82,55 | 3.250 | 34,00 | 1.339 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 83,00 | 3.268 | 34,00 | 1.339 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 84,00 | 3.307 | 35,00 | 1.378 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 85,00 | 3.346 | 36,00 | 1.417 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 85,73 | 3.375 | 37,00 | 1.457 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 86,00 | 3.386 | 37,00 | 1.457 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 87,00 | 3.425 | 38,00 | 1.496 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 88,00 | 3.465 | 39,00 | 1.535 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 88,90 | 3.500 | 40,00 | 1.575 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 89,00 | 3.504 | 40,00 | 1.575 | FDS80 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 90,00 | 3.543 | 37,00 | 1.457 | FDS90 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 91,00 | 3.583 | 38,00 | 1.496 | FDS90 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 92,00 | 3.622 | 39,00 | 1.535 | FDS90 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 92,08 | 3.625 | 39,00 | 1.535 | FDS90 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 93,00 | 3.661 | 40,00 | 1.575 | FDS90 | 364.015 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 94,00 | 3.701 | 26,00 | 1.024 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 95,00 | 3.740 | 27,00 | 1.063 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 95,25 | 3.750 | 27,00 | 1.063 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 96,00 | 3.780 | 28,00 | 1.102 | FDS90 | 364.012 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 97,00 | 3.819 | 29,00 | 1.142 | FDS90 | 364.013 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 98,00 | 3.858 | 30,00 | 1.181 | FDS90 | 364.013 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 98,43 | 3.875 | 31,00 | 1.220 | FDS90 | 364.013 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 99,00 | 3.898 | 31,00 | 1.220 | FDS90 | 364.013 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 100,00 | 3.937 | 32,00 | 1.260 | FDS90 | 364.013 | 170.355 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |
| 101,60 | 4.000 | 34,00 | 1.339 | FDS90 | 364.015 | 170.365 | 191.916 | 170.355 | 191.916 | 170.356 | 193.556 |

- Order KSEM PLUS heads according to the connection coupling size (CSWS).
- Order KSEM PLUS heads separately; see page H115–H120.
- Wrench will be shipped with KSEM PLUS head.
- Custom solution for cast iron application with twisted flutes available.





## KSEM PLUS WD Shanks • 1.5 x D • Metric

| 1.5 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw |
|---|---|---|---|---|---|---|
| **WD32FDS28076M** | FDS28 | 32 | 76 | 32 | 58 | **193.537** |
| **WD32FDS32082M** | FDS32 | 32 | 82 | 34 | 58 | **193.523** |
| **WD32FDS36092M** | FDS36 | 32 | 92 | 40 | 58 | **193.524** |
| **WD50FDS40100M** | FDS40 | 50 | 100 | 43 | 68 | **193.524** |
| **WD50FDS45112M** | FDS45 | 50 | 112 | 50 | 68 | **193.525** |
| **WD50FDS50122M** | FDS50 | 50 | 122 | 54 | 68 | **193.525** |
| **WD50FDS56140M** | FDS56 | 50 | 140 | 65 | 68 | **193.526** |
| **WD50FDS63154M** | FDS63 | 50 | 154 | 71 | 68 | **193.526** |
| **WD50FDS71172M** | FDS71 | 50 | 172 | 80 | 68 | **193.526** |
| **WD50FDS80192M** | FDS80 | 50 | 192 | 90 | 68 | **193.545** |
| **WD50FDS90212M** | FDS90 | 50 | 212 | 100 | 68 | **193.545** |

## KSEM PLUS WD Shanks • 3 x D • Metric

| 3 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw |
|---|---|---|---|---|---|---|
| **WD32FDS28128M** | FDS28 | 32 | 128 | 71 | 58 | **193.537** |
| **WD32FDS32146M** | FDS32 | 32 | 146 | 85 | 58 | **193.523** |
| **WD32FDS36166M** | FDS36 | 32 | 166 | 97 | 58 | **193.524** |
| **WD50FDS40183M** | FDS40 | 50 | 183 | 107 | 68 | **193.524** |
| **WD50FDS45206M** | FDS45 | 50 | 206 | 122 | 68 | **193.525** |
| **WD50FDS50228M** | FDS50 | 50 | 228 | 135 | 68 | **193.525** |
| **WD50FDS56259M** | FDS56 | 50 | 259 | 156 | 68 | **193.526** |
| **WD50FDS63289M** | FDS63 | 50 | 289 | 174 | 68 | **193.526** |
| **WD50FDS71292M** | FDS71 | 50 | 292 | 200 | 68 | **193.526** |
| **WD50FDS80327M** | FDS80 | 50 | 327 | 225 | 68 | **193.545** |
| **WD50FDS90362M** | FDS90 | 50 | 362 | 250 | 68 | **193.545** |

## KSEM PLUS WD Shanks • 5 x D • Metric

| 5 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw |
|---|---|---|---|---|---|---|
| **WD32FDS28190M** | FDS28 | 32 | 190 | 133 | 58 | **193.537** |
| **WD32FDS32216M** | FDS32 | 32 | 216 | 155 | 58 | **193.523** |
| **WD32FDS36244M** | FDS36 | 32 | 244 | 175 | 58 | **193.524** |
| **WD50FDS40271M** | FDS40 | 50 | 271 | 195 | 68 | **193.524** |
| **WD50FDS45304M** | FDS45 | 50 | 304 | 220 | 68 | **193.525** |
| **WD50FDS50338M** | FDS50 | 50 | 338 | 245 | 68 | **193.525** |
| **WD50FDS56383M** | FDS56 | 50 | 383 | 280 | 68 | **193.526** |
| **WD50FDS63429M** | FDS63 | 50 | 429 | 314 | 68 | **193.526** |
| **WD50FDS71452M** | FDS71 | 50 | 452 | 360 | 68 | **193.526** |
| **WD50FDS80507M** | FDS80 | 50 | 507 | 405 | 68 | **193.545** |
| **WD50FDS90562M** | FDS90 | 50 | 562 | 450 | 68 | **193.545** |

## KSEM PLUS WD Shanks • 8 x D • Metric

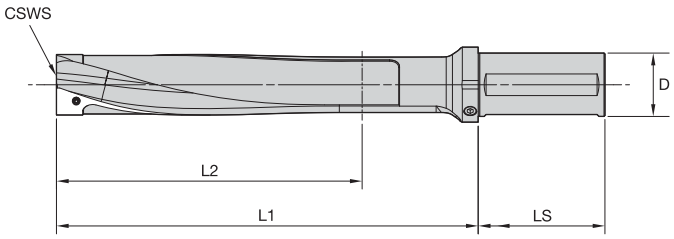
| 8 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw |
|---|---|---|---|---|---|---|
| **WD32FDS28283M** | FDS28 | 32 | 283 | 226 | 58 | **193.537** |
| **WD32FDS32321M** | FDS32 | 32 | 321 | 260 | 58 | **193.523** |
| **WD32FDS36361M** | FDS36 | 32 | 361 | 292 | 58 | **193.524** |
| **WD50FDS40403M** | FDS40 | 50 | 403 | 327 | 68 | **193.524** |
| **WD50FDS45451M** | FDS45 | 50 | 451 | 367 | 68 | **193.525** |
| **WD50FDS50503M** | FDS50 | 50 | 503 | 410 | 68 | **193.525** |
| **WD50FDS56569M** | FDS56 | 50 | 569 | 466 | 68 | **193.526** |
| **WD50FDS63639M** | FDS63 | 50 | 639 | 524 | 68 | **193.526** |

## KSEM PLUS WD Shanks • 10 x D • Metric

| 10 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw |
|---|---|---|---|---|---|---|
| **WD32FDS28345M** | FDS28 | 32 | 345 | 288 | 58 | **193.537** |
| **WD32FDS32391M** | FDS32 | 32 | 391 | 330 | 58 | **193.523** |
| **WD32FDS36439M** | FDS36 | 32 | 439 | 370 | 58 | **193.524** |
| **WD50FDS40491M** | FDS40 | 50 | 491 | 415 | 68 | **193.524** |
| **WD50FDS45549M** | FDS45 | 50 | 549 | 465 | 68 | **193.525** |
| **WD50FDS50613M** | FDS50 | 50 | 613 | 520 | 68 | **193.525** |
| **WD50FDS56693M** | FDS56 | 50 | 693 | 590 | 68 | **193.526** |
| **WD50FDS63779M** | FDS63 | 50 | 779 | 664 | 68 | **193.526** |

- Order KSEM PLUS heads according to the connection coupling size (CSWS).
- Order KSEM PLUS heads separately; see pages H115–H120.
- Wrench will be shipped with KSEM PLUS head.
- Custom solution for cast iron application with twisted flutes available.





## KSEM PLUS SSF Shanks • 1.5 x D • Inch

| 1.5 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw | pipe plug |
|---|---|---|---|---|---|---|---|
| **SSF150FDS280299** | FDS28 | 1.5000 | 2.99 | 1.26 | 3.75 | **193.537** | **HSFS0125** |
| **SSF150FDS320323** | FDS32 | 1.5000 | 3.23 | 1.34 | 3.75 | **193.523** | **HSFS0125** |
| **SSF150FDS360362** | FDS36 | 1.5000 | 3.62 | 1.58 | 3.75 | **193.524** | **HSFS0125** |
| **SSF200FDS400394** | FDS40 | 2.0000 | 3.94 | 1.69 | 4.00 | **193.524** | **HSFS0125** |
| **SSF200FDS450441** | FDS45 | 2.0000 | 4.41 | 1.97 | 4.00 | **193.525** | **HSFS0125** |
| **SSF200FDS500480** | FDS50 | 2.0000 | 4.80 | 2.13 | 4.00 | **193.525** | **HSFS0125** |
| **SSF200FDS560551** | FDS56 | 2.0000 | 5.51 | 2.56 | 4.00 | **193.526** | **HSFS0125** |
| **SSF200FDS630606** | FDS63 | 2.0000 | 6.06 | 2.80 | 4.00 | **193.526** | **HSFS0125** |
| **SSF200FDS710677** | FDS71 | 2.0000 | 6.77 | 3.15 | 4.00 | **193.526** | **HSFS0500** |
| **SSF200FDS800756** | FDS80 | 2.0000 | 7.56 | 3.54 | 4.00 | **193.545** | **HSFS0500** |
| **SSF200FDS900835** | FDS90 | 2.0000 | 8.35 | 3.94 | 4.00 | **193.545** | **HSFS0500** |

## KSEM PLUS SSF Shanks • 3 x D • Inch

| 3 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw | pipe plug |
|---|---|---|---|---|---|---|---|
| **SSF150FDS280502** | FDS28 | 1.5000 | 5.04 | 2.80 | 3.75 | **193.537** | **HSFS0125** |
| **SSF150FDS320573** | FDS32 | 1.5000 | 5.75 | 3.35 | 3.75 | **193.523** | **HSFS0125** |
| **SSF150FDS360652** | FDS36 | 1.5000 | 6.54 | 3.82 | 3.75 | **193.524** | **HSFS0125** |
| **SSF200FDS400721** | FDS40 | 2.0000 | 7.20 | 4.21 | 3.75 | **193.524** | **HSFS0125** |
| **SSF200FDS450809** | FDS45 | 2.0000 | 8.11 | 4.80 | 4.00 | **193.525** | **HSFS0125** |
| **SSF200FDS500896** | FDS50 | 2.0000 | 8.98 | 5.32 | 4.00 | **193.525** | **HSFS0125** |
| **SSF200FDS561020** | FDS56 | 2.0000 | 10.20 | 6.14 | 4.00 | **193.526** | **HSFS0125** |
| **SSF200FDS631138** | FDS63 | 2.0000 | 11.38 | 6.85 | 4.00 | **193.526** | **HSFS0125** |
| **SSF200FDS711150** | FDS71 | 2.0000 | 11.50 | 7.87 | 4.00 | **193.526** | **HSFS0500** |
| **SSF200FDS801287** | FDS80 | 2.0000 | 12.87 | 8.86 | 4.00 | **193.545** | **HSFS0500** |
| **SSF200FDS901425** | FDS90 | 2.0000 | 14.25 | 9.84 | 4.00 | **193.545** | **HSFS0500** |

## KSEM PLUS SSF Shanks • 5 x D • Inch

| 5 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw | pipe plug |
|---|---|---|---|---|---|---|---|
| SSF150FDS280746 | FDS28 | 1.5000 | 7.48 | 5.24 | 3.75 | 193.537 | HSFS0125 |
| SSF150FDS320850 | FDS32 | 1.5000 | 8.50 | 6.10 | 3.75 | 193.523 | HSFS0125 |
| SSF150FDS360960 | FDS36 | 1.5000 | 9.61 | 6.89 | 3.75 | 193.524 | HSFS0125 |
| SSF200FDS401066 | FDS40 | 2.0000 | 10.67 | 7.68 | 4.00 | 193.524 | HSFS0125 |
| SSF200FDS451196 | FDS45 | 2.0000 | 11.97 | 8.66 | 4.00 | 193.525 | HSFS0125 |
| SSF200FDS501330 | FDS50 | 2.0000 | 13.31 | 9.65 | 4.00 | 193.525 | HSFS0125 |
| SSF200FDS561507 | FDS56 | 2.0000 | 15.08 | 11.02 | 4.00 | 193.526 | HSFS0125 |
| SSF200FDS631688 | FDS63 | 2.0000 | 16.89 | 12.36 | 4.00 | 193.526 | HSFS0125 |
| SSF200FDS711780 | FDS71 | 2.0000 | 17.80 | 14.17 | 4.00 | 193.526 | HSFS0500 |
| SSF200FDS801996 | FDS80 | 2.0000 | 19.96 | 15.95 | 4.00 | 193.545 | HSFS0500 |
| SSF200FDS902213 | FDS90 | 2.0000 | 22.13 | 17.72 | 4.00 | 193.545 | HSFS0500 |

## KSEM PLUS SSF Shanks • 8 x D • Inch

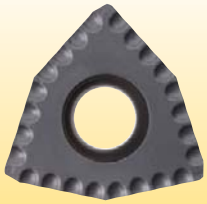
| 8 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw | pipe plug |
|---|---|---|---|---|---|---|---|
| SSF150FDS281112 | FDS28 | 1.5000 | 11.14 | 8.90 | 3.75 | 193.537 | HSFS0125 |
| SSF150FDS321263 | FDS32 | 1.5000 | 12.64 | 10.24 | 3.75 | 193.523 | HSFS0125 |
| SSF150FDS361421 | FDS36 | 1.5000 | 14.21 | 11.50 | 3.75 | 193.524 | HSFS0125 |
| SSF200FDS401586 | FDS40 | 2.0000 | 15.87 | 12.87 | 4.00 | 193.524 | HSFS0125 |
| SSF200FDS451775 | FDS45 | 2.0000 | 17.76 | 14.45 | 4.00 | 193.525 | HSFS0125 |
| SSF200FDS501980 | FDS50 | 2.0000 | 19.80 | 16.14 | 4.00 | 193.525 | HSFS0125 |
| SSF200FDS562240 | FDS56 | 2.0000 | 22.40 | 18.35 | 4.00 | 193.526 | HSFS0125 |
| SSF200FDS632515 | FDS63 | 2.0000 | 25.16 | 20.63 | 4.00 | 193.526 | HSFS0125 |

## KSEM PLUS SSF Shanks • 10 x D • Inch

| 10 x D catalog number | CSWS system size | D | L1 | L2 | LS | clamp screw | pipe plug |
|---|---|---|---|---|---|---|---|
| SSF150FDS281356 | FDS28 | 1.5000 | 13.58 | 11.34 | 3.75 | 193.537 | HSFS0125 |
| SSF150FDS321539 | FDS32 | 1.5000 | 15.39 | 12.99 | 3.75 | 193.523 | HSFS0125 |
| SSF150FDS361728 | FDS36 | 1.5000 | 17.28 | 14.57 | 3.75 | 193.524 | HSFS0125 |
| SSF200FDS401933 | FDS40 | 2.0000 | 19.33 | 16.34 | 4.00 | 193.524 | HSFS0125 |
| SSF200FDS452161 | FDS45 | 2.0000 | 21.61 | 18.31 | 4.00 | 193.525 | HSFS0125 |
| SSF200FDS502413 | FDS50 | 2.0000 | 24.13 | 20.47 | 4.00 | 193.525 | HSFS0125 |
| SSF200FDS562783 | FDS56 | 2.0000 | 27.28 | 23.23 | 4.00 | 193.526 | HSFS0125 |
| SSF200FDS633066 | FDS63 | 2.0000 | 30.67 | 26.14 | 4.00 | 193.526 | HSFS0125 |

## KSEM PLUS Carbide Insert Recommendations

| Material Group | Outboard/ Inboard | Insert Style | Grade | Page(s) | Comments |
|---|---|---|---|---|---|
| P | O | DFR-GD | KCU25, KCU40 | H113 | Recommended outboard insert style for working in all P-materials. Start with KCU40™ and use KCU25™ in stable conditions to achieve higher tool life. |
| | | DFC-/DFT-HP | | H112, H114 | |
| | | DFC-/DFT-DS | KCU40 | H112, H114 | Reduce feed rate by 10% to further improve chip formation in long-chipping steels and low carbon steel. |
| | I | KSEMP-HPG | KC7315 | H111 | Must use KSEMP center inserts in P-materials to avoid excessive wear on head & inserts. |
| M | O | DFR-MD | KC7140 | H113 | Recommended outboard insert style for working in all M-materials. |
| | | DFC-/DFT-MD | | H113–H114 | |
| | | DFC-/DFT-DS | KCU40 | H112, H114 | Reduce feed rate by 20% to further improve chip formation and/or run with lower power consumption. |
| | I | KSEMP-HPG | KC7315 | H111 | Recommended inboard insert style for working in all M-materials. |
| | | KSEM-PC | KC7135 | H70, H111 | For unstable conditions in stainless steel, use KSEM PC inserts. |
| | | KSEM-HPL | KC7320 | H62 | If chip control issue resulting from center insert occurs in M-materials, use KSEM HPL insert inboard. Reduction of feed rate up to 20% is recommended. |
| K | O | DFR-LD | KCU25 | H113 | Recommended insert styles for working in all K-Materials. |
| | | DFC-/DFT-HP | | H112, H114 | |
| | I | KSEM-HPCCL | KC7410 | H60, H111 | |
| N | O | DFR-GD | KC7225 | H113 | Recommended outboard insert styles for working in all non-ferrous materials. |
| | | DFC-/DFT-HP | KCU40 | H112, H114 | |
| | | DFC-/DFT-DS | KCU40 | H112, H114 | Reduce feed rate by 15% for diameters <56mm and up to 50% for larger diameters to improve chip formation. |
| | | DFR/DFT-ST | KD1425 | J98 | Use PCD tipped outboard when working with CFRP, CFRP/metal stacks and plastics (N3, N5, and N6). |
| | I | KSEMP-HPG | KC7315 | H111 | Recommended inboard insert style for working in all non-ferrous materials. |
| | | KSEM-HPS | K715 | — | This is a made-to-order item (uncoated/sharp) — use it to improve your results in N3, N5, and N6, if required. |
| S | O | DFR-GD | KC7140 | H113 | Recommended outboard insert style for working in all S-materials. |
| | | DFC-/DFT-HP | KCU40 | H112, H114 | |
| | | DFC-/DFT-DS | KCU40 | H112, H114 | Reduce feed rate by 20% to further improve chip formation and/or run with lower power consumption. |
| | I | KSEM-PC | KC7135 | H70, H111 | If center breakage is an issue in S-materials, use KSEM PC insert inboard. |



**Need help with bad chip formation?**

Our new DS geometry for DFT™ and DFC™ inserts on KSEM PLUS helps you to improve your performance in long chipping materials.

If chip formation is an issue, you may use our new DFT and DFC DS style inserts with the recommendations for feed rate adjustments given as indicated.

## Modular Drill • KSEM PLUS™ • Metric • A1 and B1 Style

| Metric | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | | | | |
| | | | min | Starting Value | max | Ø | KSEM 14....17 DFR/DFC04... 28.00–31,74 | KSEM 15....18 DFT/DFC05... 31,74–35,99 | KSEM 13....22 DFT/DFC06... 36,00–44,99 | KSEM 18....28 DFT/DFC07... 45,00–55,99 | KSEM 20....34 DFT/DFC09... 56,00–102,35 |
| P | 1 | S | 115 | **235** | 290 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 90 | **160** | 215 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 65 | **100** | 140 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | 2 | S | 90 | **190** | 230 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,360 | 0,200–0,400 | 0,200–0,450 |
| | | U | 71 | **130** | 170 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,360 | 0,200–0,400 | 0,200–0,450 |
| | | I | 50 | **80** | 110 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | 3 | S | 90 | **180** | 230 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | U | 70 | **120** | 170 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | I | 50 | **70** | 106 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | 4 | S | 90 | **140** | 220 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | U | 70 | **110** | 160 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | I | 50 | **80** | 110 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | 5 | S | 90 | **130** | 210 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | U | 70 | **100** | 150 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | I | 50 | **70** | 100 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | 6 | S | 70 | **90** | 180 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | U | 50 | **75** | 120 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| | | I | 40 | **60** | 100 | mm/r | 0,160–0,280 | 0,160–0,280 | 0,200–0,320 | 0,200–0,400 | 0,200–0,450 |
| M | 1 | S | 60 | **110** | 135 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 40 | **70** | 90 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 30 | **50** | 65 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | 2 | S | 60 | **100** | 135 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 40 | **60** | 90 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 30 | **50** | 65 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | 3 | S | 50 | **90** | 135 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 40 | **60** | 90 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 25 | **40** | 65 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| K | 1 | S | 90 | **170** | 230 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | | U | 60 | **120** | 160 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | | I | 40 | **70** | 90 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | 2 | S | 90 | **160** | 220 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | | U | 60 | **110** | 160 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | | I | 40 | **70** | 100 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | 3 | S | 90 | **150** | 210 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | | U | 60 | **100** | 150 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| | | I | 35 | **60** | 90 | mm/r | 0,180–0,300 | 0,180–0,300 | 0,216–0,360 | 0,240–0,420 | 0,300–0,480 |
| N | 1 | S | 150 | **240** | 360 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 100 | **160** | 240 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 60 | **100** | 160 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | 2 | S | 150 | **220** | 360 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 100 | **150** | 240 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 60 | **100** | 160 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | 3 | S | 150 | **200** | 360 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 100 | **140** | 240 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 60 | **90** | 160 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | 4 | S | 150 | **200** | 360 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 100 | **140** | 240 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 60 | **90** | 160 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | 5 | S | 150 | **200** | 360 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 100 | **140** | 240 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 60 | **90** | 160 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | 6 | S | 150 | **200** | 360 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 100 | **140** | 240 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 60 | **90** | 160 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | 7 | S | 110 | **220** | 260 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | U | 70 | **140** | 170 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| | | I | 45 | **90** | 110 | mm/r | 0,120–0,200 | 0,120–0,200 | 0,144–0,280 | 0,160–0,320 | 0,200–0,400 |
| S | 1 | S | 25 | **50** | 75 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 20 | **40** | 60 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 15 | **30** | 50 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | 2 | S | 20 | **40** | 60 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 15 | **30** | 45 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 12 | **25** | 35 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | 3 | S | 20 | **40** | 60 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 15 | **30** | 45 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 12 | **25** | 40 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | 4 | S | 20 | **40** | 60 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | U | 15 | **30** | 45 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |
| | | I | 12 | **25** | 40 | mm/r | 0,130–0,250 | 0,130–0,250 | 0,160–0,280 | 0,160–0,320 | 0,200–0,360 |

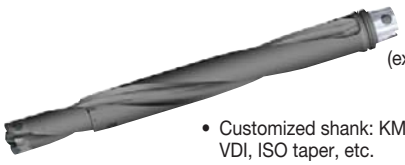
## Modular Drill • KSEM PLUS™ • Inch • A1 and B1 Style

| Material Group | | Condition | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | min | Starting Value | max | Ø | KSEM 14….17 DFR/DFC04... 1.102–1.249 | KSEM 15….18 DFT/DFC05... 1.250–1.416 | KSEM 13….22 DFT/DFC06... 1.417–1.771 | KSEM 18….28 DFT/DFC07... 1.772–2.204 | KSEM 20….34 DFT/DFC09... 2.205–4.0295 |
| | | | Inch | | | | | | | | |
| P | 1 | S | 370 | **775** | 944 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 290 | **532** | 698 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 205 | **327** | 451 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | 2 | S | 295 | **623** | 755 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | U | 233 | **427** | 558 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | I | 164 | **262** | 361 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | 3 | S | 295 | **591** | 755 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | U | 230 | **394** | 558 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | I | 164 | **230** | 361 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | 4 | S | 295 | **459** | 722 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | U | 230 | **361** | 525 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | I | 264 | **262** | 361 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | 5 | S | 295 | **427** | 689 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | U | 230 | **328** | 689 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | I | 164 | **230** | 492 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | 6 | S | 230 | **295** | 591 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | U | 164 | **246** | 394 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| | | I | 131 | **197** | 328 | IPR | 0.006–0.011 | 0.006–0.011 | 0.008–0.014 | 0.008–0.016 | 0.008–0.018 |
| M | 1 | S | 197 | **361** | 443 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 131 | **230** | 295 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 98 | **164** | 213 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | 2 | S | 197 | **328** | 443 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 131 | **197** | 295 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 98 | **164** | 213 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | 3 | S | 164 | **295** | 443 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 131 | **197** | 295 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 82 | **131** | 213 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| K | 1 | S | 295 | **558** | 755 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | | U | 197 | **394** | 525 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | | I | 131 | **230** | 295 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | 2 | S | 295 | **525** | 722 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | | U | 197 | **361** | 525 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | | I | 131 | **230** | 328 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | 3 | S | 295 | **492** | 689 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | | U | 197 | **328** | 492 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| | | I | 115 | **197** | 295 | IPR | 0.007–0.012 | 0.007–0.012 | 0.009–0.014 | 0.009–0.017 | 0.012–0.019 |
| N | 1 | S | 492 | **787** | 1181 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 328 | **525** | 787 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 197 | **328** | 525 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | 2 | S | 492 | **722** | 1181 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 328 | **492** | 787 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 197 | **328** | 525 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | 3 | S | 492 | **722** | 1181 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 328 | **492** | 787 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 197 | **328** | 525 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | 4 | S | 492 | **722** | 1181 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 328 | **492** | 787 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 197 | **328** | 525 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | 5 | S | 492 | **722** | 1181 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 328 | **492** | 787 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 197 | **328** | 525 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | 6 | S | 492 | **656** | 1181 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 328 | **459** | 787 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 197 | **295** | 525 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | 7 | S | 361 | **722** | 853 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | U | 230 | **459** | 558 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| | | I | 148 | **295** | 361 | IPR | 0.005–0.008 | 0.005–0.008 | 0.006–0.011 | 0.006–0.013 | 0.008–0.016 |
| S | 1 | S | 82 | **164** | 246 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 66 | **131** | 197 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 49 | **98** | 164 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | 2 | S | 66 | **131** | 197 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 49 | **98** | 148 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 39 | **82** | 115 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | 3 | S | 66 | **131** | 197 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 49 | **98** | 148 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 39 | **82** | 131 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | 4 | S | 66 | **131** | 197 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | U | 49 | **98** | 148 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |
| | | I | 39 | **82** | 131 | IPR | 0.005–0.010 | 0.005–0.010 | 0.006–0.011 | 0.006–0.013 | 0.008–0.014 |

| Application | Workpiece Shape | A1 Head | B1 Head |
|---|---|---|---|
| Flat Face | | ✓ | ✓ |
| Cored Hole | | ✗ | ✓ |
| Stacked Plates | | ✗ | ✓ |
| Angled Exit (exit only!) | | ✓ <3° | ✓ max 15° |
| Angled Entrance | | ✓ <3° | ✓ <3° |
| Cross Holes | | ✗ | ✓ max 50% of D1 |

## KSEM PLUS Customized Solution Capabilities:

- Intermediate head Ø.
- Custom head to use reground KSEM™ inserts.
- Heads for cross holes Ø = d1.



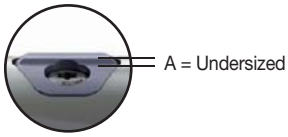
(example)

- Customized shank: KM™, HSK, VDI, ISO taper, etc.
- Customized flute helix.
- Step drill.

- Drill body up to L1 = 20 x D and total length of 1250mm.

## Mounting DPA Guiding Pads on B1 Heads

### All B1 heads are delivered with preset guiding pads.



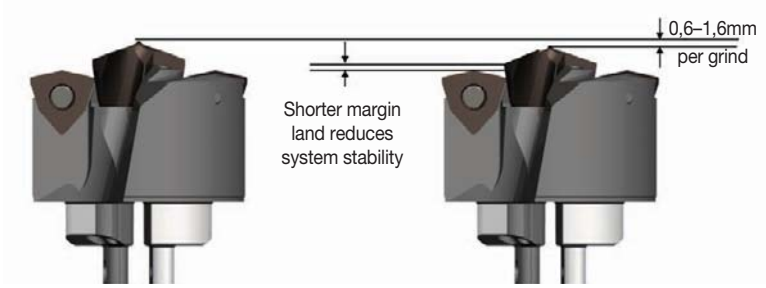

Measure radial undersize “A” of pad to cutting edge for both sides and adjust using shim set that comes with each head.

NOTE: For best results with slanted exits and in cross hole drilling, we recommend guiding pads adjustment results in an undersize of A = 30 µm (edge of guiding pads to cutting edges).

## Coolant Recommendations

Internal coolant is recommended for optimum chip flow and tool life.

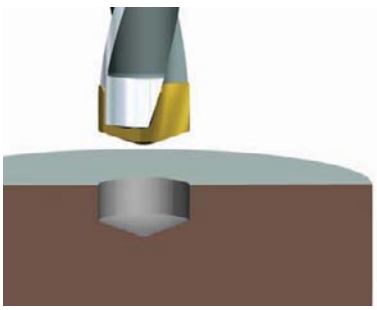
## KSEM PLUS Piloting Insert SHOULD NOT Be Reground:




Only new KSEM PLUS inserts will provide consistency and process security on a KSEM PLUS modular drill system. If you want to regrind, refer to our custom solution A1 and B1 heads.

NOTE: Reground KSEM PLUS inserts can be used in KSEM™ drills.

## Piloting Instructions:



1. KSEM….PC Pilot drill Ø equal KSEMP Ø PDD
2. Drill 1mm deep from full diameter

# Combination Tools

**Tool Selection Guide** ..... **I2–I3**

**BF Combination Drilling System** ..... **I4–I20**

B343_HPG Drill for BF ..... I8–I10

KenTIP for BF ..... I11–I13

BF Bodies ..... I14–I15

BF Inserts ..... I16–I17

**SEFAS Combination Drilling System** ..... **I22–I30**

SEFAS Bodies ..... I25–I28

SEFAS Hardware ..... I29

SEFAS Chamfering Inserts ..... I30

| | | standard | | | | | | | standard range | | | customized solution range | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ● first choice<br>○ alternate choice | | | | | | hole tolerance | diameter range | | drilling depth L/D1 | diameter range | | drilling depth | |
| | | P | M | K | N | S | H | | D1 mm min–max | D1 inch min–max | | D1 mm min–max | D1 inch min–max | | |
| | **BF with Solid Carbide Drill** Combination Tool | ● | | ● | | | | IT7–11 | 3,4–18 (B343 drill) | .134–.709 (B343 drill) | approx. 3 x D | 3,4–22,5 | .134–.70 | .1–5 x D | |
| | **BF with KenTIP™** Combination Tool | ● | ● | ● | | | | IT7–11 | 8–18,99 | .313–.826 | 3 x D<br>4 x D<br>5 x D | 8–25,99 | .313–1.023 | 3–5 x D | |
| | **SEFAS™** Combination Tool | ● | ○ | ● | ● | ○ | | IT7–11 | 4–20 | .157–.787 | approx. 3 x D<br>5 x D<br>8 x D<br>12 x D | 3,4–25 | .134–1.039 | 1–5 x D | |

In regard to insert and drill coatings, anything is possible. If a specific insert or drill is not suitable for your workpiece material, please contact our Engineered Solutions Department for an offer about special coatings and edge preparations.

[1] Other shank styles available as customized solution.

| | coolant | | ■ standard and □ customized solution capabilities [1] | | | ■ standard and □ customized solution capabilities [1] | | | | | | | | page(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ■ | | ■ ■ | | | ■ | | | □ | | ■ | □ | | ■ | I8–I10 |
| | ■ | | ■ ■ | | | ■ | | | □ | | ■ | □ | | ■ | I11–I13 |
| | ■ | | ■ ■ | | □ | ■ | | | □ | | ■ | | | ■ | I25–I30 |

# Combination Tools

Combination drilling tools are customizable using standard components and combine centering, drilling, and countersinking into a single operation to increase productivity by reducing cycle time and tool changes.

Both the BF and SEFAS™ combination systems provide high flexibility to adapt the tool to varying hole geometries and provide full through-coolant capabilities.

## Features and Benefits

### BF Combination Drilling System

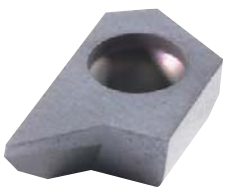
- Drilling, chamfering, and countersinking in one tool.
- Uses solid carbide and modular KenTIP™ drills.
- Covered drill diameter range 3,4–18mm (.125–.750").
- A specific range of drill diameters can be applied for each drill body based upon drill shank size.
- Highly flexible system:
  - Chamfer insert with different angles.
  - Insert design enables special geometrical shapes.
  - Inserts can be easily interchanged.

NOTE: TF drills may be used with one insert in limited applications.
Consult your Kennametal Sales Representative for more information.

# Provide high flexibility to adapt the tool to varying hole geometries.

## SEFAS™ Combination Drilling System

- High-performance, self-centering drill and chamfer in one tool.
- Drill diameter range 4–18mm (.156–.750").
- Uses standard solid carbide drills in HP and TX styles as well as modular KenTIP™ drills.
- 90° and 82° angles available for chamfer inserts.
- Various shanks can be used with metric and inch diameter drills.



# BF Combination Drilling System

## Primary Application

Combines centering, drilling, and countersinking into a single operation, increasing productivity by reducing cycle time and number of tool changes. The modular design provides flexibility to adapt the tool to varying hole geometries in small- and medium-lot-size manufacturing.

With its slim design and full-through-coolant capabilities, the BF combination system can be used in even deeper holes, in critical materials, and with restricted workspace.

## Features and Benefits

### Productivity

- Reduce the number of tool changes and cycle time by combining drilling and countersinking into one operation.
- Use high-performance solid carbide drills and KenTIP™ drill bodies to achieve high speeds and feeds.
- Avoid the need for reconditioning by using KenTIP blades.

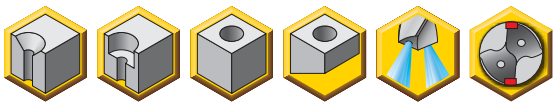
### Versatility

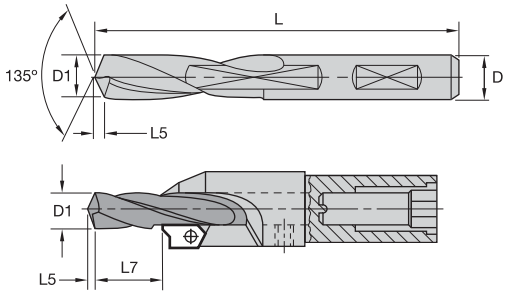
- Choose between solid carbide drills and KenTIP drill bodies.
- Various grades and insert styles.
- Flexible modular system for adjusting the drill length or insert style to manufacture different geometries.

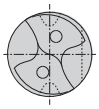
# Choose between solid carbide drills and KenTIP™ drill bodies.

## Customization

- Length variations available as engineered solutions.
- TX drills for aluminum available as engineered solutions.
- BF inserts can be customized to almost any geometry.





## B343_HPG

● first choice
○ alternate choice

| KC7315 | D1 in | D1 mm | D1 fraction | D1 wire size | D mm | D in | L mm | L in | L7 min mm | L7 min in | L7 max mm | L7 max in | L5 mm | L5 in |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **B343S03175HPG** | .125 | 3,18 | 1/8 | – | 4 | .158 | 55 | 2.2 | 1,0 | .039 | 8,6 | .339 | 0,60 | .024 |
| **B343S03400HPG** | .134 | 3,40 | – | – | 4 | .158 | 55 | 2.2 | 1,0 | .039 | 10,0 | .394 | 0,63 | .025 |
| **B343S03500HPG** | .138 | 3,50 | – | – | 4 | .158 | 55 | 2.2 | 1,6 | .063 | 10,6 | .417 | 0,65 | .025 |
| **B343S03797HPG** * | .150 | 3,80 | – | 25 | 4 | .158 | 55 | 2.2 | 3,3 | .130 | 12,3 | .484 | 0,70 | .028 |
| **B343S03800HPG** | .150 | 3,80 | – | – | 4 | .158 | 55 | 2.2 | 3,3 | .130 | 12,3 | .484 | 0,70 | .028 |
| **B343S03970HPG** | .156 | 3,97 | 5/32 | – | 4 | .158 | 55 | 2.2 | 4,2 | .165 | 13,2 | .520 | 0,73 | .029 |
| **B343S04000HPG** | .158 | 4,00 | – | – | 4 | .158 | 55 | 2.2 | 4,4 | .173 | 13,4 | .528 | 0,74 | .029 |
| **B343S04100HPG** | .161 | 4,10 | – | – | 5 | .197 | 62 | 2.4 | 3,7 | .146 | 13,7 | .539 | 0,76 | .030 |
| **B343S04200HPG** | .165 | 4,20 | – | – | 5 | .197 | 62 | 2.4 | 4,2 | .165 | 14,2 | .559 | 0,78 | .031 |
| **B343S04300HPG** | .169 | 4,30 | – | – | 5 | .197 | 62 | 2.4 | 4,7 | .185 | 14,7 | .579 | 0,79 | .031 |
| **B343S04500HPG** | .177 | 4,50 | – | – | 5 | .197 | 62 | 2.4 | 5,6 | .221 | 15,6 | .614 | 0,83 | .033 |
| **B343S04600HPG** * | .181 | 4,60 | – | – | 5 | .197 | 62 | 2.4 | 5,8 | .228 | 15,8 | .622 | 0,85 | .033 |
| **B343S04623HPG** | .182 | 4,62 | – | 14 | 5 | .197 | 62 | 2.4 | 5,9 | .232 | 15,9 | .626 | 0,85 | .034 |
| **B343S04763HPG** | .188 | 4,76 | 3/16 | – | 5 | .197 | 62 | 2.4 | 6,6 | .260 | 16,6 | .654 | 0,88 | .035 |
| **B343S04900HPG** * | .193 | 4,90 | – | – | 5 | .197 | 62 | 2.4 | 7,2 | .284 | 17,2 | .677 | 0,90 | .036 |
| **B343S05000HPG** | .197 | 5,00 | – | – | 5 | .197 | 62 | 2.4 | 7,6 | .299 | 17,6 | .693 | 0,92 | .036 |
| **B343S05100HPG** | .201 | 5,10 | – | – | 6 | .236 | 66 | 2.6 | 6,8 | .268 | 17,8 | .701 | 0,94 | .037 |
| **B343S05200HPG** | .205 | 5,20 | – | – | 6 | .236 | 66 | 2.6 | 7,2 | .284 | 18,2 | .717 | 0,96 | .038 |
| **B343S05300HPG** | .209 | 5,30 | – | – | 6 | .236 | 66 | 2.6 | 7,6 | .299 | 18,6 | .732 | 0,98 | .039 |
| **B343S05400HPG** | .213 | 5,40 | – | – | 6 | .236 | 66 | 2.6 | 8,0 | .315 | 19,0 | .748 | 1,00 | .039 |
| **B343S05410HPG** | .213 | 5,41 | – | – | 6 | .236 | 66 | 2.6 | 8,0 | .315 | 19,0 | .748 | 1,00 | .039 |
| **B343S05500HPG** | .217 | 5,50 | – | – | 6 | .236 | 66 | 2.6 | 8,4 | .331 | 19,4 | .764 | 1,02 | .040 |
| **B343S05550HPG** | .219 | 5,55 | – | – | 6 | .236 | 66 | 2.6 | 8,3 | .327 | 19,3 | .760 | 1,02 | .040 |
| **B343S05558HPG** * | .219 | 5,56 | 7/32 | – | 6 | .236 | 66 | 2.6 | 8,4 | .331 | 19,4 | .764 | 1,03 | .040 |
| **B343S05600HPG** | .221 | 5,60 | – | – | 6 | .236 | 66 | 2.6 | 8,5 | .335 | 19,5 | .768 | 1,03 | .041 |
| **B343S05800HPG** | .228 | 5,80 | – | – | 6 | .236 | 66 | 2.6 | 9,3 | .366 | 20,3 | .799 | 1,07 | .042 |
| **B343S06000HPG** | .236 | 6,00 | – | – | 6 | .236 | 66 | 2.6 | 10,0 | .394 | 21,0 | .827 | 1,11 | .044 |
| **B343S06100HPG** | .240 | 6,10 | – | – | 7 | .276 | 74 | 2.9 | 9,1 | .358 | 21,1 | .831 | 1,13 | .044 |
| **B343S06200HPG** | .244 | 6,20 | – | – | 7 | .276 | 74 | 2.9 | 9,5 | .374 | 21,5 | .847 | 1,14 | .045 |
| **B343S06300HPG** | .248 | 6,30 | – | – | 7 | .276 | 74 | 2.9 | 9,8 | .386 | 21,8 | .858 | 1,16 | .046 |
| **B343S06350HPG** | .250 | 6,35 | 1/4 | – | 7 | .276 | 74 | 2.9 | 10,0 | .394 | 22,0 | .866 | 1,17 | .046 |
| **B343S06400HPG** | .252 | 6,40 | – | – | 7 | .276 | 74 | 2.9 | 10,2 | .402 | 22,2 | .874 | 1,18 | .047 |
| **B343S06500HPG** | .256 | 6,50 | – | – | 7 | .276 | 74 | 2.9 | 10,5 | .413 | 22,5 | .886 | 1,20 | .047 |
| **B343S06528HPG** | .257 | 6,53 | – | F | 7 | .276 | 74 | 2.9 | 10,6 | .417 | 22,6 | .890 | 1,21 | .047 |
| **B343S06600HPG** | .260 | 6,60 | – | – | 7 | .276 | 74 | 2.9 | 10,9 | .429 | 22,9 | .902 | 1,22 | .048 |
| **B343S06700HPG** | .264 | 6,70 | – | – | 7 | .276 | 74 | 2.9 | 11,2 | .441 | 23,2 | .913 | 1,24 | .049 |

*(continued)*

*(B343_HPG — continued)*

P ●
M
K ●
N
S
H

● first choice
○ alternate choice

| KC7315 | D1 in | D1 mm | D1 fraction | D1 wire size | D mm | D in | L mm | L in | L7 min mm | L7 min in | L7 max mm | L7 max in | L5 mm | L5 in |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B343S06746HPG | .266 | 6,75 | 17/64 | – | 7 | .276 | 74 | 2.9 | 11,4 | .449 | 23,4 | .921 | 1,25 | .049 |
| B343S06800HPG | .268 | 6,80 | – | – | 7 | .276 | 74 | 2.9 | 11,5 | .453 | 23,5 | .925 | 1,26 | .049 |
| B343S06900HPG | .272 | 6,90 | – | – | 7 | .276 | 74 | 2.9 | 11,9 | .469 | 23,9 | .941 | 1,27 | .050 |
| B343S07000HPG | .276 | 7,00 | – | – | 7 | .276 | 74 | 2.9 | 12,2 | .480 | 24,2 | .953 | 1,29 | .051 |
| B343S07145HPG | .281 | 7,14 | 9/32 | – | 8 | .315 | 79 | 3.1 | 11,1 | .437 | 24,1 | .949 | 1,32 | .052 |
| B343S07300HPG | .287 | 7,30 | – | – | 8 | .315 | 79 | 3.1 | 11,6 | .457 | 24,6 | .969 | 1,35 | .053 |
| B343S07400HPG | .291 | 7,40 | – | – | 8 | .315 | 79 | 3.1 | 11,9 | .469 | 24,9 | .980 | 1,37 | .054 |
| B343S07500HPG | .295 | 7,50 | – | – | 8 | .315 | 79 | 3.1 | 12,3 | .484 | 25,3 | .996 | 1,38 | .055 |
| B343S07541HPG * | .297 | 7,54 | 19/64 | – | 8 | .315 | 79 | 3.1 | 12,4 | .488 | 25,4 | 1.000 | 1,39 | .055 |
| B343S07800HPG | .307 | 7,80 | – | – | 8 | .315 | 79 | 3.1 | 13,2 | .520 | 26,2 | 1.032 | 1,44 | .057 |
| B343S07900HPG | .311 | 7,90 | – | – | 8 | .315 | 79 | 3.1 | 13,5 | .532 | 26,5 | 1.043 | 1,46 | .057 |
| B343S07938HPG | .313 | 7,94 | 5/16 | – | 8 | .315 | 79 | 3.1 | 13,6 | .535 | 26,6 | 1.047 | 1,47 | .058 |
| B343S08000HPG | .315 | 8,00 | – | – | 8 | .315 | 79 | 3.1 | 13,8 | .543 | 26,8 | 1.055 | 1,48 | .058 |
| B343S08100HPG | .319 | 8,10 | – | – | 9 | .354 | 84 | 3.3 | 12,6 | .496 | 26,6 | 1.047 | 1,50 | .059 |
| B343S08200HPG | .323 | 8,20 | – | – | 9 | .354 | 84 | 3.3 | 12,8 | .504 | 26,8 | 1.055 | 1,51 | .060 |
| B343S08300HPG | .327 | 8,30 | – | – | 9 | .354 | 84 | 3.3 | 13,1 | .516 | 27,1 | 1.067 | 1,53 | .060 |
| B343S08334HPG * | .328 | 8,33 | 21/64 | – | 9 | .354 | 84 | 3.3 | 13,2 | .520 | 27,2 | 1.071 | 1,54 | .061 |
| B343S08400HPG | .331 | 8,40 | – | – | 9 | .354 | 84 | 3.3 | 13,4 | .528 | 27,4 | 1.079 | 1,55 | .061 |
| B343S08433HPG * | .332 | 8,43 | – | Q | 9 | .354 | 84 | 3.3 | 13,5 | .532 | 27,5 | 1.083 | 1,56 | .061 |
| B343S08500HPG | .335 | 8,50 | – | – | 9 | .354 | 84 | 3.3 | 13,7 | .539 | 27,7 | 1.091 | 1,57 | .062 |
| B343S08600HPG | .339 | 8,60 | – | – | 9 | .354 | 84 | 3.3 | 14,0 | .551 | 28,0 | 1.102 | 1,59 | .063 |
| B343S08700HPG | .343 | 8,70 | – | – | 9 | .354 | 84 | 3.3 | 14,3 | .563 | 28,3 | 1.114 | 1,61 | .063 |
| B343S08733HPG * | .344 | 8,73 | 11/32 | – | 9 | .354 | 84 | 3.3 | 14,4 | .567 | 28,4 | 1.118 | 1,61 | .064 |
| B343S08800HPG | .347 | 8,80 | – | – | 9 | .354 | 84 | 3.3 | 14,5 | .571 | 28,5 | 1.122 | 1,62 | .064 |
| B343S09000HPG | .354 | 9,00 | – | – | 9 | .354 | 84 | 3.3 | 15,1 | .595 | 29,1 | 1.146 | 1,66 | .065 |
| B343S09100HPG | .358 | 9,10 | – | – | 10 | .394 | 89 | 3.5 | 14,3 | .563 | 28,8 | 1.134 | 1,68 | .066 |
| B343S09347HPG | .368 | 9,35 | – | U | 10 | .394 | 89 | 3.5 | 15,0 | .591 | 29,5 | 1.161 | 1,73 | .068 |
| B343S09400HPG * | .370 | 9,40 | – | – | 10 | .394 | 89 | 3.5 | 15,1 | .595 | 29,6 | 1.165 | 1,74 | .068 |
| B343S09500HPG * | .374 | 9,50 | – | – | 10 | .394 | 89 | 3.5 | 15,4 | .606 | 29,9 | 1.177 | 1,75 | .069 |
| B343S09525HPG * | .375 | 9,53 | 3/8 | – | 10 | .394 | 89 | 3.5 | 15,4 | .606 | 29,9 | 1.177 | 1,76 | .069 |
| B343S09700HPG * | .382 | 9,70 | – | – | 10 | .394 | 89 | 3.5 | 15,9 | .626 | 30,4 | 1.197 | 1,79 | .071 |
| B343S09800HPG | .386 | 9,80 | – | – | 10 | .394 | 89 | 3.5 | 16,2 | .638 | 30,7 | 1.209 | 1,81 | .071 |
| B343S09921HPG * | .391 | 9,92 | 25/64 | – | 10 | .394 | 89 | 3.5 | 16,5 | .650 | 31,0 | 1.221 | 1,83 | .072 |
| B343S10000HPG | .394 | 10,00 | – | – | 10 | .394 | 89 | 3.5 | 16,7 | .658 | 31,2 | 1.228 | 1,85 | .073 |
| B343S10100HPG | .398 | 10,10 | – | – | 11 | .433 | 95 | 3.7 | 15,9 | .630 | 30,9 | 1.220 | 1,86 | .073 |
| B343S10200HPG | .402 | 10,20 | – | – | 11 | .433 | 95 | 3.7 | 16,2 | .638 | 31,2 | 1.228 | 1,88 | .074 |
| B343S10300HPG | .406 | 10,30 | – | – | 11 | .433 | 95 | 3.7 | 16,4 | .646 | 31,4 | 1.236 | 1,90 | .075 |
| B343S10320HPG | .406 | 10,32 | 13/32 | – | 11 | .433 | 95 | 3.7 | 16,5 | .650 | 31,5 | 1.240 | 1,91 | .075 |
| B343S10400HPG | .409 | 10,40 | – | – | 11 | .433 | 95 | 3.7 | 16,7 | .658 | 31,7 | 1.248 | 1,92 | .076 |
| B343S10500HPG | .413 | 10,50 | – | – | 11 | .433 | 95 | 3.7 | 16,9 | .665 | 31,9 | 1.256 | 1,94 | .076 |
| B343S10600HPG | .417 | 10,60 | – | – | 11 | .433 | 95 | 3.7 | 17,2 | .677 | 32,2 | 1.268 | 1,96 | .077 |
| B343S10700HPG | .421 | 10,70 | – | – | 11 | .433 | 95 | 3.7 | 17,4 | .685 | 32,4 | 1.276 | 1,98 | .078 |
| B343S10710HPG | .422 | 10,71 | 27/64 | – | 11 | .433 | 95 | 3.7 | 17,4 | .685 | 32,4 | 1.276 | 1,98 | .078 |
| B343S10800HPG | .425 | 10,80 | – | – | 11 | .433 | 95 | 3.7 | 17,7 | .697 | 32,7 | 1.287 | 1,99 | .079 |
| B343S11000HPG | .433 | 11,00 | – | – | 11 | .433 | 95 | 3.7 | 18,1 | .713 | 33,1 | 1.303 | 2,03 | .080 |
| B343S11100HPG | .437 | 11,10 | – | – | 12 | .472 | 102 | 4.0 | 17,4 | .685 | 32,9 | 1.295 | 2,05 | .081 |
| B343S11110HPG | .438 | 11,11 | 7/16 | – | 12 | .472 | 102 | 4.0 | 17,4 | .685 | 32,9 | 1.295 | 2,05 | .081 |
| B343S11200HPG * | .441 | 11,20 | – | – | 12 | .472 | 102 | 4.0 | 17,6 | .693 | 33,1 | 1.303 | 2,07 | .081 |
| B343S11300HPG * | .445 | 11,30 | – | – | 12 | .472 | 102 | 4.0 | 17,9 | .705 | 33,4 | 1.315 | 2,09 | .082 |
| B343S11500HPG | .453 | 11,50 | – | – | 12 | .472 | 102 | 4.0 | 18,3 | .721 | 33,8 | 1.331 | 2,12 | .084 |
| B343S11508HPG * | .453 | 11,51 | 29/64 | – | 12 | .472 | 102 | 4.0 | 18,3 | .721 | 33,8 | 1.331 | 2,12 | .084 |
| B343S11700HPG | .461 | 11,70 | – | – | 12 | .472 | 102 | 4.0 | 18,8 | .740 | 34,3 | 1.350 | 2,16 | .085 |

*(continued)*

*(B343_HPG — continued)*

● first choice
○ alternate choice

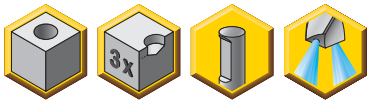
| KC7315 | D1 in | D1 mm | D1 fraction | D1 wire size | D mm | D in | L mm | L in | L7 min mm | L7 min in | L7 max mm | L7 max in | L5 mm | L5 in |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **B343S11800HPG** | .465 | 11,80 | — | — | 12 | .472 | 102 | 4.0 | 19,0 | .748 | 34,5 | 1.358 | 2,18 | .086 |
| **B343S11900HPG** | .469 | 11,90 | 15/32 | — | 12 | .472 | 102 | 4.0 | 19,3 | .760 | 34,8 | 1.370 | 2,20 | .087 |
| **B343S12000HPG** | .472 | 12,00 | — | — | 12 | .472 | 102 | 4.0 | 19,5 | .768 | 35,0 | 1.378 | 2,22 | .087 |
| **B343S12200HPG** | .480 | 12,20 | — | — | 13 | .512 | 102 | 4.0 | 18,9 | .744 | 34,9 | 1.374 | 2,25 | .073 |
| **B343S12500HPG** | .492 | 12,50 | — | — | 13 | .512 | 102 | 4.0 | 19,6 | .772 | 35,6 | 1.400 | 2,31 | .089 |
| **B343S12700HPG** * | .500 | 12,70 | 1/2 | — | 13 | .512 | 102 | 4.0 | 20,1 | .791 | 36,1 | 1.421 | 2,34 | .091 |
| **B343S12800HPG** | .504 | 12,80 | — | — | 13 | .512 | 102 | 4.0 | 20,3 | .799 | 36,3 | 1.429 | 2,36 | .092 |
| **B343S13000HPG** | .512 | 13,00 | — | — | 13 | .512 | 102 | 4.0 | 20,7 | .815 | 36,7 | 1.445 | 2,40 | .093 |
| **B343S13200HPG** | .520 | 13,20 | — | — | 14 | .551 | 107 | 4.2 | 20,4 | .803 | 36,9 | 1.453 | 2,44 | .096 |
| **B343S13500HPG** | .532 | 13,50 | — | — | 14 | .551 | 107 | 4.2 | 21,1 | .831 | 37,6 | 1.480 | 2,49 | .098 |
| **B343S14000HPG** | .551 | 14,00 | — | — | 14 | .551 | 107 | 4.2 | 22,1 | .870 | 38,6 | 1.520 | 2,58 | .102 |
| **B343S14200HPG** | .559 | 14,20 | — | — | 15 | .591 | 111 | 4.4 | 21,5 | .847 | 38,5 | 1.516 | 2,62 | .103 |
| **B343S14280HPG** | .563 | 14,28 | 9/16 | — | 15 | .591 | 111 | 4.4 | 21,7 | .854 | 38,7 | 1.524 | 2,64 | .104 |
| **B343S15000HPG** | .591 | 15,00 | — | — | 15 | .591 | 111 | 4.4 | 23,2 | .913 | 40,2 | 1.583 | 2,77 | .109 |
| **B343S15500HPG** | .610 | 15,50 | — | — | 16 | .630 | 115 | 4.5 | 23,2 | .913 | 40,7 | 1.602 | 2,86 | .113 |
| **B343S15870HPG** | .625 | 15,87 | 5/8 | — | 16 | .630 | 115 | 4.5 | 23,9 | .941 | 41,4 | 1.630 | 2,93 | .115 |
| **B343S16000HPG** | .630 | 16,00 | — | — | 16 | .630 | 115 | 4.5 | 24,2 | .953 | 41,7 | 1.642 | 2,95 | .116 |
| **B343S16500HPG** | .650 | 16,50 | — | — | 17 | .669 | 115 | 4.5 | 24,2 | .953 | 42,2 | 1.661 | 3,05 | .120 |
| **B343S16670HPG** * | .656 | 16,67 | 21/32 | — | 17 | .669 | 115 | 4.5 | 24,5 | .965 | 42,5 | 1.673 | 3,08 | .121 |
| **B343S17000HPG** | .669 | 17,00 | — | — | 17 | .669 | 115 | 4.5 | 25,1 | .988 | 43,1 | 1.697 | 3,14 | .124 |
| **B343S17500HPG** | .689 | 17,50 | — | — | 18 | .709 | 117 | 4.6 | 25,1 | .988 | 43,6 | 1.717 | 3,23 | .127 |
| **B343S17700HPG** | .697 | 17,70 | — | — | 18 | .709 | 117 | 4.6 | 25,5 | 1.004 | 44,0 | 1.732 | 3,27 | .129 |
| **B343S18000HPG** | .709 | 18,00 | — | — | 18 | .709 | 117 | 4.6 | 26,0 | 1.024 | 44,5 | 1.752 | 3,32 | .131 |

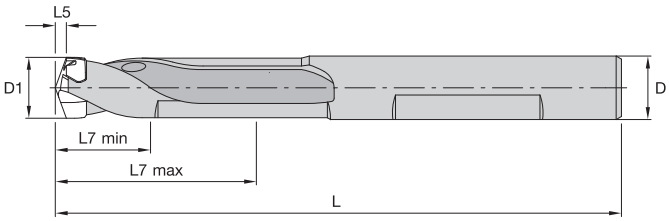
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

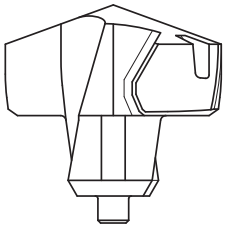
**Tolerance**

| D1 | tolerance h7 | D | tolerance h6 |
|---|---|---|---|
| >3–6 | 0,000/-0,012 | 6 | 0,000/-0,008 |
| >6–10 | 0,000/-0,016 | 8–10 | 0,000/-0,009 |
| >10–18 | 0,000/-0,018 | 12–18 | 0,000/-0,011 |

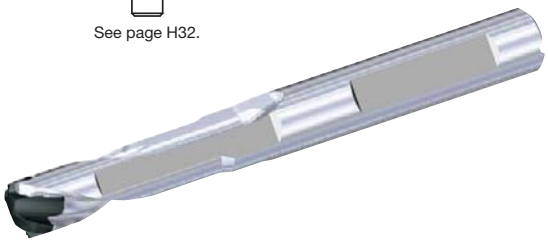
- Tool body with insert wrench included.
- Order KenTIP blades separately.



See page H32.

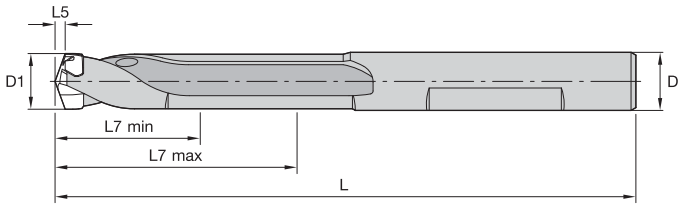


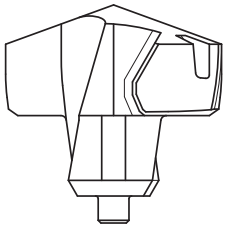


## KenTIP • 3 x D • Metric

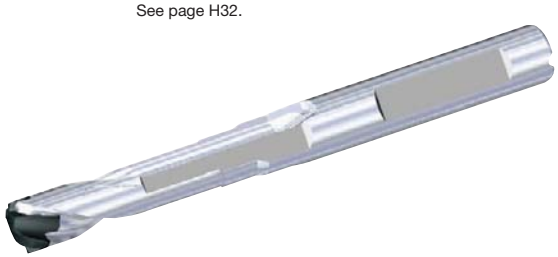
| catalog number | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L7 min mm | L7 min in | L7 max mm | L7 max in | L5 mm | L5 in | insert blade seat size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KTIP080R3BF08M** | 8,00 | .315 | 8,50 | .335 | 8,0 | .315 | 80,0 | 3.150 | 11,5 | .453 | 25,5 | 1.004 | 1,4 | .055 | F |
| **KTIP080R3BF09M** | 8,00 | .315 | 8,50 | .335 | 9,0 | .354 | 81,0 | 3.189 | 11,5 | .453 | 25,5 | 1.004 | 1,4 | .055 | F |
| **KTIP085R3BF09M** | 8,50 | .335 | 9,00 | .354 | 9,0 | .354 | 82,0 | 3.228 | 12,5 | .492 | 27,0 | 1.063 | 1,5 | .059 | G |
| **KTIP090R3BF09M** | 9,00 | .354 | 9,50 | .374 | 9,0 | .354 | 82,0 | 3.228 | 13,5 | .532 | 28,5 | 1.122 | 1,6 | .063 | H |
| **KTIP090R3BF10M** | 9,00 | .354 | 9,50 | .374 | 10,0 | .394 | 91,0 | 3.583 | 13,5 | .532 | 28,5 | 1.122 | 1,6 | .063 | H |
| **KTIP095R3BF10M** | 9,50 | .374 | 10,00 | .394 | 10,0 | .394 | 92,0 | 3.622 | 15,0 | .591 | 30,0 | 1.181 | 1,6 | .063 | I |
| **KTIP100R3BF10M** | 10,00 | .394 | 10,50 | .413 | 10,0 | .394 | 93,0 | 3.661 | 16,0 | .630 | 31,5 | 1.240 | 1,7 | .067 | J |
| **KTIP100R3BF11M** | 10,00 | .394 | 10,50 | .413 | 11,0 | .433 | 94,0 | 3.701 | 16,0 | .630 | 31,5 | 1.240 | 1,7 | .067 | J |
| **KTIP105R3BF11M** | 10,50 | .413 | 11,00 | .433 | 11,0 | .433 | 94,0 | 3.701 | 17,0 | .669 | 33,0 | 1.299 | 1,8 | .071 | K |
| **KTIP110R3BF11M** | 11,00 | .433 | 11,50 | .453 | 11,0 | .433 | 96,0 | 3.780 | 18,5 | .728 | 34,5 | 1.358 | 1,9 | .075 | L |
| **KTIP110R3BF12M** | 11,00 | .433 | 11,50 | .453 | 12,0 | .472 | 106,0 | 4.173 | 18,5 | .728 | 34,5 | 1.358 | 1,9 | .075 | L |
| **KTIP115R3BF12M** | 11,50 | .453 | 12,00 | .472 | 12,0 | .472 | 107,0 | 4.213 | 19,5 | .768 | 36,0 | 1.417 | 2,0 | .079 | M |
| **KTIP120R3BF12M** | 12,00 | .472 | 12,50 | .492 | 12,0 | .472 | 108,0 | 4.252 | 20,5 | .787 | 37,5 | 1.476 | 2,1 | .083 | N |
| **KTIP120R3BF13M** | 12,00 | .472 | 12,50 | .492 | 13,0 | .512 | 108,0 | 4.252 | 20,5 | .787 | 37,5 | 1.476 | 2,1 | .083 | N |
| **KTIP125R3BF13M** | 12,50 | .492 | 13,00 | .512 | 13,0 | .512 | 110,0 | 4.331 | 22,0 | .866 | 39,0 | 1.535 | 2,2 | .087 | O |
| **KTIP130R3BF13M** | 13,00 | .512 | 13,50 | .532 | 13,0 | .512 | 111,0 | 4.370 | 23,0 | .906 | 40,5 | 1.595 | 2,2 | .087 | P |
| **KTIP130R3BF14M** | 13,00 | .512 | 13,50 | .532 | 14,0 | .551 | 111,0 | 4.370 | 23,0 | .906 | 40,5 | 1.595 | 2,2 | .087 | P |
| **KTIP135R3BF14M** | 13,50 | .532 | 14,00 | .551 | 14,0 | .551 | 112,0 | 4.409 | 24,5 | .965 | 42,0 | 1.654 | 2,3 | .091 | Q |
| **KTIP140R3BF14M** | 14,00 | .551 | 14,50 | .571 | 14,0 | .551 | 113,0 | 4.449 | 25,5 | 1.000 | 43,5 | 1.713 | 2,4 | .095 | R |
| **KTIP140R3BF15M** | 14,00 | .551 | 14,50 | .571 | 15,0 | .591 | 118,0 | 4.646 | 25,5 | 1.004 | 43,5 | 1.713 | 2,4 | .095 | R |
| **KTIP145R3BF15M** | 14,50 | .571 | 15,00 | .591 | 15,0 | .591 | 118,0 | 4.646 | 26,5 | 1.043 | 45,0 | 1.772 | 2,5 | .098 | S |
| **KTIP150R3BF15M** | 15,00 | .591 | 16,00 | .630 | 15,0 | .591 | 121,0 | 4.764 | 29,0 | 1.142 | 48,0 | 1.890 | 2,6 | .102 | T |
| **KTIP150R3BF16M** | 15,00 | .591 | 16,00 | .630 | 16,0 | .630 | 121,0 | 4.764 | 29,0 | 1.142 | 48,0 | 1.890 | 2,6 | .102 | T |
| **KTIP160R3BF16M** | 16,00 | .630 | 17,00 | .669 | 16,0 | .630 | 123,0 | 4.843 | 31,5 | 1.240 | 51,0 | 2.008 | 2,8 | .110 | U |
| **KTIP160R3BF17M** | 16,00 | .630 | 17,00 | .669 | 17,0 | .669 | 124,0 | 4.882 | 31,5 | 1.240 | 51,0 | 2.008 | 2,8 | .110 | U |
| **KTIP170R3BF17M** | 17,00 | .669 | 18,00 | .709 | 17,0 | .669 | 127,0 | 5.000 | 34,0 | 1.339 | 54,0 | 2.126 | 2,9 | .120 | V |
| **KTIP170R3BF18M** | 17,00 | .669 | 18,00 | .709 | 18,0 | .709 | 127,0 | 5.000 | 34,0 | 1.339 | 54,0 | 2.126 | 2,9 | .115 | V |
| **KTIP180R3BF18M** | 18,00 | .709 | 19,00 | .748 | 18,0 | .709 | 130,0 | 5.118 | 36,5 | 1.437 | 57,0 | 2.244 | 3,1 | .122 | W |

- Tool body with insert wrench included.
- Order KenTIP blades separately.



See page H32.

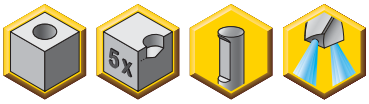


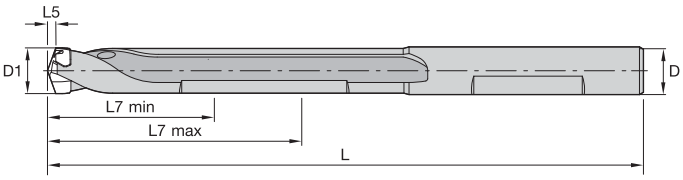


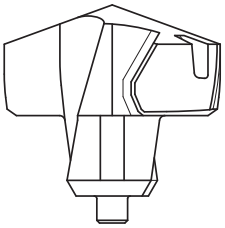
## KenTIP • 4 x D • Metric

| catalog number | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L7 min mm | L7 min in | L7 max mm | L7 max in | L5 mm | L5 in | insert blade seat size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KTIP080R4BF09M** | 8,00 | .315 | 8,50 | .335 | 9,0 | .354 | 89,5 | 3.524 | 20,0 | .787 | 34,0 | 1.339 | 1,4 | .054 | F |
| **KTIP085R4BF09M** | 8,50 | .335 | 9,00 | .354 | 9,0 | .354 | 91,0 | 3.583 | 21,5 | .847 | 36,0 | 1.417 | 1,5 | .058 | G |
| **KTIP090R4BF10M** | 9,00 | .354 | 9,50 | .374 | 10,0 | .394 | 100,5 | 3.957 | 23,0 | .906 | 38,0 | 1.496 | 1,6 | .061 | H |
| **KTIP095R4BF10M** | 9,50 | .374 | 10,00 | .394 | 10,0 | .394 | 102,0 | 4.016 | 25,0 | .984 | 40,0 | 1.575 | 1,6 | .065 | I |
| **KTIP100R4BF11M** | 10,00 | .394 | 10,50 | .413 | 11,0 | .433 | 104,5 | 4.114 | 26,5 | 1.043 | 42,0 | 1.654 | 1,7 | .068 | J |
| **KTIP105R4BF11M** | 10,50 | .413 | 11,00 | .433 | 11,0 | .433 | 105,0 | 4.134 | 28,0 | 1.102 | 44,0 | 1.732 | 1,8 | .071 | K |
| **KTIP110R4BF12M** | 11,00 | .433 | 11,50 | .453 | 12,0 | .472 | 117,5 | 4.626 | 30,0 | 1.181 | 46,0 | 1.811 | 1,9 | .075 | L |
| **KTIP115R4BF12M** | 11,50 | .453 | 12,00 | .472 | 12,0 | .472 | 119,0 | 4.685 | 31,5 | 1.240 | 48,0 | 1.890 | 2,0 | .078 | M |
| **KTIP120R4BF13M** | 12,00 | .472 | 12,50 | .492 | 13,0 | .512 | 120,5 | 4.744 | 33,0 | 1.299 | 50,0 | 1.969 | 2,1 | .083 | N |
| **KTIP125R4BF13M** | 12,50 | .492 | 13,00 | .512 | 13,0 | .512 | 123,0 | 4.843 | 35,0 | 1.378 | 52,0 | 2.047 | 2,2 | .087 | O |
| **KTIP130R4BF14M** | 13,00 | .512 | 13,50 | .532 | 14,0 | .551 | 124,5 | 4.902 | 36,5 | 1.437 | 54,0 | 2.126 | 2,2 | .087 | P |
| **KTIP135R4BF14M** | 13,50 | .532 | 14,00 | .551 | 14,0 | .551 | 126,0 | 4.961 | 38,5 | 1.516 | 56,0 | 2.205 | 2,3 | .091 | Q |
| **KTIP140R4BF15M** | 14,00 | .551 | 14,50 | .571 | 15,0 | .591 | 132,5 | 5.217 | 40,0 | 1.575 | 58,0 | 2.284 | 2,4 | .095 | R |
| **KTIP145R4BF15M** | 14,50 | .571 | 15,00 | .591 | 15,0 | .591 | 133,0 | 5.236 | 41,5 | 1.634 | 60,0 | 2.362 | 2,5 | .098 | S |
| **KTIP150R4BF16M** | 15,00 | .591 | 16,00 | .630 | 16,0 | .630 | 137,0 | 5.394 | 45,0 | 1.772 | 64,0 | 2.520 | 2,6 | .102 | T |
| **KTIP160R4BF17M** | 16,00 | .630 | 17,00 | .669 | 17,0 | .669 | 141,0 | 5.551 | 48,5 | 1.909 | 68,0 | 2.677 | 2,8 | .110 | U |
| **KTIP170R4BF18M** | 17,00 | .669 | 18,00 | .709 | 18,0 | .709 | 145,0 | 5.709 | 52,0 | 2.047 | 72,0 | 2.835 | 2,9 | .115 | V |
| **KTIP180R4BF18M** | 18,00 | .709 | 19,00 | .748 | 18,0 | .709 | 149,0 | 5.866 | 55,5 | 2.185 | 76,0 | 2.992 | 3,1 | .122 | W |

- Tool body with insert wrench included.
- Order KenTIP blades separately.



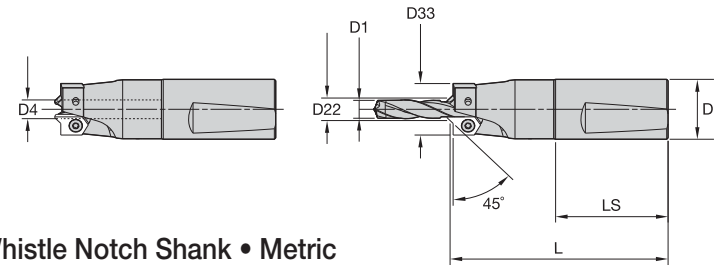



See page H32.

## KenTIP • 5 x D • Metric

| catalog number | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L7 min mm | L7 min in | L7 max mm | L7 max in | L5 mm | L5 in | insert blade seat size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KTIP080R5BF09M** | 8,00 | .315 | 8,50 | .335 | 9,0 | .354 | 98,0 | 3.858 | 28,5 | 1.122 | 42,5 | 1.673 | 1,4 | .054 | F |
| **KTIP085R5BF09M** | 8,50 | .335 | 9,00 | .354 | 9,0 | .354 | 100,0 | 3.937 | 30,5 | 1.201 | 45,0 | 1.772 | 1,5 | .059 | G |
| **KTIP090R5BF10M** | 9,00 | .354 | 9,50 | .374 | 10,0 | .394 | 110,0 | 4.331 | 32,5 | 1.280 | 47,5 | 1.870 | 1,6 | .061 | H |
| **KTIP095R5BF10M** | 9,50 | .374 | 10,00 | .394 | 10,0 | .394 | 112,0 | 4.409 | 35,0 | 1.378 | 50,0 | 1.969 | 1,6 | .065 | I |
| **KTIP100R5BF11M** | 10,00 | .394 | 10,50 | .413 | 11,0 | .433 | 115,0 | 4.528 | 37,0 | 1.457 | 52,5 | 2.067 | 1,7 | .068 | J |
| **KTIP105R5BF11M** | 10,50 | .413 | 11,00 | .433 | 11,0 | .433 | 116,0 | 4.567 | 39,0 | 1.535 | 55,0 | 2.165 | 1,8 | .071 | K |
| **KTIP110R5BF12M** | 11,00 | .433 | 11,50 | .453 | 12,0 | .473 | 129,0 | 5.079 | 41,5 | 1.634 | 57,5 | 2.264 | 1,9 | .075 | L |
| **KTIP115R5BF12M** | 11,50 | .453 | 12,00 | .472 | 12,0 | .473 | 131,0 | 5.158 | 43,5 | 1.713 | 60,0 | 2.362 | 2,0 | .078 | M |
| **KTIP120R5BF13M** | 12,00 | .472 | 12,50 | .492 | 13,0 | .512 | 133,0 | 5.236 | 45,5 | 1.791 | 62,5 | 2.461 | 2,1 | .083 | N |
| **KTIP125R5BF13M** | 12,50 | .492 | 13,00 | .512 | 13,0 | .512 | 136,0 | 5.354 | 48,0 | 1.890 | 65,0 | 2.559 | 2,2 | .087 | O |
| **KTIP130R5BF14M** | 13,00 | .512 | 13,50 | .532 | 14,0 | .551 | 138,0 | 5.433 | 50,0 | 1.969 | 67,5 | 2.658 | 2,2 | .087 | P |
| **KTIP135R5BF14M** | 13,50 | .532 | 14,00 | .551 | 14,0 | .551 | 140,0 | 5.512 | 52,5 | 2.067 | 70,0 | 2.756 | 2,3 | .091 | Q |
| **KTIP140R5BF15M** | 14,00 | .551 | 14,50 | .571 | 15,0 | .591 | 147,0 | 5.787 | 54,5 | 2.146 | 72,5 | 2.854 | 2,4 | .095 | R |
| **KTIP145R5BF15M** | 14,50 | .571 | 15,00 | .591 | 15,0 | .591 | 148,0 | 5.827 | 56,5 | 2.244 | 75,0 | 2.953 | 2,5 | .098 | S |
| **KTIP150R5BF16M** | 15,00 | .591 | 16,00 | .630 | 16,0 | .630 | 153,0 | 6.024 | 61,0 | 2.402 | 80,0 | 3.150 | 2,6 | .102 | T |
| **KTIP160R5BF17M** | 16,00 | .630 | 17,00 | .669 | 17,0 | .669 | 158,0 | 6.221 | 65,5 | 2.579 | 85,0 | 3.347 | 2,8 | .110 | U |
| **KTIP170R5BF18M** | 17,00 | .669 | 18,00 | .709 | 18,0 | .709 | 163,0 | 6.417 | 70,0 | 2.756 | 90,0 | 3.543 | 2,9 | .115 | V |
| **KTIP180R5BF18M** | 18,00 | .709 | 19,00 | .748 | 18,0 | .709 | 168,0 | 6.614 | 74,5 | 2.933 | 95,0 | 3.740 | 3,1 | .122 | W |

- Drill body shipped with all screws and wrenches.
- Order the inserts and drills separately.
- Drills with shanks up to and including 9,10mm use only one insert.

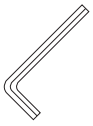


## Round Shank • 2° Whistle Notch Shank • Metric

| DIN 1835 Form A | DIN 1835 Form E | D1 | D1 max | D4 | D | D22 | D33 | L | LS | insert |
|---|---|---|---|---|---|---|---|---|---|---|
| **3.37042R320** | **3.37042R820** | 3,40 | 4,00 | 4,00 | 20,0 | 9,0 | 14,9 | 87,5 | 50,0 | 3.41020.. |
| **3.37051R320** | **3.37051R820 *** | 4,10 | 4,50 | 5,00 | 20,0 | 9,5 | 15,4 | 87,5 | 50,0 | 3.41020.. |
| **3.37052R320** | **3.37052R820** | 4,60 | 5,00 | 5,00 | 20,0 | 10,0 | 15,9 | 87,5 | 50,0 | 3.41020.. |
| **3.37061R320** | **3.37061R820** | 5,10 | 5,50 | 6,00 | 20,0 | 10,5 | 16,4 | 87,5 | 50,0 | 3.41020.. |
| **3.37062R320** | **3.37062R820** | 5,55 | 6,00 | 6,00 | 20,0 | 11,0 | 16,9 | 87,5 | 50,0 | 3.41020.. |
| **3.37071R320** | **3.37071R820** | 6,10 | 7,00 | 7,00 | 20,0 | 11,5 | 17,4 | 97,3 | 50,0 | 3.41020.. |
| **3.37081R320** | **3.37081R820** | 7,30 | 8,00 | 8,00 | 20,0 | 12,6 | 18,4 | 97,3 | 50,0 | 3.41020.. |
| **3.37091R320** | **3.37091R820** | 8,10 | 9,00 | 9,00 | 20,0 | 13,6 | 19,4 | 97,3 | 50,0 | 3.41020.. |
| **3.37092R320** | **3.37092R820** | 8,10 | 9,00 | 9,00 | 20,0 | 13,7 | 19,4 | 97,3 | 50,0 | 3.41020.. |
| **3.37101R332** | **3.37101R832** | 9,10 | 10,00 | 10,00 | 32,0 | 14,7 | 27,9 | 117,4 | 60,0 | 3.41220.. |
| **3.37111R332** | **3.37111R832** | 10,10 | 11,00 | 11,00 | 32,0 | 15,7 | 28,9 | 117,4 | 60,0 | 3.41220.. |
| **3.37121R332** | **3.37121R832** | 11,10 | 12,00 | 12,00 | 32,0 | 16,7 | 29,9 | 127,4 | 60,0 | 3.41220.. |
| **3.37131R332** | **3.37131R832** | 12,20 | 13,00 | 13,00 | 32,0 | 17,7 | 31,0 | 127,4 | 60,0 | 3.41220.. |
| **3.37141R332** | **–** | 13,10 | 14,00 | 14,00 | 32,0 | 18,2 | 31,5 | 127,1 | 60,0 | 3.41220.. |
| **–** | **3.37141R832** | 13,10 | 14,00 | 14,00 | 32,0 | 18,2 | 31,5 | 127,4 | 60,0 | 3.41220.. |
| **3.37151R332** | **–** | 14,10 | 15,00 | 15,00 | 32,0 | 19,3 | 32,5 | 127,4 | 60,0 | 3.41220.. |
| **–** | **3.37151R832** | 14,10 | 15,00 | 15,00 | 32,0 | 19,3 | 32,5 | 127,1 | 60,0 | 3.41220.. |
| **3.37161R332** | **3.37161R832** | 15,50 | 16,00 | 16,00 | 32,0 | 20,3 | 33,5 | 127,1 | 60,0 | 3.41220.. |
| **3.37171R332 *** | **3.37171R832** | 16,50 | 17,00 | 17,00 | 32,0 | 21,3 | 34,5 | 127,1 | 60,0 | 3.41220.. |
| **3.37181R332** | **3.37181R832** | 17,50 | 18,00 | 18,00 | 32,0 | 22,3 | 35,5 | 127,1 | 60,0 | 3.41220.. |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

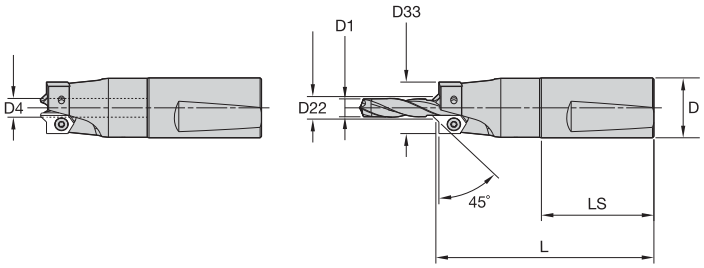
## Spare Parts



| D1 | back-up screw | drill clamp screw | hex wrench | insert screw | wrench |
|---|---|---|---|---|---|
| 3,40 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 4,10 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 4,60 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 5,10 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 5,55 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 6,10 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 7,30 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 8,10 | **192.888** | **192.718** | **170.003** | **192.432** | **170.028** |
| 9,10 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 10,10 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 11,10 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 12,20 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 13,10 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 14,10 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 15,50 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 16,50 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |
| 17,50 | **192.889** | **192.720** | **170.005** | **191.725** | **170.025** |

NOTE: Dimensions are factored with a 45° insert positioned in insert pocket.

- Drill body shipped with all screws and wrenches.
- Order the inserts and drills separately.
- Drills up to and including .359" shanks use only one insert.



## Round Shank • Inch

| catalog number | D1 | D1 max | D4 | D | D22 | D33 | L | LS | insert |
|---|---|---|---|---|---|---|---|---|---|
| **KBFI4** | .125 | .156 | 4,0 | .75 | .36 | .59 | 3.44 | 1.97 | 3.41020.. |
| **KBFI5B** | .182 | .188 | 5,0 | .75 | .40 | .62 | 3.44 | 1.97 | 3.41020.. |
| **KBFI6B** | .213 | .230 | 6,0 | .75 | .44 | .66 | 3.44 | 1.97 | 3.41020.. |
| **KBFI7** | .250 | .266 | 7,0 | .75 | .46 | .68 | 3.83 | 1.97 | 3.41020.. |
| **KBFI8** | .281 | .313 | 8,0 | .75 | .50 | .72 | 3.83 | 1.97 | 3.41020.. |
| **KBFI9** | .328 | .344 | 9,0 | 1.00 | .54 | .76 | 4.31 | 2.20 | 3.41020.. |
| **KBFI10** | .359 | .391 | 10,0 | 1.00 | .58 | 1.10 | 4.62 | 2.20 | 3.41220.. |
| **KBFI11** | .406 | .430 | 11,0 | 1.00 | .62 | 1.14 | 4.62 | 2.20 | 3.41220.. |
| **KBFI12 *** | .438 | .469 | 12,0 | 1.00 | .66 | 1.18 | 5.02 | 2.20 | 3.41220.. |
| **KBFI13** | .484 | .510 | 13,0 | 1.00 | .70 | 1.22 | 5.02 | 2.20 | 3.41220.. |
| **KBFI14** | .516 | .550 | 14,0 | 1.25 | .72 | 1.24 | 5.00 | 2.40 | 3.41220.. |
| **KBFI15** | .563 | .590 | 15,0 | 1.25 | .76 | 1.28 | 5.00 | 2.36 | 3.41220.. |
| **KBFI16** | .625 | .630 | 16,0 | 1.25 | .80 | 1.32 | 5.14 | 2.36 | 3.41220.. |
| **KBFI17** | .656 | .670 | 17,0 | 1.25 | .84 | 1.36 | 5.00 | 2.40 | 3.41220.. |
| **KBFI18** | .688 | .700 | 18,0 | 1.25 | .88 | 1.40 | 5.00 | 2.36 | 3.41220.. |

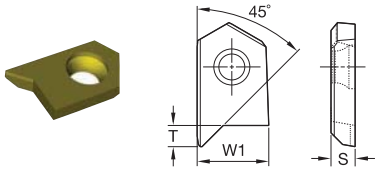
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

| D1 | back-up screw | drill clamp screw | insert screw | wrench |
|---|---|---|---|---|
| .125 | **192.888** | **192.718** | **192.432** | **170.028** |
| .182 | **192.888** | **192.718** | **192.432** | **170.028** |
| .213 | **192.888** | **192.718** | **192.432** | **170.028** |
| .250 | **192.888** | **192.718** | **192.432** | **170.028** |
| .281 | **192.888** | **192.718** | **192.432** | **170.028** |
| .328 | **192.889** | **192.718** | **192.432** | **170.028** |
| .359 | **192.889** | **192.720** | **191.725** | **170.025** |
| .406 | **192.889** | **192.720** | **191.725** | **170.025** |
| .438 | **192.889** | **192.720** | **191.725** | **170.025** |
| .484 | **192.889** | **192.720** | **191.725** | **170.025** |
| .516 | **192.889** | **192.720** | **191.725** | **170.025** |
| .563 | **192.889** | **192.720** | **191.725** | **170.025** |
| .625 | **192.889** | **192.720** | **191.725** | **170.025** |
| .656 | **192.889** | **192.720** | **191.725** | **170.025** |
| .688 | **192.889** | **192.720** | **191.725** | **170.025** |

NOTE: Dimensions are factored with a 45° insert positioned in insert pocket.

- Standard steel drill bodies are designed for inserts with 41° and 45° chamfers.

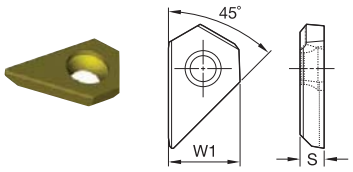



● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ● | ● |
| M | ● | |
| K | ● | ● |
| N | | |
| S | | |
| H | | |

## BF Insert R901 • 45° with Spot Face

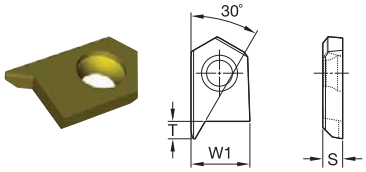
| | S | | W1 | | T | | CS5 | KC7315 |
|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | | |
| **3.41020R901** | 3,00 | .118 | 6,10 | .240 | 2,90 | .114 | ● | ● |
| **3.41220R901** | 3,50 | .138 | 10,10 | .398 | 3,05 | .120 | ● | ● |




## BF Insert R902 • 45°

| | S | | W1 | | CS5 | KC7315 |
|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | | |
| **3.41020R902** | 3,00 | .118 | 6,10 | .240 | ● | ● |
| **3.41220R902** | 3,50 | .138 | 10,10 | .398 | ● | ● |

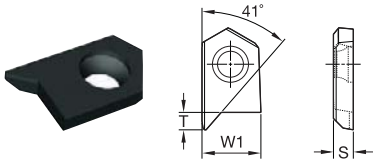
- When using the 60° insert or special insert, the assembled tool should be inspected.
- These insert combinations require that the steel body be altered to provide insert coverage.




## BF Insert R903 • 60° with Spot Face

| | S | | W1 | | T | | CS5 | KC7315 |
|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | in | mm | | |
| **3.41020R903** | 3,00 | .118 | 6,10 | .240 | 0.114 | 2,90 | ● | ● |
| **3.41220R903** | 3,50 | .138 | 10,10 | .398 | 0.120 | 3,05 | ● | ● |

- Standard steel drill bodies are designed for inserts with 41° and 45° chamfers.

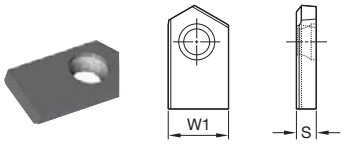



● first choice
○ alternate choice

| P | ● |
|---|---|
| M | |
| K | ● |
| N | |
| S | |
| H | |

## BF Insert R904 • 41° with Spot Face

| | S | | W1 | | T | | |
|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | KC7315 |
| **3.41020R904** | 3,00 | .118 | 6,10 | .240 | 2,90 | .114 | ● |
| **3.41220R904** | 3,50 | .138 | 10,10 | .398 | 3,05 | .120 | ● |

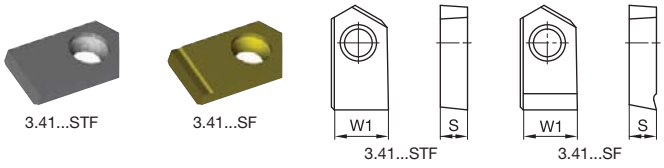



● first choice
○ alternate choice

| P | |
|---|---|
| M | |
| K | ○ |
| N | ● |
| S | |
| H | |

## BF Insert R900 • Semi-Finished

| | S | | W1 | | |
|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | KMF |
| **3.41020R900** | 3,00 | .118 | 6,10 | .240 | ● |
| **3.41220R900** | 3,50 | .138 | 10,10 | .398 | ● |




● first choice
○ alternate choice

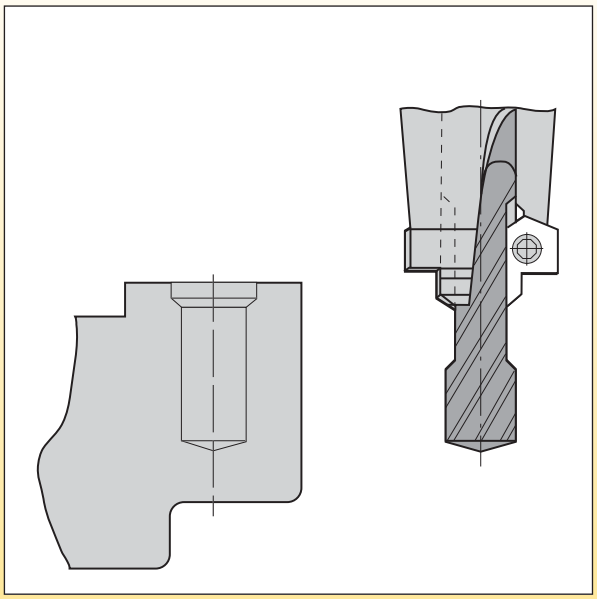
| P | ● | |
|---|---|---|
| M | ● | |
| K | ● | ○ |
| N | | ● |
| S | | |
| H | | |

## BF Insert R900 S(T)F • Semi-Finished

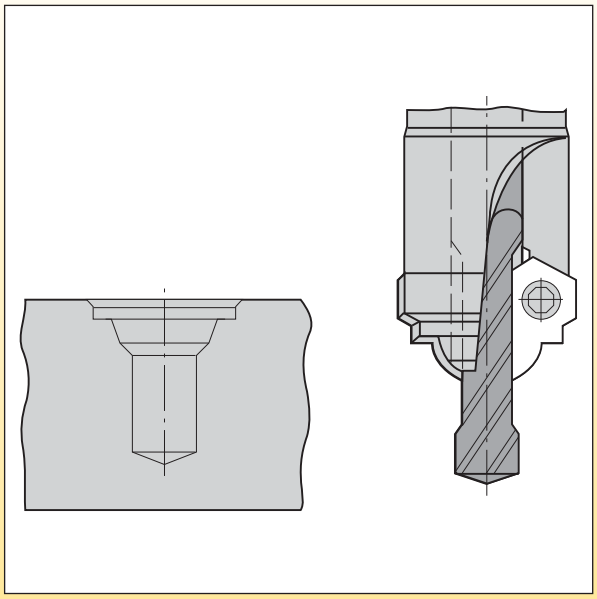
| | S | | W1 | | | |
|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | CS5 | KMF |
| **3.41020R900STF** | 3,00 | .118 | 6,10 | .240 | ● | – |
| **3.41220R900SF** | 3,50 | .138 | 10,10 | .398 | – | ● |
| **3.41220R900STF** | 3,50 | .138 | 10,10 | .398 | ● | – |

# Engineered Solutions Available!

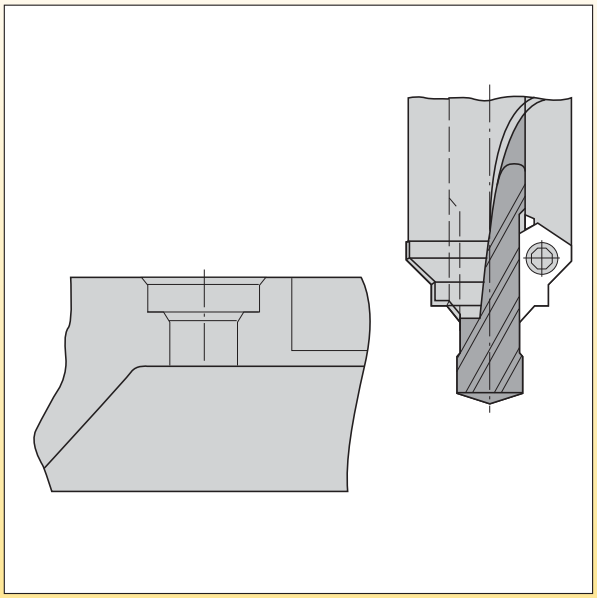
Tapped Hole with Protection Countersinking



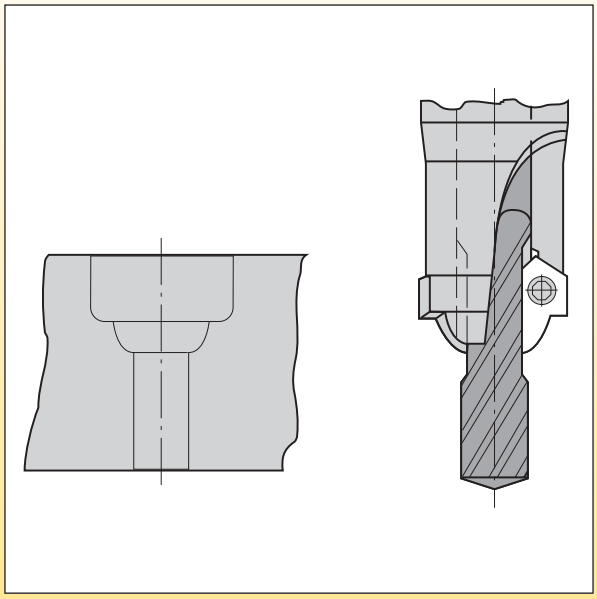
Countersinking for Round Sealing Rings



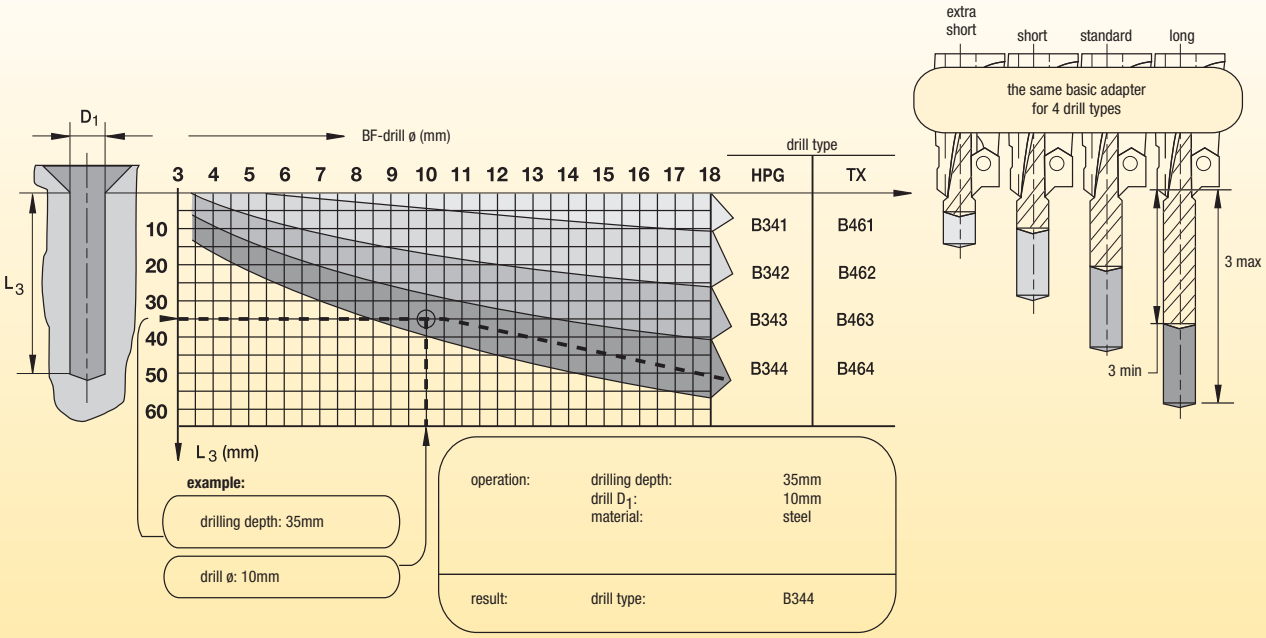
Countersinking for Countersunk Head Screws



Countersinking for Aluminum Rim



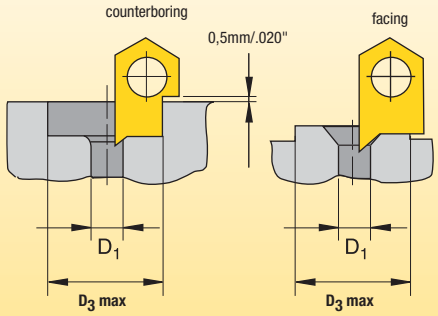
## Possible Drilling Depths • Semi-Standard Series

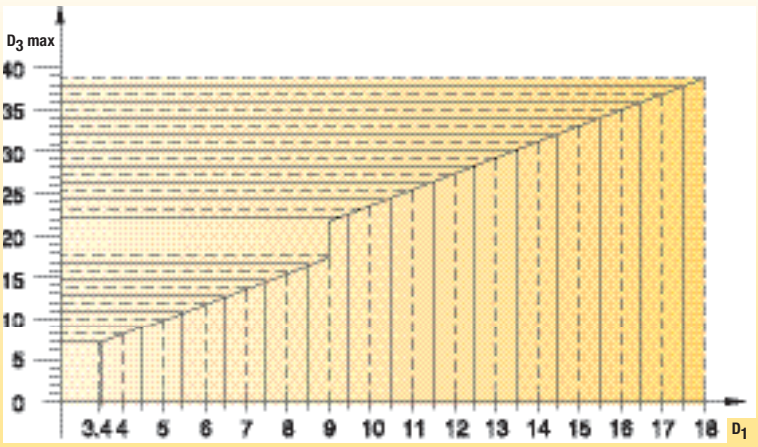



## Possible Facing and Counterboring Diameters

90º insert blanks are available to grind special geometry forms for other multiprofile applications.
Contact your local Kennametal Representative for special insert profile designs and quoting.
Use the table below to determine the maximum facing or counterboring diameter for a given BF drill diameter.
Reference your chosen drill diameter across the bottom axis of the table and then read up and across to the left axis to find the maximum facing or counterboring diameter.

## Possible Facing and Countersinking Diameter • Machining Steel



## HP Drills • B343HPG Series • Grade KC7315™ • Through Coolant • Metric

| Material Group | | Cutting Speed — vc Range — m/min min | Starting Value | max | | Metric Recommended Feed Rate (f) by Diameter 3,0 | 4,0 | 6,0 | 8,0 | 10,0 | 12,0 | 16,0 | 18,0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 100 | **140** | 180 | mm/r | 0,07–0,16 | 0,08–0,19 | 0,10–0,23 | 0,13–0,29 | 0,15–0,33 | 0,17–0,37 | 0,19–0,44 | 0,22–0,44 |
| | 2 | 90 | **115** | 140 | mm/r | 0,07–0,13 | 0,08–0,17 | 0,10–0,19 | 0,13–0,23 | 0,15–0,27 | 0,17–0,30 | 0,19–0,35 | 0,22–0,39 |
| | 3 | 80 | **100** | 120 | mm/r | 0,10–0,16 | 0,11–0,19 | 0,13–0,23 | 0,16–0,29 | 0,19–0,33 | 0,21–0,37 | 0,25–0,44 | 0,28–0,49 |
| | 4 | 70 | **90** | 110 | mm/r | 0,08–0,16 | 0,10–0,19 | 0,11–0,22 | 0,12–0,25 | 0,14–0,29 | 0,16–0,32 | 0,21–0,41 | 0,24–0,46 |
| | 5 | 70 | **85** | 110 | mm/r | 0,07–0,12 | 0,08–0,14 | 0,10–0,16 | 0,12–0,20 | 0,14–0,23 | 0,16–0,26 | 0,18–0,31 | 0,21–0,34 |
| K | 1 | 100 | **120** | 140 | mm/r | 0,09–0,17 | 0,10–0,21 | 0,12–0,25 | 0,15–0,31 | 0,17–0,35 | 0,20–0,39 | 0,23–0,46 | 0,26–0,52 |
| | 2 | 80 | **105** | 130 | mm/r | 0,09–0,15 | 0,10–0,18 | 0,12–0,21 | 0,15–0,26 | 0,18–0,30 | 0,20–0,33 | 0,23–0,39 | 0,26–0,44 |
| | 3 | 70 | **85** | 100 | mm/r | 0,08–0,13 | 0,10–0,15 | 0,11–0,19 | 0,14–0,23 | 0,16–0,26 | 0,18–0,30 | 0,21–0,35 | 0,23–0,39 |

## HP Drills • B343HPG Series • Grade KC7315 • Through Coolant • Inch

| Material Group | | Cutting Speed — vc Range — SFM min | Starting Value | max | | Inch Recommended Feed Rate (f) by Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 1/2 .500 | 5/8 .625 | 3/4 .750 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 328 | **459** | 591 | IPR | .003–.006 | .003–.007 | .004–.009 | .005–.011 | .006–.013 | .007–.015 | .007–.017 | .009–.017 |
| | 2 | 295 | **377** | 459 | IPR | .003–.005 | .003–.007 | .004–.007 | .005–.009 | .006–.011 | .007–.012 | .007–.014 | .009–.017 |
| | 3 | 262 | **328** | 394 | IPR | .004–.006 | .004–.007 | .005–.009 | .006–.011 | .007–.013 | .008–.015 | .010–.017 | .011–.019 |
| | 4 | 230 | **295** | 361 | IPR | .003–.006 | .004–.007 | .004–.009 | .005–.010 | .006–.011 | .006–.013 | .008–.016 | .009–.018 |
| | 5 | 230 | **279** | 361 | IPR | .003–.005 | .003–.006 | .004–.006 | .005–.008 | .006–.009 | .006–.010 | .007–.012 | .008–.013 |
| K | 1 | 328 | **394** | 459 | IPR | .004–.007 | .004–.008 | .005–.011 | .005–.010 | .007–.014 | .008–.015 | .009–.018 | .010–.020 |
| | 2 | 262 | **345** | 427 | IPR | .004–.006 | .004–.007 | .005–.008 | .006–.010 | .007–.012 | .008–.013 | .009–.015 | .010–.017 |
| | 3 | 230 | **279** | 328 | IPR | .003-.005 | .004-.006 | .004-.007 | .006-.009 | .006-.010 | .007-.012 | .008-.014 | .009-.015 |

Centering | Drilling | Chamfering

# Three Applications, One Tool

**Centering, drilling, and chamfering in a single operation with Kennametal SEFAS™**

- Reduce the number of tool changes and cycle time by combining centering, drilling, and chamfering into one operation.
- Uses standard solid carbide drills in HP and TX styles as well as modular KenTIP™ drills.
- Range of insert styles for use in most workpiece materials.

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

# SEFAS™ Combination Drilling System

## Primary Application

Combines centering, drilling, and chamfering into a single operation, increasing productivity by reducing cycle time and number of tool changes.

Achieve productivity gains by still using standard solid carbide or KenTIP™ drills. The SEFAS system provides full through coolant capabilities.

## Features and Benefits

### Productivity

- Reduce the number of tool changes and cycle time by combining drilling and countersinking into one operation.
- Achieve highest metal removal rates by applying an HP-style drill.
- Reduce inventory and avoid reconditioning by using KenTIP blades.
- Easily change tool within the machine by using KenTIP.

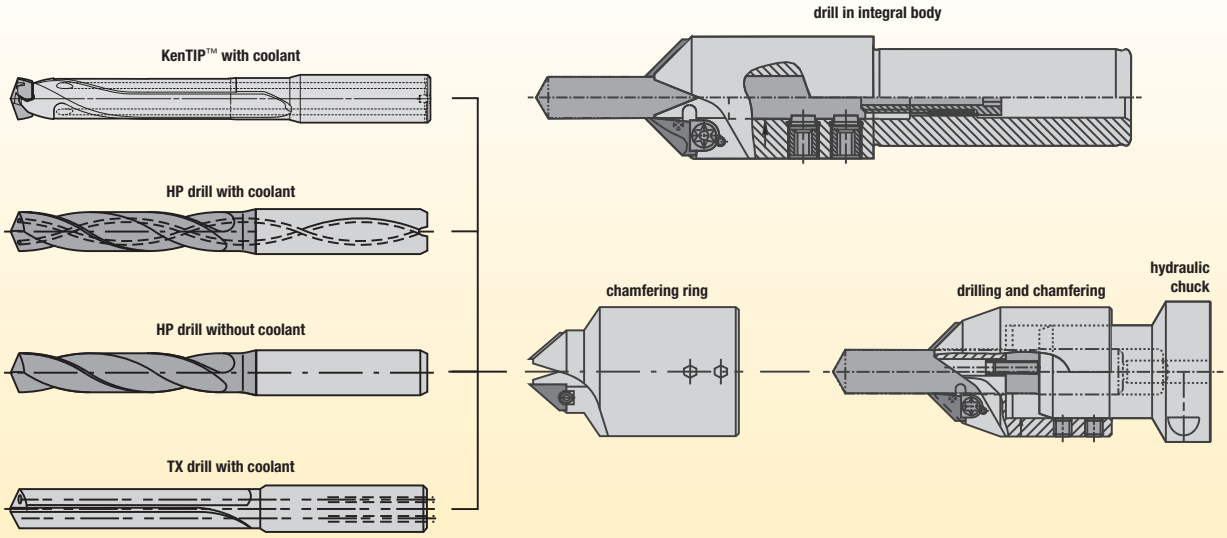
### Versatility

- Any style of standard HP drill can be used for highest metal removal rates.
- Use TX drills to achieve excellent hole quality and tool life in non-ferrous materials.
- For increased accuracy and tool life, use the Kennametal hydraulic chuck recommended for cylindrical tool shanks.
- Range of insert styles for use in most workpiece materials.

# Reduce the number of tool changes and cycle time by combining drilling and countersinking into one operation.

## Customization

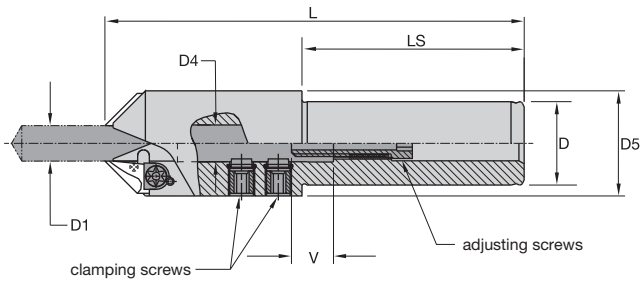
- Length variations available as engineered solutions.

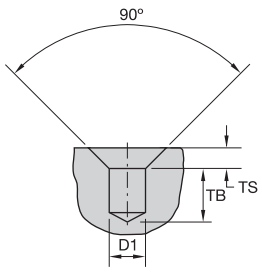


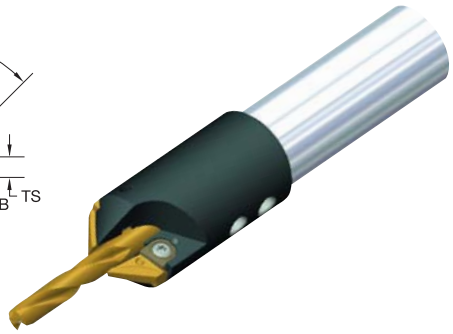

The SEFAS combination drilling system may be used in most workpiece materials. The design and flexibility of the system can be used with a wide variety of solid carbide drills.

Three types of SEFAS chamfering tools are offered: (1) integral bodies with a compact design that provides additional workpiece and work-holding clearance; (2) chamfering rings that may be mounted to Kennametal hydraulic chucks for optimal drill performance and increased productivity; and (3) high-performance HSK bodies (available as customized solutions) for new machine spindles and high-output applications.

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Two chamfer inserts required per body.





## Round Shank • For Use with Inch Drills • Inch

| catalog number | D1 | D1 max | D | D4 | D5 | L | LS | V | gage insert | insert clamp | Torx wrench | drill clamp screw | adjusting screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SEF156187RSS075** | 0.1560 | .188 | .75 | .19 | .94 | 4.06 | 2.00 | .71 | 3.42805.. | **360.550** | **170.024** | **360.650** | **360.516** |
| **SEF218250RSS075** | >0.1880 | .250 | .75 | .25 | .97 | 4.13 | 2.00 | .71 | 3.42805.. | **360.550** | **170.024** | **360.651** | **360.510** |
| **SEF265312RSS075** | >0.2500 | .313 | .75 | .31 | 1.03 | 4.31 | 2.00 | .71 | 3.42805.. | **360.550** | **170.024** | **360.652** | **360.510** |
| **SEF328375RSS075** | >0.3130 | .375 | .75 | .38 | 1.16 | 4.63 | 2.00 | .67 | 3.42805.. | **360.550** | **170.024** | **360.653** | **360.510** |
| **SEF390437RSS100** | >0.3750 | .438 | 1.00 | .44 | 1.47 | 5.75 | 3.00 | .75 | 3.42807.. | **360.551** | **170.025** | **360.654** | **360.513** |
| **SEF453500RSS100** | >0.4380 | .500 | 1.00 | .50 | 1.53 | 5.88 | 3.00 | .83 | 3.42807.. | **360.551** | **170.025** | **360.655** | **360.513** |
| **SEF500562RSS100** | >0.5000 | .563 | 1.00 | .56 | 1.59 | 6.06 | 3.00 | .63 | 3.42807.. | **360.551** | **170.025** | **360.656** | **360.511** |
| **SEF562625RSS125** | >0.5630 | .625 | 1.25 | .63 | 1.66 | 6.44 | 3.25 | .75 | 3.42807.. | **360.551** | **170.025** | **360.657** | **360.511** |
| **SEF625687RSS125 *** | >0.6250 | .688 | 1.25 | .69 | 1.81 | 6.50 | 3.25 | .59 | 3.42807.. | **360.551** | **170.025** | **360.658** | **360.511** |
| **SEF687750RSS125** | >0.6880 | .750 | 1.25 | .75 | 1.88 | 6.56 | 3.25 | .67 | 3.42807.. | **360.551** | **170.025** | **360.659** | **360.511** |
| **SEF750812RSS125** | >0.7500 | .813 | 1.25 | .81 | 1.94 | 6.63 | 3.25 | .67 | 3.42807.. | **360.551** | **170.025** | **360.679** | **360.511** |
| **SEF812875RSS150** | >0.8130 | .875 | 1.50 | .88 | 2.09 | 7.25 | 3.75 | .63 | 3.42807.. | **360.551** | **170.025** | **360.680** | **360.511** |
| **SEF875937RSS150 *** | >0.8750 | .938 | 1.50 | .94 | 2.16 | 7.38 | 3.75 | .71 | 3.42807.. | **360.551** | **170.025** | **360.681** | **360.511** |
| **SEF9371010RSS150** | >0.9380 | 1.010 | 1.50 | 1.00 | 2.25 | 7.50 | 3.75 | .71 | 3.42807.. | **360.551** | **170.025** | **360.682** | **360.511** |

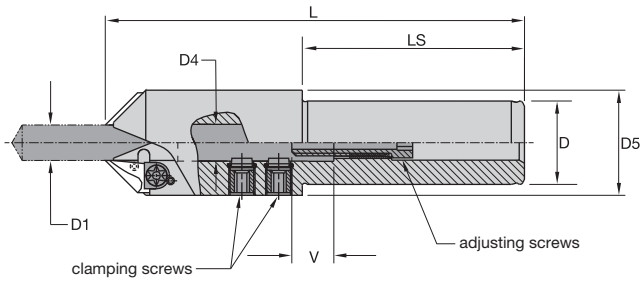
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

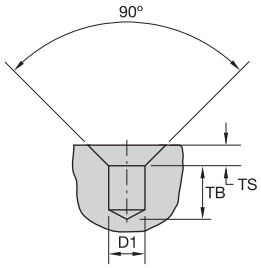
## Achievable Drilling (TB) and Sink Depths (TS)

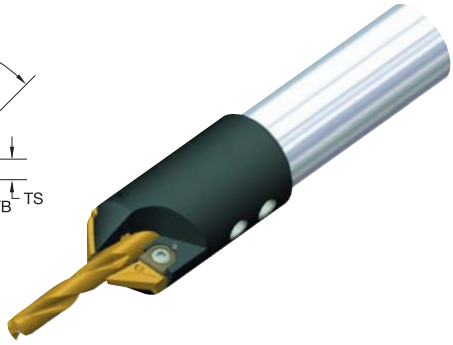
| drill diameter D1 | K210, K254, K284 | | K211, K222, K255, K285, K411 | | K212, K256 | | unalloyed and low-alloy steel, unalloyed and alloy steel, and cast iron, high-alloy steel and stainless steel | | |
|---|---|---|---|---|---|---|---|---|---|
| | $TB_{min}$ | $TB_{max}$ | $TB_{min}$ | $TB_{max}$ | $TB_{min}$ | $TB_{max}$ | $TS_{100}$ | $TS_{80}$ | $TS_{max}$ |
| .156-.188 | .236 | .866 | .472 | 1.102 | .866 | 1.102 | .047 | .071 | .098 |
| >.188-.250 | .354 | 1.024 | .709 | 1.378 | 1.220 | 1.890 | .059 | .087 | .118 |
| >.250-.266 | .433 | 1.102 | .906 | 1.575 | 1.654 | 2.323 | .079 | .118 | .157 |
| >.266-.313 | .433 | 1.102 | .906 | 1.575 | 1.654 | 2.323 | .098 | .157 | .197 |
| >.313.-.375 | .512 | 1.142 | 1.063 | 1.693 | 1.929 | 2.559 | .118 | .197 | .236 |
| >.375-.438 | .551 | 1.260 | 1.142 | 1.850 | 2.008 | 2.717 | .138 | .197 | .276 |
| >.438-.500 | .591 | 1.378 | 1.220 | 2.008 | 2.205 | 2.992 | .157 | .236 | .315 |
| >.500-.563 | .827 | 1.417 | 1.496 | 2.087 | 2.717 | 3.307 | .157 | .236 | .315 |
| >.563-.625 | .866 | 1.575 | 1.575 | 2.283 | 3.071 | 3.780 | .157 | .236 | .315 |
| >.625-.688 | 1.299 | 1.850 | 2.087 | 2.638 | 3.740 | 4.291 | .157 | .236 | .315 |
| >.688-.750 | 1.378 | 2.008 | 2.126 | 2.756 | 4.055 | 4.685 | .157 | .236 | .315 |
| >.750-.813 | 1.552 | 2.181 | 2.260 | 2.890 | 4.386 | 5.016 | .157 | .236 | .315 |
| >.813-.875 | 1.702 | 2.293 | 2.726 | 3.317 | 4.694 | 5.285 | .157 | .236 | .315 |
| >.875-.938 | 1.735 | 2.404 | 2.876 | 3.546 | 4.884 | 5.554 | .157 | .236 | .315 |
| >.938-1.010 | 1.846 | 2.515 | 3.067 | 3.736 | 5.193 | 5.862 | .157 | .236 | .315 |

NOTE: $TS_{100}$: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.
$TS_{80}$: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.
$TS_{max}$: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Two chamfer inserts required per body.





## Round Shank • For Use with Metric Drills • Metric

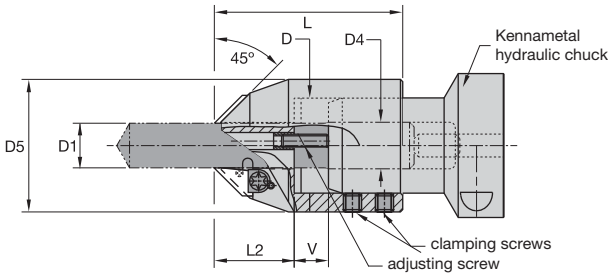
| catalog number | D1 | D1 max | D | D4 | D5 | L | LS | V | gage insert | insert clamp | Torx wrench | drill clamp screw | adjusting screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SEF040060RSS075M** | 4,000 | 6,0 | 19,1 | 6,0 | 24,0 | 103,1 | 50,8 | 18,0 | 3.42805.. | **360.550** | **170.024** | **360.630** | **360.510** |
| **SEF060080RSS075M** | >6,000 | 8,0 | 19,1 | 8,0 | 26,0 | 109,5 | 50,8 | 18,0 | 3.42805.. | **360.550** | **170.024** | **360.634** | **360.510** |
| **SEF080100RSS100M** | >8,000 | 10,0 | 25,4 | 10,0 | 29,0 | 143,0 | 76,2 | 17,0 | 3.42805.. | **360.550** | **170.024** | **360.631** | **360.510** |
| **SEF100120RSS125M** | >10,000 | 12,0 | 31,8 | 12,0 | 38,0 | 155,7 | 82,6 | 21,0 | 3.42807.. | **360.551** | **170.025** | **360.635** | **360.513** |
| **SEF120140RSS125M** | >12,000 | 14,0 | 31,8 | 14,0 | 40,0 | 160,3 | 82,6 | 16,0 | 3.42807.. | **360.551** | **170.025** | **360.636** | **360.511** |
| **SEF140160RSS125M** | >14,000 | 16,0 | 31,8 | 16,0 | 41,5 | 163,6 | 82,6 | 19,0 | 3.42807.. | **360.551** | **170.025** | **360.632** | **360.511** |
| **SEF160180RSS125M** | >16,000 | 18,0 | 31,8 | 18,0 | 47,0 | 166,4 | 82,6 | 15,0 | 3.42807.. | **360.551** | **170.025** | **360.633** | **360.511** |
| **SEF180200RSS125M** * | >18,000 | 20,0 | 31,8 | 20,0 | 49,0 | 170,0 | 82,6 | 17,0 | 3.42807.. | **360.551** | **170.025** | **360.637** | **360.511** |

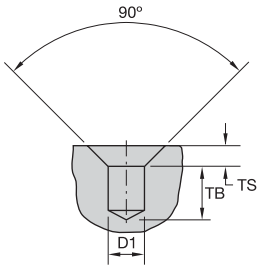
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## 2° Whistle Notch (WN) Shank • For Use with Metric Drills • Metric

| catalog number | D1 | D1 max | D | D4 | D5 | L | LS | V | gage insert | insert clamp | Torx wrench | drill clamp screw | adjusting screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.37060R720** | 4,000 | 6,0 | 20,0 | 6,0 | 24,0 | 102,0 | 52,0 | 18,0 | 3.42805.. | **360.550** | **170.024** | **360.630** | **360.510** |
| **3.37080R720** | >6,000 | 8,0 | 20,0 | 8,0 | 26,0 | 108,0 | 52,0 | 18,0 | 3.42805.. | **360.550** | **170.024** | **360.634** | **360.510** |
| **3.37100R720** | >8,000 | 10,0 | 20,0 | 10,0 | 29,0 | 122,0 | 52,0 | 17,0 | 3.42805.. | **360.550** | **170.024** | **360.631** | **360.510** |
| **3.37120R732** | >10,000 | 12,0 | 32,0 | 12,0 | 38,0 | 133,0 | 62,0 | 21,0 | 3.42807.. | **360.551** | **170.025** | **360.635** | **360.513** |
| **3.37140R732** | >12,000 | 14,0 | 32,0 | 14,0 | 40,0 | 137,0 | 62,0 | 16,0 | 3.42807.. | **360.551** | **170.025** | **360.636** | **360.511** |
| **3.37160R732** | >14,000 | 16,0 | 32,0 | 16,0 | 41,5 | 141,0 | 62,0 | 19,0 | 3.42807.. | **360.551** | **170.025** | **360.632** | **360.511** |
| **3.37180R732** | >16,000 | 18,0 | 32,0 | 18,0 | 47,0 | 144,0 | 62,0 | 15,0 | 3.42807.. | **360.551** | **170.025** | **360.633** | **360.511** |

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Use only with hydraulic chucks.



## Chamfer Rings • For Use with Metric Kennametal Hydraulic Chucks • For Use with Inch or Metric Drills

| catalog number | D1 | D1 max | D | D4 | D5 | L | L2 | V | gage insert | insert clamp | Torx wrench | drill clamp screw | adjusting screw | adjusting screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.37526R006** | 4,000 | 6,0 | 25,70 | 6,00 | 38,00 | 49,50 | 21,00 | 5,00 | 3.42805.. | **360.550** | **170.024** | **190.195** | – | **192.057** |
| **3.37528R008** | >6,000 | 8,0 | 27,70 | 8,00 | 40,00 | 50,00 | 21,00 | 6,00 | 3.42805.. | **360.550** | **170.024** | **190.195** | **190.371** | – |
| **3.37530R010** | >8,000 | 10,0 | 29,70 | 10,00 | 41,50 | 56,50 | 22,00 | 8,00 | 3.42805.. | **360.550** | **170.024** | **190.195** | **193.113** | – |
| **3.37532R012** | >10,000 | 12,0 | 31,60 | 12,00 | 48,00 | 68,00 | 29,00 | 12,00 | 3.42807.. | **360.551** | **170.025** | **190.076** | **193.114** | – |
| **3.37534R014** | >12,000 | 14,0 | 33,60 | 14,00 | 50,00 | 70,50 | 29,00 | 12,00 | 3.42807.. | **360.551** | **170.025** | **190.076** | **193.114** | – |
| **3.37538R016** | >14,000 | 16,0 | 37,60 | 16,00 | 54,00 | 78,00 | 32,00 | 12,00 | 3.42807.. | **360.551** | **170.025** | **190.076** | **193.115** | – |
| **3.37540R018** | >16,000 | 18,0 | 39,60 | 18,00 | 56,00 | 80,50 | 34,00 | 15,00 | 3.42807.. | **360.551** | **170.025** | **190.076** | **193.116** | – |
| **3.37542R020** | >18,000 | 20,0 | 41,60 | 20,00 | 58,00 | 82,50 | 35,00 | 15,00 | 3.42807.. | **360.551** | **170.025** | **190.076** | **193.116** | – |

## Achievable Drilling (TB) and Sink Depths (TS)

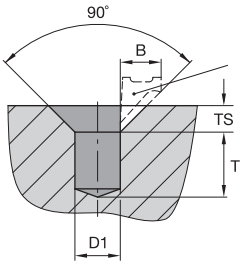
| | B210, B221, B224, B254, B284, B291, B707, B966, B976 | | B211, B222, B225, B285, B292, B411, B708, B977 | | B212, B256, B709, B978 | | B269 | | unalloyed and low-alloy steel; unalloyed and alloy steel, and cast iron, high-alloy steel and stainless steel | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **drill diameter D1** | **$TB_{min}$** | **$TB_{max}$** | **$TB_{min}$** | **$TB_{max}$** | **$TB_{min}$** | **$TB_{max}$** | **$TB_{min}$** | **$TB_{max}$** | **$TS_{100}$** | **$TS_{80}$** | **$TS_{max}$** |
| 4,0–4,7 | 4 | 17 | 12 | 29 | 20 | 36 | 45 | 62 | 1,2 | 1,8 | 2,5 |
| >4,7–6,0 | 4 | 20 | 20 | 35 | 27 | 43 | 63 | 80 | 1,5 | 2,2 | 3,0 |
| >6,0–7,0 | 11 | 24 | 23 | 40 | 32 | 49 | 71 | 88 | 2 | 3,0 | 4,0 |
| >7,0–8,0 | 11 | 28 | 23 | 40 | 42 | 59 | 85 | 102 | 2,5 | 4,0 | 5,0 |
| >8,0–10,0 | 13 | 29 | 27 | 43 | 46 | 62 | 109 | 125 | 2,5 | 4,0 | 5,0 |
| >10,0–12,0 | 15 | 35 | 31 | 51 | 54 | 74 | 131 | 151 | 3,5 | 5,0 | 7,0 |
| >12,0–14,0 | 21 | 36 | 38 | 53 | 69 | 84 | 160 | 175 | 4,0 | 6,0 | 8,0 |
| >14,0–16,0 | 22 | 40 | 40 | 58 | 78 | 96 | 184 | 202 | 4,0 | 6,0 | 8,0 |
| >16,0–18,0 | 31 | 45 | 51 | 65 | 93 | 107 | 213 | 227 | 4,0 | 6,0 | 8,0 |
| >18,0–20,0 | 34 | 50 | 56 | 72 | 103 | 119 | 237 | 253 | 4,0 | 6,0 | 8,0 |

*(continued)*

*(Achievable Drilling (TB) and Sink Depths (TS) — continued)*

| drill diameter D1 | K210, K254, K284 | | K211, K222, K255, K285, K411 | | K212, K256 | | unalloyed and low-alloy steel, unalloyed and alloy steel, and cast iron, high-alloy steel and stainless steel | | |
|---|---|---|---|---|---|---|---|---|---|
| | $TB_{min}$ | $TB_{max}$ | $TB_{min}$ | $TB_{max}$ | $TB_{min}$ | $TB_{max}$ | $TS_{100}$ | $TS_{80}$ | $TS_{max}$ |
| .156–.250<br>>.250–.313 | not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable) | | | | | | | | |
| >.313–.375 | .748 | 1.339 | 1.229 | 1.890 | 2.165 | 2.756 | .098 | .157 | .197 |
| >.375–.500<br>>.500–.563 | not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable) | | | | | | | | |
| >.563–.625 | .906 | 1.732 | 1.614 | 2.441 | 3.110 | 3.937 | .157 | .236 | .315 |
| >.625–.709 | not applicable (metric ring and hydraulic chuck are not interchangeable) | | | | | | | | |
| >.709–.750 | 1.142 | 2.087 | 1.890 | 2.835 | 3.819 | 4.764 | .157 | .236 | .315 |

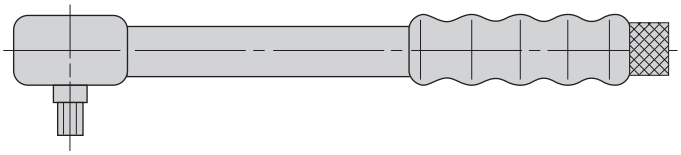
NOTE: $TS_{100}$: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.
$TS_{80}$: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.
$TS_{max}$: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.
When using SEFAS with GOdrill™, please contact your Kennametal Representative for application support.



## Achievable Drilling (T) and Sink Depths (TS) with KenTIP Tool Bodies

| D1 mm | D1 in | drilling depths (T) with SEFAS compact tools 3x T | 3x $T_{max}$ | 5x T | 5x $T_{max}$ | 8x T | 8x $T_{max}$ | drilling depths (T) with SEFAS chamfer rings 3x T | 3x $T_{max}$ | 5x T | 5x $T_{max}$ | 8x T | 8x $T_{max}$ | sink depths (TS) $TS_{100}$ | $TS_{80}$ | $TS_{max}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8,00–8,49 | .3125–.3343 | 11 | 19 | 21 | 37 | 47 | 63 | 11 | 22 | 22 | 40 | 48 | 66 | 2,5 | 4,0 | 5,0 |
| 8,50–8,99 | .3346–.3539 | 12 | 21 | 24 | 40 | 51 | 67 | 12 | 24 | 25 | 43 | 52 | 70 | 2,5 | 4,0 | 5,0 |
| 9,00–9,49 | .3543–.3736 | 12 | 23 | 27 | 43 | 56 | 72 | 12 | 26 | 28 | 46 | 57 | 75 | 2,5 | 4,0 | 5,0 |
| 9,50–9,99 | .3740–.3933 | 13 | 25 | 31 | 47 | 61 | 77 | 13 | 28 | 32 | 50 | 62 | 80 | 2,5 | 4,0 | 5,0 |
| 10,00–10,49 | .3937–.4130 | 13 | 26 | 28 | 49 | 60 | 81 | 13 | 28 | 29 | 51 | 61 | 83 | 3,5 | 5,0 | 7,0 |
| 10,50–10,99 | .4134–.4327 | 14 | 28 | 31 | 52 | 64 | 85 | 14 | 30 | 32 | 54 | 65 | 87 | 3,5 | 5,0 | 7,0 |
| 11,00–11,49 | .4331–.4524 | 14 | 30 | 34 | 55 | 69 | 90 | 14 | 32 | 35 | 57 | 70 | 92 | 3,5 | 5,0 | 7,0 |
| 11,50–11,99 | .4528–.4720 | 15 | 32 | 37 | 58 | 73 | 94 | 15 | 34 | 38 | 60 | 74 | 96 | 3,5 | 5,0 | 7,0 |
| 12,00–12,49 | .4724–.4917 | 15 | 30 | 41 | 56 | 79 | 94 | 15 | 32 | 36 | 58 | 74 | 96 | 4,0 | 6,0 | 8,0 |
| 12,50–12,99 | .4921–.5114 | 17 | 32 | 44 | 59 | 83 | 98 | 16 | 34 | 39 | 61 | 78 | 100 | 4,0 | 6,0 | 8,0 |
| 13,00–13,49 | .5118–.5311 | 19 | 34 | 47 | 62 | 88 | 103 | 16 | 36 | 42 | 64 | 83 | 105 | 4,0 | 6,0 | 8,0 |
| 13,50–13,99 | .5315–.5508 | 21 | 36 | 51 | 66 | 93 | 108 | 17 | 38 | 46 | 68 | 88 | 110 | 4,0 | 6,0 | 8,0 |
| 14,00–14,49 | .5512–.5705 | 19 | 37 | 50 | 68 | 94 | 112 | 18 | 40 | 49 | 71 | 93 | 115 | 4,0 | 6,0 | 8,0 |
| 14,50–14,99 | .5709–.5902 | 21 | 39 | 53 | 71 | 98 | 116 | 20 | 42 | 52 | 74 | 97 | 119 | 4,0 | 6,0 | 8,0 |
| 15,00–15,99 | .5906–.6295 | 25 | 43 | 59 | 77 | 107 | 125 | 24 | 46 | 58 | 80 | 106 | 128 | 4,0 | 6,0 | 8,0 |
| 16,00–16,99 | .6299–6689 | 29 | 47 | 65 | 83 | 117 | 135 | 28 | 50 | 64 | 85 | 115 | 136 | 4,0 | 6,0 | 8,0 |
| 17,00–17,99 | .6693–.7083 | 35 | 49 | 73 | 87 | 127 | 141 | 30 | 54 | 68 | 92 | 122 | 146 | 4,0 | 6,0 | 8,0 |
| 18,00–18,99 | .7087–.7476 | 36 | 52 | 76 | 92 | 133 | 149 | 33 | 57 | 73 | 97 | 130 | 154 | 4,0 | 6,0 | 8,0 |
| 19,00–19,99 | .7480–.7870 | 40 | 56 | 82 | 98 | 142 | 158 | 37 | 61 | 79 | 103 | 139 | 163 | 4,0 | 6,0 | 8,0 |

NOTE: $TS_{100}$: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.
$TS_{80}$: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.
$TS_{max}$: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.
T: minimum drilling depth that can be achieved due to the protruded length of the drill.
$T_{max}$: maximum drilling depth that can be achieved due to the protruded length of the drill.

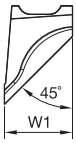


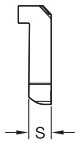
## Torque Wrench • Metric

| drill diameter D1 | torque wrench | tightening torque Nm | SW | drill clamp screw | wrench adapter |
|---|---|---|---|---|---|
| 4,0–6,0 | **170.190** | 7 | 3 | **360.630** | **170.240** |
| >6,0–8,0 | **170.190** | 8 | 3 | **360.635** | **170.240** |
| >8,0–10,0 | **170.190** | 10 | 4 | **360.631** | **170.232** |
| >10,0–12,0 | **170.190** | 15 | 4 | **360.635** | **170.232** |
| >12,0–14,0 | **170.190** | 20 | 5 | **360.636** | **170.233** |
| >14,0–16,0 | **170.190** | 30 | 5 | **360.632** | **170.233** |
| >16,0–18,0 | **170.190** | 45 | 6 | **360.633** | **170.234** |
| >18,0–20,0 | **170.190** | 45 | 6 | **360.637** | **170.234** |

## Torque Wrench • Inch

| drill diameter D1 | torque wrench | tightening torque ft. lbs. | SW | drill clamp screw | wrench adapter |
|---|---|---|---|---|---|
| .156–.188 | **170.190** | 5.2 | 3 | **360.650** | **170.240** |
| >.188–.250 | **170.190** | 5.9 | 3 | **360.651** | **170.240** |
| >.250–.313 | **170.190** | 5.9 | 3 | **360.652** | **170.240** |
| >.313.–.375 | **170.190** | 7.4 | 4 | **360.653** | **170.232** |
| >.375–.438 | **170.190** | 11.1 | 4 | **360.654** | **170.232** |
| >.438–.500 | **170.190** | 11.1 | 4 | **360.655** | **170.232** |
| >.500–.563 | **170.190** | 14.8 | 5 | **360.656** | **170.233** |
| >.563–.625 | **170.190** | 22.1 | 5 | **360.657** | **170.233** |
| >.625–.688 | **170.190** | 33.2 | 6 | **360.658** | **170.234** |
| >.688–.750 | **170.190** | 33.2 | 6 | **360.659** | **170.234** |
| >.750–.813 | **170.190** | 35.4 | 6 | **360.679** | **170.234** |
| >.813–.875 | **170.190** | 44.3 | 8 | **360.680** | **170.229** |
| >.875–.938 | **170.190** | 47.9 | 8 | **360.681** | **170.229** |
| >.938–1.010 | **170.190** | 51.6 | 8 | **360.682** | **170.229** |



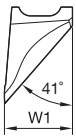



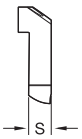

● first choice
○ alternate choice

| | |
|---|---|
| P | ● |
| M | |
| K | ● |
| N | ● |
| S | |
| H | |

## SEFAS Chamfering Inserts for Solid Carbide Drills • 45°

| | | S | | W1 | | | | |
|---|---|---|---|---|---|---|---|---|
| catalog number | angle | mm | in | mm | in | CS5 | KC7215 | KMF |
| 3.42805R001 | 45 | 2,83 | .111 | 8,00 | .315 | ● | ● | ● |
| 3.42807R001 | 45 | 3,98 | .157 | 12,00 | .472 | ● | ● | ● |



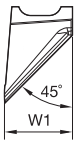



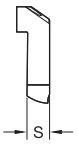

● first choice
○ alternate choice

| | |
|---|---|
| P | |
| M | |
| K | ● |
| N | ● |
| S | |
| H | |

## SEFAS Chamfering Inserts for Solid Carbide Drills • 41°

| | | S | | W1 | | |
|---|---|---|---|---|---|---|
| catalog number | angle | mm | in | mm | in | KC7215 |
| 3.42805R081 | 41 | 2,83 | .111 | 8,00 | .315 | ● |
| 3.42807R081 | 41 | 3,98 | .157 | 12,00 | .472 | ● |




● first choice
○ alternate choice

| | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ● |
| S | |
| H | |

## SEFAS Chamfering Inserts for KenTIP™ Drills • 45°

| | | S | | W1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | angle | mm | in | mm | in | CS5 | KC7015 | KC7215 | KC7315 | KMF |
| 3.42805R001 | 45 | 2,83 | .111 | 8,00 | .315 | ● | – | ● | – | ● |
| 3.42805R021 | 45 | 2,83 | .111 | 8,00 | .315 | – | ● | – | ● | – |
| 3.42807R001 | 45 | 3,98 | .157 | 12,00 | .472 | ● | – | ● | – | ● |
| 3.42807R021 | 45 | 3,98 | .157 | 12,00 | .472 | – | ● | – | ● | – |

# Cost Reduction Targets Giving You Headaches?

**Save time and money with Kennametal SEFAS™ COMBINATION DRILLING SYSTEM:**

- Combine centering, drilling, and chamfering into a single operation, increasing productivity by reducing cycle time and number of tool changes.
- Reduce inventory and avoid reconditioning by using KenTIP™ blades.
- Easily change tool within the machine by using KenTIP drills.

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

# Indexable Drills


**Tool Selection Guide** ..... **J2–J3**

**Drill Fix DFR, DFSP, and DFT** ..... **J4–J59**

Drill Fix DFR ..... J4, J8–J21

Drill Fix DFSP ..... J4, J22–J45

Drill Fix DFT ..... J5, J46–J59

**HTS Series Indexable Deep-Hole Drilling System** ..... **J60–J96**

HTS and HTS-R Indexable Drill System ..... J60–J96

**Indexable Drill Inserts** ..... **J97–J111**

Drill Fix DFR Inserts ..... J97–J99

Drill Fix DFT Inserts ..... J98, J100–J102

Drill Fix DFSP Inserts ..... J103–J104

**CTR Counterboring Tools** ..... **J112–J117**

Counterboring Inserts ..... J115–J117

| | | standard | | | | | | | standard range | | | customized solution range | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ● first choice<br>○ alternate choice | | | | | | | diameter range | | | diameter range | | | |
| | | P | M | K | N | S | H | hole tolerance | D1 mm min–max | D1 inch min–max | drilling depth L/D1 | D1 mm min–max | D1 inch min–max | drilling depth | |
| | **DFR**™<br>Indexable Drill Body<br>*Short-Hole Drilling* | ● | ● | ● | ● | ● | | IT9–11 | 12,5–25 | .500–1.039 | 2 x D<br>3 x D<br>4 x D | 12,5–26 | .500–1.023 | 1–5 x D | |
| | **DFSP**™<br>Indexable Drill Body<br>*Short-Hole Drilling* | ● | ● | ● | ● | ● | | IT9–11 | 14–55 | .551–2.165 | 2 x D<br>3 x D<br>4 x D<br>5 x D | 14–85 | .551–3.350 | 1–5 x D | |
| | **DFT**™<br>Indexable Drill Body<br>*Short-Hole Drilling* | ● | ● | ● | ● | ● | | IT9–11 | 16–83 | .625–3.250 | 2.5 x D<br>4 x D | 15,8–83 | .622–3.350 | 1–5 x D | |
| | **HTS-R**<br>Indexable Drilling Tool<br>*Deep-Hole Drilling* | ● | ● | ● | ● | ● | | IT9–11 | 40–55 | 1.574–2.165 | 10 x D | 40–55 | 1.574–2.165 | 1–10 x D | |
| | **HTS**<br>Indexable Drilling Tool<br>*Deep-Hole Drilling* | ● | ● | ● | ● | ● | | IT9–11 | 45–270 | 1.772–10.630 | 10 x D | 45–540 | 1.772–21.259 | 1–10 x D | |
| | **S2 S Countersinking**<br>Countersinking Tool | ● | ● | ● | ● | ● | | IT9–11 | 15,1–46,2 | .813–3.125 | 1 x D | 11,5–150 | .451–5.905 | 1–5 x D | |

In regard to insert and drill coatings, anything is possible. If a specific insert or drill is not suitable for your workpiece material, please contact our Engineered Solutions Department for an offer about special coatings and edge preparations.

* Except for L/D 5 x D.

[1] Other shank styles available as customized solution.

| | ■ standard capabilities [1] | | | | | | | ■ standard and □ customized solution capabilities | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | coolant | | 2° | | TS | XMZ | DV | BT | | | | | | | | | page(s) |
| | | ■ | | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | □ | □ | | J10–J21 |
| | | ■ | | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■* | □ | □ | | □ | J24–J45 |
| | | ■ | | ■ | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | □ | □ | | | J48–J59 |
| | | ■ | | | ■ | | ■ | ■ | ■ | | | | | | | | | J75–J80 |
| | | ■ | | | ■ | | ■ | ■ | ■ | | | | | | | | | J82–J96 |
| | | ■ | ■ | | | | | | | | | | | | ■ | □ | | J114–J117 |

# Drill Fix™ DFR™, DFSP™, and DFT™

### Primary Application

Drill short holes up to 5 x D with DFR, DFSP, and DFT indexable drills in steel, cast iron, ductile iron, stainless steel, and non-ferrous materials. The Drill Fix portfolio covers the diameter range 12,5–85mm (.500–3.250").

## Features and Benefits

### Drill Fix DFR

- Diameter range of 12,5–24mm (.500–1.000") in 2 x D, 3 x D, and 4 x D.
- Rectangular-shaped inserts offer the highest stability and feed rates at smaller sizes.
- Long tool life due to soft starting cut, short chips, and low cutting forces.
- X-offset design to adjust diameter size on turning machines and optimize tolerances on machining centers.

### Drill Fix DFSP

- Combines the benefits of a trigon-style DFT inboard and a square-style SP..X outboard insert.
- Standard diameter range from 14–55mm (.551–2.125") in 2 x D, 3 x D, 4 x D, and new 5 x D.
- Squared-outboard insert has four economic cutting edges.
- Highest feed rates and cutting speeds due to highly stable tool body design.
- X-offset design to adjust diameter size on turning machines and optimize tolerances on machining centers.
- Beyond™ grades to achieve highest productivity and outstanding results in steel, stainless steel, and cast iron.

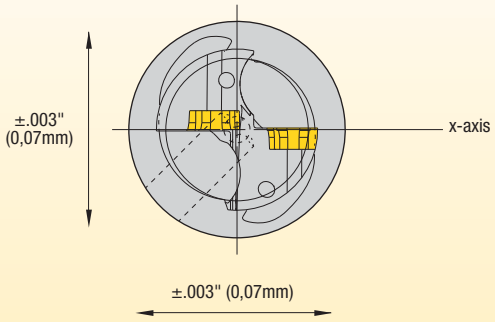
# Use where speed and economy are prime considerations.

## Drill Fix™ DFT™

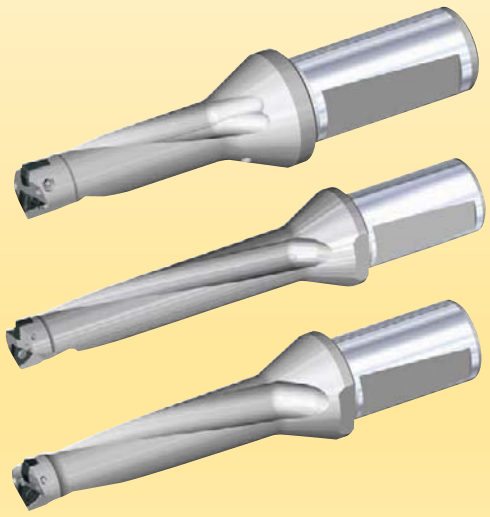
- One drill system that covers a large diameter range, from 24–82mm (1.000–3.250") in 2.5 x D and 4 x D.
- Best centering capabilities due to trigon-shaped inserts used as inboard and outboard inserts.
- Various insert grades and geometries available.
- Balanced cutting forces in the shank center for highest tool body stability.
- X-offset design to adjust diameter size on turning machines and optimize tolerances on machining centers.
- The Drill Fix DFT system has an inner insert for best centering capabilities.

## Stationary Applications

### Metric Drill Bodies with 2° Whistle Notch



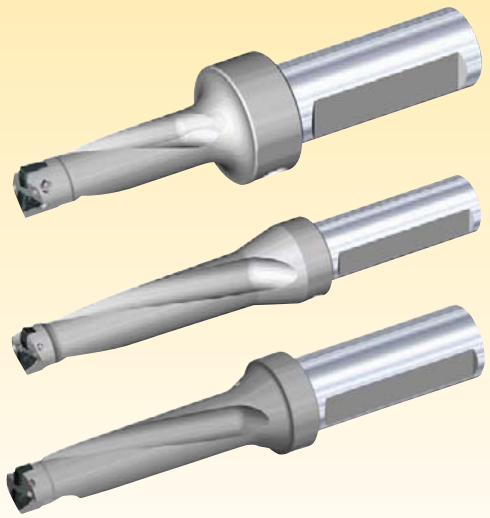

Metric shank drills with a 2° Whistle Notch shank are easily mounted into inch turrets using a WD adapter. Align the X-axis of the drill with the X-axis of the machine tool as described above. Accurate alignment is absolutely essential for good performance. The drill must be on center within the tolerance shown above. Angularity must not exceed .003" (0,07mm).



## Inch Bodies • Flange

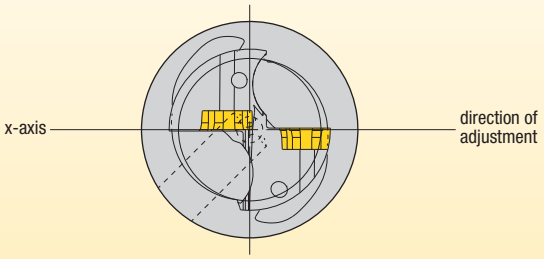
Drill Fix™ inch drills, with a flange, were designed for use on lathes or any machine where the tool remains stationary and the workpiece rotates. An “x” is marked on the flat of the X-axis of the drill to aid insert orientation on the machine tool.

It is important to align the X-axis of the drill with the X-axis on the machine tool. Accurate alignment is absolutely essential for good performance. The drill must be on center, within the tolerance shown here. Angularity must not exceed .003" (0,07mm) within the designated drill depth.



## Drill Fix™ X-Adjustment

### Application Examples

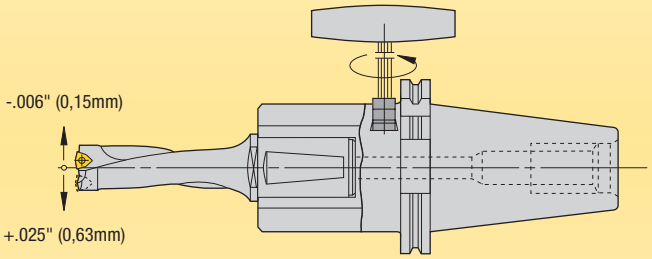



**Stationary Tool**

The X-adjustment must be made at the outer cutting edge, parallel to the surface of the outer insert when the turret of the turning machine is offset along the X-axis.

**Rotating Tool • Straight Shank**

Use an adjustable eccentric chuck with a steep taper to help offset the drill along the X-axis when machining with a rotating tool on a machining center.

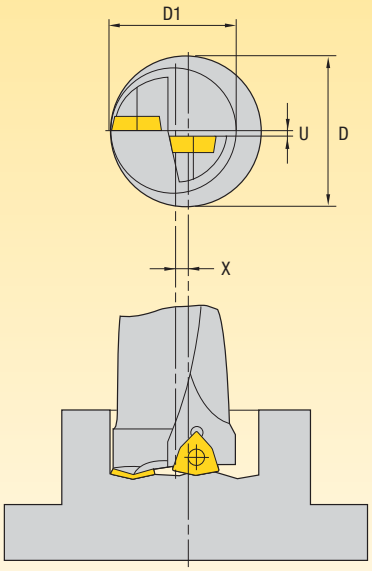



### X-Adjustment Description

Different diameter holes can be drilled using the same Drill Fix drill. Holes with a diameter greater than the nominal diameter can be drilled directly into a solid. Intermediate dimensions are produced by means of the X-adjustment.

**Benefits**

- Eliminates the need for special tools for intermediate dimensions.
- Just a few drills cover a wide application range.
- Once precise adjustment of the desired diameter is made, tolerances of ± .002" (0,05mm) are achieved.




*Additional information on X-adjustment, as well as additional information on Drill Fix tools, is available on the Kennametal website, **kennametal.com**.*

# Drill Fix™ DFR™

The Drill Fix DFR platform offers maximum feed rates at a diameter range of 12,5–24mm (.500–1.000") for 2 x D, 3 x D, and 4 x D applications. Using rectangular-shaped inboard and outboard inserts enables soft starting cuts, short chips, and higher feed rates compared to small-size symmetrical-trigon or square inserts. The Drill Fix DFR platform's low cutting forces provide long tool life and high stability at the smallest diameters.

## Features and Benefits

### Productivity and Profitability

- Achieve high feed rates with rectangular-shaped inserts that offer a soft starting cut and greater stability.
- Use X-offset on turning machines to adjust drill, and eliminate the need for specials in many applications, and on machining centers to reach tolerance optimization.
- Same insert size is used in each pocket, reducing inventory costs.

### Versatility

- Diameter range covering 12,5–24mm (.500–1.000").
- 2 x D, 3 x D, and 4 x D L/D ratios as standard.
- Various shanks as standard available: WD, SSF, and new WB, a Weldon® shank.
- Multiple insert grades and geometries available.
- Use where feed rates are the limiting factor.
- Apply in straight holes, inclined entries and exits, interrupted cuts, and rough or welded entry surfaces.
- Eccentric chuck available as standard.

# Low cutting forces provide long tool body life and high stability at the smallest diameters.

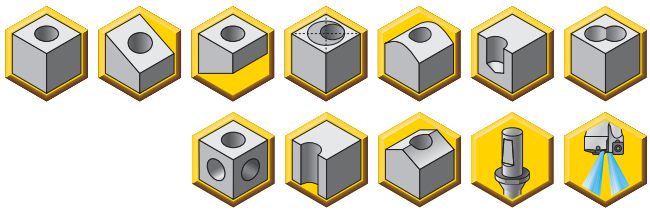
## Reliability

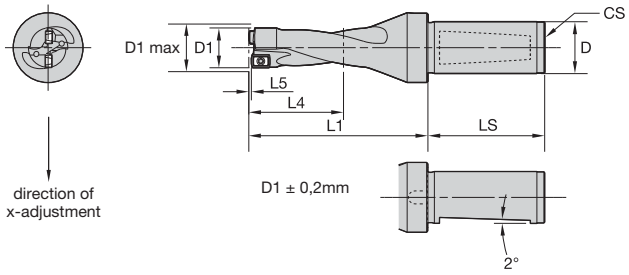
- High stability in smaller sizes due to rectangular-shaped insert.
- Same insert can be used as inboard or outboard insert. No risk of mixing up inner and outer inserts.
- Low cutting forces result in long body tool life.

## Customization

- Intermediate diameters available as semi-standards.
- Engineered solutions available.
- Multistep drills available upon request.
- Left-hand version available.

- Drill shipped with insert screws and Torx wrench.
- See pages J97–J98 for inserts.





## WN/WD Shank • 2 x D • Metric

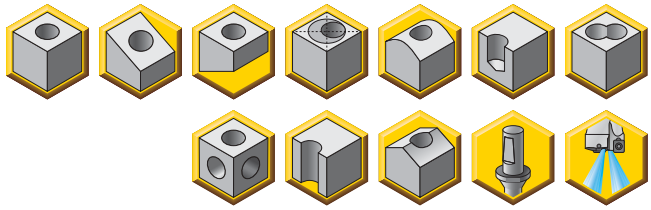
| D | | D1 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 | 32 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| **DFR125R2WD20M** | – | 12,50 | .492 | 13,50 | 47,4 | 25,0 | 0,5 | DFR0202.. |
| **DFR127R2WD20M** | – | 12,70 | .500 | 13,70 | 47,8 | 25,4 | 0,5 | DFR0202.. |
| **DFR130R2WD20M** | – | 13,00 | .512 | 14,00 | 48,4 | 26,0 | 0,5 | DFR0202.. |
| **DFR135R2WD20M** | – | 13,50 | .532 | 14,50 | 49,4 | 27,0 | 0,5 | DFR0202.. |
| **DFR140R2WD20M** | – | 14,00 | .551 | 15,00 | 50,4 | 28,0 | 0,5 | DFR0202.. |
| **DFR145R2WD20M** | – | 14,50 | .571 | 15,50 | 53,4 | 29,0 | 0,5 | DFR0202.. |
| **DFR150R2WD20M** | – | 15,00 | .591 | 16,00 | 54,4 | 30,0 | 0,5 | DFR0202.. |
| **DFR155R2WD20M** | – | 15,50 | .610 | 16,50 | 55,4 | 31,0 | 0,5 | DFR0202.. |
| **DFR160R2WD20M** | – | 16,00 | .630 | 17,00 | 56,4 | 32,0 | 0,5 | DFR0202.. |
| – | **DFR165R2WD32M** | 16,50 | .650 | 17,50 | 62,4 | 33,0 | 0,6 | DFR0302.. |
| – | **DFR170R2WD32M** | 17,00 | .669 | 18,00 | 63,4 | 34,0 | 0,6 | DFR0302.. |
| – | **DFR175R2WD32M** | 17,50 | .689 | 18,50 | 64,4 | 35,0 | 0,6 | DFR0302.. |
| – | **DFR180R2WD32M** | 18,00 | .709 | 19,00 | 65,4 | 36,0 | 0,6 | DFR0302.. |
| – | **DFR185R2WD32M** | 18,50 | .728 | 19,50 | 66,4 | 37,0 | 0,6 | DFR0302.. |
| – | **DFR190R2WD32M** | 19,00 | .748 | 20,00 | 67,4 | 38,0 | 0,6 | DFR0302.. |
| – | **DFR195R2WD32M** | 19,50 | .768 | 20,50 | 68,4 | 39,0 | 0,6 | DFR0302.. |
| – | **DFR200R2WD32M** | 20,00 | .787 | 21,00 | 72,4 | 40,0 | 0,6 | DFR0302.. |
| – | **DFR205R2WD32M** | 20,50 | .807 | 21,50 | 73,6 | 41,0 | 0,8 | DFR0403.. |
| – | **DFR210R2WD32M** | 21,00 | .827 | 22,00 | 74,6 | 42,0 | 0,8 | DFR0403.. |
| – | **DFR220R2WD32M** | 22,00 | .866 | 23,00 | 76,6 | 44,0 | 0,8 | DFR0403.. |
| – | **DFR230R2WD32M** | 23,00 | .906 | 24,00 | 78,6 | 46,0 | 0,8 | DFR0403.. |
| – | **DFR240R2WD32M** | 24,00 | .945 | 25,00 | 80,6 | 48,0 | 0,8 | DFR0403.. |

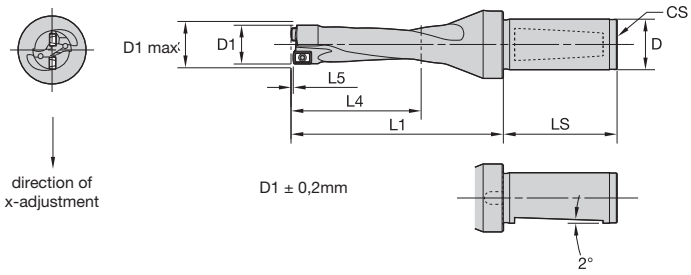
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFR0202.. | **193.281** | **170.027** | 6 |
| DFR0302.. | **192.416** | **170.023** | 7 |
| DFR0403.. | **192.432** | **170.028** | 8 |

| D | LS | CS |
|---|---|---|
| 20 | 45 | R 1/8 BSP |
| 32 | 58 | R 1/4 BSP |

- Drill shipped with insert screws and Torx wrench.
- See pages J97–J98 for inserts.





## WN/WD Shank • 3 x D • Metric

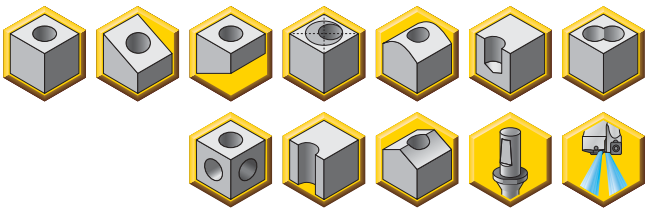
| D | | | D1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 25 | 32 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| **DFR125R3WD20M** | – | – | 12,50 | .492 | 13,50 | 59,9 | 37,5 | 0,5 | DFR0202.. |
| **DFR127R3WD20M** | – | – | 12,70 | .500 | 13,70 | 60,5 | 38,1 | 0,5 | DFR0202.. |
| **DFR130R3WD20M** | – | – | 13,00 | .512 | 14,00 | 61,4 | 39,0 | 0,5 | DFR0202.. |
| **DFR135R3WD20M** | – | – | 13,50 | .532 | 14,50 | 62,9 | 40,5 | 0,5 | DFR0202.. |
| **DFR140R3WD20M** | – | – | 14,00 | .551 | 15,00 | 64,4 | 42,0 | 0,5 | DFR0202.. |
| **DFR145R3WD20M** | – | – | 14,50 | .571 | 15,50 | 67,9 | 43,5 | 0,5 | DFR0202.. |
| **DFR150R3WD20M** | – | – | 15,00 | .591 | 16,00 | 69,4 | 45,0 | 0,5 | DFR0202.. |
| **DFR155R3WD20M** | – | – | 15,50 | .610 | 16,50 | 70,9 | 46,5 | 0,5 | DFR0202.. |
| **DFR160R3WD20M** | – | – | 16,00 | .630 | 17,00 | 72,4 | 48,0 | 0,5 | DFR0202.. |
| – | – | **DFR165R3WD32M** | 16,50 | .650 | 17,50 | 78,9 | 49,5 | 0,6 | DFR0302.. |
| – | – | **DFR170R3WD32M** | 17,00 | .669 | 18,00 | 80,4 | 51,0 | 0,6 | DFR0302.. |
| – | **DFR175R3WD25M** | **DFR175R3WD32M** | 17,50 | .689 | 18,50 | 81,9 | 52,5 | 0,6 | DFR0302.. |
| – | **DFR180R3WD25M** | **DFR180R3WD32M** | 18,00 | .709 | 19,00 | 83,4 | 54,0 | 0,6 | DFR0302.. |
| – | **DFR185R3WD25M** | **DFR185R3WD32M** | 18,50 | .728 | 19,50 | 84,9 | 55,5 | 0,6 | DFR0302.. |
| – | **DFR190R3WD25M** | **DFR190R3WD32M** | 19,00 | .748 | 20,00 | 86,4 | 57,0 | 0,6 | DFR0302.. |
| – | **DFR195R3WD25M** | **DFR195R3WD32M** | 19,50 | .768 | 20,50 | 87,9 | 58,5 | 0,6 | DFR0302.. |
| – | **DFR200R3WD25M** | **DFR200R3WD32M** | 20,00 | .787 | 21,00 | 92,4 | 60,0 | 0,6 | DFR0302.. |
| – | **DFR205R3WD25M** | **DFR205R3WD32M** | 20,50 | .807 | 21,50 | 94,1 | 61,5 | 0,8 | DFR0403.. |
| – | **DFR210R3WD25M** | **DFR210R3WD32M** | 21,00 | .827 | 22,00 | 95,6 | 63,0 | 0,8 | DFR0403.. |
| – | **DFR220R3WD25M** | **DFR220R3WD32M** | 22,00 | .866 | 23,00 | 98,6 | 66,0 | 0,8 | DFR0403.. |
| – | **DFR230R3WD25M** | **DFR230R3WD32M** | 23,00 | .906 | 24,00 | 101,6 | 69,0 | 0,8 | DFR0403.. |
| – | **DFR240R3WD25M** | **DFR240R3WD32M** | 24,00 | .945 | 25,00 | 104,6 | 72,0 | 0,8 | DFR0403.. |

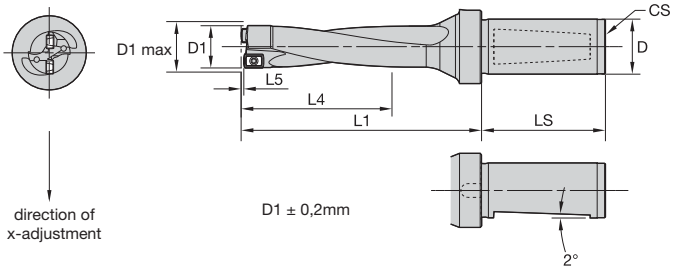
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFR0202.. | **193.281** | **170.027** | 6 |
| DFR0302.. | **192.416** | **170.023** | 7 |
| DFR0403.. | **192.432** | **170.028** | 8 |

| D | LS | CS |
|---|---|---|
| 20 | 45 | R 1/8 BSP |
| 25 | 45 | R 1/4 BSP |
| 32 | 58 | R 1/4 BSP |

- Drill shipped with insert screws and Torx wrench.
- See pages J97–J98 for inserts.





## WN/WD Shank • 4 x D • Metric

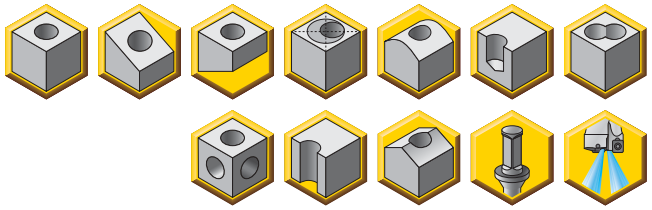
| D | | D1 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 | 32 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| **DFR125R4WD20M** | – | 12,50 | .492 | 13,50 | 72,4 | 50,0 | 0,5 | DFR0202.. |
| **DFR127R4WD20M** | – | 12,70 | .500 | 13,70 | 73,2 | 50,8 | 0,5 | DFR0202.. |
| **DFR130R4WD20M** | – | 13,00 | .512 | 14,00 | 74,4 | 52,0 | 0,5 | DFR0202.. |
| **DFR135R4WD20M** | – | 13,50 | .532 | 14,50 | 76,4 | 54,0 | 0,5 | DFR0202.. |
| **DFR140R4WD20M** | – | 14,00 | .551 | 15,00 | 78,4 | 56,0 | 0,5 | DFR0202.. |
| **DFR145R4WD20M** | – | 14,50 | .571 | 15,50 | 82,4 | 58,0 | 0,5 | DFR0202.. |
| **DFR150R4WD20M** | – | 15,00 | .591 | 16,00 | 84,4 | 60,0 | 0,5 | DFR0202.. |
| **DFR155R4WD20M** | – | 15,50 | .610 | 16,50 | 86,4 | 62,0 | 0,5 | DFR0202.. |
| **DFR160R4WD20M** | – | 16,00 | .630 | 17,00 | 88,4 | 64,0 | 0,5 | DFR0202.. |
| – | **DFR165R4WD32M** | 16,50 | .650 | 17,50 | 95,4 | 66,0 | 0,6 | DFR0302.. |
| – | **DFR170R4WD32M** | 17,00 | .669 | 18,00 | 97,4 | 68,0 | 0,6 | DFR0302.. |
| – | **DFR175R4WD32M** | 17,50 | .689 | 18,50 | 99,4 | 70,0 | 0,6 | DFR0302.. |
| – | **DFR180R4WD32M** | 18,00 | .709 | 19,00 | 101,4 | 72,0 | 0,6 | DFR0302.. |
| – | **DFR185R4WD32M** | 18,50 | .728 | 19,50 | 103,4 | 74,0 | 0,6 | DFR0302.. |
| – | **DFR190R4WD32M** | 19,00 | .748 | 20,00 | 105,4 | 76,0 | 0,6 | DFR0302.. |
| – | **DFR195R4WD32M** | 19,50 | .768 | 20,50 | 107,4 | 78,0 | 0,6 | DFR0302.. |
| – | **DFR200R4WD32M** | 20,00 | .787 | 21,00 | 109,4 | 80,0 | 0,6 | DFR0302.. |
| – | **DFR205R4WD32M** | 20,50 | .807 | 21,50 | 111,6 | 82,0 | 0,8 | DFR0403.. |
| – | **DFR210R4WD32M** | 21,00 | .827 | 22,00 | 113,6 | 84,0 | 0,8 | DFR0403.. |
| – | **DFR220R4WD32M** | 22,00 | .866 | 23,00 | 117,6 | 88,0 | 0,8 | DFR0403.. |
| – | **DFR230R4WD32M** | 23,00 | .906 | 24,00 | 121,6 | 92,0 | 0,8 | DFR0403.. |
| – | **DFR240R4WD32M** | 24,00 | .945 | 25,00 | 125,6 | 96,0 | 0,8 | DFR0403.. |

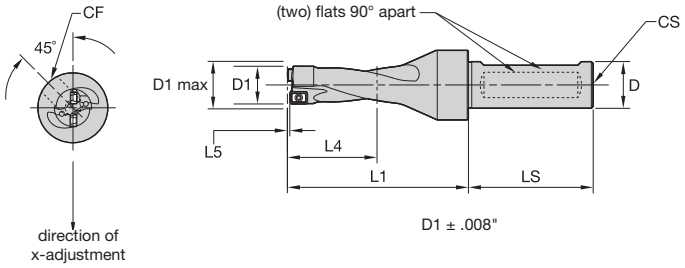
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

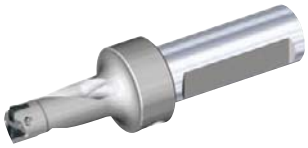
| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFR0202.. | **193.281** | **170.027** | 6 |
| DFR0302.. | **192.416** | **170.023** | 7 |
| DFR0403.. | **192.432** | **170.028** | 8 |

| D | LS | CS |
|---|---|---|
| 20 | 45 | R 1/8 BSP |
| 32 | 58 | R 1/4 BSP |

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J97–J98 for inserts.







## Flange Shank • 2 x D • Inch

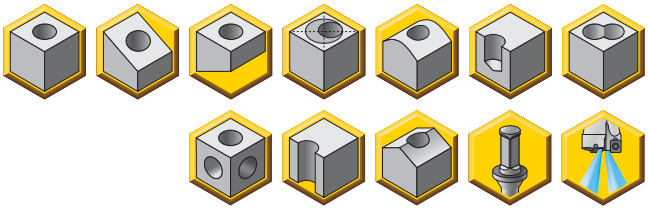
| D | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.750 | 1.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| **DFR0500R2SSF075** | **–** | 12,70 | .500 | .539 | 1.95 | 1.00 | .02 | DFR0202.. |
| **DFR0563R2SSF075** | **–** | 14,30 | .563 | .602 | 2.08 | 1.13 | .02 | DFR0202.. |
| **DFR0625R2SSF075** | **–** | 15,88 | .625 | .664 | 2.20 | 1.25 | .02 | DFR0202.. |
| **DFR0688R2SSF075** | **–** | 17,48 | .688 | .727 | 2.33 | 1.38 | .02 | DFR0302.. |
| **–** | **DFR0750R2SSF100** | 19,05 | .750 | .789 | 2.52 | 1.50 | .02 | DFR0302.. |
| **–** | **DFR0813R2SSF100** | 20,65 | .813 | .852 | 2.65 | 1.63 | .03 | DFR0403.. |
| **–** | **DFR0875R2SSF100** | 22,23 | .875 | .914 | 2.87 | 1.75 | .03 | DFR0403.. |
| **–** | **DFR0938R2SSF100** | 23,83 | .938 | .977 | 2.99 | 1.88 | .03 | DFR0403.. |
| **–** | **DFR1000R2SSF100** | 25,40 | 1.000 | 1.039 | 3.12 | 2.00 | .03 | DFR0403.. |

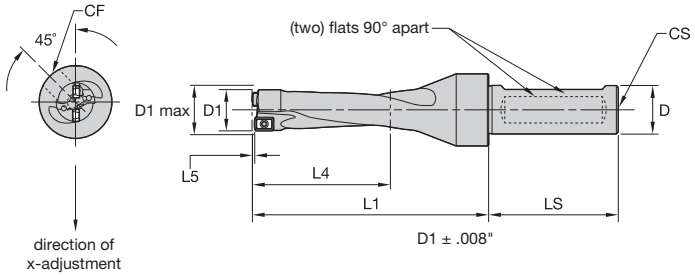
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

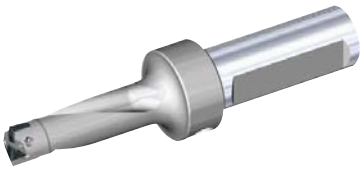
| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFR0202.. | **193.281** | **170.027** | 6 |
| DFR0302.. | **192.416** | **170.023** | 7 |
| DFR0403.. | **192.432** | **170.028** | 8 |

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 0.75 | 2.00 | 1/8-27 NPT | 1/8-27 NPT | **HSFS0125** |
| 1.00 | 3.00 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J97–J98 for inserts.







## Flange Shank • 3 x D • Inch

| D | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.750 | 1.000 | 1.250 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| DFR0500R3SSF075 | – | – | 12,70 | .500 | .539 | 2.44 | 1.59 | .02 | DFR0202.. |
| DFR0531R3SSF075 | – | – | 13,49 | .531 | .570 | 2.50 | 1.69 | .02 | DFR0202.. |
| DFR0563R3SSF075 | – | – | 14,30 | .563 | .602 | 2.64 | 1.69 | .02 | DFR0202.. |
| DFR0594R3SSF075 | – | – | 15,09 | .594 | .633 | 2.70 | 1.78 | .02 | DFR0202.. |
| DFR0625R3SSF075 | DFR0625R3SSF100 | – | 15,88 | .625 | .664 | 2.83 | 1.88 | .02 | DFR0202.. |
| DFR0656R3SSF075 | DFR0656R3SSF100 | – | 16,66 | .656 | .695 | 2.92 | 1.97 | .02 | DFR0302.. |
| DFR0688R3SSF075 | DFR0688R3SSF100 | – | 17,48 | .688 | .727 | 3.02 | 2.06 | .02 | DFR0302.. |
| DFR0703R3SSF075 | DFR0703R3SSF100 | – | 17,86 | .703 | .742 | 3.13 | 2.11 | .02 | DFR0302.. |
| DFR0734R3SSF075 | DFR0734R3SSF100 | – | 18,64 | .734 | .773 | 3.22 | 2.20 | .02 | DFR0302.. |
| DFR0750R3SSF075 | DFR0750R3SSF100 | – | 19,05 | .750 | .789 | 3.27 | 2.25 | .02 | DFR0302.. |
| DFR0781R3SSF075 | DFR0781R3SSF100 | – | 19,84 | .781 | .820 | 3.36 | 2.34 | .02 | DFR0302.. |
| DFR0813R3SSF075 | DFR0813R3SSF100 | – | 20,65 | .813 | .852 | 3.46 | 2.44 | .03 | DFR0403.. |
| DFR0844R3SSF075 * | DFR0844R3SSF100 | – | 21,44 | .844 | .883 | 3.65 | 2.53 | .03 | DFR0403.. |
| DFR0875R3SSF075 | DFR0875R3SSF100 | – | 22,23 | .875 | .914 | 3.74 | 2.63 | .03 | DFR0403.. |
| – | DFR0906R3SSF100 | – | 23,01 | .906 | .945 | 3.83 | 2.72 | .03 | DFR0403.. |
| – | DFR0938R3SSF100 | – | 23,83 | .938 | .977 | 3.93 | 2.81 | .03 | DFR0403.. |
| – | DFR0969R3SSF100 | – | 24,61 | .969 | 1.008 | 4.02 | 2.91 | .03 | DFR0403.. |
| – | DFR0984R3SSF100 | – | 24,99 | .984 | 1.023 | 4.07 | 2.95 | .03 | DFR0403.. |
| – | DFR1000R3SSF100 | DFR1000R3SSF125 | 25,40 | 1.000 | 1.039 | 4.12 | 3.00 | .03 | DFR0403.. |

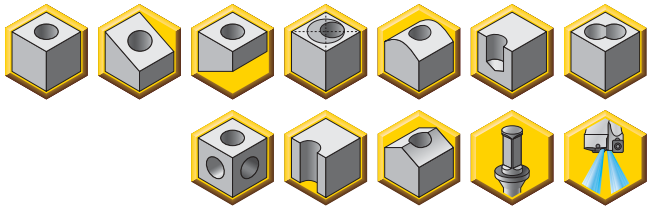
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

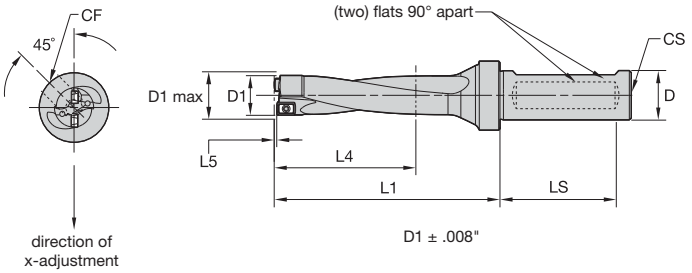
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFR0202.. | **193.281** | **170.027** | 6 |
| DFR0302.. | **192.416** | **170.023** | 7 |
| DFR0403.. | **192.432** | **170.028** | 8 |

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 0.75 | 2.00 | 1/8-27 NPT | 1/8-27 NPT | **HSFS0125** |
| 1.00 | 3.00 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 1.25 | 3.25 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J97–J98 for inserts.





## Flange Shank • 4 x D • Inch

| D | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.750 | 1.000 | 1.250 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| DFR0500R4SSF075 | – | – | 12,70 | .500 | .540 | 2.95 | 2.00 | .02 | DFR0202.. |
| DFR0531R4SSF075 | – | – | 13,49 | .531 | .571 | 3.05 | 2.12 | .02 | DFR0202.. |
| DFR0563R4SSF075 | – | – | 14,30 | .563 | .603 | 3.21 | 2.25 | .02 | DFR0202.. |
| DFR0594R4SSF075 | – | – | 15,09 | .594 | .633 | 3.30 | 2.38 | .02 | DFR0202.. |
| DFR0625R4SSF075 | DFR0625R4SSF100 | – | 15,88 | .625 | .664 | 3.45 | 2.50 | .02 | DFR0202.. |
| – | DFR0656R4SSF100 | – | 16,66 | .656 | .695 | 3.58 | 2.62 | .02 | DFR0302.. |
| – | DFR0688R4SSF100 | – | 17,48 | .688 | .727 | 3.71 | 2.75 | .02 | DFR0302.. |
| – | DFR0703R4SSF100 | – | 17,86 | .703 | .742 | 3.83 | 2.81 | .02 | DFR0302.. |
| – | DFR0734R4SSF100 | – | 18,64 | .734 | .773 | 3.95 | 2.94 | .02 | DFR0302.. |
| – | DFR0750R4SSF100 | – | 19,05 | .750 | .789 | 4.02 | 3.00 | .02 | DFR0302.. |
| – | DFR0781R4SSF100 | – | 19,84 | .781 | .820 | 4.14 | 3.12 | .02 | DFR0302.. |
| – | DFR0813R4SSF100 | – | 20,65 | .813 | .852 | 4.27 | 3.25 | .03 | DFR0403.. |
| – | DFR0844R4SSF100 | – | 21,44 | .844 | .883 | 4.49 | 3.38 | .03 | DFR0403.. |
| – | DFR0875R4SSF100 | – | 22,23 | .875 | .914 | 4.62 | 3.50 | .03 | DFR0403.. |
| – | DFR0906R4SSF100 | – | 23,01 | .906 | .945 | 4.74 | 3.62 | .03 | DFR0403.. |
| – | DFR0938R4SSF100 | – | 23,83 | .938 | .977 | 4.87 | 3.75 | .03 | DFR0403.. |
| – | DFR0969R4SSF100 | – | 24,61 | .969 | 1.008 | 4.99 | 3.88 | .03 | DFR0403.. |
| – | DFR0984R4SSF100 | – | 24,99 | .984 | 1.023 | 5.05 | 3.84 | .03 | DFR0403.. |
| – | DFR1000R4SSF100 | DFR1000R4SSF125 | 25,40 | 1.000 | 1.039 | 5.12 | 4.00 | .03 | DFR0403.. |

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFR0202.. | **193.281** | **170.027** | 6 |
| DFR0302.. | **192.416** | **170.023** | 7 |
| DFR0403.. | **192.432** | **170.028** | 8 |

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 0.75 | 2.00 | 1/8-27 NPT | 1/8-27 NPT | **HSFS0125** |
| 1.00 | 3.00 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 1.25 | 3.25 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |

## Drill Fix™ DFR™ • Metric

| Metric | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFR02... 12,50–16,00mm | DFR03... 16,50–20,00mm | DFR04... 20,50–24,00mm |
| P | 1 | S | O | MD | KCU25 | 310 | **325** | 360 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KCU40 | 200 | **215** | 230 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 130 | **135** | 150 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | MD | KC7140 | | | | | | | |
| | 2 | S | O | GD | KCPK10 | 310 | **325** | 360 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 200 | **215** | 230 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 130 | **135** | 150 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | 3 | S | O | GD | KCPK10 | 260 | **285** | 320 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 180 | **195** | 220 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 110 | **120** | 140 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | 4 | S | O | GD | KCU25 | 220 | **250** | 300 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 150 | **180** | 220 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 90 | **110** | 140 | mm/r | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 |
| | | | I | LD | KC7140 | | | | | | | |
| | 5 | S | O | GD | KCU25 | 180 | **200** | 220 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 120 | **135** | 150 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 70 | **85** | 100 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 |
| | | | I | LD | KC7140 | | | | | | | |
| | 6 | S | O | GD | KCU25 | 180 | **200** | 220 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 120 | **135** | 150 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 70 | **85** | 100 | mm/r | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 |
| | | | I | LD | KC7140 | | | | | | | |
| M | 1 | S | O | MD | KC7140 | 150 | **190** | 230 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KC7140 | 100 | **130** | 160 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 60 | **80** | 100 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | 2 | S | O | MD | KC7140 | 150 | **180** | 210 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KC7140 | 100 | **130** | 160 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 60 | **80** | 100 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | 3 | S | O | MD | KC7140 | 100 | **130** | 160 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KC7140 | 80 | **110** | 140 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 50 | **70** | 90 | mm/r | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFR™ • Metric

| Metric | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFR02... 12,50–16,00mm | DFR03... 16,50–20,00mm | DFR04... 20,50–24,00mm |
| K | 1 | S | O | GD | KCPK10 | 200 | **240** | 300 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU25 | 120 | **155** | 200 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KCU40 | 80 | **100** | 125 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KC7140 | | | | | | | |
| | 2 | S | O | GD | KCPK10 | 180 | **220** | 260 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU25 | 110 | **140** | 170 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KCU40 | 80 | **100** | 120 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KC7140 | | | | | | | |
| | 3 | S | O | GD | KCPK10 | 180 | **220** | 260 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU25 | 110 | **140** | 170 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KCU40 | 80 | **100** | 120 | mm/r | 0,10–0,18 | 0,12–0,20 | 0,14–0,24 |
| | | | I | LD | KC7140 | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 300 | **400** | 500 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 200 | **300** | 400 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | 2 | S | O | ST | KD1425 | 375 | **550** | 775 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 250 | **350** | 450 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 175 | **250** | 325 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | 3 | S | O | ST | KD1425 | 350 | **500** | 650 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 250 | **350** | 450 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 150 | **250** | 350 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | 4 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 250 | **350** | 450 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 200 | **300** | 400 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | 5 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 250 | **350** | 450 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 200 | **300** | 400 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | LD | KCU40 | | | | | | | |
| | 6 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | GD | KCU40 | 250 | **350** | 450 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | GD | KCU40 | | | | | | | |
| | | I | O | GD | KMF | 200 | **300** | 400 | mm/r | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 |
| | | | I | GD | KMF | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFR™ • Metric

| Metric | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR02... 12,50–16,00mm | DFR03... 16,50–20,00mm | DFR04... 20,50–24,00mm |
| S | 1 | S | O | GD | KCU40 | 60 | **70** | 75 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 40 | **50** | 60 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 25 | **30** | 40 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | |
| | 2 | S | O | GD | KCU40 | 50 | **60** | 70 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 30 | **40** | 50 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 25 | **30** | 40 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | |
| | 3 | S | O | GD | KCU40 | 70 | **80** | 90 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,06–0,10 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 50 | **60** | 70 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,06–0,10 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 30 | **40** | 50 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | |
| | 4 | S | O | GD | KCU40 | 70 | **80** | 90 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,06–0,10 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 50 | **60** | 70 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,06–0,10 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 30 | **40** | 50 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFR™ • Inch

| Inch | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFR02... .500–.625" | DFR03... .688–.750" | DFR04... .813–1.00" |
| P | 1 | S | O | MD | KCU25 | 1017 | **1066** | 1181 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KCU40 | 656 | **705** | 754 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 426 | **443** | 492 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | MD | KC7140 | | | | | | | |
| | 2 | S | O | GD | KCPK10 | 1017 | **1066** | 1181 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 656 | **705** | 754 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 426 | **443** | 492 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | 3 | S | O | GD | KCPK10 | 853 | **935** | 1050 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 590 | **640** | 722 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 361 | **394** | 459 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | 4 | S | O | GD | KCU25 | 722 | **820** | 984 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 492 | **590** | 722 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 295 | **361** | 459 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | 5 | S | O | GD | KCU25 | 590 | **656** | 722 | SFM | .003–.005 | .004–.006 | .004–.007 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 394 | **443** | 492 | SFM | .003–.005 | .004–.006 | .004–.007 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 230 | **279** | 328 | SFM | .003–.005 | .004–.006 | .004–.007 |
| | | | I | LD | KC7140 | | | | | | | |
| | 6 | S | O | GD | KCU25 | 590 | **656** | 722 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | U | O | GD | KCU40 | 394 | **443** | 492 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KC7140 | 230 | **279** | 328 | SFM | .004–.006 | .004–.007 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | |
| M | 1 | S | O | MD | KC7140 | 492 | **623** | 754 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KC7140 | 328 | **426** | 525 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 197 | **262** | 328 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | 2 | S | O | MD | KC7140 | 492 | **590** | 689 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KC7140 | 328 | **426** | 525 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 197 | **262** | 328 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | 3 | S | O | MD | KC7140 | 328 | **426** | 525 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | | U | O | MD | KC7140 | 262 | **361** | 459 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 164 | **230** | 295 | SFM | .003–.005 | .003–.006 | .004–.007 |
| | | | I | MD | KC7140 | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFR™ • Inch



| Inch | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Pocket Seat | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFR02... .500–.625" | DFR03... .688–.750" | DFR04... .813–1.00" |
| K | 1 | S | O | GD | KCPK10 | 656 | **787** | 984 | SFM | .004–.007 | .005–.008 | .006–.009 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU25 | 394 | **508** | 656 | SFM | .004–.007 | .005–.008 | .006–.009 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KCU40 | 262 | **328** | 410 | SFM | .004–.007 | .005–.008 | .005–.009 |
| | | | I | LD | KC7140 | | | | | | | |
| | 2 | S | O | GD | KCPK10 | 590 | **722** | 853 | SFM | .004–.007 | .005–.008 | .006–.009 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU25 | 361 | **459** | 558 | SFM | .004–.007 | .005–.008 | .005–.009 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KCU40 | 262 | **328** | 394 | SFM | .004–.007 | .005–.008 | .006–.009 |
| | | | I | LD | KC7140 | | | | | | | |
| | 3 | S | O | GD | KCPK10 | 590 | **722** | 853 | SFM | .004–.007 | .005–.008 | .005–.009 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU25 | 361 | **459** | 558 | SFM | .004–.007 | .005–.008 | .006–.009 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | GD | KCU40 | 262 | **328** | 394 | SFM | .004–.007 | .005–.008 | .005–.009 |
| | | | I | LD | KC7140 | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 984 | **1312** | 1640 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 656 | **984** | 1312 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | 2 | S | O | ST | KD1425 | 1230 | **1804** | 2542 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 820 | **1148** | 1476 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 574 | **820** | 1066 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | 3 | S | O | ST | KD1425 | 1148 | **1640** | 2132 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 820 | **1148** | 1476 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 492 | **820** | 1148 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | 4 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | LD | KCU40 | 820 | **1148** | 1486 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | | I | O | LD | KCU40 | 656 | **984** | 1312 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | LD | KCU40 | | | | | | | |
| | 5 | S | O | HP | KD1425 | 1312 | **1968** | 2624 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | HP | KD1425 | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | HP | KCU40 | | | | | | | |
| | | I | O | HP | KCU40 | 656 | **984** | 1312 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | HP | KCU40 | | | | | | | |
| | 6 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | ST | KD1425 | | | | | | | |
| | | U | O | GD | KCU40 | 820 | **1148** | 1476 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | GD | KCU40 | | | | | | | |
| | | I | O | GD | KMF | 656 | **984** | 1312 | SFM | .003–.004 | .004–.006 | .005–.006 |
| | | | I | GD | KMF | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFR™ • Inch

| Inch | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFR02... .500–.625" | DFR03... .688–.750" | DFR04... .813–1.00" |
| S | 1 | S | O | GD | KCU40 | 197 | **230** | 246 | SFM | .002–.002 | .002–.003 | .002–.004 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 131 | **164** | 197 | SFM | .002–.002 | .002–.003 | .002–.004 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 82 | **98** | 131 | SFM | .002–.002 | .002–.003 | .002–.004 |
| | | | I | MD | KC7140 | | | | | | | |
| | 2 | S | O | GD | KCU40 | 164 | **197** | 230 | SFM | .002–.002 | .002–.003 | .002–.004 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 98 | **131** | 164 | SFM | .002–.002 | .002–.003 | .002–.004 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 82 | **98** | 131 | SFM | .002–.002 | .002–.003 | .002–.004 |
| | | | I | MD | KC7140 | | | | | | | |
| | 3 | S | O | GD | KCU40 | 230 | **262** | 295 | SFM | .002–.004 | .002–.003 | .002–.004 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 164 | **197** | 230 | SFM | .002–.003 | .002–.004 | .002–.004 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 98 | **131** | 164 | SFM | .002–.003 | .002–.004 | .002–.004 |
| | | | I | MD | KC7140 | | | | | | | |
| | 4 | S | O | GD | KCU40 | 230 | **262** | 295 | SFM | .002–.003 | .002–.004 | .002–.004 |
| | | | I | LD | KCU40 | | | | | | | |
| | | U | O | GD | KCU40 | 164 | **197** | 230 | SFM | .002–.003 | .002–.004 | .002–.004 |
| | | | I | LD | KC7140 | | | | | | | |
| | | I | O | MD | KC7140 | 98 | **131** | 164 | SFM | .002–.003 | .002–.004 | .002–.004 |
| | | | I | MD | KC7140 | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

# Drill Fix™ DFSP™

DFSP is the new name of the now-extended Drill Fix DFS" indexable drilling platform. The standard diameter range is now expanded starting from 14–55mm (.551–2.125") in L/D ratios 2 x D, 3 x D, 4 x D, and 5 x D. Like the DFS platform, the DFSP platform combines the economically squared outboard insert with the superior centering capabilities of the trigon inboard insert. DFSP indexable drills offer increased metal removal rates combined with high surface quality and hole straightness.

Boost your productivity even further and achieve outstanding results in steel, stainless steel, and cast iron with the latest Beyond™ insert grades.

## Features and Benefits

### Higher Productivity and Profitability

- Achieve highest metal removal rates and excellent chip evacuation from advanced chip flutes and non-central and increased cooling channels.
- Squared outboard inserts offer four economic cutting edges.
- Complete product portfolio offers standard L/D ratios up to 5 x D.

### Versatility

- Drill holes up to 5 x D in steel, cast iron, ductile iron, stainless steel, and non-ferrous materials.
- Use where speed and economy are prime considerations.
- Use DFSP drills in straight holes, inclined entries and exits, interrupted cuts, and rough or welded entry surfaces.
- Use X-offset on turning machines to adjust the drill diameter and eliminate the need for specials in many applications, and on machining centers to reach tolerance optimization.
- Eccentric chuck available as standard.
- Quick and easy insert grade and/or geometry change to address material and application changes.

# Boost your productivity even further with the latest Beyond™ insert grades.

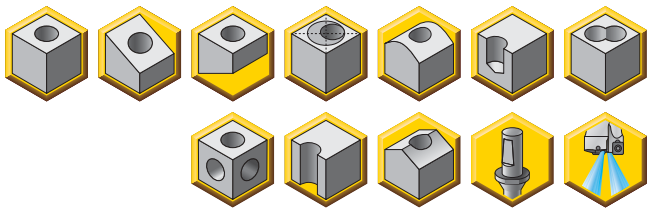
## Reliability

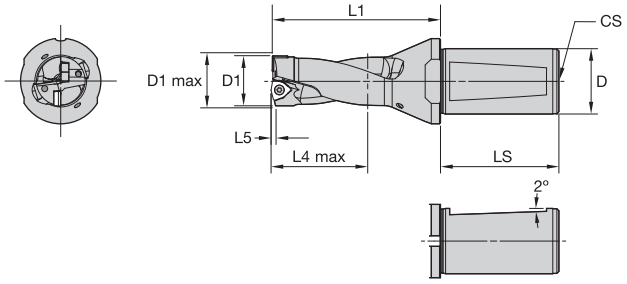
- High accuracy holes in any feed rates.
- Gain outstanding results using Beyond grades for DFT™ and SPGX/SPPX inserts.
- High wear resistance in interrupted cuts due to squared outboard insert.

## Customization

- Use DFSP cartridges to extend diameter range up to 85mm (3.35") in L/D ratios up to 5 x D.
- Intermediate diameters, multistep drills, and other non-standard shanks are available.
- Contact our engineered solutions team for recommendations.

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
- Drill shipped with insert screws and Torx wrench.
- Order inserts for DFSP separately.
  See pages J103–J104 for inserts.





## WD Shank • 2 x D • Metric

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| DFSP140R2WD20M | – | – | – | 14,00 | .550 | 15,00 | 50,0 | 28,0 | 0,3 | SPGX0502.. | DFTX202.. |
| DFSP145R2WD20M * | – | – | – | 14,50 | .570 | 15,50 | 53,0 | 29,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP150R2WD20M | – | – | – | 15,00 | .590 | 16,00 | 54,0 | 30,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP155R2WD20M | – | – | – | 15,50 | .610 | 16,50 | 55,0 | 31,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP160R2WD20M | – | – | – | 16,00 | .630 | 17,00 | 56,0 | 32,0 | 0,4 | SPGX0502.. | DFTX202.. |
| – | DFSP165R2WD32M | – | – | 16,50 | .650 | 17,50 | 62,0 | 33,0 | 0,5 | SPGX0502.. | DFTX202.. |
| – | DFSP170R2WD32M | – | – | 17,00 | .670 | 18,00 | 63,0 | 34,0 | 0,5 | SPGX0502.. | DFTX202.. |
| – | DFSP175R2WD32M | – | – | 17,50 | .690 | 18,50 | 64,0 | 35,0 | 0,5 | SPGX0603.. | DFT0303.. |
| – | DFSP180R2WD32M | – | – | 18,00 | .710 | 19,00 | 65,0 | 36,0 | 0,5 | SPGX0603.. | DFT0303.. |
| – | DFSP185R2WD32M | – | – | 18,50 | .730 | 19,50 | 66,0 | 37,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP190R2WD32M | – | – | 19,00 | .750 | 20,00 | 67,0 | 38,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP195R2WD32M | – | – | 19,50 | .770 | 20,50 | 68,0 | 39,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP200R2WD32M | – | – | 20,00 | .790 | 21,00 | 72,0 | 40,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP210R2WD32M | – | – | 21,00 | .830 | 22,00 | 74,0 | 42,0 | 0,7 | SPGX0603.. | DFT0303.. |
| – | DFSP220R2WD32M | – | – | 22,00 | .870 | 23,00 | 76,0 | 44,0 | 0,5 | SPGX0703.. | DFT05T3.. |
| – | DFSP230R2WD32M | – | – | 23,00 | .910 | 24,00 | 78,0 | 46,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| – | DFSP240R2WD32M | – | – | 24,00 | .945 | 25,00 | 80,0 | 48,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| – | DFSP250R2WD32M | – | – | 25,00 | .984 | 26,00 | 83,0 | 50,0 | 0,7 | SPGX0703.. | DFT05T3.. |
| – | DFSP260R2WD32M | – | – | 26,00 | 1.024 | 27,00 | 86,0 | 52,0 | 0,7 | SPPX09T3.. | DFT05T3.. |
| – | DFSP265R2WD32M | – | – | 26,50 | 1.043 | 27,50 | 87,0 | 53,0 | 0,7 | SPPX09T3.. | DFT05T3.. |
| – | DFSP270R2WD32M | – | – | 27,00 | 1.063 | 28,00 | 89,0 | 54,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| – | DFSP280R2WD32M | – | – | 28,00 | 1.102 | 29,00 | 91,0 | 56,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| – | DFSP290R2WD32M | – | – | 29,00 | 1.142 | 30,00 | 94,0 | 58,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | DFSP300R2WD32M | – | – | 30,00 | 1.181 | 31,00 | 97,0 | 60,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | DFSP310R2WD32M | – | – | 31,00 | 1.221 | 32,00 | 100,0 | 62,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | DFSP320R2WD32M | – | – | 32,00 | 1.260 | 33,00 | 103,0 | 64,0 | 1,0 | SPPX09T3.. | DFT05T3.. |
| – | DFSP330R2WD32M | – | – | 33,00 | 1.299 | 34,00 | 105,0 | 66,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| – | DFSP340R2WD32M | – | – | 34,00 | 1.339 | 35,00 | 108,0 | 68,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| – | DFSP350R2WD32M | – | – | 35,00 | 1.378 | 36,00 | 111,0 | 70,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| – | DFSP360R2WD32M | – | – | 36,00 | 1.417 | 37,00 | 114,0 | 72,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| – | DFSP370R2WD32M | – | – | 37,00 | 1.457 | 38,00 | 117,0 | 74,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | DFSP375R2WD32M * | – | – | 37,50 | 1.476 | 38,50 | 118,0 | 75,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | DFSP380R2WD32M | – | – | 38,00 | 1.496 | 39,00 | 119,0 | 76,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | DFSP390R2WD32M | – | – | 39,00 | 1.535 | 40,00 | 122,0 | 78,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| – | DFSP400R2WD32M | – | – | 40,00 | 1.575 | 41,00 | 125,0 | 80,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| – | DFSP410R2WD32M | – | – | 41,00 | 1.614 | 42,00 | 128,0 | 82,0 | 1,2 | SPPX1204.. | DFT0704.. |

*(continued)*

*(WD Shank • 2 x D • Metric — continued)*

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| — | **DFSP420R2WD32M** | — | — | 42,00 | 1.654 | 43,00 | 131,0 | 84,0 | 1,3 | SPPX1204.. | DFT0704.. |
| — | **DFSP430R2WD32M** | — | — | 43,00 | 1.693 | 44,00 | 133,0 | 86,0 | 1,3 | SPPX1204.. | DFT0704.. |
| — | **DFSP440R2WD32M** | — | — | 44,00 | 1.732 | 45,00 | 135,0 | 88,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP450R2WD40M** | — | 45,00 | 1.772 | 46,00 | 137,0 | 90,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP460R2WD40M** | — | 46,00 | 1.811 | 47,00 | 140,0 | 92,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP470R2WD40M** | — | 47,00 | 1.850 | 48,00 | 142,0 | 94,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP480R2WD40M** | — | 48,00 | 1.890 | 49,00 | 144,0 | 96,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP490R2WD40M** | — | 49,00 | 1.929 | 50,00 | 146,0 | 98,0 | 1,4 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP500R2WD40M** | — | 50,00 | 1.969 | 51,00 | 148,0 | 100,0 | 1,5 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP505R2WD40M** | — | 50,50 | 1.988 | 51,50 | 148,0 | 100,0 | 1,5 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP510R2WD40M** | — | 51,00 | 2.008 | 52,00 | 150,0 | 102,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP520R2WD40M** | — | 52,00 | 2.047 | 53,00 | 152,0 | 104,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP530R2WD40M** | — | 53,00 | 2.087 | 54,00 | 154,0 | 106,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP540R2WD40M** | — | 54,00 | 2.126 | 55,00 | 156,0 | 108,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| — | — | — | **DFSP550R2WD50M** | 55,00 | 2.165 | 56,00 | 158,0 | 110,0 | 1,8 | SPPX15T5.. | DFT0905.. |

NOTE for D1 max: Diameter can be adjusted. It is highly recommended to not adjust the diameter more than +.039" (+1mm).
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

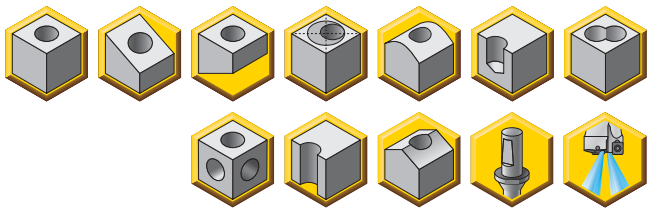
| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| 14.00–17.00 | DFTX202.. | **193.281** | 0,6 | .44 | SPGX0502.. | **193.281** | 0,6 | .44 | **170.370** | T6 |
| 17.50–21.00 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| 22.00–25.00 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 26.00–32.00 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 33.00–40.00 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 41.00–43.00 | DFT0704.. | **191.916** | 6 | 4.43 | SPPX1204.. | **191.916** | 3 | 2.21 | **170.025** | T15 |
| 44.00–48.00 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **192.433** | 3 | 2.21 | **170.025** | T15 |
| 49.00–55.00 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

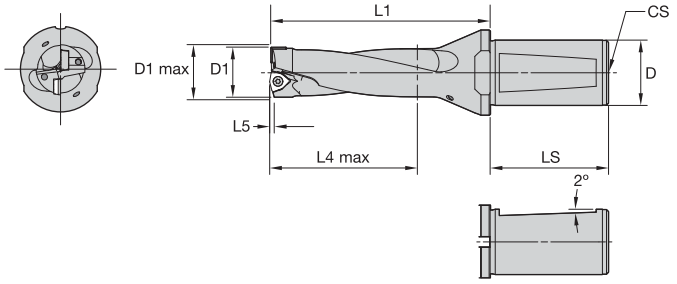
NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| D | LS | CS |
|---|---|---|
| 20 | 45 | — |
| 32 | 58 | R 1/4 BSP |
| 40 | 68 | R 1/4 BSP |
| 50 | 68 | R 1/4 BSP |

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
- Drill shipped with insert screws and Torx wrench.
- Order inserts for DFSP separately.
  See pages J103–J104 for inserts.





## WD Shank • 3 x D • Metric

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| **DFSP140R3WD20M** | – | – | – | 14,00 | .550 | 15,00 | 64,0 | 42,0 | 0,3 | SPGX0502.. | DFTX202.. |
| **DFSP145R3WD20M** | – | – | – | 14,50 | .570 | 15,50 | 67,5 | 43,5 | 0,4 | SPGX0502.. | DFTX202.. |
| **DFSP150R3WD20M** | – | – | – | 15,00 | .590 | 16,00 | 69,0 | 45,0 | 0,4 | SPGX0502.. | DFTX202.. |
| **DFSP155R3WD20M** | – | – | – | 15,50 | .610 | 16,50 | 70,5 | 46,5 | 0,4 | SPGX0502.. | DFTX202.. |
| **DFSP160R3WD20M** | – | – | – | 16,00 | .630 | 17,00 | 72,0 | 48,0 | 0,4 | SPGX0502.. | DFTX202.. |
| – | **DFSP165R3WD32M** | – | – | 16,50 | .650 | 17,50 | 78,5 | 49,5 | 0,5 | SPGX0502.. | DFTX202.. |
| – | **DFSP170R3WD32M** | – | – | 17,00 | .670 | 18,00 | 80,0 | 51,0 | 0,5 | SPGX0502.. | DFTX202.. |
| – | **DFSP175R3WD32M** | – | – | 17,50 | .690 | 18,50 | 81,5 | 52,5 | 0,5 | SPGX0603.. | DFT0303.. |
| – | **DFSP180R3WD32M** | – | – | 18,00 | .710 | 19,00 | 83,0 | 54,0 | 0,5 | SPGX0603.. | DFT0303.. |
| – | **DFSP185R3WD32M** | – | – | 18,50 | .730 | 19,50 | 84,5 | 55,5 | 0,6 | SPGX0603.. | DFT0303.. |
| – | **DFSP190R3WD32M** | – | – | 19,00 | .750 | 20,00 | 86,0 | 57,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | **DFSP195R3WD32M** | – | – | 19,50 | .770 | 20,50 | 87,5 | 58,5 | 0,6 | SPGX0603.. | DFT0303.. |
| – | **DFSP200R3WD32M** | – | – | 20,00 | .790 | 21,00 | 92,0 | 60,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | **DFSP210R3WD32M** | – | – | 21,00 | .830 | 22,00 | 95,0 | 63,0 | 0,7 | SPGX0603.. | DFT0303.. |
| – | **DFSP220R3WD32M** | – | – | 22,00 | .870 | 23,00 | 98,0 | 66,0 | 0,5 | SPGX0703.. | DFT05T3.. |
| – | **DFSP230R3WD32M** | – | – | 23,00 | .910 | 24,00 | 101,0 | 69,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| – | **DFSP240R3WD32M** | – | – | 24,00 | .945 | 25,00 | 104,0 | 72,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| – | **DFSP250R3WD32M** | – | – | 25,00 | .984 | 26,00 | 108,0 | 75,0 | 0,7 | SPGX0703.. | DFT05T3.. |
| – | **DFSP260R3WD32M** | – | – | 26,00 | 1.024 | 27,00 | 112,0 | 78,0 | 0,7 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP265R3WD32M** | – | – | 26,50 | 1.043 | 27,50 | 113,5 | 79,5 | 0,7 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP270R3WD32M** | – | – | 27,00 | 1.063 | 28,00 | 116,0 | 81,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP280R3WD32M** | – | – | 28,00 | 1.102 | 29,00 | 119,0 | 84,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP290R3WD32M** | – | – | 29,00 | 1.142 | 30,00 | 123,0 | 87,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP300R3WD32M** | – | – | 30,00 | 1.181 | 31,00 | 127,0 | 90,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP310R3WD32M** | – | – | 31,00 | 1.221 | 32,00 | 131,0 | 93,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP320R3WD32M** | – | – | 32,00 | 1.260 | 33,00 | 135,0 | 96,0 | 1,0 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP330R3WD32M** | – | – | 33,00 | 1.299 | 34,00 | 138,0 | 99,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| – | **DFSP340R3WD32M** | – | – | 34,00 | 1.339 | 35,00 | 142,0 | 102,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| – | **DFSP350R3WD32M** | – | – | 35,00 | 1.378 | 36,00 | 146,0 | 105,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| – | **DFSP360R3WD32M** | – | – | 36,00 | 1.417 | 37,00 | 150,0 | 108,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| – | **DFSP370R3WD32M** | – | – | 37,00 | 1.457 | 38,00 | 154,0 | 111,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | **DFSP375R3WD32M** | – | – | 37,50 | 1.476 | 38,50 | 155,5 | 112,5 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | **DFSP380R3WD32M** | – | – | 38,00 | 1.496 | 39,00 | 157,0 | 114,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | **DFSP390R3WD32M** | – | – | 39,00 | 1.535 | 40,00 | 161,0 | 117,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| – | **DFSP400R3WD32M** | – | – | 40,00 | 1.575 | 41,00 | 165,0 | 120,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| – | **DFSP410R3WD32M** | – | – | 41,00 | 1.614 | 42,00 | 169,0 | 123,0 | 1,2 | SPPX1204.. | DFT0704.. |

*(continued)*

*(WD Shank • 3 x D • Metric — continued)*

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| — | **DFSP420R3WD32M** | — | — | 42,00 | 1.654 | 43,00 | 173,0 | 126,0 | 1,3 | SPPX1204.. | DFT0704.. |
| — | **DFSP430R3WD32M** | — | — | 43,00 | 1.693 | 44,00 | 176,0 | 129,0 | 1,3 | SPPX1204.. | DFT0704.. |
| — | **DFSP440R3WD32M** | — | — | 44,00 | 1.732 | 45,00 | 179,0 | 132,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP450R3WD40M** | — | 45,00 | 1.772 | 46,00 | 182,0 | 135,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP460R3WD40M** | — | 46,00 | 1.811 | 47,00 | 186,0 | 138,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP470R3WD40M** | — | 47,00 | 1.850 | 48,00 | 189,0 | 141,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP480R3WD40M** | — | 48,00 | 1.890 | 49,00 | 192,0 | 144,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| — | — | **DFSP490R3WD40M** | — | 49,00 | 1.929 | 50,00 | 195,0 | 147,0 | 1,4 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP500R3WD40M** | — | 50,00 | 1.969 | 51,00 | 198,0 | 150,0 | 1,5 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP505R3WD40M** | — | 50,50 | 1.988 | 51,50 | 199,5 | 151,5 | 1,5 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP510R3WD40M** | — | 51,00 | 2.008 | 52,00 | 201,0 | 153,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP520R3WD40M** | — | 52,00 | 2.047 | 53,00 | 204,0 | 156,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP530R3WD40M** | — | 53,00 | 2.087 | 54,00 | 207,0 | 159,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| — | — | **DFSP540R3WD40M** | — | 54,00 | 2.126 | 55,00 | 210,0 | 162,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| — | — | — | **DFSP550R3WD50M** | 55,00 | 2.165 | 56,00 | 213,0 | 165,0 | 1,8 | SPPX15T5.. | DFT0905.. |

NOTE for D1 max: Diameter can be adjusted. It is highly recommended to not adjust the diameter more than +.039" (+1mm).

## Spare Parts

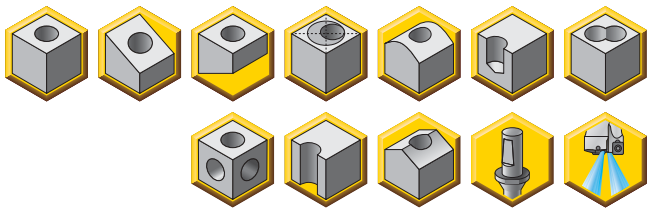
| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| 14.00–17.00 | DFTX202.. | **193.281** | 0,6 | .44 | SPGX0502.. | **193.281** | 0,6 | .44 | **170.370** | T6 |
| 17.50–21.00 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| 22.00–25.00 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 26.00–32.00 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 33.00–40.00 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 41.00–43.00 | DFT0704.. | **191.916** | 6 | 4.43 | SPPX1204.. | **191.916** | 3 | 2.21 | **170.025** | T15 |
| 44.00–48.00 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **192.433** | 3 | 2.21 | **170.025** | T15 |
| 49.00–55.00 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

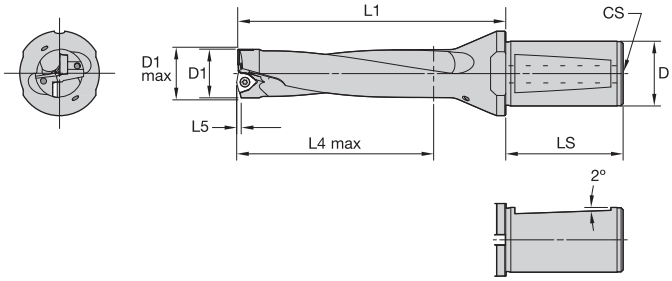
NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| D | LS | CS |
|---|---|---|
| 20 | 45 | — |
| 32 | 58 | R 1/4 BSP |
| 40 | 68 | R 1/4 BSP |
| 50 | 68 | R 1/4 BSP |

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
- Drill shipped with insert screws and Torx wrench.
- Order inserts for DFSP separately.
  See pages J103–J104 for inserts.





## WD Shank • 4 x D • Metric

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| DFSP140R4WD20M | – | – | – | 14,00 | .551 | 15,00 | 78,0 | 56,0 | 0,3 | SPGX0502.. | DFTX202.. |
| DFSP145R4WD20M | – | – | – | 14,50 | .571 | 15,50 | 82,0 | 58,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP150R4WD20M | – | – | – | 15,00 | .591 | 16,00 | 84,0 | 60,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP155R4WD20M * | – | – | – | 15,50 | .610 | 16,50 | 86,0 | 62,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP160R4WD20M | – | – | – | 16,00 | .630 | 17,00 | 88,0 | 64,0 | 0,4 | SPGX0502.. | DFTX202.. |
| DFSP165R4WD20M * | – | – | – | 16,50 | .650 | 17,50 | 95,0 | 66,0 | 0,5 | SPGX0502.. | DFTX202.. |
| DFSP170R4WD20M | – | – | – | 17,00 | .669 | 18,00 | 97,0 | 68,0 | 0,5 | SPGX0502.. | DFTX202.. |
| – | DFSP175R4WD32M | – | – | 17,50 | .690 | 18,50 | 99,0 | 70,0 | 0,5 | SPGX0603.. | DFT0303.. |
| – | DFSP180R4WD32M | – | – | 18,00 | .710 | 19,00 | 101,0 | 72,0 | 0,5 | SPGX0603.. | DFT0303.. |
| – | DFSP185R4WD32M | – | – | 18,50 | .730 | 19,50 | 103,0 | 74,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP190R4WD32M | – | – | 19,00 | .750 | 20,00 | 105,0 | 76,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP195R4WD32M | – | – | 19,50 | .770 | 20,50 | 107,0 | 78,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP200R4WD32M | – | – | 20,00 | .790 | 21,00 | 112,0 | 80,0 | 0,6 | SPGX0603.. | DFT0303.. |
| – | DFSP210R4WD32M | – | – | 21,00 | .830 | 22,00 | 96,0 | 64,0 | 0,7 | SPGX0603.. | DFT0303.. |
| – | DFSP220R4WD32M | – | – | 22,00 | .870 | 23,00 | 120,0 | 88,0 | 0,5 | SPGX0703.. | DFT05T3.. |
| – | DFSP230R4WD32M | – | – | 23,00 | .910 | 24,00 | 124,0 | 92,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| – | DFSP240R4WD32M | – | – | 24,00 | .945 | 25,00 | 128,0 | 96,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| – | DFSP250R4WD32M | – | – | 25,00 | .984 | 26,00 | 133,0 | 100,0 | 0,7 | SPGX0703.. | DFT05T3.. |
| – | DFSP260R4WD32M | – | – | 26,00 | 1.024 | 27,00 | 138,0 | 104,0 | 0,7 | SPPX09T3.. | DFT05T3.. |
| – | DFSP265R4WD32M | – | – | 26,50 | 1.043 | 27,50 | 140,0 | 106,0 | 0,7 | SPPX09T3.. | DFT05T3.. |
| – | DFSP270R4WD32M | – | – | 27,00 | 1.063 | 28,00 | 143,0 | 108,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| – | DFSP280R4WD32M | – | – | 28,00 | 1.102 | 29,00 | 147,0 | 112,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| – | DFSP290R4WD32M | – | – | 29,00 | 1.142 | 30,00 | 152,0 | 116,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | DFSP300R4WD32M | – | – | 30,00 | 1.181 | 31,00 | 157,0 | 120,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | DFSP310R4WD32M | – | – | 31,00 | 1.221 | 32,00 | 162,0 | 124,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| – | DFSP320R4WD32M | – | – | 32,00 | 1.260 | 33,00 | 167,0 | 128,0 | 1,0 | SPPX09T3.. | DFT05T3.. |
| – | DFSP330R4WD32M | – | – | 33,00 | 1.299 | 34,00 | 171,0 | 132,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| – | DFSP340R4WD32M | – | – | 34,00 | 1.339 | 35,00 | 176,0 | 136,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| – | DFSP350R4WD32M | – | – | 35,00 | 1.378 | 36,00 | 181,0 | 140,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| – | DFSP360R4WD32M | – | – | 36,00 | 1.417 | 37,00 | 186,0 | 144,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| – | DFSP370R4WD32M | – | – | 37,00 | 1.457 | 38,00 | 191,0 | 148,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | DFSP375R4WD32M | – | – | 37,50 | 1.476 | 38,50 | 193,0 | 150,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | DFSP380R4WD32M | – | – | 38,00 | 1.496 | 39,00 | 195,0 | 152,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| – | DFSP390R4WD32M | – | – | 39,00 | 1.535 | 40,00 | 200,0 | 156,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| – | DFSP400R4WD32M | – | – | 40,00 | 1.575 | 41,00 | 205,0 | 160,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| – | DFSP410R4WD32M | – | – | 41,00 | 1.614 | 42,00 | 210,0 | 164,0 | 1,2 | SPPX1204.. | DFT0704.. |

*(continued)*

*(WD Shank • 4 x D • Metric — continued)*

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| – | **DFSP420R4WD32M** | – | – | 42,00 | 1.654 | 43,00 | 215,0 | 168,0 | 1,3 | SPPX1204.. | DFT0704.. |
| – | **DFSP430R4WD32M** | – | – | 43,00 | 1.693 | 44,00 | 219,0 | 172,0 | 1,3 | SPPX1204.. | DFT0704.. |
| – | **DFSP440R4WD32M** | – | – | 44,00 | 1.732 | 45,00 | 223,0 | 176,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP450R4WD40M** | – | 45,00 | 1.772 | 46,00 | 227,0 | 180,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP460R4WD40M** | – | 46,00 | 1.811 | 47,00 | 232,0 | 184,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP470R4WD40M** | – | 47,00 | 1.850 | 48,00 | 236,0 | 188,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP480R4WD40M** | – | 48,00 | 1.890 | 49,00 | 240,0 | 192,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP490R4WD40M** | – | 49,00 | 1.929 | 50,00 | 244,0 | 196,0 | 1,4 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP500R4WD40M** | – | 50,00 | 1.969 | 51,00 | 248,0 | 200,0 | 1,5 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP510R4WD40M** | – | 51,00 | 2.008 | 52,00 | 252,0 | 204,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP520R4WD40M** | – | 52,00 | 2.047 | 53,00 | 256,0 | 208,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP530R4WD40M** | – | 53,00 | 2.087 | 54,00 | 260,0 | 212,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP540R4WD40M** | – | 54,00 | 2.126 | 55,00 | 264,0 | 216,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| – | – | – | **DFSP550R4WD50M** | 55,00 | 2.165 | 56,00 | 268,0 | 220,0 | 1,8 | SPPX15T5.. | DFT0905.. |

NOTE for D1 max: Diameter can be adjusted. It is highly recommended to not adjust the diameter more than +.039" (+1mm).
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

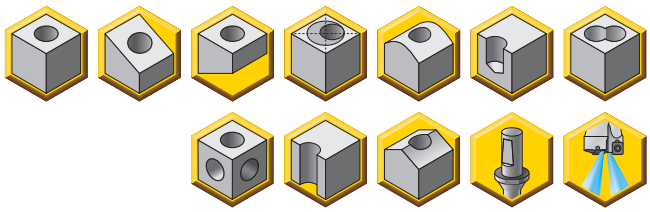
| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| – | DFTX202.. | – | – | – | SPGX0502.. | – | – | – | – | T6 |
| 17.50–21.00 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| 22.00–25.00 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 26.00–32.00 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 33.00–40.00 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 41.00–43.00 | DFT0704.. | **192.433** | 6 | 4.43 | SPPX1204.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 44.00–48.00 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 49.00–55.00 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

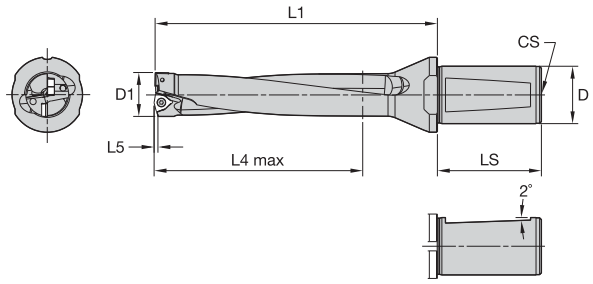
NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| D | LS | CS |
|---|---|---|
| 32 | 58 | R 1/4 BSP |
| 40 | 68 | R 1/4 BSP |
| 50 | 68 | R 1/4 BSP |

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
- Drill shipped with insert screws and Torx wrench.
- Order inserts for DFSP separately.
  See pages J103–J104 for inserts.





## WD Shank • 5 x D • Metric

| D | | | D1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | D1 diameter | | | | | | | |
| 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| DFSP200R5WD32M | – | – | 20,00 | .787 | – | 132,0 | 100,0 | 0,6 | SPGX0603.. | DFT0303.. |
| DFSP210R5WD32M | – | – | 21,00 | .827 | – | 137,0 | 105,0 | 0,7 | SPGX0603.. | DFT0303.. |
| DFSP220R5WD32M | – | – | 22,00 | .866 | – | 142,0 | 110,0 | 0,5 | SPGX0703.. | DFT05T3.. |
| DFSP230R5WD32M | – | – | 23,00 | .906 | – | 147,0 | 115,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| DFSP240R5WD32M | – | – | 24,00 | .945 | – | 152,0 | 120,0 | 0,6 | SPGX0703.. | DFT05T3.. |
| DFSP250R5WD32M | – | – | 25,00 | .984 | – | 158,0 | 125,0 | 0,7 | SPGX0703.. | DFT05T3.. |
| DFSP260R5WD32M | – | – | 26,00 | 1.024 | – | 164,0 | 130,0 | 0,7 | SPPX09T3.. | DFT05T3.. |
| DFSP265R5WD32M | – | – | 26,50 | 1.043 | – | 166,5 | 132,5 | 0,7 | SPPX09T3.. | DFT05T3.. |
| DFSP270R5WD32M | – | – | 27,00 | 1.063 | – | 170,0 | 135,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| DFSP280R5WD32M | – | – | 28,00 | 1.102 | – | 175,0 | 140,0 | 0,8 | SPPX09T3.. | DFT05T3.. |
| DFSP290R5WD32M | – | – | 29,00 | 1.142 | – | 181,0 | 145,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| DFSP300R5WD32M | – | – | 30,00 | 1.181 | – | 187,0 | 150,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| DFSP310R5WD32M | – | – | 31,00 | 1.221 | – | 193,0 | 155,0 | 0,9 | SPPX09T3.. | DFT05T3.. |
| DFSP320R5WD32M | – | – | 32,00 | 1.260 | – | 199,0 | 160,0 | 1,0 | SPPX09T3.. | DFT05T3.. |
| DFSP330R5WD32M | – | – | 33,00 | 1.299 | – | 204,0 | 165,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| DFSP340R5WD32M | – | – | 34,00 | 1.339 | – | 210,0 | 170,0 | 0,9 | SPPX1204.. | DFT06T3.. |
| DFSP350R5WD32M | – | – | 35,00 | 1.378 | – | 216,0 | 175,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| DFSP360R5WD32M | – | – | 36,00 | 1.417 | – | 222,0 | 180,0 | 1,0 | SPPX1204.. | DFT06T3.. |
| DFSP370R5WD32M | – | – | 37,00 | 1.457 | – | 228,0 | 185,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| DFSP375R5WD32M | – | – | 37,50 | 1.476 | – | 230,5 | 187,5 | 1,1 | SPPX1204.. | DFT06T3.. |
| DFSP380R5WD32M | – | – | 38,00 | 1.496 | – | 233,0 | 190,0 | 1,1 | SPPX1204.. | DFT06T3.. |
| DFSP390R5WD32M | – | – | 39,00 | 1.535 | – | 239,0 | 195,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| DFSP400R5WD32M | – | – | 40,00 | 1.575 | – | 245,0 | 200,0 | 1,2 | SPPX1204.. | DFT06T3.. |
| DFSP410R5WD32M | – | – | 41,00 | 1.614 | – | 251,0 | 205,0 | 1,2 | SPPX1204.. | DFT0704.. |
| DFSP420R5WD32M | – | – | 42,00 | 1.654 | – | 257,0 | 210,0 | 1,3 | SPPX1204.. | DFT0704.. |
| DFSP430R5WD32M | – | – | 43,00 | 1.693 | – | 262,0 | 215,0 | 1,3 | SPPX1204.. | DFT0704.. |
| DFSP440R5WD32M | – | – | 44,00 | 1.732 | – | 267,0 | 220,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| – | DFSP450R5WD40M | – | 45,00 | 1.772 | – | 272,0 | 225,0 | 1,4 | SPPX15T5.. | DFT0704.. |
| – | DFSP460R5WD40M | – | 46,00 | 1.811 | – | 278,0 | 230,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| – | DFSP470R5WD40M | – | 47,00 | 1.850 | – | 283,0 | 235,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| – | DFSP480R5WD40M | – | 48,00 | 1.890 | – | 288,0 | 240,0 | 1,5 | SPPX15T5.. | DFT0704.. |
| – | DFSP490R5WD40M | – | 49,00 | 1.929 | – | 293,0 | 245,0 | 1,4 | SPPX15T5.. | DFT0905.. |
| – | DFSP500R5WD40M | – | 50,00 | 1.969 | – | 298,0 | 250,0 | 1,5 | SPPX15T5.. | DFT0905.. |
| – | DFSP510R5WD40M * | – | 51,00 | 2.008 | – | 303,0 | 255,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| – | DFSP520R5WD40M | – | 52,00 | 2.047 | – | 308,0 | 260,0 | 1,6 | SPPX15T5.. | DFT0905.. |
| – | DFSP530R5WD40M | – | 53,00 | 2.087 | – | 313,0 | 265,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| – | DFSP540R5WD40M | – | 54,00 | 2.126 | – | 318,0 | 270,0 | 1,7 | SPPX15T5.. | DFT0905.. |
| – | – | DFSP550R5WD50M | 55,00 | 2.165 | – | 323,0 | 275,0 | 1,8 | SPPX15T5.. | DFT0905.. |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

*(continued)*

*(WD Shank • 5 x D • Metric — continued)*

## Spare Parts

| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.50–21.00 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| 22.00–25.00 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 26.00–32.00 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 33.00–40.00 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 41.00–43.00 | DFT0704.. | **192.433** | 6 | 4.43 | SPPX1204.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 44.00–48.00 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **192.433** | 3 | 2.21 | **170.025** | T15 |
| 49.00–55.00 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
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| D | LS | CS |
|---|---|---|
| 32 | 58 | R 1/4 BSP |
| 40 | 68 | R 1/4 BSP |
| 50 | 68 | R 1/4 BSP |

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
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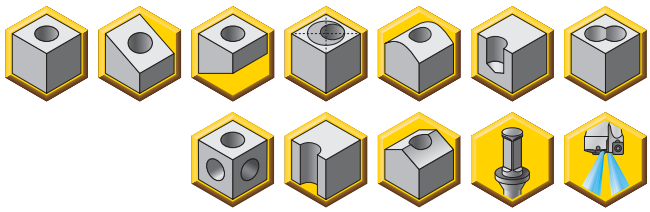

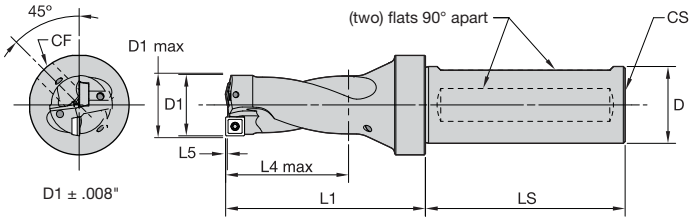


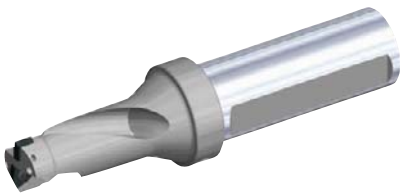



## Flange Shank • 2 x D • Inch

| D | | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.750 | 1.000 | 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| DFSP0563R2SSF075 | – | – | – | – | 14,30 | .563 | .602 | 2.06 | 1.13 | .01 | SPGX0502.. | DFTX202.. |
| DFSP0594R2SSF075 | – | – | – | – | 15,09 | .594 | .633 | 2.13 | 1.19 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0625R2SSF075 | – | – | – | – | 15,88 | .625 | .664 | 2.19 | 1.25 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0656R2SSF075 * | – | – | – | – | 16,66 | .656 | .695 | 2.25 | 1.31 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0688R2SSF075 | – | – | – | – | 17,48 | .688 | .727 | 2.31 | 1.38 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0703R2SSF075 | – | – | – | – | 17,86 | .703 | .742 | 2.34 | 1.41 | .02 | SPGX0603.. | DFT0303.. |
| DFSP0734R2SSF075 | – | – | – | – | 18,64 | .734 | .773 | 2.42 | 1.47 | .02 | SPGX0603.. | DFT0303.. |
| – | DFSP0750R2SSF100 | – | – | – | 19,05 | .750 | .789 | 2.46 | 1.50 | .02 | SPGX0603.. | DFT0303.. |
| – | DFSP0781R2SSF100 | – | – | – | 19,84 | .781 | .820 | 2.54 | 1.56 | .02 | SPGX0603.. | DFT0303.. |
| – | DFSP0813R2SSF100 | – | – | – | 20,65 | .813 | .852 | 2.62 | 1.63 | .03 | SPGX0603.. | DFT0303.. |
| – | DFSP0844R2SSF100 * | – | – | – | 21,44 | .844 | .883 | 2.70 | 1.69 | .03 | SPGX0603.. | DFT0303.. |
| – | DFSP0875R2SSF100 | – | – | – | 22,23 | .875 | .914 | 2.77 | 1.75 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP0906R2SSF100 | – | – | – | 23,01 | .906 | .945 | 2.84 | 1.81 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP0938R2SSF100 | – | – | – | 23,83 | .938 | .977 | 2.93 | 1.88 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP0969R2SSF100 | – | – | – | 24,61 | .969 | 1.008 | 3.01 | 1.94 | .03 | SPGX0703.. | DFT05T3.. |
| – | DFSP0984R2SSF100 | – | – | – | 24,99 | .984 | 1.023 | 3.04 | 1.97 | .03 | SPGX0703.. | DFT05T3.. |
| – | DFSP1000R2SSF100 | DFSP1000R2SSF125 | – | – | 25,40 | 1.000 | 1.040 | 3.25 | 2.00 | .03 | SPGX0703.. | DFT05T3.. |
| – | – | – | DFSP1000R2SSF150 * | – | 25,40 | 1.000 | 1.039 | 3.25 | 2.00 | .03 | SPGX0703.. | DFT05T3.. |
| – | – | DFSP1031R2SSF125 | – | – | 26,19 | 1.031 | 1.071 | 3.44 | 2.06 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1063R2SSF125 | – | – | 27,00 | 1.063 | 1.103 | 3.50 | 2.13 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1094R2SSF125 | – | – | 27,79 | 1.094 | 1.134 | 3.56 | 2.19 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1125R2SSF125 | – | – | 28,58 | 1.125 | 1.165 | 3.75 | 2.25 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1156R2SSF125 | – | – | 29,36 | 1.156 | 1.196 | 3.81 | 2.31 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1188R2SSF125 | – | – | 30,18 | 1.188 | 1.228 | 3.88 | 2.38 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1219R2SSF125 | – | – | 30,96 | 1.219 | 1.259 | 4.06 | 2.44 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1250R2SSF125 | – | – | 31,75 | 1.250 | 1.290 | 4.12 | 2.50 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1313R2SSF125 | DFSP1313R2SSF150 | – | 33,35 | 1.313 | 1.353 | 4.25 | 2.63 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1375R2SSF125 | DFSP1375R2SSF150 | – | 34,93 | 1.375 | 1.415 | 4.37 | 2.75 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1438R2SSF125 | – | – | 36,53 | 1.438 | 1.478 | 4.63 | 2.88 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1469R2SSF125 | – | – | 37,31 | 1.469 | 1.509 | 4.69 | 2.94 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1500R2SSF125 | DFSP1500R2SSF150 | – | 38,10 | 1.500 | 1.540 | 4.75 | 3.00 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1563R2SSF125 | DFSP1563R2SSF150 | – | 39,70 | 1.563 | 1.603 | 4.88 | 3.13 | .05 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1625R2SSF125 | DFSP1625R2SSF150 | – | 41,28 | 1.625 | 1.665 | 5.00 | 3.25 | .05 | SPPX1204.. | DFT0704.. |
| – | – | – | DFSP1656R2SSF150 | – | 42,06 | 1.656 | 1.696 | 5.06 | 3.31 | .05 | SPPX1204.. | DFT0704.. |
| – | – | – | DFSP1688R2SSF150 | – | 42,88 | 1.688 | 1.728 | 5.13 | 3.38 | .05 | SPPX1204.. | DFT0704.. |
| – | – | – | DFSP1750R2SSF150 | – | 44,45 | 1.750 | 1.790 | 5.25 | 3.50 | .05 | SPPX15T5.. | DFT0704.. |
| – | – | – | DFSP1813R2SSF150 | – | 46,05 | 1.813 | 1.853 | 5.50 | 3.63 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | – | DFSP1875R2SSF150 | – | 47,63 | 1.875 | 1.915 | 5.63 | 3.75 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | – | DFSP1938R2SSF150 | – | 49,23 | 1.938 | 1.978 | 5.88 | 3.88 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | – | DFSP2000R2SSF150 | DFSP2000R2SSF200 | 50,80 | 2.000 | 2.040 | 6.00 | 4.00 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | – | DFSP2125R2SSF150 | DFSP2125R2SSF200 | 53,98 | 2.125 | 2.165 | 6.37 | 4.25 | .07 | SPPX15T5.. | DFT0905.. |

NOTE for D1 max: Diameter can be adjusted. It is highly recommended to not adjust the diameter more than +.039" (+1mm).
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

*(continued)*

*(Flange Shank • 2 x D • Inch — continued)*

## Spare Parts

| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| .563–.688 | DFTX202.. | **193.281** | 0,6 | .44 | SPGX0502.. | **193.281** | 0,6 | .44 | **170.370** | T6 |
| .703–.844 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| .875–1.000 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 1.031–1.281 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 1.313–1.563 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.625–1.688 | DFT0704.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.750–1.875 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 1.938–2.125 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

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| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 0.750 | 2.00 | 1/8-27 NPT | R 1/8-27 NPT | **1025612** |
| 1.000 | 3.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.250 | 3.25 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.500 | 3.75 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 2.000 | 4.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |

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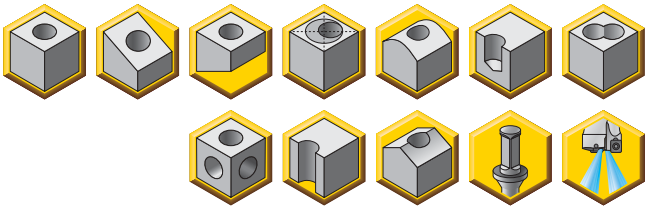
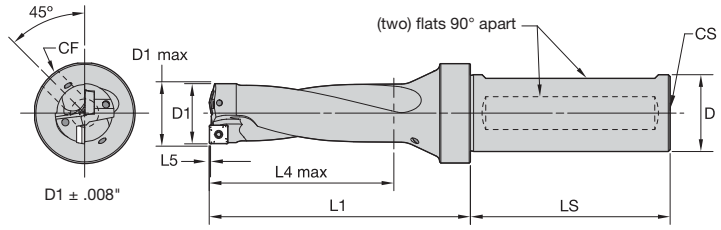
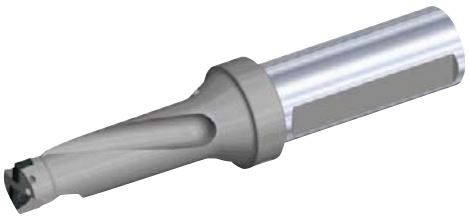
- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- Order inserts for DFSP separately.
See pages J103–J104 for inserts.







## Flange Shank • 3 x D • Inch

| D | | | | | D1 diameter | | | | | | gage insert | gage insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.750 | 1.000 | 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | outside | inside |
| DFSP0563R3SSF075 | – | – | – | – | 14,30 | .563 | .602 | 2.62 | 1.69 | .01 | SPGX0502.. | DFTX202.. |
| DFSP0594R3SSF075 | – | – | – | – | 15,09 | .594 | .633 | 2.72 | 1.78 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0625R3SSF075 | – | – | – | – | 15,88 | .625 | .664 | 2.81 | 1.88 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0656R3SSF075 | – | – | – | – | 16,66 | .656 | .695 | 2.91 | 1.97 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0688R3SSF075 | – | – | – | – | 17,48 | .688 | .727 | 3.00 | 2.06 | .02 | SPGX0502.. | DFTX202.. |
| DFSP0703R3SSF075 | – | – | – | – | 17,86 | .703 | .742 | 3.05 | 2.11 | .02 | SPGX0603.. | DFT0303.. |
| DFSP0734R3SSF075 | – | – | – | – | 18,64 | .734 | .773 | 3.18 | 2.20 | .02 | SPGX0603.. | DFT0303.. |
| – | DFSP0750R3SSF100 | – | – | – | 19,05 | .750 | .789 | 3.21 | 2.25 | .02 | SPGX0603.. | DFT0303.. |
| – | DFSP0781R3SSF100 | – | – | – | 19,84 | .781 | .820 | 3.32 | 2.34 | .02 | SPGX0603.. | DFT0303.. |
| – | DFSP0813R3SSF100 | – | – | – | 20,65 | .813 | .852 | 3.43 | 2.44 | .03 | SPGX0603.. | DFT0303.. |
| – | DFSP0844R3SSF100 | – | – | – | 21,44 | .844 | .883 | 3.53 | 2.53 | .03 | SPGX0603.. | DFT0303.. |
| – | DFSP0875R3SSF100 | – | – | – | 22,23 | .875 | .914 | 3.65 | 2.63 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP0906R3SSF100 * | – | – | – | 23,01 | .906 | .945 | 3.75 | 2.72 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP0938R3SSF100 | – | – | – | 23,83 | .938 | .977 | 3.86 | 2.81 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP0969R3SSF100 | – | – | – | 24,61 | .969 | 1.008 | 3.98 | 2.91 | .03 | SPGX0703.. | DFT05T3.. |
| – | DFSP0984R3SSF100 | – | – | – | 24,99 | .984 | 1.023 | 4.03 | 2.95 | .03 | SPGX0703.. | DFT05T3.. |
| – | DFSP1000R3SSF100 | DFSP1000R3SSF125 | DFSP1000R3SSF150 | – | 25,40 | 1.000 | 1.040 | 4.25 | 3.00 | .03 | SPGX0703.. | DFT05T3.. |
| – | – | DFSP1031R3SSF125 | – | – | 26,19 | 1.031 | 1.071 | 4.47 | 3.09 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1063R3SSF125 | – | – | 27,00 | 1.063 | 1.103 | 4.56 | 3.19 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1094R3SSF125 | – | – | 27,79 | 1.094 | 1.134 | 4.66 | 3.28 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1125R3SSF125 | – | – | 28,58 | 1.125 | 1.165 | 4.87 | 3.38 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1156R3SSF125 | – | – | 29,36 | 1.156 | 1.196 | 4.97 | 3.47 | .03 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1188R3SSF125 | – | – | 30,18 | 1.188 | 1.228 | 5.06 | 3.56 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1219R3SSF125 | – | – | 30,96 | 1.219 | 1.259 | 5.28 | 3.66 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1250R3SSF125 | – | – | 31,75 | 1.250 | 1.290 | 5.37 | 3.75 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1281R3SSF125 | – | – | 32,54 | 1.281 | 1.321 | 5.47 | 3.84 | .04 | SPPX09T3.. | DFT05T3.. |
| – | – | DFSP1313R3SSF125 | DFSP1313R3SSF150 | – | 33,35 | 1.313 | 1.353 | 5.56 | 3.94 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1375R3SSF125 | DFSP1375R3SSF150 | – | 34,93 | 1.375 | 1.415 | 5.75 | 4.13 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1438R3SSF125 | – | – | 36,53 | 1.438 | 1.478 | 6.06 | 4.31 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1469R3SSF125 | – | – | 37,31 | 1.509 | 1.509 | 6.16 | 4.41 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1500R3SSF125 | DFSP1500R3SSF150 | – | 38,10 | 1.500 | 1.540 | 6.25 | 4.50 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | – | DFSP1563R3SSF150 | – | 39,70 | 1.563 | 1.603 | 6.44 | 4.69 | .05 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1625R3SSF125 | DFSP1625R3SSF150 | – | 41,28 | 1.625 | 1.664 | 6.62 | 4.88 | .05 | SPPX1204.. | DFT0704.. |
| – | – | – | DFSP1656R3SSF150 * | – | 42,06 | 1.656 | 1.695 | 6.70 | 4.97 | .05 | SPPX1204.. | DFT0704.. |
| – | – | – | DFSP1688R3SSF150 | – | 42,88 | 1.688 | 1.727 | 6.81 | 5.06 | .05 | SPPX1204.. | DFT0704.. |
| – | – | – | DFSP1750R3SSF150 | – | 44,45 | 1.750 | 1.789 | 7.00 | 5.25 | .05 | SPPX15T5.. | DFT0704.. |
| – | – | – | DFSP1813R3SSF150 | – | 46,05 | 1.813 | 1.852 | 7.31 | 5.44 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | – | DFSP1875R3SSF150 | – | 47,63 | 1.875 | 1.914 | 7.50 | 5.63 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | – | DFSP1938R3SSF150 | – | 49,23 | 1.938 | 1.977 | 7.81 | 5.81 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | – | DFSP2000R3SSF150 | DFSP2000R3SSF200 | 50,80 | 2.000 | 2.039 | 8.00 | 6.00 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | – | DFSP2125R3SSF150 | DFSP2125R3SSF200 | 53,98 | 2.125 | 2.164 | 8.50 | 6.38 | .07 | SPPX15T5.. | DFT0905.. |

NOTE for D1 max: Diameter can be adjusted. It is highly recommended to not adjust the diameter more than +.039" (+1mm).
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

*(continued)*

*(Flange Shank • 3 x D • Inch — continued)*

## Spare Parts

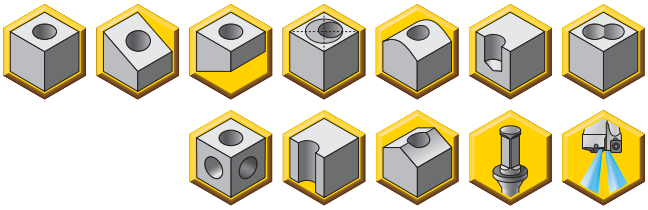
| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| .563–.688 | DFTX202.. | **193.281** | 0,6 | .44 | SPGX0502.. | **193.281** | 0,6 | .44 | **170.370** | T6 |
| .703–.844 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| .875–1.000 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 1.031–1.281 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 1.313–1.563 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.625–1.688 | DFT0704.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 3 | 2.21 | **170.025** | T15 |
| 1.750–1.875 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 1.938–2.125 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

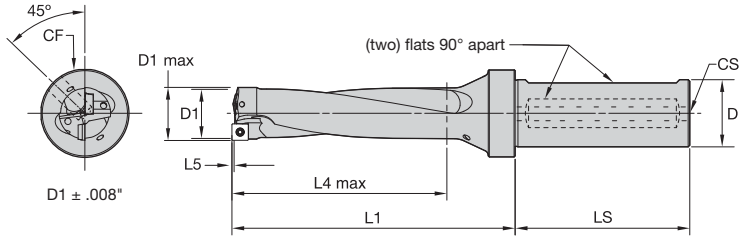
NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 0.750 | 2.00 | 1/8-27 NPT | R 1/8-27 NPT | **1025612** |
| 1.000 | 3.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.250 | 3.25 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.500 | 3.75 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 2.000 | 4.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- Order inserts for DFSP separately.
  See pages J103–J104 for inserts.





## Flange Shank • 4 x D • Inch

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| **DFSP0750R4SSF100** | – | – | – | 19,05 | .750 | .789 | 3.96 | 3.00 | .02 | SPGX0603.. | DFT0303.. |
| **DFSP0781R4SSF100** | – | – | – | 19,84 | .781 | .820 | 4.10 | 3.12 | .02 | SPGX0603.. | DFT0303.. |
| **DFSP0813R4SSF100** | – | – | – | 20,65 | .813 | .852 | 4.24 | 3.25 | .03 | SPGX0603.. | DFT0303.. |
| **DFSP0844R4SSF100** | – | – | – | 21,44 | .844 | .883 | 4.38 | 3.38 | .03 | SPGX0603.. | DFT0303.. |
| **DFSP0875R4SSF100** | – | – | – | 22,23 | .875 | .914 | 4.52 | 3.50 | .02 | SPGX0703.. | DFT05T3.. |
| **DFSP0906R4SSF100** | – | – | – | 23,01 | .805 | .945 | 4.66 | 3.62 | .02 | SPGX0703.. | DFT05T3.. |
| **DFSP0938R4SSF100** | – | – | – | 23,83 | .938 | .977 | 4.80 | 3.75 | .02 | SPGX0703.. | DFT05T3.. |
| **DFSP0969R4SSF100** | – | – | – | 24,61 | .969 | 1.008 | 4.94 | 3.88 | .03 | SPGX0703.. | DFT05T3.. |
| **DFSP0984R4SSF100** | – | – | – | 24,99 | .984 | 1.023 | 5.01 | 3.94 | .03 | SPGX0703.. | DFT05T3.. |
| **DFSP1000R4SSF100** | **DFSP1000R4SSF125** | **DFSP1000R4SSF150** * | – | 25,40 | 1.000 | 1.040 | 5.25 | 4.00 | .03 | SPGX0703.. | DFT05T3.. |
| – | **DFSP1031R4SSF125** | – | – | 26,19 | 1.031 | 1.071 | 5.50 | 4.12 | .03 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1063R4SSF125** | – | – | 27,00 | 1.063 | 1.103 | 5.62 | 4.25 | .03 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1094R4SSF125** * | – | – | 27,79 | 1.094 | 1.134 | 5.75 | 4.38 | .03 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1125R4SSF125** | – | – | 28,58 | 1.125 | 1.165 | 6.00 | 4.50 | .03 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1156R4SSF125** | – | – | 29,36 | 1.156 | 1.196 | 6.12 | 4.62 | .03 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1188R4SSF125** | – | – | 30,18 | 1.188 | 1.228 | 6.25 | 4.75 | .04 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1219R4SSF125** | – | – | 30,96 | 1.219 | 1.259 | 6.50 | 4.88 | .04 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1250R4SSF125** | **DFSP1250R4SSF150** | – | 31,75 | 1.250 | 1.290 | 6.62 | 5.00 | .04 | SPPX09T3.. | DFT05T3.. |
| – | **DFSP1313R4SSF125** | – | – | 33,35 | 1.313 | 1.353 | 6.88 | 5.25 | .04 | SPPX1204.. | DFT06T3.. |
| – | **DFSP1375R4SSF125** | **DFSP1375R4SSF150** * | – | 34,93 | 1.375 | 1.415 | 7.12 | 5.50 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | **DFSP1406R4SSF150** | – | 35,71 | 1.406 | 1.446 | 7.25 | 5.62 | .04 | SPPX1204.. | DFT06T3.. |
| – | **DFSP1438R4SSF125** | – | – | 36,53 | 1.438 | 1.478 | 7.50 | 5.75 | .04 | SPPX1204.. | DFT06T3.. |
| – | **DFSP1500R4SSF125** | **DFSP1500R4SSF150** | – | 38,10 | 1.500 | 1.540 | 7.75 | 6.00 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | **DFSP1563R4SSF150** | – | 39,70 | 1.563 | 1.603 | 8.00 | 6.25 | .05 | SPPX1204.. | DFT06T3.. |
| – | – | **DFSP1625R4SSF150** | – | 41,28 | 1.625 | 1.665 | 8.25 | 6.50 | .05 | SPPX1204.. | DFT0704.. |
| – | – | **DFSP1656R4SSF150** | – | 42,06 | 1.656 | 1.696 | 8.36 | 6.62 | .05 | SPPX1204.. | DFT0704.. |
| – | – | **DFSP1750R4SSF150** | – | 44,45 | 1.750 | 1.790 | 8.75 | 7.00 | .05 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP1813R4SSF150** | – | 46,05 | 1.813 | 1.853 | 9.13 | 7.25 | .04 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP1875R4SSF150** | – | 47,63 | 1.875 | 1.914 | 9.37 | 7.50 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | **DFSP1938R4SSF150** | – | 49,23 | 1.938 | 1.977 | 9.75 | 7.75 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP2000R4SSF150** | **DFSP2000R4SSF200** | 50,80 | 2.000 | 2.039 | 10.00 | 8.00 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | **DFSP2125R4SSF150** | **DFSP2125R4SSF200** | 53,98 | 2.125 | 2.164 | 10.62 | 8.50 | .07 | SPPX15T5.. | DFT0905.. |

NOTE for D1 max: Diameter can be adjusted. It is highly recommended to not adjust the diameter more than +.039" (+1mm).
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

*(continued)*

*(Flange Shank • 4 x D • Inch — continued)*

## Spare Parts

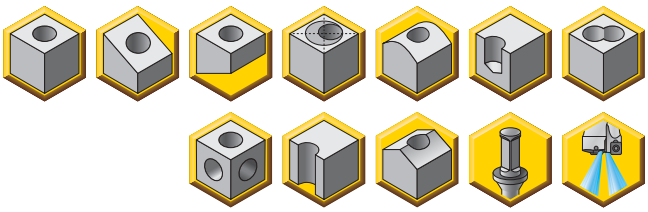
| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| .703–.844 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| .875–1.000 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 1.031–1.281 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 1.313–1.563 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.625–1.688 | DFT0704.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.750–1.875 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 1.938–2.125 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

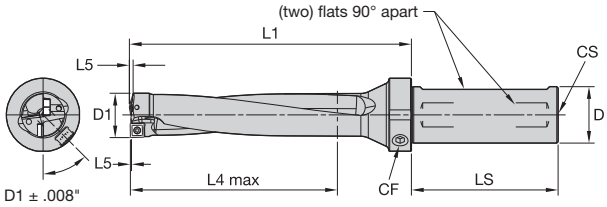
NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 1.000 | 3.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.250 | 3.25 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.500 | 3.75 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 2.000 | 4.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |

- DFSP combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert.
- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- Order inserts for DFSP separately. See pages J103–J104 for inserts.





## Flange Shank • 5 x D • Inch

| D | | | | D1 diameter | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert outside | gage insert inside |
| DFSP0813R5SSF100 | – | – | – | 20,65 | .813 | .852 | 5.06 | 4.07 | .03 | SPGX0603.. | DFT0303.. |
| DFSP0844R5SSF100 | – | – | – | 21,44 | .844 | .883 | 5.22 | 4.22 | .03 | SPGX0603.. | DFT0303.. |
| DFSP0875R5SSF100 | – | – | – | 22,23 | .875 | .914 | 5.39 | 4.38 | .02 | SPGX0703.. | DFT05T3.. |
| DFSP0906R5SSF100 * | – | – | – | 23,01 | .906 | .945 | 5.57 | 4.53 | .02 | SPGX0703.. | DFT05T3.. |
| DFSP0938R5SSF100 | – | – | – | 23,83 | .938 | .977 | 5.74 | 4.69 | .02 | SPGX0703.. | DFT05T3.. |
| DFSP0969R5SSF100 * | – | – | – | 24,61 | .969 | 1.008 | 5.91 | 4.85 | .03 | SPGX0703.. | DFT05T3.. |
| DFSP0984R5SSF100 * | – | – | – | 24,99 | .984 | 1.023 | 5.99 | 4.92 | .03 | SPGX0703.. | DFT05T3.. |
| DFSP1000R5SSF100 | – | – | – | 25,40 | 1.000 | – | 6.25 | 5.00 | .02 | SPGX0703.. | DFT05T3.. |
| – | DFSP1000R5SSF125 | DFSP1000R5SSF150 | – | 25,40 | 1.000 | – | 6.25 | 5.00 | .03 | SPGX0703.. | DFT05T3.. |
| – | DFSP1031R5SSF125 | – | – | 26,19 | 1.031 | – | 6.53 | 5.16 | .03 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1063R5SSF125 | – | – | 27,00 | 1.063 | – | 6.69 | 5.32 | .03 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1094R5SSF125 | – | – | 27,79 | 1.094 | – | 6.84 | 5.47 | .03 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1125R5SSF125 | – | – | 28,58 | 1.125 | – | 7.12 | 5.63 | .03 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1156R5SSF125 * | – | – | 29,36 | 1.156 | – | 7.28 | 5.78 | .03 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1188R5SSF125 | – | – | 30,18 | 1.188 | – | 7.44 | 5.94 | .04 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1219R5SSF125 * | – | – | 30,96 | 1.219 | – | 7.55 | 5.92 | .04 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1250R5SSF125 | DFSP1250R5SSF150 | – | 31,75 | 1.250 | – | 7.87 | 6.25 | .04 | SPPX09T3.. | DFT05T3.. |
| – | DFSP1313R5SSF125 | – | – | 33,35 | 1.313 | – | 8.19 | 6.57 | .04 | SPPX1204.. | DFT06T3.. |
| – | DFSP1375R5SSF125 | DFSP1375R5SSF150 | – | 34,93 | 1.375 | – | 8.50 | 6.88 | .04 | SPPX1204.. | DFT06T3.. |
| – | DFSP1438R5SSF125 | – | – | 36,53 | 1.438 | – | 8.94 | 7.19 | .04 | SPPX1204.. | DFT06T3.. |
| – | DFSP1500R5SSF125 | DFSP1500R5SSF150 | – | 38,10 | 1.500 | – | 9.25 | 7.50 | .04 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1563R5SSF150 | – | 39,70 | 1.563 | – | 9.57 | 7.82 | .05 | SPPX1204.. | DFT06T3.. |
| – | – | DFSP1625R5SSF150 | – | 41,28 | 1.625 | – | 9.87 | 8.13 | .05 | SPPX1204.. | DFT0704.. |
| – | – | DFSP1656R5SSF150 | – | 42,06 | 1.656 | – | 10.03 | 8.28 | .05 | SPPX1204.. | DFT0704.. |
| – | – | DFSP1750R5SSF150 | – | 44,45 | 1.750 | – | 10.50 | 8.75 | .05 | SPPX15T5.. | DFT0704.. |
| – | – | DFSP1813R5SSF150 * | – | 46,05 | 1.813 | – | 10.94 | 9.07 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | DFSP1875R5SSF150 | – | 47,63 | 1.875 | – | 11.25 | 9.38 | .06 | SPPX15T5.. | DFT0704.. |
| – | – | DFSP1938R5SSF150 * | – | 49,23 | 1.938 | – | 11.69 | 9.69 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | DFSP2000R5SSF150 | DFSP2000R5SSF200 | 50,80 | 2.000 | – | 12.00 | 10.00 | .06 | SPPX15T5.. | DFT0905.. |
| – | – | DFSP2125R5SSF150 | DFSP2125R5SSF200 | 53,98 | 2.125 | – | 12.75 | 10.63 | .07 | SPPX15T5.. | DFT0905.. |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

*(continued)*

*(Flange Shank • 5 x D • Inch — continued)*

## Spare Parts

| diameter range | gage insert inside | inboard insert screw | tightening torque Nm | tightening torque ft. lbs | gage insert outside | outboard insert screw | tightening torque Nm | tightening torque ft. lbs | Torx driver | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|
| .703–.844 | DFT0303.. | **MS1152** | 0,9 | .66 | SPGX0603.. | **MS1152** | 0,9 | .66 | **170.023** | T7 |
| .875–1.000 | DFT05T3.. | **193.491** | 2,1 | 1.55 | SPGX0703.. | **192.432** | 1,3 | .96 | **170.028** | T8 |
| 1.031–1.281 | DFT05T3.. | **191.924** | 2,1 | 1.55 | SPPX09T3.. | **191.924** | 2,1 | 1.55 | **170.024** | T9 |
| 1.313–1.563 | DFT06T3.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.625–1.688 | DFT0704.. | **191.916** | 4 | 2.95 | SPPX1204.. | **191.916** | 4 | 2.95 | **170.025** | T15 |
| 1.750–1.875 | DFT0704.. | **191.698** | 6 | 4.43 | SPPX15T5.. | **191.698** | 3 | 2.21 | **170.025** | T15 |
| 1.938–2.125 | DFT0905.. | **192.433** | 6 | 4.43 | SPPX15T5.. | **192.433** | 6 | 4.43 | **170.025** | T15 |

NOTE: To ensure proper clamping, two different screws for DFT™ inserts with different threads for diameter ranges .875–1.000" (22–25,5mm) and 1.750–1.875" (41–48mm) are necessary. Both screws have the same Torx size.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 1.000 | 3.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.250 | 3.25 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 1.500 | 3.75 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |
| 2.000 | 4.00 | 1/8-27 NPT | R 1/4-18 NPT | **1025612** |

## Drill Fix™ DFSP™ • Metric

| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min min | Starting Value | max | Recommended Feed Rate (fz) by Diameter Ø | SPGX05 DFTX2 14,00–18,00mm | SPGX06 DFT03 18,00–21,99mm | SPGX07 DFT05 22,00–25,99mm | SPGX09 DFT05 26,00–32,99mm | SPGX12 DFT06/..07 33,00–43,99mm | SPGX15 DFT07/..09 44,00–55,00mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Metric | | | | | | |
| P | 0 | S | O | LP | KCU40 | 310 | **325** | 360 | mm/r | 0,06–0,10 | 0,06–0,11 | 0,08–0,14 | 0,12–0,21 | 0,14–0,26 | 0,16–0,26 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | LP | KCU40 | 200 | **215** | 230 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,07–0,10 | 0,07–0,12 | 0,09–0,15 | 0,11–0,21 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 130 | **135** | 150 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,07–0,10 | 0,07–0,12 | 0,09–0,15 | 0,11–0,21 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | 1 | S | O | FP | KCPK10 | 310 | **325** | 360 | mm/r | 0,06–0,11 | 0,08–0,14 | 0,10–0,18 | 0,14–0,25 | 0,16–0,30 | 0,18–0,30 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | FP | KCU25 | 200 | **215** | 230 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 130 | **135** | 150 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 2 | S | O | FP | KCPK10 | 310 | **325** | 360 | mm/r | 0,06–0,11 | 0,08–0,14 | 0,10–0,18 | 0,14–0,25 | 0,16–0,30 | 0,18–0,30 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | FP | KCU25 | 200 | **215** | 230 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 130 | **135** | 150 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | FP | KCPK10 | 260 | **285** | 320 | mm/r | 0,06–0,11 | 0,08–0,14 | 0,10–0,18 | 0,14–0,25 | 0,16–0,30 | 0,18–0,30 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 180 | **195** | 220 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 110 | **120** | 140 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 4 | S | O | FP | KCPK10 | 220 | **250** | 300 | mm/r | 0,06–0,11 | 0,08–0,14 | 0,10–0,18 | 0,14–0,25 | 0,16–0,30 | 0,18–0,30 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 150 | **180** | 220 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 90 | **110** | 140 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 180 | **200** | 220 | mm/r | 0,06–0,11 | 0,08–0,14 | 0,10–0,18 | 0,14–0,25 | 0,16–0,30 | 0,18–0,30 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 120 | **135** | 150 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 70 | **85** | 100 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 180 | **200** | 220 | mm/r | 0,06–0,11 | 0,08–0,14 | 0,10–0,18 | 0,14–0,25 | 0,16–0,30 | 0,18–0,30 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 120 | **135** | 150 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 70 | **85** | 100 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13-0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| M | 1 | S | O | LP | KCU40 | 150 | **190** | 230 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,07–0,12 | 0,10–0,16 | 0,12–0,21 | 0,14–0,24 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | LP | KCU40 | 100 | **130** | 160 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,07–0,10 | 0,05–0,10 | 0,06–0,13 | 0,08–0,16 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 60 | **80** | 100 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | LP | KCU40 | 150 | **180** | 210 | mm/r | 0,05–0,08 | 0,06–0,10 | 0,07–0,12 | 0,10–0,16 | 0,12–0,21 | 0,14–0,24 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | MD | KCU40 | 100 | **130** | 160 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,07–0,13 | 0,08–0,16 | 0,10–0,20 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 60 | **80** | 100 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | LP | KCU40 | 100 | **130** | 160 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,07–0,10 | 0,05–0,10 | 0,06–0,13 | 0,08–0,16 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 80 | **110** | 140 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,07–0,13 | 0,08–0,16 | 0,10–0,20 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 50 | **70** | 90 | mm/r | 0,03–0,05 | 0,04–0,07 | 0,05–0,09 | 0,07–0,13 | 0,08–0,16 | 0,10–0,18 |
| | | | I | MD | KC7140 | | | | | | | | | | |

NOTE: Applying Drill Fix™ DFSP 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFSP™ • Metric

| Metric | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | SPGX05 DFTX2 14,00–18,00mm | SPGX06 DFT03 18,00–21,99mm | SPGX07 DFT05 22,00–25,99mm | SPGX09 DFT05 26,00–32,99mm | SPGX12 DFT06/..07 33,00–43,99mm | SPGX15 DFT07/..09 44,00–55,00mm |
| K | 1 | S | O | FP | KCPK10 | 200 | **240** | 300 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | FP | KCU25 | 120 | **155** | 200 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | FP | KC7140 | 80 | **100** | 125 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 2 | S | O | FP | KCPK10 | 180 | **220** | 260 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 110 | **140** | 170 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 80 | **100** | 120 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 180 | **220** | 260 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 110 | **140** | 170 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 80 | **100** | 120 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| N | 1 | S | O | HP | KCPK10 | 350 | **500** | 650 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 300 | **400** | 500 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 200 | **300** | 400 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 300 | **400** | 500 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 175 | **250** | 325 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 300 | **400** | 500 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 150 | **250** | 350 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 300 | **400** | 500 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 200 | **300** | 400 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 300 | **400** | 500 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 200 | **300** | 400 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 6 | S | O | HP | KCU40 | 400 | **450** | 500 | mm/r | 0,07–0,12 | 0,10–0,16 | 0,12–0,20 | 0,16–0,28 | 0,18–0,32 | 0,20–0,34 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,09 | 0,06–0,12 | 0,08–0,15 | 0,12–0,20 | 0,14–0,25 | 0,16–0,28 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 200 | **300** | 400 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,13–0,25 |
| | | | I | HP | KMF | | | | | | | | | | |

NOTE: Applying Drill Fix™ DFSP 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFSP™ • Metric

| Metric | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | | | | | | |
| | | | | | | min | Starting Value | max | Ø | SPGX05 DFTX2 14,00–18,00mm | SPGX06 DFT03 18,00–21,99mm | SPGX07 DFT05 22,00–25,99mm | SPGX09 DFT05 26,00–32,99mm | SPGX12 DFT06/..07 33,00–43,99mm | SPGX15 DFT07/..09 44,00–55,00mm |
| S | 1 | S | O | HP | KCU40 | 60 | **70** | 75 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,05–0,10 | 0,08–0,12 | 0,10–0,15 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 40 | **50** | 60 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 25 | **30** | 40 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCU40 | 50 | **60** | 70 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,05–0,10 | 0,08–0,12 | 0,10–0,15 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 30 | **40** | 50 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 25 | **30** | 40 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | LP | KCU40 | 70 | **80** | 90 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,05–0,10 | 0,08–0,12 | 0,10–0,15 | 0,12–0,18 |
| | | | I | DS | KC7140 | | | | | | | | | | |
| | | U | O | LP | KCU40 | 50 | **60** | 70 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | DS | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 30 | **40** | 50 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 4 | S | O | LP | KCU40 | 70 | **80** | 90 | mm/r | 0,03–0,06 | 0,04–0,08 | 0,05–0,10 | 0,08–0,12 | 0,10–0,15 | 0,12–0,18 |
| | | | I | DS | KC7140 | | | | | | | | | | |
| | | U | O | LP | KCU40 | 50 | **60** | 70 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | DS | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 30 | **40** | 50 | mm/r | 0,02–0,03 | 0,02–0,04 | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 |
| | | | I | MD | KC7140 | | | | | | | | | | |

NOTE: Applying Drill Fix™ DFSP 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFSP™ • Inch

| Inch | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM min | Starting Value | max | Recommended Feed Rate (fz) by Diameter Ø | SPGX05 DFTX2 .551–.708" | SPGX06 DFT03 .709–.865" | SPGX07 DFT05 .866–1.023" | SPGX09 DFT05 1.024–1.299" | SPGX12 DFT06/..07 1.300–1.732" | SPGX15 DFT07/..09 1.733–2.165" |
| P | 0 | S | O | LP | KCU40 | 1017 | **1066** | 1181 | SFM | 0.0024–0.0039 | 0.0024–0.0043 | 0.0031–0.0055 | 0.0047–0.0083 | 0.0055–0.0102 | 0.0063–0.0102 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | LP | KCU40 | 656 | **705** | 754 | SFM | 0.0020–0.00284 | 0.0024–0.0031 | 0.0028–0.0039 | 0.0028–0.0047 | 0.0035–0.0059 | 0.0043–0.0081 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 426 | **443** | 492 | SFM | 0.0020–0.00284 | 0.0024–0.0031 | 0.0028–0.0039 | 0.0028–0.0047 | 0.0035–0.0059 | 0.0043–0.0081 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | 1 | S | O | FP | KCPK10 | 1017 | **1066** | 1181 | SFM | 0.0024–0.0043 | 0.0031–0.0055 | 0.0039–0.0071 | 0.0055–0.0098 | 0.0063–0.0118 | 0.0071–0.0118 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | FP | KCU25 | 656 | **705** | 754 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 426 | **443** | 492 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 2 | S | O | FP | KCPK10 | 1017 | **1066** | 1181 | SFM | 0.0024–0.0043 | 0.0031–0.0055 | 0.0039–0.0071 | 0.0055–0.0098 | 0.0063–0.0118 | 0.0071–0.0118 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | FP | KCU25 | 656 | **705** | 754 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 426 | **443** | 492 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | FP | KCPK10 | 853 | **935** | 1050 | SFM | 0.0024–0.0043 | 0.0031–0.0055 | 0.0039–0.0071 | 0.0055–0.0098 | 0.0063–0.0118 | 0.0071–0.0118 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 590 | **640** | 722 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 361 | **394** | 459 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 4 | S | O | FP | KCPK10 | 722 | **820** | 984 | SFM | 0.0024–0.0043 | 0.0031–0.0055 | 0.0039–0.0071 | 0.0055–0.0098 | 0.0063–0.0118 | 0.0071–0.0118 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 492 | **590** | 722 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 295 | **361** | 459 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 590 | **656** | 722 | SFM | 0.0024–0.0043 | 0.0031–0.0055 | 0.0039–0.0071 | 0.0055–0.0098 | 0.0063–0.0118 | 0.0071–0.0118 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 394 | **443** | 492 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 230 | **279** | 328 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 590 | **656** | 722 | SFM | 0.0024–0.0043 | 0.0031–0.0055 | 0.0039–0.0071 | 0.0055–0.0098 | 0.0063–0.0118 | 0.0071–0.0118 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 394 | **443** | 492 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 230 | **279** | 328 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| M | 1 | S | O | LP | KCU40 | 492 | **623** | 754 | SFM | 0.0020–0.0031 | 0.0024–0.0039 | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0083 | 0.0055–0.0094 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | LP | KCU40 | 328 | **426** | 525 | SFM | 0.0020–0.0028 | 0.0024–0.0031 | 0.0028–0.0039 | 0.0020–0.0039 | 0.0024–0.0051 | 0.0031–0.0063 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 197 | **262** | 328 | SFM | 0.0012–0.0020 | 0.0016–0.0028 | 0.0020–0.0035 | 0.0028–0.0051 | 0.0031–0.0063 | 0.0039–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | LP | KCU40 | 492 | **590** | 689 | SFM | 0.0020–0.0031 | 0.0024–0.0039 | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0083 | 0.0055–0.0094 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | MD | KCU40 | 328 | **426** | 525 | SFM | 0.0012–0.0020 | 0.0016–0.0028 | 0.0020–0.0035 | 0.0028–0.0051 | 0.0031–0.0063 | 0.0039–0.0079 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 197 | **262** | 328 | SFM | 0.0012–0.0020 | 0.0016–0.0028 | 0.0020–0.0035 | 0.0028–0.0051 | 0.0031–0.0063 | 0.0039–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | LP | KCU40 | 328 | **426** | 525 | SFM | 0.0020–0.0028 | 0.0024–0.0031 | 0.0028–0.0039 | 0.0020–0.0039 | 0.0024–0.0051 | 0.0031–0.0063 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 262 | **361** | 459 | SFM | 0.0012–0.0020 | 0.0016–0.0028 | 0.0020–0.0035 | 0.0028–0.0051 | 0.0031–0.0063 | 0.0039–0.0079 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 164 | **230** | 295 | SFM | 0.0012–0.0020 | 0.0016–0.0028 | 0.0020–0.0035 | 0.0028–0.0051 | 0.0031–0.0063 | 0.0039–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |

NOTE: Applying Drill Fix™ DFSP 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFSP™ • Inch

| Inch | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | | | | |
| | | | | | | min | Starting Value | max | Ø | SPGX05 DFTX2 .551–.708" | SPGX06 DFT03 .709–.865" | SPGX07 DFT05 .866–1.023" | SPGX09 DFT05 1.024–1.299" | SPGX12 DFT06/..07 1.300–1.732" | SPGX15 DFT07/..09 1.733–2.165" |
| K | 1 | S | O | FP | KCPK10 | 656 | **787** | 984 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | FP | KCU25 | 394 | **508** | 656 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | FP | KC7140 | 262 | **328** | 410 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 2 | S | O | FP | KCPK10 | 590 | **722** | 853 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 361 | **459** | 558 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 262 | **328** | 394 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 590 | **722** | 853 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 361 | **459** | 558 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 262 | **328** | 394 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| N | 1 | S | O | HP | KCPK10 | 1148 | **1640** | 2132 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 984 | **1312** | 1640 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 656 | **984** | 1312 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 984 | **1312** | 1640 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 574 | **820** | 1066 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 984 | **1312** | 1640 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 492 | **820** | 1148 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 984 | **1312** | 1640 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 656 | **984** | 1312 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 5 | S | O | HP | KCU40 | 1312 | **1476** | 1640 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 656 | **984** | 1312 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 6 | S | O | HP | KCU40 | 1312 | **1476** | 1640 | SFM | 0.0028–0.0047 | 0.0039–0.0063 | 0.0047–0.0079 | 0.0063–0.0110 | 0.0071–0.0126 | 0.0079–0.0134 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | 0.0020–0.0035 | 0.0024–0.0047 | 0.0031–0.0059 | 0.0047–0.0079 | 0.0055–0.0098 | 0.0063–0.0110 |
| | | | I | HP | KMF | | | | | | | | | | |
| | | I | O | HP | KCU40 | 656 | **984** | 1312 | SFM | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 | 0.0035–0.0059 | 0.0043–0.0071 | 0.0051–0.0098 |
| | | | I | HP | KMF | | | | | | | | | | |

NOTE: Applying Drill Fix™ DFSP 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFSP™ • Inch

| Inch | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | SPGX05 DFTX2 .551–.708" | SPGX06 DFT03 .709–.865" | SPGX07 DFT05 .866–1.023" | SPGX09 DFT05 1.024–1.299" | SPGX12 DFT06/..07 1.300–1.732" | SPGX15 DFT07/..09 1.733–2.165" |
| S | 1 | S | O | HP | KCU40 | 197 | **230** | 246 | SFM | 0.0012–0.0024 | 0.0016–0.0031 | 0.0020–0.0039 | 0.0031–0.0047 | 0.0039–0.0059 | 0.0047–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 131 | **164** | 197 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 82 | **98** | 131 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCU40 | 164 | **197** | 230 | SFM | 0.0012–0.0024 | 0.0016–0.0031 | 0.0020–0.0039 | 0.0031–0.0047 | 0.0039–0.0059 | 0.0047–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 98 | **131** | 164 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 82 | **98** | 131 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCU40 | 230 | **262** | 295 | SFM | 0.0012–0.0024 | 0.0016–0.0031 | 0.0020–0.0039 | 0.0031–0.0047 | 0.0039–0.0059 | 0.0047–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 164 | **197** | 230 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 98 | **131** | 164 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 4 | S | O | HP | KCU40 | 230 | **262** | 295 | SFM | 0.0012–0.0024 | 0.0016–0.0031 | 0.0020–0.0039 | 0.0031–0.0047 | 0.0039–0.0059 | 0.0047–0.0071 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 164 | **197** | 230 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 98 | **131** | 164 | SFM | 0.0008–0.0012 | 0.0008–0.0016 | 0.0012–0.0020 | 0.0016–0.0024 | 0.0020–0.0031 | 0.0024–0.0039 |
| | | | I | MD | KC7140 | | | | | | | | | | |

NOTE: Applying Drill Fix™ DFSP 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

# Drill Fix™ DFT™

## Primary Application

The Drill Fix DFT system is available in diameter range 24–82mm (.625–3.250") as a versatile and reliable tool solution with a large portfolio of lengths, insert geometries, and grades.

Balanced cutting forces, improved chip flute, and coolant-channel design enable high metal removal rates and long tool body life. The trigon-shaped DFT inserts are used for both inboard and outboard inserts and offer the highest centering capabilities. Each insert has three cutting edges.

# Features and Benefits

## Productivity and Profitability

- Achieve high hole accuracy with trigon-shaped inboard inserts that offer the highest centering capabilities.
- Use X-offset on turning machines to adjust the drill diameter and eliminate the need for specials in many applications, and on machining centers to reach tolerance optimization.
- Same insert size is used in each pocket, reducing inventory costs.

## Versatility

- Diameter range covering 24–82mm (.625–3.250").
- 2.5 x D and 4 x D L/D ratios are standard.
- Various shanks available as standard: WD and SSF.
- Trigon-shaped inserts feature three cutting edges.
- Large variety of DFT insert grades and geometries available.
- Use DFT drills in straight holes, inclined entries and exits, interrupted cuts, and rough or welded entry surfaces.
- Eccentric chuck available as standard.

# Versatile and reliable tool solution with a large portfolio of lengths, insert geometries, and grades.

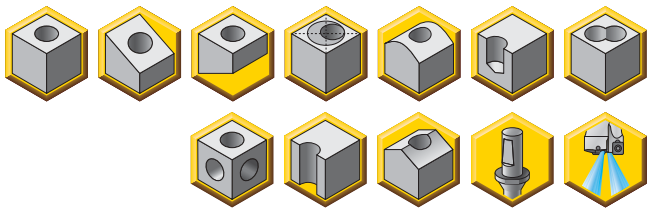
## Reliability

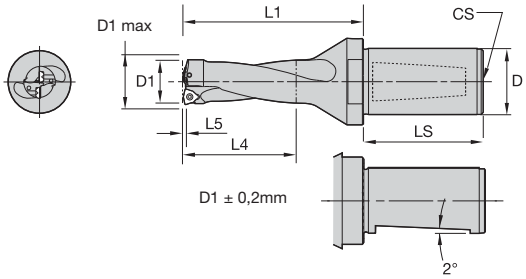
- Highest centering capabilities due to trigon-shaped insert.
- Same insert can be used as inboard or outboard insert — no risk of mixing up inner and outer inserts.
- Improved chip flute and coolant-channel design result in long tool body life and excellent chip evacuation.

## Customization

- Intermediate diameters available as semi-standards.
- Engineered solutions available.
- Multistep drills available upon request.
- Stacked material version.

- Drill shipped with insert screws and Torx wrench.
- See pages J98 and J101–J102 for inserts.





## WN/WD Shank • 2,5 x D • Metric

| D | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| DFT250R2WD32M | DFT250R2WD40M | – | 25,00 | .984 | 27,00 | 90,0 | 58,9 | 0,9 | DFT05T3.. |
| DFT260R2WD32M | DFT260R2WD40M | – | 26,00 | 1.024 | 27,00 | 90,0 | 59,1 | 1,1 | DFT05T3.. |
| DFT270R2WD32M | DFT270R2WD40M | – | 27,00 | 1.063 | 29,00 | 100,0 | 66,1 | 1,1 | DFT05T3.. |
| DFT280R2WD32M | DFT280R2WD40M | – | 28,00 | 1.102 | 29,00 | 100,0 | 66,3 | 1,3 | DFT05T3.. |
| DFT290R2WD32M | DFT290R2WD40M | – | 29,00 | 1.142 | 31,00 | 100,0 | 66,3 | 1,3 | DFT05T3.. |
| DFT300R2WD32M | DFT300R2WD40M | – | 30,00 | 1.181 | 31,00 | 115,0 | 76,4 | 1,4 | DFT05T3.. |
| DFT310R2WD32M | DFT310R2WD40M | – | 31,00 | 1.221 | 33,00 | 115,0 | 76,4 | 1,4 | DFT05T3.. |
| DFT320R2WD32M | DFT320R2WD40M | – | 32,00 | 1.260 | 33,00 | 115,0 | 76,5 | 1,5 | DFT05T3.. |
| DFT330R2WD32M | DFT330R2WD40M | – | 33,00 | 1.299 | 35,00 | 115,0 | 76,4 | 1,4 | DFT06T3.. |
| DFT340R2WD32M | DFT340R2WD40M | – | 34,00 | 1.339 | 35,00 | 115,0 | 76,5 | 1,5 | DFT06T3.. |
| DFT350R2WD32M | DFT350R2WD40M | – | 35,00 | 1.378 | 38,00 | 115,0 | 76,6 | 1,6 | DFT06T3.. |
| DFT360R2WD32M | DFT360R2WD40M | – | 36,00 | 1.417 | 37,00 | 115,0 | 76,8 | 1,8 | DFT06T3.. |
| DFT370R2WD32M | DFT370R2WD40M | – | 37,00 | 1.457 | 38,00 | 135,0 | 96,7 | 1,7 | DFT06T3.. |
| DFT380R2WD32M | DFT380R2WD40M | – | 38,00 | 1.496 | 41,00 | 135,0 | 96,8 | 1,8 | DFT06T3.. |
| DFT390R2WD32M | DFT390R2WD40M | – | 39,00 | 1.535 | 40,00 | 135,0 | 96,9 | 1,9 | DFT06T3.. |
| DFT400R2WD32M | DFT400R2WD40M | – | 40,00 | 1.575 | 41,00 | 135,0 | 97,0 | 2,0 | DFT06T3.. |
| DFT410R2WD32M | DFT410R2WD40M | – | 41,00 | 1.614 | 44,00 | 135,0 | 96,9 | 1,9 | DFT0704.. |
| DFT420R2WD32M | DFT420R2WD40M | – | 42,00 | 1.654 | 43,00 | 135,0 | 96,9 | 2,0 | DFT0704.. |
| DFT430R2WD32M | DFT430R2WD40M | – | 43,00 | 1.693 | 44,00 | 150,0 | 112,1 | 2,1 | DFT0704.. |
| DFT440R2WD32M | DFT440R2WD40M | – | 44,00 | 1.732 | 47,00 | 150,0 | 112,1 | 2,1 | DFT0704.. |
| – | DFT450R2WD40M | DFT450R2WD50M | 45,00 | 1.772 | 46,00 | 150,0 | 112,2 | 2,2 | DFT0704.. |
| – | DFT460R2WD40M | DFT460R2WD50M | 46,00 | 1.811 | 47,00 | 150,0 | 112,0 | 2,3 | DFT0704.. |
| – | DFT470R2WD40M | DFT470R2WD50M * | 47,00 | 1.850 | 50,00 | 150,0 | 111,5 | 2,4 | DFT0704.. |
| – | DFT480R2WD40M | DFT480R2WD50M | 48,00 | 1.890 | 49,00 | 150,0 | 111,0 | 2,4 | DFT0704.. |
| – | DFT490R2WD40M | DFT490R2WD50M | 49,00 | 1.929 | 50,00 | 165,0 | 117,2 | 2,2 | DFT0905.. |
| – | DFT500R2WD40M | DFT500R2WD50M | 50,00 | 1.969 | 54,00 | 165,0 | 117,2 | 2,2 | DFT0905.. |
| – | DFT510R2WD40M | DFT510R2WD50M | 51,00 | 2.008 | 52,00 | 165,0 | 117,4 | 2,5 | DFT0905.. |
| – | DFT520R2WD40M | DFT520R2WD50M | 52,00 | 2.047 | 53,00 | 165,0 | 117,5 | 2,6 | DFT0905.. |
| – | DFT530R2WD40M | DFT530R2WD50M | 53,00 | 2.087 | 54,00 | 165,0 | 117,6 | 2,6 | DFT0905.. |
| – | DFT540R2WD40M | DFT540R2WD50M | 54,00 | 2.126 | 58,00 | 165,0 | 117,7 | 2,7 | DFT0905.. |
| – | – | DFT550R2WD50M | 55,00 | 2.165 | 56,00 | 180,0 | 125,0 | 2,7 | DFT0905.. |
| – | – | DFT560R2WD50M | 56,00 | 2.205 | 57,00 | 180,0 | 125,0 | 2,8 | DFT0905.. |
| – | – | DFT570R2WD50M | 57,00 | 2.244 | 58,00 | 180,0 | 125,0 | 2,9 | DFT0905.. |
| – | – | DFT580R2WD50M | 58,00 | 2.284 | 62,00 | 180,0 | 125,0 | 3,0 | DFT0905.. |
| – | – | DFT590R2WD50M | 59,00 | 2.323 | 60,00 | 180,0 | 125,0 | 3,0 | DFT0905.. |
| – | – | DFT600R2WD50M | 60,00 | 2.362 | 61,00 | 180,0 | 125,0 | 3,1 | DFT0905.. |

*(continued)*

*(WN/WD Shank • 2,5 x D • Metric — continued)*

| D | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 40 | 50 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| – | – | **DFT610R2WD50M** | 61,00 | 2.402 | 62,00 | 180,0 | 125,0 | 3,2 | DFT0905.. |
| – | – | **DFT620R2WD50M** | 62,00 | 2.441 | 65,00 | 180,0 | 125,0 | 3,2 | DFT0905.. |
| – | – | **DFT630R2WD50M** | 63,00 | 2.480 | 64,00 | 180,0 | 125,0 | 3,3 | DFT0905.. |
| – | – | **DFT640R2WD50M** | 64,00 | 2.520 | 65,00 | 180,0 | 125,0 | 3,4 | DFT0905.. |
| – | – | **DFT650R2WD50M** | 65,00 | 2.559 | 66,00 | 180,0 | 125,0 | 3,4 | DFT0905.. |
| – | – | **DFT660R2WD50M** | 66,00 | 2.598 | 69,00 | 180,0 | 125,0 | 3,5 | DFT0905.. |
| – | – | **DFT670R2WD50M** | 67,00 | 2.638 | 67,00 | 180,0 | 125,0 | 3,5 | DFT0905.. |
| – | – | **DFT680R2WD50M** | 68,00 | 2.677 | 69,00 | 180,0 | 125,0 | 3,6 | DFT0905.. |
| – | – | **DFT690R2WD50M** | 69,00 | 2.717 | 73,00 | 205,0 | 140,0 | 3,6 | DFT1105.. |
| – | – | **DFT700R2WD50M** | 70,00 | 2.756 | 71,00 | 205,0 | 140,0 | 3,6 | DFT1105.. |
| – | – | **DFT710R2WD50M** | 71,00 | 2.795 | 72,00 | 205,0 | 140,0 | 3,9 | DFT1105.. |
| – | – | **DFT720R2WD50M** | 72,00 | 2.835 | 73,00 | 205,0 | 140,0 | 3,9 | DFT1105.. |
| – | – | **DFT730R2WD50M** | 73,00 | 2.874 | 79,00 | 205,0 | 140,0 | 4,0 | DFT1105.. |
| – | – | **DFT740R2WD50M** | 74,00 | 2.913 | 75,00 | 205,0 | 140,0 | 4,1 | DFT1105.. |
| – | – | **DFT750R2WD50M** | 75,00 | 2.953 | 76,00 | 205,0 | 140,0 | 4,2 | DFT1105.. |
| – | – | **DFT760R2WD50M** | 76,00 | 2.992 | 77,00 | 205,0 | 140,0 | 4,2 | DFT1105.. |
| – | – | **DFT770R2WD50M** | 77,00 | 3.032 | 78,00 | 205,0 | 140,0 | 4,3 | DFT1105.. |
| – | – | **DFT780R2WD50M** | 78,00 | 3.071 | 79,00 | 205,0 | 140,0 | 4,3 | DFT1105.. |
| – | – | **DFT790R2WD50M** | 79,00 | 3.110 | 82,00 | 205,0 | 140,0 | 4,4 | DFT1105.. |
| – | – | **DFT800R2WD50M** | 80,00 | 3.150 | 81,00 | 205,0 | 140,0 | 4,5 | DFT1105.. |
| – | – | **DFT810R2WD50M** * | 81,00 | 3.189 | 82,00 | 205,0 | 140,0 | 4,5 | DFT1105.. |
| – | – | **DFT820R2WD50M** | 82,00 | 3.228 | 83,00 | 205,0 | 140,0 | 4,5 | DFT1105.. |

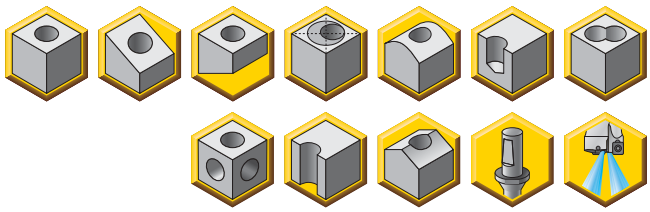
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

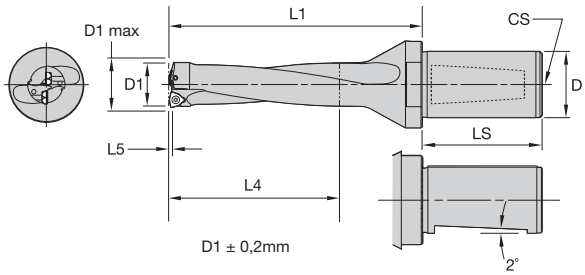
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFT05T3.. | **191.924** | **170.024** | 9 |
| DFT06T3.. | **191.848** | **170.025** | 15 |
| DFT0704.. | **191.698** | **170.025** | 15 |
| DFT0905.. | **191.726** | **170.026** | 20 |
| DFT1105.. | **191.375** | **170.026** | 20 |

| D | LS | CS |
|---|---|---|
| 32 | 58 | R 1/4 BSP |
| 40 | 68 | R 1/4 BSP |
| 50 | 68 | R 1/4 BSP |

- Drill shipped with insert screws and Torx wrench.
- See pages J98 and J101–J102 for inserts.





## WN/WD Shank • 4 x D • Metric

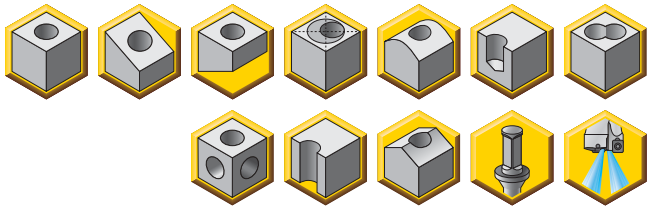
| D | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 32 | 40 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| DFT250R4WD32M | DFT250R4WD40M | 25,00 | .984 | 27,00 | 135,0 | 100,0 | 0,8 | DFT05T3.. |
| DFT260R4WD32M | DFT260R4WD40M | 26,00 | 1.024 | 27,00 | 139,0 | 104,0 | 0,9 | DFT05T3.. |
| DFT270R4WD32M | DFT270R4WD40M | 27,00 | 1.063 | 29,00 | 143,0 | 108,0 | 1,0 | DFT05T3.. |
| DFT280R4WD32M | DFT280R4WD40M | 28,00 | 1.102 | 29,00 | 156,0 | 112,0 | 1,1 | DFT05T3.. |
| DFT290R4WD32M | DFT290R4WD40M | 29,00 | 1.142 | 31,00 | 151,0 | 116,0 | 1,1 | DFT05T3.. |
| DFT300R4WD32M | DFT300R4WD40M | 30,00 | 1.181 | 31,00 | 160,0 | 120,0 | 1,2 | DFT05T3.. |
| DFT310R4WD32M | DFT310R4WD40M | 31,00 | 1.221 | 33,00 | 164,0 | 124,0 | 1,3 | DFT05T3.. |
| DFT320R4WD32M | DFT320R4WD40M | 32,00 | 1.260 | 33,00 | 168,0 | 128,0 | 1,3 | DFT05T3.. |
| – | DFT330R4WD40M | 33,00 | 1.299 | 35,00 | 177,0 | 132,0 | 1,1 | DFT06T3.. |
| – | DFT340R4WD40M | 34,00 | 1.339 | 35,00 | 181,0 | 136,0 | 1,3 | DFT06T3.. |
| – | DFT350R4WD40M | 35,00 | 1.378 | 38,00 | 185,0 | 140,0 | 1,3 | DFT06T3.. |
| – | DFT360R4WD40M | 36,00 | 1.417 | 37,00 | 189,0 | 144,0 | 1,4 | DFT06T3.. |
| – | DFT370R4WD40M | 37,00 | 1.457 | 38,00 | 198,0 | 148,0 | 1,5 | DFT06T3.. |
| – | DFT380R4WD40M | 38,00 | 1.496 | 41,00 | 202,0 | 152,0 | 1,5 | DFT06T3.. |
| – | DFT390R4WD40M | 39,00 | 1.535 | 40,00 | 206,0 | 156,0 | 1,6 | DFT06T3.. |
| – | DFT400R4WD40M | 40,00 | 1.575 | 41,00 | 210,0 | 160,0 | 1,7 | DFT06T3.. |
| – | DFT410R4WD40M | 41,00 | 1.614 | 44,00 | 214,0 | 164,0 | 1,6 | DFT0704.. |
| – | DFT420R4WD40M | 42,00 | 1.654 | 43,00 | 223,0 | 168,0 | 1,7 | DFT0704.. |
| – | DFT430R4WD40M | 43,00 | 1.693 | 44,00 | 227,0 | 172,0 | 1,7 | DFT0704.. |
| – | DFT440R4WD40M | 44,00 | 1.732 | 47,00 | 231,0 | 176,0 | 1,8 | DFT0704.. |
| – | DFT450R4WD40M | 45,00 | 1.772 | 46,00 | 240,0 | 180,0 | 1,9 | DFT0704.. |
| – | DFT460R4WD40M | 46,00 | 1.811 | 47,00 | 244,0 | 184,0 | 1,9 | DFT0704.. |
| – | DFT470R4WD40M | 47,00 | 1.850 | 50,00 | 248,0 | 188,0 | 2,0 | DFT0704.. |
| – | DFT480R4WD40M | 48,00 | 1.890 | 49,00 | 252,0 | 192,0 | 2,0 | DFT0704.. |

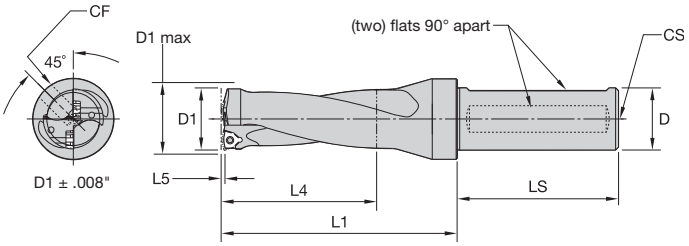
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

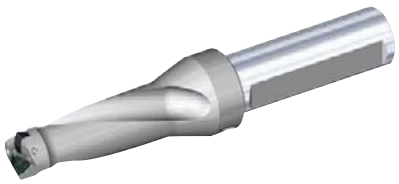
| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFT05T3.. | **191.924** | **170.024** | 9 |
| DFT06T3.. | **191.848** | **170.025** | 15 |
| DFT0704.. | **191.698** | **170.025** | 15 |

| D | LS | CS |
|---|---|---|
| 32 | 58 | R 1/4 BSP |
| 40 | 68 | R 1/4 BSP |

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J98 and J101–J102 for inserts.







## Flange Shank • 2.5 x D • Inch

| D | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| DFT0875R2SSF125 | – | – | 22,23 | .875 | .950 | 3.63 | 2.19 | .04 | DFT0303.. |
| DFT0906R2SSF125 | – | – | 23,01 | .906 | .981 | 3.63 | 2.27 | .04 | DFT0303.. |
| DFT0938R2SSF125 | – | – | 23,81 | .938 | 1.000 | 3.75 | 2.35 | .04 | DFT0303.. |
| DFT0969R2SSF125 | – | – | 24,61 | .969 | 1.019 | 3.75 | 2.40 | .04 | DFT0303.. |
| DFT0984R2SSF125 | – | – | 25,00 | .984 | 1.109 | 3.88 | 2.50 | .04 | DFT05T3.. |
| DFT1000R2SSF125 | DFT1000R2SSF150 | – | 25,40 | 1.000 | 1.125 | 4.00 | 2.50 | .04 | DFT05T3.. |
| DFT1031R2SSF125 | – | – | 26,20 | 1.031 | 1.156 | 4.00 | 2.60 | .04 | DFT05T3.. |
| DFT1063R2SSF125 | – | – | 26,99 | 1.063 | 1.188 | 4.13 | 2.65 | .04 | DFT05T3.. |
| DFT1094R2SSF125 | – | – | 27,79 | 1.094 | 1.219 | 4.13 | 2.70 | .05 | DFT05T3.. |
| DFT1125R2SSF125 | – | – | 28,58 | 1.125 | 1.250 | 4.38 | 2.85 | .05 | DFT05T3.. |
| DFT1156R2SSF125 | – | – | 29,36 | 1.156 | 1.281 | 4.38 | 2.89 | .05 | DFT05T3.. |
| DFT1188R2SSF125 | – | – | 30,16 | 1.188 | 1.288 | 4.50 | 3.00 | .05 | DFT05T3.. |
| DFT1219R2SSF125 | DFT1219R2SSF150 | – | 30,96 | 1.219 | 1.319 | 4.63 | 3.05 | .06 | DFT05T3.. |
| DFT1250R2SSF125 | DFT1250R2SSF150 | – | 31,75 | 1.250 | 1.325 | 4.75 | 3.13 | .06 | DFT05T3.. |
| DFT1281R2SSF125 | DFT1281R2SSF150 * | – | 32,55 | 1.281 | 1.345 | 4.75 | 3.20 | .06 | DFT05T3.. |
| DFT1313R2SSF125 | DFT1313R2SSF150 | – | 33,34 | 1.313 | 1.438 | 4.88 | 3.30 | .05 | DFT06T3.. |
| DFT1375R2SSF125 | DFT1375R2SSF150 | – | 34,93 | 1.375 | 1.500 | 5.13 | 3.45 | .06 | DFT06T3.. |
| DFT1406R2SSF125 | DFT1406R2SSF150 | – | 35,71 | 1.406 | 1.531 | 5.13 | 3.50 | .06 | DFT06T3.. |
| DFT1438R2SSF125 | DFT1438R2SSF150 | – | 36,51 | 1.438 | 1.563 | 5.25 | 3.60 | .07 | DFT06T3.. |
| DFT1469R2SSF125 | DFT1469R2SSF150 | – | 37,31 | 1.469 | 1.594 | 5.38 | 3.70 | .07 | DFT06T3.. |
| DFT1500R2SSF125 | DFT1500R2SSF150 | – | 38,10 | 1.500 | 1.625 | 5.50 | 3.75 | .07 | DFT06T3.. |
| DFT1531R2SSF125 | DFT1531R2SSF150 | – | 38,89 | 1.531 | 1.656 | 5.50 | 3.85 | .07 | DFT06T3.. |
| DFT1563R2SSF125 | DFT1563R2SSF150 | – | 39,69 | 1.563 | 1.688 | 5.63 | 3.90 | .07 | DFT06T3.. |
| DFT1625R2SSF125 | DFT1625R2SSF150 | – | 41,28 | 1.625 | 1.750 | 5.88 | 4.10 | .07 | DFT0704.. |
| DFT1688R2SSF125 | DFT1688R2SSF150 | – | 42,86 | 1.688 | 1.813 | 6.00 | 4.25 | .08 | DFT0704.. |
| – | DFT1750R2SSF150 | – | 44,45 | 1.750 | 1.875 | 6.25 | 4.38 | .08 | DFT0704.. |
| – | DFT1813R2SSF150 | – | 46,04 | 1.813 | 1.938 | 6.38 | 4.55 | .09 | DFT0704.. |
| – | DFT1875R2SSF150 | – | 47,63 | 1.875 | 2.000 | 6.63 | 4.70 | .09 | DFT0704.. |

*(continued)*

*(Flange Shank • 2.5 x D • Inch — continued)*

| D | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| — | **DFT1938R2SSF150** | — | 49,21 | 1.938 | 2.188 | 6.75 | 4.85 | .08 | DFT0905.. |
| — | **DFT2000R2SSF150** | **DFT2000R2SSF200** | 50,80 | 2.000 | 2.250 | 7.00 | 5.00 | .09 | DFT0905.. |
| — | **DFT2125R2SSF150** | **DFT2125R2SSF200** | 53,98 | 2.125 | 2.375 | 7.38 | 5.35 | .10 | DFT0905.. |
| — | — | **DFT2250R2SSF200** | 57,15 | 2.250 | 2.500 | 7.75 | 5.63 | .11 | DFT0905.. |
| — | — | **DFT2375R2SSF200** | 60,33 | 2.375 | 2.590 | 8.13 | 5.95 | .12 | DFT0905.. |
| — | — | **DFT2500R2SSF200** | 63,50 | 2.500 | 2.650 | 8.50 | 6.25 | .12 | DFT0905.. |
| — | — | **DFT2750R2SSF200** | 69,85 | 2.750 | 3.050 | 9.13 | 6.88 | .15 | DFT1105.. |
| — | — | **DFT3000R2SSF200** | 76,20 | 3.000 | 3.150 | 10.00 | 7.50 | .15 | DFT1105.. |
| — | — | **DFT3250R2SSF200** | 82,55 | 3.250 | 3.260 | 10.26 | 8.13 | .16 | DFT1105.. |

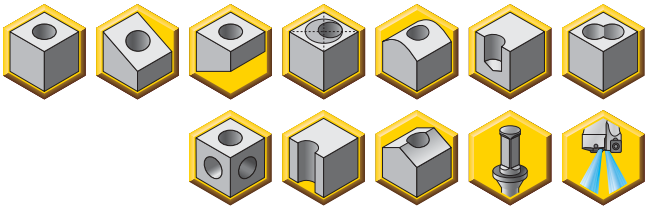
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

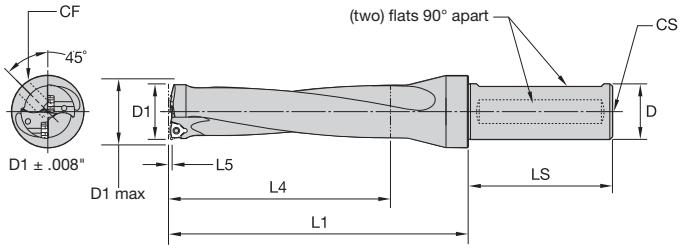
**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

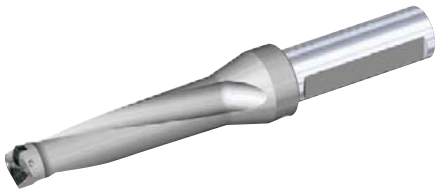
| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFT05T3.. | **191.924** | **170.024** | 9 |
| DFT06T3.. | **191.848** | **170.025** | 15 |
| DFT0704.. | **191.698** | **170.025** | 15 |
| DFT0905.. | **191.726** | **170.026** | 20 |
| DFT1105.. | **191.375** | **170.026** | 20 |

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 1.25 | 3.25 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |
| 1.50 | 3.75 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |
| 2.00 | 4.00 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J98 and J101–J102 for inserts.







## Flange Shank • 4 x D • Inch

| D | | | | D1 diameter | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.000 | 1.250 | 1.500 | 2.000 | mm | in | D1 max | L1 | L4 max | L5 | gage insert |
| **DFT0984R4SSF100** | **–** | **–** | **–** | 25,00 | .984 | 1.109 | 5.50 | 3.94 | .03 | DFT05T3.. |
| **DFT1000R4SSF100** | **DFT1000R4SSF125** | **DFT1000R4SSF150** | **–** | 25,40 | 1.000 | 1.125 | 5.63 | 4.00 | .03 | DFT05T3.. |
| **–** | **DFT1031R4SSF125** | **–** | **–** | 26,20 | 1.031 | 1.156 | 5.75 | 4.13 | .04 | DFT05T3.. |
| **–** | **DFT1063R4SSF125** | **–** | **–** | 26,99 | 1.063 | 1.188 | 5.88 | 4.25 | .04 | DFT05T3.. |
| **–** | **DFT1094R4SSF125** | **–** | **–** | 27,78 | 1.094 | 1.219 | 5.88 | 4.38 | .04 | DFT05T3.. |
| **–** | **DFT1125R4SSF125** | **DFT1125R4SSF150** | **–** | 28,58 | 1.125 | 1.250 | 6.13 | 4.50 | .04 | DFT05T3.. |
| **–** | **DFT1156R4SSF125** | **–** | **–** | 29,37 | 1.156 | 1.281 | 6.13 | 4.63 | .05 | DFT05T3.. |
| **–** | **DFT1188R4SSF125** | **–** | **–** | 30,16 | 1.188 | 1.288 | 6.50 | 4.75 | .05 | DFT05T3.. |
| **–** | **DFT1219R4SSF125** | **–** | **–** | 30,96 | 1.219 | 1.319 | 6.63 | 4.88 | .05 | DFT05T3.. |
| **–** | **DFT1250R4SSF125** | **DFT1250R4SSF150** | **–** | 31,75 | 1.250 | 1.325 | 6.75 | 5.00 | .05 | DFT05T3.. |
| **–** | **DFT1281R4SSF125** | **–** | **–** | 32,55 | 1.281 | 1.345 | 6.88 | 5.13 | .05 | DFT05T3.. |
| **–** | **DFT1313R4SSF125** | **–** | **–** | 33,34 | 1.313 | 1.438 | 7.00 | 5.25 | .05 | DFT06T3.. |
| **–** | **DFT1375R4SSF125** | **DFT1375R4SSF150** | **–** | 34,93 | 1.375 | 1.500 | 7.25 | 5.50 | .05 | DFT06T3.. |
| **–** | **DFT1406R4SSF125 *** | **–** | **–** | 35,72 | 1.406 | 1.531 | 7.25 | 5.63 | .05 | DFT06T3.. |
| **–** | **DFT1438R4SSF125** | **DFT1438R4SSF150** | **–** | 36,51 | 1.438 | 1.563 | 7.63 | 5.75 | .06 | DFT06T3.. |
| **–** | **DFT1469R4SSF125** | **–** | **–** | 37,31 | 1.469 | 1.594 | 7.75 | 5.88 | .06 | DFT06T3.. |
| **–** | **DFT1500R4SSF125** | **DFT1500R4SSF150** | **–** | 38,10 | 1.500 | 1.625 | 7.88 | 6.00 | .06 | DFT06T3.. |
| **–** | **DFT1531R4SSF125** | **DFT1531R4SSF150 *** | **–** | 38,90 | 1.531 | 1.656 | 7.88 | 6.13 | .06 | DFT06T3.. |
| **–** | **DFT1563R4SSF125** | **DFT1563R4SSF150** | **–** | 39,69 | 1.563 | 1.688 | 8.13 | 6.25 | .06 | DFT06T3.. |
| **–** | **DFT1625R4SSF125** | **DFT1625R4SSF150** | **–** | 41,28 | 1.625 | 1.750 | 8.38 | 6.50 | .06 | DFT0704.. |
| **–** | **DFT1688R4SSF125** | **DFT1688R4SSF150** | **–** | 42,86 | 1.688 | 1.813 | 8.75 | 6.75 | .07 | DFT0704.. |
| **–** | **–** | **DFT1750R4SSF150** | **–** | 44,45 | 1.750 | 1.875 | 9.00 | 7.00 | .07 | DFT0704.. |
| **–** | **–** | **DFT1813R4SSF150** | **–** | 46,04 | 1.813 | 1.938 | 9.25 | 7.25 | .08 | DFT0704.. |
| **–** | **–** | **DFT1875R4SSF150** | **–** | 47,63 | 1.875 | 2.000 | 9.50 | 7.50 | .08 | DFT0704.. |
| **–** | **–** | **DFT1938R4SSF150** | **–** | 49,21 | 1.938 | 2.188 | 9.88 | 7.75 | .07 | DFT0905.. |
| **–** | **–** | **DFT2000R4SSF150** | **DFT2000R4SSF200** | 50,80 | 2.000 | 2.250 | 10.13 | 8.00 | .07 | DFT0905.. |
| **–** | **–** | **DFT2125R4SSF150** | **DFT2125R4SSF200** | 53,98 | 2.125 | 2.375 | 10.63 | 8.50 | .09 | DFT0905.. |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**WARNING**
**During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.**

| gage insert | insert screw | Torx wrench | Torx size |
|---|---|---|---|
| DFT05T3.. | **191.924** | **170.024** | 9 |
| DFT06T3.. | **191.848** | **170.025** | 15 |
| DFT0704.. | **191.698** | **170.025** | 15 |
| DFT0905.. | **191.726** | **170.026** | 20 |

| D | LS | CF | CS | pipe plug |
|---|---|---|---|---|
| 1.00 | 3.00 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |
| 1.25 | 3.25 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |
| 1.50 | 3.75 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |
| 2.00 | 4.00 | 1/8-27 NPT | R 1/4-18 NPT | **HSFS0125** |

## Drill Fix™ DFT™ • Metric

| Metric | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 16–24mm | DFT05 25–32mm | DFT06 32–40mm | DFT07 41–48mm | DFT09... 49–68mm | DFT11 69–82mm |
| P | 0 | S | O | DS | KCU40 | 280 | **300** | 320 | mm/r | 0,05–0,08 | 0,07–0,12 | 0,09–0,15 | 0,13–0,21 | 0,17–0,27 | 0,17–0,27 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | DS | KCU40 | 200 | **215** | 230 | mm/r | 0,05–0,08 | 0,07–0,12 | 0,09–0,15 | 0,13–0,21 | 0,17–0,27 | 0,17–0,27 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | I | O | DS | KCU40 | 130 | **135** | 150 | mm/r | 0,05–0,08 | 0,07–0,12 | 0,09–0,15 | 0,13–0,21 | 0,17–0,27 | 0,19–0,31 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | 1 | S | O | MD | KCU25 | 310 | **325** | 360 | mm/r | 0,05–0,08 | 0,07–0,12 | 0,09–0,15 | 0,13–0,21 | 0,17–0,27 | 0,19–0,31 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | MD | KCU25 | 200 | **215** | 230 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | MD | KCU40 | 130 | **135** | 150 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 310 | **325** | 360 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 200 | **215** | 230 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 130 | **135** | 150 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 260 | **285** | 320 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 180 | **195** | 220 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 110 | **120** | 140 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 220 | **250** | 300 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 150 | **180** | 220 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 90 | **110** | 140 | mm/r | 0,06–0,10 | 0,09–0,15 | 0,11–0,18 | 0,15–0,25 | 0,19–0,31 | 0,19–0,31 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 180 | **200** | 220 | mm/r | 0,06–0,10 | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 | 0,12–0,23 | 0,12–0,23 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 120 | **135** | 150 | mm/r | 0,06–0,10 | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 | 0,12–0,23 | 0,12–0,23 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 70 | **85** | 100 | mm/r | 0,05–0,10 | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 | 0,12–0,23 | 0,12–0,23 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 180 | **200** | 220 | mm/r | 0,05–0,10 | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 | 0,12–0,23 | 0,12–0,23 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 120 | **135** | 150 | mm/r | 0,05–0,10 | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 | 0,12–0,23 | 0,12–0,23 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 70 | **85** | 100 | mm/r | 0,05–0,10 | 0,07–0,13 | 0,09–0,15 | 0,11–0,18 | 0,12–0,23 | 0,12–0,23 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| M | 1 | S | O | DS | KCU40 | 150 | **190** | 230 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | DS | KCU40 | 100 | **130** | 160 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 60 | **80** | 100 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | DS | KCU40 | 150 | **180** | 210 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | MD | KCU40 | 100 | **130** | 160 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 60 | **80** | 100 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | DS | KCU40 | 100 | **130** | 160 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 80 | **110** | 140 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 50 | **70** | 90 | mm/r | 0,05–0,08 | 0,05–0,10 | 0,06–0,13 | 0,08–0,14 | 0,09–0,17 | 0,09–0,17 |
| | | | I | MD | KC7140 | | | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFT™ • Metric

| Metric | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 16–24mm | DFT05 25–32mm | DFT06 32–40mm | DFT07 41–48mm | DFT09... 49–68mm | DFT11 69–82mm |
| K | 1 | S | O | HP | KCPK10 | 200 | **240** | 300 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 120 | **155** | 200 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 80 | **100** | 125 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 180 | **220** | 260 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 110 | **140** | 170 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 80 | **100** | 120 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 180 | **220** | 260 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 110 | **140** | 170 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 80 | **100** | 120 | mm/r | 0,08–0,13 | 0,10–0,18 | 0,14–0,26 | 0,18–0,33 | 0,21–0,39 | 0,21–0,39 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 300 | **400** | 500 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 200 | **300** | 400 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 2 | S | O | ST | KD1425 | 375 | **550** | 775 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 175 | **250** | 325 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 3 | S | O | ST | KD1425 | 350 | **500** | 650 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 150 | **250** | 350 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 4 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 200 | **300** | 400 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 5 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 200 | **300** | 400 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 6 | S | O | ST | KD1425 | 400 | **600** | 800 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 250 | **350** | 450 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 200 | **300** | 400 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | HP | KMF | | | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFT™ • Metric

| Metric | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 16–24mm | DFT05 25–32mm | DFT06 32–40mm | DFT07 41–48mm | DFT09... 49–68mm | DFT11 69–82mm |
| S | 1 | S | O | HP | KCU40 | 60 | **70** | 75 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,1 | 0,08–0,13 | 0,08–0,13 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 40 | **50** | 60 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,1 | 0,08–0,13 | 0,08–0,13 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 25 | **30** | 40 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,1 | 0,08–0,13 | 0,08–0,13 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCU40 | 50 | **60** | 70 | mm/r | 0,05–0,07 | 0,05–0,07 | 0,05–0,08 | 0,06–0,1 | 0,07–0,12 | 0,07–0,12 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 30 | **40** | 50 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,06–0,1 | 0,09–0,15 | 0,09–0,15 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 25 | **30** | 40 | mm/r | 0,05–0,07 | 0,05–0,07 | 0,05–0,08 | 0,06–0,1 | 0,07–0,12 | 0,07–0,12 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCU40 | 70 | **80** | 90 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,1 | 0,08–0,13 | 0,08–0,13 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 50 | **60** | 70 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,1 | 0,08–0,13 | 0,08–0,13 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 30 | **40** | 50 | mm/r | 0,03–0,05 | 0,04–0,06 | 0,05–0,08 | 0,06–0,1 | 0,08–0,13 | 0,08–0,13 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 4 | S | O | HP | KCU40 | 70 | **80** | 90 | mm/r | 0,05–0,07 | 0,05–0,07 | 0,05–0,08 | 0,06–0,1 | 0,07–0,12 | 0,07–0,12 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 50 | **60** | 70 | mm/r | 0,04–0,06 | 0,05–0,08 | 0,06–0,10 | 0,06–0,1 | 0,09–0,15 | 0,09–0,15 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 30 | **40** | 50 | mm/r | 0,05–0,07 | 0,05–0,07 | 0,05–0,08 | 0,06–0,1 | 0,07–0,12 | 0,07–0,12 |
| | | | I | MD | KC7140 | | | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFT™ • Inch

| Inch | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 .625–.969" | DFT05 .984–1.250" | DFT06 1.313–1.563" | DFT07 1.625–1.875" | DFT09 1.938–2.125" | DFT11 2.750–3.250" |
| P | 0 | S | O | DS | KCU40 | 918 | **984** | 1050 | SFM | .0020–.0031 | .0028–.0047 | .0035–.0059 | .0051–.0083 | .0067–.0106 | .0067–.0106 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | DS | KCU40 | 656 | **705** | 754 | SFM | .0020–.0031 | .0028–.0047 | .0035–.0059 | .0051–.0083 | .0067–.0106 | .0067–.0106 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | I | O | DS | KCU40 | 426 | **443** | 492 | SFM | .0020–.0031 | .0028–.0047 | .0035–.0059 | .0051–.0083 | .0067–.0106 | .0075–.0122 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | 1 | S | O | MD | KCU25 | 1017 | **1066** | 1181 | SFM | .0020–.0031 | .0028–.0047 | .0035–.0059 | .0051–.0083 | .0067–.0106 | .0075–.0122 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | U | O | MD | KCU25 | 656 | **705** | 754 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | MD | KCU40 | 426 | **443** | 492 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 1017 | **1066** | 1181 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 656 | **705** | 754 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 426 | **443** | 492 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 853 | **935** | 1050 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 590 | **640** | 722 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KCU40 | 361 | **394** | 459 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 722 | **820** | 984 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 492 | **590** | 722 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 295 | **361** | 459 | SFM | .0024–.0039 | .0035–.0059 | .0043–.0071 | .0059–.0098 | .0075–.0122 | .0075–.0122 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 590 | **656** | 722 | SFM | .0024–.0039 | .0028–.0051 | .0035–.0059 | .0043–.0071 | .0047–.0091 | .0047–.0091 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 394 | **443** | 492 | SFM | .0024–.0039 | .0028–.0051 | .0035–.0059 | .0043–.0071 | .0047–.0091 | .0047–.0091 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 230 | **279** | 328 | SFM | .0020–.0039 | .0028–.0051 | .0035–.0059 | .0043–.0071 | .0047–.0091 | .0047–.0091 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 590 | **656** | 722 | SFM | .0020–.0039 | .0028–.0051 | .0035–.0059 | .0043–.0071 | .0047–.0091 | .0047–.0091 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 394 | **443** | 492 | SFM | .0020–.0039 | .0028–.0051 | .0035–.0059– | .0047–.0091 | .0047–.0091 | .0043–.0071 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 230 | **279** | 328 | SFM | .0020–.0039 | .0028–.0051 | .0035–.0059 | .0043–.0071 | .0047–.0091 | .0047–.0091 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| M | 1 | S | O | DS | KCU40 | 492 | **623** | 754 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | DS | KCU40 | 328 | **426** | 525 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 197 | **262** | 328 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | DS | KCU40 | 492 | **590** | 689 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | MD | KCU40 | 328 | **426** | 525 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 197 | **262** | 328 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | DS | KCU40 | 328 | **426** | 525 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | DS | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 262 | **361** | 459 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 164 | **230** | 295 | SFM | .0020–.0031 | .0020–.0039 | .0024–.0051 | .0031–.0055 | .0035–.0067 | .0035–.0067 |
| | | | I | MD | KC7140 | | | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFT™ • Inch

| Inch | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 .625–.969" | DFT05 .984–1.250" | DFT06 1.313–1.563" | DFT07 1.625–1.875" | DFT09 1.938–2.125" | DFT11 2.750–3.250" |
| K | 1 | S | O | HP | KCPK10 | 656 | **787** | 984 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 394 | **508** | 656 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 262 | **328** | 410 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 590 | **722** | 853 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 361 | **459** | 558 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 262 | **328** | 394 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 590 | **722** | 853 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU25 | 361 | **459** | 558 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | HP | KC7140 | 262 | **328** | 394 | SFM | .0031–.0051 | .0039–.0071 | .0055–.0102 | .0071–.0130 | .0083–.0154 | .0083–.0154 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 984 | **1312** | 1640 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 656 | **984** | 1312 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 2 | S | O | ST | KD1425 | 1230 | **1804** | 2542 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 574 | **820** | 1066 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 3 | S | O | ST | KD1425 | 1148 | **1640** | 2132 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 492 | **820** | 1148 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 4 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 656 | **984** | 1312 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 5 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 656 | **984** | 1312 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KMF | | | | | | | | | | |
| | 6 | S | O | ST | KD1425 | 1312 | **1968** | 2624 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | ST | KD1425 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 820 | **1148** | 1476 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | HP | KMF | 656 | **984** | 1312 | SFM | .0020–.0028 | .0028–.0035 | .0039–.0055 | .0047–.0063 | .0055–.0071 | .0055–.0071 |
| | | | I | HP | KMF | | | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## Drill Fix™ DFT™ • Inch

| Inch | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 .625–.969" | DFT05 .984–1.250" | DFT06 1.313–1.563" | DFT07 1.625–1.875" | DFT09 1.938–2.125" | DFT11 2.750–3.250" |
| S | 1 | S | O | HP | KCU40 | 197 | **230** | 246 | SFM | .0012–.0020 | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0031–.0051 | .0031–.0051 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 131 | **164** | 197 | SFM | .0012–.0020 | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0031–.0051 | .0031–.0051 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 82 | **98** | 131 | SFM | .0012–.0020 | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0031–.0051 | .0031–.0051 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 2 | S | O | HP | KCU40 | 164 | **197** | 230 | SFM | .0020–.0028 | .0020–.0028 | .0020–.0031 | .0024–.0039 | .0028–.0047 | .0028–.0047 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 98 | **131** | 164 | SFM | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0024–.0039 | .0035–.0059 | .0035–.0059 |
| | | | I | HP | KC7140 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 82 | **98** | 131 | SFM | .0020–.0028 | .0020–.0028 | .0020–.0031 | .0024–.0039 | .0028–.0047 | .0028–.0047 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 3 | S | O | HP | KCU40 | 230 | **262** | 295 | SFM | .0012–.0020 | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0031–.0051 | .0031–.0051 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 164 | **197** | 230 | SFM | .0012–.0020 | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0031–.0051 | .0031–.0051 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 98 | **131** | 164 | SFM | .0012–.0020 | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0031–.0051 | .0031–.0051 |
| | | | I | MD | KC7140 | | | | | | | | | | |
| | 4 | S | O | HP | KCU40 | 230 | **262** | 295 | SFM | .0020–.0028 | .0020–.0028 | .0020–.0031 | .0024–.0039 | .0028–.0047 | .0028–.0047 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | U | O | HP | KCU40 | 164 | **197** | 230 | SFM | .0016–.0024 | .0020–.0031 | .0024–.0039 | .0024–.0039 | .0035–.0059 | .0035–.0059 |
| | | | I | HP | KCU40 | | | | | | | | | | |
| | | I | O | MD | KC7140 | 98 | **131** | 164 | SFM | .0020–.0028 | .0020–.0028 | .0020–.0031 | .0024–.0039 | .0028–.0047 | .0028–.0047 |
| | | | I | MD | KC7140 | | | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

# HTS Series Indexable Deep-Hole Drilling System

## Primary Application

HTS series indexable drills are designed for deep-hole drilling up to 10 x D in steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. The two HTS systems — HTS and HTS-R — cover a diameter range of 40–270mm (1.575–10.629").

## Features and Benefits

### HTS Indexable Drill System

- Large diameter range from 45–270mm (1.750–10.629") with standard drill heads.
- Drill Fix™ DFT™ trigon inserts as outboard and inboard insert offer the best centering capabilities; square-outboard insert cartridges offer increased surface and hole quality.
- Various insert geometries and grades available as standard.
- Adjust drilling depth and diameter range with suitable extensions and reducers.
- Diameter adjustment by shortening outer cartridge.
- Customized drilling heads up to 540mm (21.259").

## HTS-R Indexable Drill System

- Modular system uses drill heads equipped with DFR™ insert cartridges.
- Five drill heads cover the diameter range 40–55mm (1.575–2.165").
- Drill Fix™ DFR rectangular inboard and outboard inserts offer the highest feed rates at small diameters.
- Various insert geometries and grades available as standard.
- Adjust drilling depth and diameters by using extensions and reducers.
- Diameter adjustment by shortening outer cartridge.

# HTS Indexable Drill System

The HTS indexable drill system is one of the most reliable deep-hole drilling systems available. Drilling up to 10 x D can be easily achieved in materials like steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. Various drilling heads cover the diameter range 45–270mm (1.77–10.63").

HTS drill heads are equipped with pilot drills and cartridges using trigon-shaped Drill Fix™ DFT™ inserts. Use HTS extensions and reducers to achieve various diameters and depths of drilling.

For improved surface qualities and increased reliability, finishing HTS cartridges with a squared-outboard insert are available as standard.

## Features and Benefits

### Productivity

- Achieve high hole accuracy by using pilot drills and trigon-shaped inserts.
- Benefit from improved surface qualities using finishing cartridges with squared-outboard inserts.
- Adjust outer cartridge to desired cutting diameter, reducing inventory.
- Same insert size is used in each insert cartridge, reducing inventory costs.

### Versatility

- Diameter range covering 45–270mm (1.77–10.63").
- L/D ratio up to 10 x D as standard.
- Inserts and pilot drills can be used with various heads and cartridges, covering various diameters.
- Large variety of DFT insert grades and geometries available.
- Finishing cartridge with squared-outboard insert offering four cutting edges for high process stability.
- Carbide pilot drills are available upon request.

# Use HTS extensions and reducers to achieve various diameters and depths of drilling.

## Customization

- Wear pads can be added for increased stability.
- Fully engineered solutions available.
- Custom solutions covering diameter range up to 540mm (21.259") are possible.

# HTS-R Indexable Drill System

HTS-R extends the HTS system by covering diameters between 40–55mm (1.575–2.165").

Up to 30% higher feed rates achievable with rectangular-shaped Drill Fix™ DFR™ inserts with the added benefit of improved chip control.

## Features and Benefits

### Productivity

- Benefit from better chip control and higher insert stability for longer tool body life.
- Same insert size is used in each insert cartridge.

### Versatility

- Diameter range covering 40–55mm (1.575–2.165") with five drilling heads.
- Large variety of DFR insert grades and geometries available.
- Outer cartridges can be adjusted to the desired cutting diameter.
- Extensions and reducers are available as standard.
- Solid carbide and HSS pilot drills are available to match the cutting conditions of specific applications.

# Benefit from better chip control and higher insert stability for longer tool body life.

Pilot drill should be installed and set to the proper length before installing the inner cartridge.

Install inner cartridge, then the outer insert.

Install inner insert into cartridge.

## Customization

- Wear pads can be added for increased stability.
- Fully engineered solutions available.

**HTS-R**

inner cartridge

pilot drill

outer cartridge

**HTS** Ø 1.77–4.02"/45–102mm

inner cartridge*

pilot drill

outer cartridge*

**HTS** Ø 4.02–6.69"/102–170mm

inner cartridge

pilot drill

outer cartridge

**HTS** Ø 7.68–10.63"/195–270mm

inner cartridge

pilot drill

outer cartridge

**HTS with SPHX outboard insert**

inner cartridge

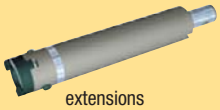
pilot drill

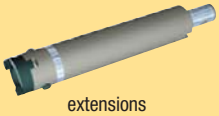
outer cartridge**

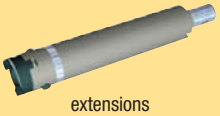
* for Ø 7.09–7.32"/180–186mm: 2 inner and outer cartridges are used

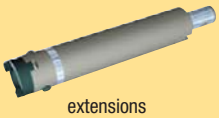
HTS-R head

HTS head


extensions


extensions


extensions


extensions

reducer

reducer

**WARNING**
- **DO NOT exceed 2 extensions or 1 extension plus reducer.**

DV

BT

CV with rotary ring

CV

HSK

KM™

HTS coolant coupling

** for Ø 4.02–6.69"/102–170mm & Ø 7.68–9.45"/195–240mm: the outer cartridge uses 3 inserts

**HTS-R**

inner cartridge

pilot drill

outer cartridge

HTS-R head

**HTS** Ø 1.77–4.02"/45–102mm

inner cartridge*

pilot drill

outer cartridge*

* for Ø 7.09–7.32"/180–186mm: 2 inner and outer cartridges are used

**HTS** Ø 4.02–6.69"/102–170mm

inner cartridge

pilot drill

outer cartridge

**HTS** Ø 7.68–10.63"/195–270mm

inner cartridge

pilot drill

outer cartridge

**HTS with SPHX outboard insert**

inner cartridge

pilot drill

outer cartridge**

** for Ø 4.02–6.69"/102–170mm & Ø 7.68–9.45"/195–240mm: the outer cartridge uses 3 inserts

extensions reducer

extensions

reducer

basic shanks

DV

BT

BT with coolant ring

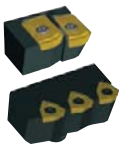
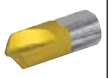
CV

CV with coolant ring

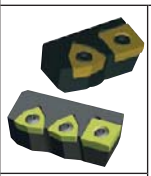
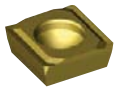
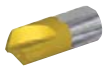
HSK

HTS head

To assemble your HTS(-R) head, choose the desired drill diameter range from the left-hand column.
Next, follow the columns to the right, and select the appropriate component from each column to complete your HTS(-R) head.

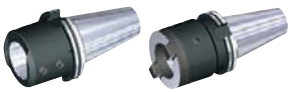
| | | | | | | HTS(-R) head with DFR™/DFT™ inserts | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | inner cartridge | | | | outer cartridge | | | | |
| | drilling range | | | L1 | | | | | |  | | | |  |
| | mm | in | HTS head | mm | in | cartridge | n | insert | n | cartridge | n | insert | n | pilot drill |
| HTS heads with DFR inserts | 40–43 | 1.57–1.69 | HTSR040R025M | 60 | 2.36 | HTSR10CI | 1 | DFR0302. | 2 | HTSR10CE | 1 | DFR0302. | 2 | B513S08. |
| | 43–46 | 1.69–1.81 | HTSR043R025M | 70 | 2.76 | HTSR11CI | 1 | DFR0302. | 2 | HTSR11CE | 1 | DFR0302. | 2 | B513S10. |
| | 46–49 | 1.81–1.93 | HTSR046R028M | | | HTSR12CI | 1 | DFR0403. | 2 | HTSR12CE | 1 | DFR0403. | 2 | B513S10. |
| | 49–52 | 1.93–2.05 | HTSR049R028M | | | HTSR13CI | 1 | DFR0403. | 2 | HTSR13CE | 1 | DFR0403.. | 2 | B513S10. |
| | 52–55 | 2.05–2.17 | HTSR052R028M | | | HTSR14CI | 1 | DFR0403. | 2 | HTSR14CE | 1 | DFR0403.. | 2 | B513S10. |
| HTS heads with DFT/SPHX inserts | 45–50 | 1.77–1.97 | 3.76045R028V | 50 | 1.97 | 3.77000R050V | 1 | DFT0303. | 2 | 3.77000R051V | 1 | DFT0303. | 2 | B510S08. |
| | 50–55 | 1.97–2.17 | 3.76050R028V | | | 3.77000R052V | 1 | DFT0303. | 2 | 3.77000R053V | 1 | DFT0303. | 2 | B510S08. |
| | 55–58 | 2.17–2.28 | 3.76055R032V | 60 | 2.36 | 3.77000R038V | 1 | DFT05T3. | 2 | 3.77000R039V | 1 | DFT05T3. | 2 | B510S08. |
| | 58–63 | 2.28–2.48 | 3.76058R032V | | | 3.77000R023V | 1 | DFT05T3. | 2 | 3.77000R024V | 1 | DFT05T3. | 2 | B510S10. |
| | 63–68 | 2.48–2.68 | 3.76063R032V | | | 3.77000R025V | 1 | DFT05T3. | 2 | 3.77000R024V | 1 | DFT05T3. | 2 | B510S10. |
| | 63–68 | 2.48–2.68 | **3.76063R040V*** | 70 | 2.76 | 3.77000R025V | 1 | DFT05T3. | 2 | 3.77000R024V | 1 | DFT05T3. | 2 | B510S10. |
| | 68–73 | 2.68–2.87 | 3.76068R040V | | | 3.77000R026V | 1 | DFT05T3. | 2 | 3.77000R027V | 1 | DFT05T3. | 2 | B510S10. |
| | 73–78 | 2.87–3.07 | 3.76073R040V | | | 3.77000R026V | 1 | DFT05T3. | 2 | 3.77000R027V | 1 | DFT05T3. | 2 | B510S15. |
| | 78–84 | 3.07–3.31 | 3.76078R040V | | | 3.77000R028V | 1 | DFT06T3. | 2 | 3.77000R029V | 1 | DFT06T3. | 2 | B510S15. |
| | 78–84 | 3.07–3.31 | **3.76078R048V*** | 70 | 2.76 | 3.77000R028V | 1 | DFT06T3. | 2 | 3.77000R029V | 1 | DFT06T3. | 2 | B510S15. |
| | 84–90 | 3.31–3.54 | 3.76084R048V | | | 3.77000R028V | 1 | DFT06T3. | 2 | 3.77000R029V | 1 | DFT06T3. | 2 | B510S15. |
| | 90–94° | 3.54–3.70 | 3.76090R048V | | | – | – | – | – | – | – | – | – | – |
| | 90–96 | 3.54–3.78 | 3.76090R048V | | | 3.77000R030V | 1 | DFT06T3. | 2 | 3.77000R031V | 1 | DFT06T3. | 2 | B510S15. |
| | 96–100° | 3.78–3.93 | 3.76096R048V | | | – | – | – | – | – | – | – | – | – |
| | 96–102 | 3.78–4.02 | 3.76096R048V | | | 3.77000R030V | 1 | DFT06T3. | 2 | 3.77000R031V | 1 | DFT06T3. | 2 | B510S20. |
| | 96–100° | 3.78–3.93 | **3.76096R058V*** | 80 | 3.15 | – | – | – | – | – | – | – | – | – |
| | 96–102 | 3.78–4.02 | **3.76096R058V*** | | | 3.77000R030V | 1 | DFT06T3. | 2 | 3.77000R031V | 1 | DFT06T3. | 2 | B510S20. |
| | 102–108 | 4.02–4.25 | 3.76102R058V | | | 3.77000R081V | 1 | DFT05T3. | 3 | 3.77000R082V | 1 | DFT05T3. | 3 | B510S20. |
| | 108–115 | 4.25–4.53 | 3.76108R058V | | | 3.77000R083V | 1 | DFT06T3. | 3 | 3.77000R084V | 1 | DFT06T3. | 3 | B510S20. |
| | 115–122 | 4.53–4.80 | 3.76115R070V | 90 | 3.54 | 3.77000R085V | 1 | DFT06T3. | 3 | 3.77000R086V | 1 | DFT06T3. | 3 | B510S25. |
| | 122–130 | 4.80–5.12 | 3.76122R070V | | | 3.77000R079V | 1 | DFT06T3. | 3 | 3.77000R080V | 1 | DFT06T3. | 3 | B510S25. |
| | 130–140 | 5.12–5.51 | 3.76130R070V | | | 3.77000R087V | 1 | DFT06T3. | 3 | 3.77000R088V | 1 | DFT06T3. | 3 | B510S25. |
| | 140–150 | 5.51–5.91 | 3.76140R080V | 100 | 3.94 | 3.77000R077V | 1 | DFT0704. | 3 | 3.77000R078V | 1 | DFT0704. | 3 | B510S25. |
| | 150–158 | 5.91–6.22 | 3.76150R080V | | | 3.77000R075V | 1 | DFT0704. | 3 | 3.77000R076V | 1 | DFT0704. | 3 | B510S25. |
| | 158–162 | 6.22–6.38 | 3.76158R080V | | | 3.77000R073V | 1 | DFT0704. | 3 | 3.77000R074V | 1 | DFT0704. | 3 | B510S25. |
| | 162–170 | 6.38–6.70 | 3.76162R080V | | | 3.77000R048V | 1 | DFT0704. | 3 | 3.77000R049V | 1 | DFT0704. | 3 | B510S30. |
| | 180–184° | 7.08–7.24 | 3.76180R110 | 125 | 4.92 | – | – | – | – | – | – | – | – | – |
| | 180–186 | 7.08–7.32 | 3.76180R110 | | | 3.77000R030V | 3 | DFT06T3. | 4 | 3.77000R031V | 1 | DFT06T3. | 4 | B510S30. |
| | 195–201 | 7.68–7.91 | 3.76195R110 | | | 3.77000R081V | 3 | DFT05T3. | 6 | 3.77000R082V | 1 | DFT05T3 | 6 | B510S30. |
| | 213–220 | 8.39–8.66 | 3.76213R125 | | | 3.77000R083V | 3 | DFT06T3. | 6 | 3.77000R084V | 1 | DFT06T3. | 6 | B510S30. |
| | 230–240 | 9.06–9.45 | 3.76230R160 | 150 | 5.91 | 3.77000R079V | 2 | DFT06T3. | 6 | 3.77000R080V | 2 | DFT06T3. | 6 | B510S30. |
| | 260–270 | 10.24–10.63 | 3.76260R160 | | | 3.77000R077V | 2 | DFT06T3. | 6 | 3.77000R078V | 2 | DFT06T3. | 6 | B510S30. |

° Decreased diameter range by using SPHX insert in exterior cartridge.
* Drill heads with reinforced body for short–chipping materials.
n = Required quantity.

| | HTS head with DFT™ inserts and SPHX outboard insert | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | inner cartridge | | | | | | outer cartridge | | | | | | |
| | | | | | | |  | | | |  | |  |
| | cartridge | n | cartridge | n | insert | n | cartridge | n | insert | n | insert | n | pilot drill |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R250V | 1 | – | – | DFT0303. | 2 | 3.77000R251V | 1 | DFT0303. | 1 | SPHX0703. | 1 | B510S08. |
| | 3.77000R252V | 1 | – | – | DFT0303. | 2 | 3.77000R253V | 1 | DFT0303. | 1 | SPHX0703. | 1 | B510S08. |
| | 3.77000R038V | 1 | – | – | DFT05T3. | 2 | 3.77000R239V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S08. |
| | 3.77000R023V | 1 | – | – | DFT05T3. | 2 | 3.77000R224V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R025V | 1 | – | – | DFT05T3. | 2 | 3.77000R224V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R025V | 1 | – | – | DFT05T3. | 2 | 3.77000R224V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R026V | 1 | – | – | DFT05T3. | 2 | 3.77000R227V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R026V | 1 | – | – | DFT05T3. | 2 | 3.77000R227V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R028V | 1 | – | – | DFT06T3. | 2 | 3.77000R229V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R028V | 1 | – | – | DFT06T3. | 2 | 3.77000R229V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R228V | 1 | – | – | DFT06T3. | 2 | 3.77000R229V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R230V | 1 | – | – | DFT06T3. | 2 | 3.77000R231V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R230V | 1 | – | – | DFT06T3. | 2 | 3.77000R231V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S20. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R230V | 1 | – | – | DFT06T3. | 2 | 3.77000R231V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S20. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R081V | 1 | – | – | DFT05T3. | 3 | 3.77000R282V | 1 | DFT05T3. | 2 | SPHX0903. | 1 | B510S20. |
| | 3.77000R083V | 1 | – | – | DFT06T3. | 3 | 3.77000R284V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S20. |
| | 3.77000R085V | 1 | – | – | DFT06T3. | 3 | 3.77000R286V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R079V | 1 | – | – | DFT06T3. | 3 | 3.77000R280V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R087V | 1 | – | – | DFT06T3. | 3 | 3.77000R288V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R077V | 1 | – | – | DFT0704. | 3 | 3.77000R278V | 1 | DFT0704. | 2 | SPHX1505. | 1 | B510S25. |
| | 3.77000R075V | 1 | – | – | DFT0704. | 3 | 3.77000R276V | 1 | DFT0704. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R073V | 1 | – | – | DFT0704. | 3 | 3.77000R274V | 1 | DFT0704. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R248V | 1 | – | – | DFT0704. | 3 | 3.77000R249V | 1 | DFT0704. | 2 | SPHX1505. | 1 | B510S30. |
| | 3.77000R230V | 3 | – | – | DFT06T3. | 4 | 3.77000R231V | 1 | DFT06T3. | 3 | SPHX0903. | 1 | B510S30. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R081V | 3 | – | – | DFT05T3. | 9 | 3.77000R282V | 1 | DFT05T3. | 2 | SPHX0903. | 1 | B510S30. |
| | 3.77000R083V | 3 | – | – | DFT06T3. | 9 | 3.77000R284V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S30. |
| | 3.77000R079V | 2 | 3.77000R080V | 1 | DFT06T3. | 9 | 3.77000R280V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S30. |
| | – | – | – | – | – | – | – | – | – | – | – | – | B510S30 |

## HTS Tool Assembly Combinations

- Select your appropriate drill diameter range.
- Choose the appropriate adapter and shank size.
- Follow the columns to the right, and select the appropriate components from each column to complete your HTS(-R) tool.

| | drilling range | | shank | | DV | | BT | | CV | | HSK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | |  | | | | | | | |
| | | | | | assembly details | | assembly details | | assembly details | | assembly details | |
| | mm | in | | D1 | 40 | 50 | 40 | 50 | 40 | 50 | 50/63/100 | |
| HTS heads with DFR™ inserts | 40–43<br>43–46 | 1.57–1.69<br>1.69–1.81 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | BT40BWD32070M | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | HSK50ASWN32110M<br>HSK63ASWN32090M<br>HSK100ASWN32100M | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | – | |
| | | | SS(F) | 1.50 | – | – | – | – | CV40BSSF150575 | CV50SS150400 (AD)<br>CV50SS150600 (AD)<br>CV50SS150800 (AD)<br>CV50BSSF150450 | – | |
| | 46–49<br>49–52<br>52–55 | 1.81–1.93<br>1.93–2.05<br>2.05–2.17 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | – | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | – | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | – | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |
| HTS heads with DFT™/SPHX inserts | 45–50<br>50–55 | 1.77–1.97<br>1.97–2.17 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | BT40BWD32070M | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | HSK50ASWN32110M<br>HSK63ASWN32090M<br>HSK100ASWN32100M | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |
| | 55–58<br>58–63<br>63–68 | 2.17–2.28<br>2.28–2.48<br>2.48–2.68 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | BT40BWD32070 | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | HSK50ASWN32110M<br>HSK63ASWN32090M<br>HSK100ASWN32100M | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |
| | **63–68*** 68–73 73–78 78–84 | 2.48–2.68<br>2.68–2.87<br>2.87–3.07<br>3.07–3.31 | WD/ WN | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | V50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |

* HTS drilling head with reinforced body for short-chipping materials.
** Adapter with coolant ring.
The shown combinations are not complete. Ask your Kennametal representative to get the most reasonable solution for your application.
Please note that the assembled total length of the drilling tool is not necessarily the total achievable drilling depth.

| | KM | basic shank | | | | reducer | | | | | extension | | | HTS head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | assembly details | | L4 | | L4 | | L1 | | for use with coolant adapter | | | L1 | | |
| | 80 | metric | mm | inch | in | | mm | in | coolant adapter | shell mill DV/BT | | mm | in | |
| | – | 5.34032–025115<br>5.34032–025200 | 110<br>195 | – | – | – | – | – | – | – | 5.34125R025150 | 160 | 6.30 | HTSR040R025M<br>HTSR043R025M |
| | – | 5.34050–025300<br>5.34050–025450 | 270<br>420 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF150HTS130239<br>SSF150HTS130664<br>SSF150HTS131114<br>SSF150HTS131764 | .39<br>4.65<br>9.14<br>15.64 | – | – | – | – | – | | | | |
| | – | 5.34032–028115<br>5.34032–028200 | 110<br>195 | – | – | – | – | – | – | – | 5.34128R028150 | 160 | 6.30 | HTSR046R028M<br>HTSR049R028M<br>HTSR052R028M |
| | – | 5.34050-028300<br>5.34050-028450 | 265<br>415 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS130239<br>SSF200HTS130664<br>SSF200HTS131114<br>SSF200HTS131764 | .39<br>4.65<br>9.14<br>15.64 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R028080 | 90 | 3.54 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34032–025115<br>5.34032–025200 | 110<br>195 | – | – | – | – | – | – | – | 5.34128R028150 | 160 | 6.30 | 3.76045R028V<br>3.76050R028V |
| | – | 5.34050–028300<br>5.34050–028450 | 265<br>415 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS130239<br>SSF200HTS130664<br>SSF200HTS131114<br>SSF200HTS131764 | .39<br>4.65<br>9.14<br>15.64 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R028080 | 90 | 3.54 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34032–032125 | 120 | – | – | – | – | – | – | – | 5.34132R032100<br>5.34132R032200 | 110<br>210 | 4.33<br>8.27 | 3.76055R032V<br>3.76058R032V<br>3.76063R032V |
| | – | 5.34050–032500<br>5.34050–032350<br>5.34050–032350 | 165<br>315<br>465 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS160239<br>SSF200HTS160714<br>SSF200HTS161214<br>SSF200HTS161964 | .39<br>5.14<br>10.14<br>17.64 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R032080 | 90 | 3.5 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34050–040148<br>5.34050–040300<br>5.34050–040450<br>5.34050–040600 | 140<br>267<br>417<br>567 | – | – | – | – | – | – | – | 5.34140R040200 | 212 | 8.35 | 3.76063R040V*<br>3.76068R040V<br>3.76073R040V<br>3.76078R040V |
| | – | – | – | SSF200HTS220297<br>SSF200HTS220922<br>SSF200HTS221572<br>SSF200HTS222572 | .47<br>7.22<br>13.72<br>23.72 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R040080 | 90 | 3.62 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |

*(continued)*

*(HTS Tool Assembly Combinations — continued)*

## HTS Tool Assembly Combinations

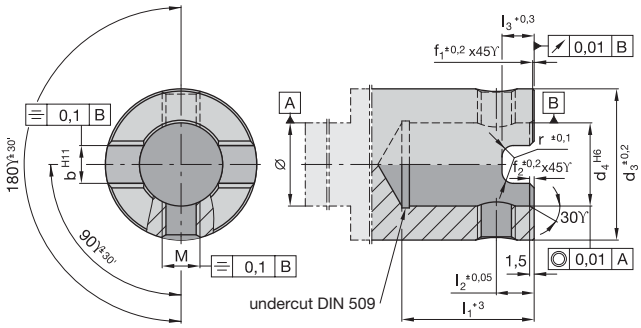
- Select your appropriate drill diameter range.
- Choose the appropriate adapter and shank size.
- Follow the columns to the right, and select the appropriate components from each column to complete your HTS(-R) tool.

| | drilling range | | shank | | DV assembly details | | BT assembly details | | CV assembly details | | HSK assembly details | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in | | D1 | 40 | 50 | 40 | 50 | 40 | 50 | 50/63/100 | |
| HTS heads with DFT™/SPHX inserts | **78–84*** 84–90 90–96 96–102 | 3.07–3.31 3.31–3.54 3.54–3.70 3.78–4.02 | WD/ WN | 50 | – | DV50BWD50075M **DV50RMWD50144M**** | – | BT50BWD50085M **BT50RMWD50162M**** | – | CV50BWD50M343 **CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 CV50RMHTS50M413** | – | |
| | **96–102*** 102–108 108–115 | 3.78–4.02 4.02–4.25 4.25–4.53 | WD/ WN | 50 | – | DV50BWD50075M **DV50RMWD50144M**** | – | BT50BWD50085M **BT50RMWD50162M**** | – | CV50BWD50M343 **CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 **CV50RMHTS50M413**** | – | |
| | 115–122 122–130 130–140 | 4.53–4.80 4.80–5.12 5.12–5.51 | SS(F) | 40 | – | – | – | – | – | CV50SS250800 | – | |
| | | | HTS | 40 | 5.36050154040 | – | BT50BHTS40080M | – | CV50BHTS40M314 **CV50RMHTS40M412**** | – | HSK100AHTS40085M | |
| | | | | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 **CV50RMHTS50M413**** | HSK100AHTS50090M | |
| | 140–150 150–158 158–162 162–170 | 5.51–5.91 5.91–6.22 6.22–6.38 6.38–6.70 | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 **CV50RMHTS50M413**** | HSK100AHTS50090M | |
| | 180–186 195–201 213–220 | 7.08–7.32 7.68–7.91 8.39–8.66 | customized solutions available upon request | | | | | | | | | |
| | 230–240 260–270 | 9.06–9.45 10.24–10.63 | customized solutions available upon request | | | | | | | | | |

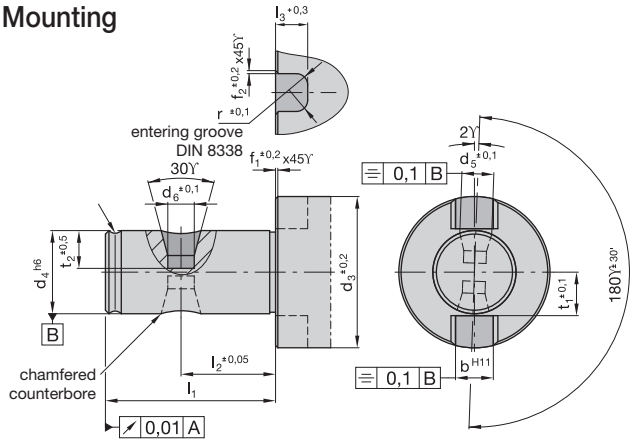
* HTS drilling head with reinforced body for short-chipping materials.
** Adapter with coolant ring.
The shown combinations are not complete. Ask your Kennametal representative to get the most reasonable solution for your application.
Please note that the assembled total length of the drilling tool is not necessarily the total achievable drilling depth.

| | KM | basic shank | | | | reducer | | | | | extension | | | HTS head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| | assembly details | | L4 | | L4 | | L1 | | for use with coolant adapter | | | L1 | | |
| | 80 | metric | mm | inch | in | | mm | in | coolant adapter | shell mill DV/BT | | mm | in | |
| | – | 5.34050–048168<br>5.34050–048300<br>5.34050–048450<br>5.34050–048600 | 160<br>267<br>417<br>567 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS270297<br>SSF200HTS271122<br>SSF200HTS271922<br>SSF200HTS273122 | 1.47<br>9.22<br>17.22<br>29.22 | – | – | – | – | – | 5.34140R048200 | 212 | 8.35 | **3.76078R048V***<br>3.76084R048V<br>3.76090R048V<br>3.76096R048V |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R048080 | 92 | 3.62 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34050–058186<br>5.34050–058300<br>5.34050–058450<br>5.34050–058600 | 180<br>254<br>404<br>554 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS160239<br>SSF200HTS160714<br>SSF200HTS161214<br>SSF200HTS161964 | .39<br>5.14<br>10.14<br>17.64 | – | – | – | – | – | 5.34158R058300 | 314 | 12.36 | **3.76096R058V***<br>3.76102R058V<br>3.76108R058V |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R058080 | 94 | 3.70 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | – | – | SSF250HTS400355<br>SSF250HTS401055<br>SSF250HTS401555<br>SSF250HTS402555 | 1.63<br>8.21<br>13.21<br>23.21 | – | – | – | – | – | – | – | – | |
| | KM80ATCHTS40085M<br>KM80ATCHTS40100M | – | – | – | – | 5.34280R070150 | 164 | 6.45 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | 5.34170R070300<br>5.34170R070500 | 314<br>514 | 12.36<br>20.24 | 3.76115R070V<br>3.76122R070V<br>3.76130R070V |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | SSF300HTS500413<br>SSF300HTS501313<br>SSF300HTS502113<br>SSF300HTS503113 | 1.87<br>10.55<br>18.55<br>28.55 | – | – | – | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | 5.34180R080204<br>5.34180R080300<br>5.34180R080500 | 220<br>316<br>516 | 8.66<br>12.44<br>20.32 | 3.76140R080V<br>3.76150R080V<br>3.76158R080V<br>3.76162R080V |
| customized solution available upon request | | | | | | | | | | | | | | 3.76180R110<br>3.76195R110<br>3.76213R125 |
| customized solution available upon request | | | | | | | | | | | | | | 3.76230R160<br>3.76260R160 |

## Adapter




## Mounting



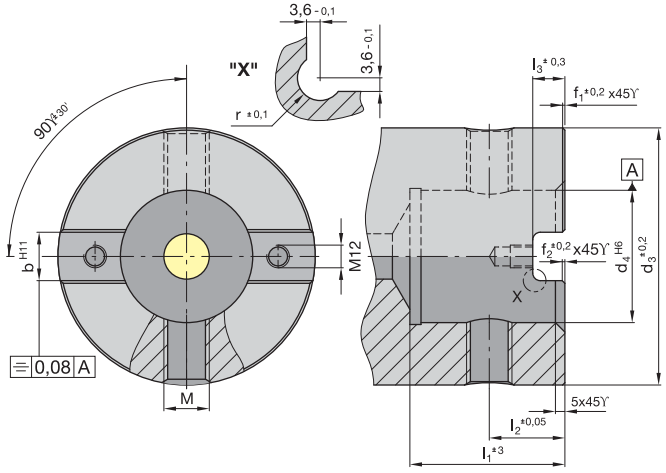

## Adapter Dimensions

| d3 | d4 | l1 | l2 | l3 | M | b | r | f1 | f2 | drive ring | clamping screw | thread | MAn* Nm | sliding block | clamping screw M 12 x 25 for sliding block |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 13 | 28 | 12,4 | 7,0 | M8 x 1,0 | 8,0 | 3 | 0,5 | 0,5 | **193.371** | **193.372** | M8 x 1,0 | 10 | – | – |
| 28 | 13 | 28 | 12,4 | 7,0 | M8 x 1,0 | 8,0 | 3 | 0,5 | 0,5 | **192.419** | **193.372** | M8 x 1,0 | 10 | – | – |
| 32 | 16 | 32 | 14,4 | 7,5 | M8 x 1,0 | 8,0 | 3 | 0,5 | 0,5 | **192.420** | **192.156** | M8 x 1,0 | 10 | – | – |
| 40 | 22 | 35 | 13,4 | 8,5 | M10 x 1,0 | 10,0 | 3 | 0,5 | 0,5 | **192.421** | **192.157** | M10 x 1,0 | 16 | – | – |
| 48 | 27 | 40 | 15,4 | 9,0 | M12 x 1,0 | 12,0 | 3 | 1,0 | 1,0 | **192.422** | **191.727** | M12 x 1,0 | 16 | – | – |
| 58 | 32 | 38 | 15,4 | 10,0 | M12 x 1,0 | 14,0 | 3 | 1,0 | 1,0 | **192.423** | **191.727** | M12 x 1,0 | 20 | – | – |
| 70 | 40 | 43 | 16,4 | 10,0 | M16 x 1,5 | 16,0 | 3 | 1,0 | 1,0 | **192.424** | **191.728** | M16 x 1,5 | 34 | – | – |
| 80 | 50 | 46 | 20,4 | 12,5 | M16 x 1,5 | 18,0 | 4 | 1,0 | 1,0 | **192.425** | **191.728** | M16 x 1,5 | 34 | – | – |
| 90 | 50 | 46 | 20,4 | 12,5 | M16 x 1,5 | 18,0 | 4 | 1,0 | 1,0 | **192.426** | **191.729** | M16 x 1,5 | 34 | – | – |
| 110 | 60 | 46 | 20,4 | 12,5 | M16 x 1,5 | 20,0 | 4 | 1,0 | 1,0 | **192.427** | **191.729** | M16 x 1,5 | 34 | – | – |
| 125 1) | 60 | 77 | 40,0 | 12,5 | M24 x 2,0 | 25,5 | 4 | 1,0 | 1,0 | – | **193.107** | M24 x 2,0 | 120 | **191.019** | **125.225** |
| 140 1) | 70 | 82 | 40,0 | 12,5 | M24 x 2,0 | 25,5 | 4 | 1,0 | 1,0 | – | **193.107** | M24 x 2,0 | 120 | **191.019** | **125.225** |
| 160 1) | 80 | 82 | 40,0 | 12,5 | M24 x 2,0 | 25,5 | 4 | 1,0 | 1,0 | – | **193.107** | M24 x 2,0 | 120 | **191.019** | **125.225** |

* MAn = Clamping torque of clamping screw in Nm.

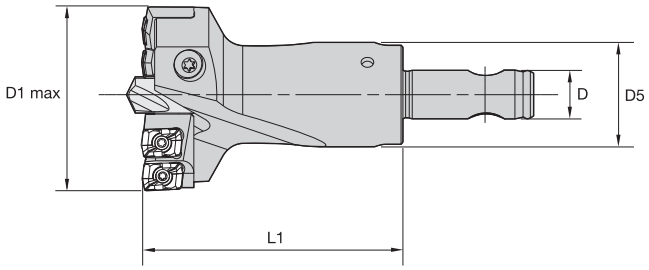
## Mounting Dimensions

| d3 | d4 | d5 | d6 | l1 | l2 | l3 | t1 | t2 | b | r | f1 | f2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 13 | 8,50 | 6,5 | 35 | 22,0 | 7,00 | 6,7 | 6,50 | 8,0 | 3 | 0,5 | 0,5 |
| 28 | 13 | 8,50 | 6,5 | 35 | 22,0 | 7,00 | 7,0 | 6,50 | 8,0 | 3 | 0,5 | 0,5 |
| 32 | 16 | 8,30 | 6,5 | 40 | 24,0 | 7,50 | 8,5 | 7,50 | 8,0 | 3 | 0,5 | 0,5 |
| 40 | 22 | 10,50 | 7,0 | 45 | 25,0 | 8,50 | 11,5 | 10,00 | 10,0 | 3 | 0,5 | 0,5 |
| 48 | 27 | 12,75 | 9,0 | 50 | 27,0 | 9,00 | 14,0 | 12,00 | 12,0 | 3 | 1,0 | 1,0 |
| 58 | 32 | 11,50 | 9,0 | 50 | 29,0 | 10,00 | 16,5 | 7,25 | 14,0 | 3 | 1,0 | 1,0 |
| 70 | 40 | 15,25 | 12,2 | 55 | 30,0 | 10,50 | 20,5 | 10,00 | 16,0 | 3 | 1,0 | 1,0 |
| 80 | 50 | 15,25 | 12,2 | 60 | 36,0 | 12,50 | 25,5 | 12,50 | 18,0 | 4 | 1,0 | 1,0 |
| 90 | 50 | 16,50 | 12,2 | 60 | 36,0 | 12,50 | 25,5 | 12,50 | 18,0 | 4 | 1,0 | 1,0 |
| 110 | 60 | 14,50 | 12,2 | 60 | 36,0 | 13,65 | 30,5 | 10,00 | 20,0 | 4 | 1,0 | 1,0 |
| 125 1) | 60 | 25,00 | 18,0 | 75 | 39,5 | 17,00 | 35,0 | 20,25 | 25,5 | 6 | 1,0 | 1,0 |
| 140 1) | 70 | 25,00 | 18,0 | 80 | 39,5 | 17,00 | 42,0 | 20,25 | 25,5 | 6 | 1,0 | 1,0 |
| 160 1) | 80 | 25,00 | 18,0 | 80 | 39,5 | 17,00 | 42,0 | 20,25 | 25,5 | 6 | 1,0 | 1,0 |




1) Adapter for d3 = 125, 140, and 160

- Head shipped with clamping and adjusting screws.
- Order pilot drill and cartridges separately; see page J76 for pilot drill.

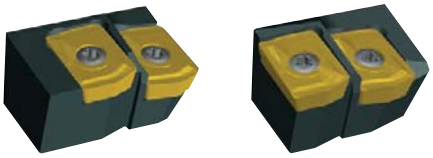


## HTS Adjustable Heads with DFR™ Inserts

| | D1 | | D1 max | | D5 | | | L1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | D | mm | in | pilot drill HSS | pilot drill carbide | cartridge interior | n | cartridge exterior | n | gage insert | ni |
| **HTSR040R025M** | 40 | 1.57 | 43 | 1.69 | 25 | 0.98 | 13A | 60 | 2 | B513S08.. | B514S08.. | **HTSR10CI** | 1 | **HTSR10CE** | 1 | DFR0302.. | 4 |
| **HTSR043R025M** | 43 | 1.69 | 46 | 1.81 | 25 | 0.98 | 13A | 70 | 3 | B513S10.. | B514S10.. | **HTSR11CI** | 1 | **HTSR11CE** | 1 | DFR0302.. | 4 |
| **HTSR046R028M** | 46 | 1.81 | 49 | 1.93 | 28 | 1.10 | 13B | 70 | 3 | B513S10.. | B514S10.. | **HTSR12CI** | 1 | **HTSR12CE** | 1 | DFR0403.. | 4 |
| **HTSR049R028M** | 49 | 1.93 | 52 | 2.05 | 28 | 1.10 | 13B | 70 | 3 | B513S10.. | B514S10.. | **HTSR13CI** | 1 | **HTSR13CE** | 1 | DFR0403.. | 4 |
| **HTSR052R028M** | 52 | 2.05 | 55 | 2.17 | 28 | 1.10 | 13B | 70 | 3 | B513S10.. | B514S10.. | **HTSR14CI** | 1 | **HTSR14CE** | 1 | DFR0403.. | 4 |

NOTE: n: number of cartridges required by head.
ni: number of inserts required by head.

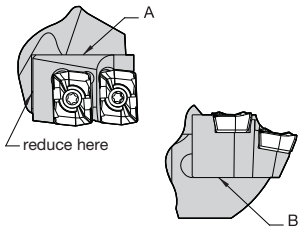
| D1 diameter | | | |
|---|---|---|---|
| mm | in | clamping screw | adjusting screw |
| 40–42 | 1.57–1.68 | **190.116** | **128.610** |
| 43–52 | 1.69 - 2.05 | **193.397** | **190.458** |



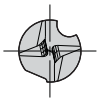
## HTS DFR Cartridges

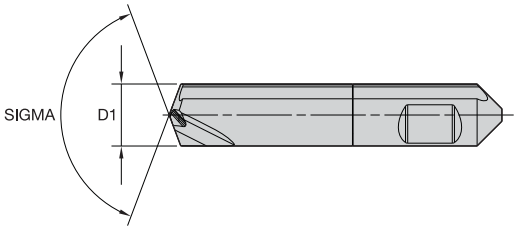
| catalog number | gage insert | Nm | ft. lbs. | insert screw | cartridge screw | washer |
|---|---|---|---|---|---|---|
| **HTSR10CE** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR10CI** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR11CE** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR11CI** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR12CE** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR12CI** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR13CE** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR13CI** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR14CE** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR14CI** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |

- Change drill diameter by shortening the outer cartridge.
- Shorten at 90° to the contact face A and the support face B.
- Shortening reduces the effective drill diameter by 2x the amount removed.

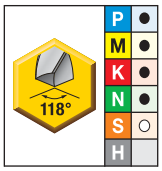


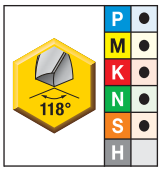
- Choose between HSS and solid carbide.

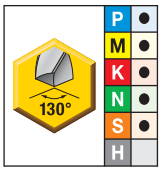




## HTS DFR™ • Pilot Drills

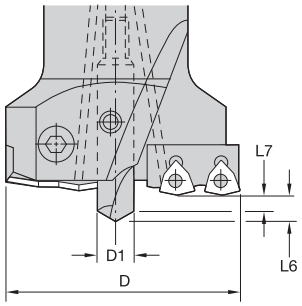



● first choice
○ alternate choice

| high-speed steel uncoated | high-speed steel coated | solid carbide coated | D1 | |
|---|---|---|---|---|
| A30 | AS3 | KC7030 | mm | in |
| B513S08000 A30 | B513S08000 AS3 | B514S08000 KC7030 | 8 | .32 |
| B513S10000 A30 | B513S10000 AS3 | B514S10000 KC7030 | 10 | .39 |




## HTS DFR • Pilot Drills

| | | 118° high-speed steel | | | | 130° solid carbide | | | |
|---|---|---|---|---|---|---|---|---|---|
| D1 | | L6 | | L7 | | L6 | | L7 | |
| mm | in | mm | in | mm | in | mm | in | mm | in |
| 8,00 | .315 | 4,14 | .163 | 1,73 | .068 | 3,61 | .142 | 1,73 | .068 |
| 10,00 | .394 | 4,88 | .192 | 1,88 | .074 | 4,19 | .165 | 1,88 | .074 |

## HTS DFR™ • Metric

| Metric | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... 40,00–46,00mm | DFR04 46,00–55,00mm |
| P | 1 | S | O | MD | KCU25 | 79 | **190** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | MD | KCU25 | | | | | | |
| | | U | O | MD | KCU40 | 71 | **130** | 171 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | MD | KCU40 | | | | | | |
| | | I | O | MD | KC7140 | 44 | **80** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | GD | KCU25 | 75 | **180** | 217 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 71 | **120** | 271 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 44 | **70** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KC7140 | | | | | | |
| | 3 | S | O | GD | KCU25 | 60 | **140** | 169 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 50 | **100** | 121 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 30 | **60** | 72 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KC7140 | | | | | | |
| | 4 | S | O | GD | KCU25 | 79 | **120** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 71 | **100** | 171 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 44 | **80** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KC7140 | | | | | | |
| | 5 | S | O | GD | KCU40 | 62 | **100** | 190 | mm/r | 0,06–0,11 | 0,07–0,14 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 47 | **60** | 114 | mm/r | 0,06–0,11 | 0,07–0,14 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 31 | **40** | 76 | mm/r | 0,06–0,11 | 0,07–0,14 |
| | | | I | GD | KC7140 | | | | | | |
| | 6 | S | O | GD | KCU40 | 59 | **95** | 180 | mm/r | 0,07–0,11 | 0,08–0,13 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 45 | **57** | 108 | mm/r | 0,07–0,11 | 0,08–0,13 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 30 | **38** | 72 | mm/r | 0,07–0,11 | 0,08–0,13 |
| | | | I | GD | KC7140 | | | | | | |
| M | 1 | S | O | MD | KCU40 | 40 | **110** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 31 | **70** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 22 | **50** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | MD | KCU40 | 38 | **99** | 127 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 31 | **63** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 22 | **45** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | 3 | S | O | MD | KCU40 | 32 | **88** | 107 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 31 | **56** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 22 | **40** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFR™ • Metric

| Metric | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... 40,00–46,00mm | DFR04... 46,00–55,00mm |
| K | 1 | S | O | GD | KCPK10 | 79 | **171** | 229 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | LD | KCU25 | 64 | **117** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | LD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 40 | **72** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | GD | KCPK10 | 75 | **162** | 217 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 64 | **111** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 40 | **68** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | GD | KCPK10 | 68 | **146** | 195 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 59 | **100** | 144 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | GD | KCU40 | 35 | **62** | 84 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCU40 | | | | | | |
| N | 1 | S | O | ST | KD1425 | 128 | **240** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **160** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **104** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | ST | KD1425 | 119 | **223** | 333 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | ST | KD1425 | 110 | **206** | 308 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **138** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **89** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 4 | S | O | ST | KD1425 | 119 | **223** | 333 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 5 | S | O | ST | KD1425 | 92 | **220** | 262 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 72 | **140** | 167 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 46 | **90** | 107 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFR™ • Inch

| Inch | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... .688–.750" | DFR04... .813–1.00" |
| P | 1 | S | O | MD | KCU25 | 260 | **623** | 750 | IPR | .004–.006 | .005–.007 |
| | | | I | MD | KCU25 | | | | | | |
| | | U | O | MD | KCU40 | 231 | **427** | 561 | IPR | .004–.006 | .005–.007 |
| | | | I | MD | KCU40 | | | | | | |
| | | I | O | MD | KC7140 | 143 | **262** | 348 | IPR | .003–.006 | .004–.008 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | GD | KCU25 | 247 | **591** | 712 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 231 | **394** | 561 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 143 | **230** | 348 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KC7140 | | | | | | |
| | 3 | S | O | GD | KCU25 | 197 | **459** | 555 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 163 | **328** | 396 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 98 | **197** | 238 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KC7140 | | | | | | |
| | 4 | S | O | GD | KCU25 | 260 | **394** | 750 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 231 | **328** | 561 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 143 | **262** | 348 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KC7140 | | | | | | |
| | 5 | S | O | GD | KCU40 | 205 | **328** | 622 | IPR | .002–.004 | .003–.006 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 154 | **197** | 373 | IPR | .002–.004 | .003–.006 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 103 | **131** | 250 | IPR | .002–.004 | .003–.006 |
| | | | I | GD | KC7140 | | | | | | |
| | 6 | S | O | GD | KCU40 | 195 | **312** | 591 | IPR | .003–.004 | .003–.005 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 146 | **187** | 355 | IPR | .003–.004 | .003–.005 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 98 | **125** | 238 | IPR | .003–.004 | .003–.005 |
| | | | I | GD | KC7140 | | | | | | |
| M | 1 | S | O | MD | KCU40 | 130 | **361** | 439 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 101 | **230** | 281 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 72 | **164** | 199 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | MD | KCU40 | 124 | **325** | 417 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 101 | **207** | 281 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 72 | **148** | 199 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | 3 | S | O | MD | KCU40 | 104 | **289** | 351 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 101 | **184** | 281 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 72 | **131** | 199 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFR™ • Inch

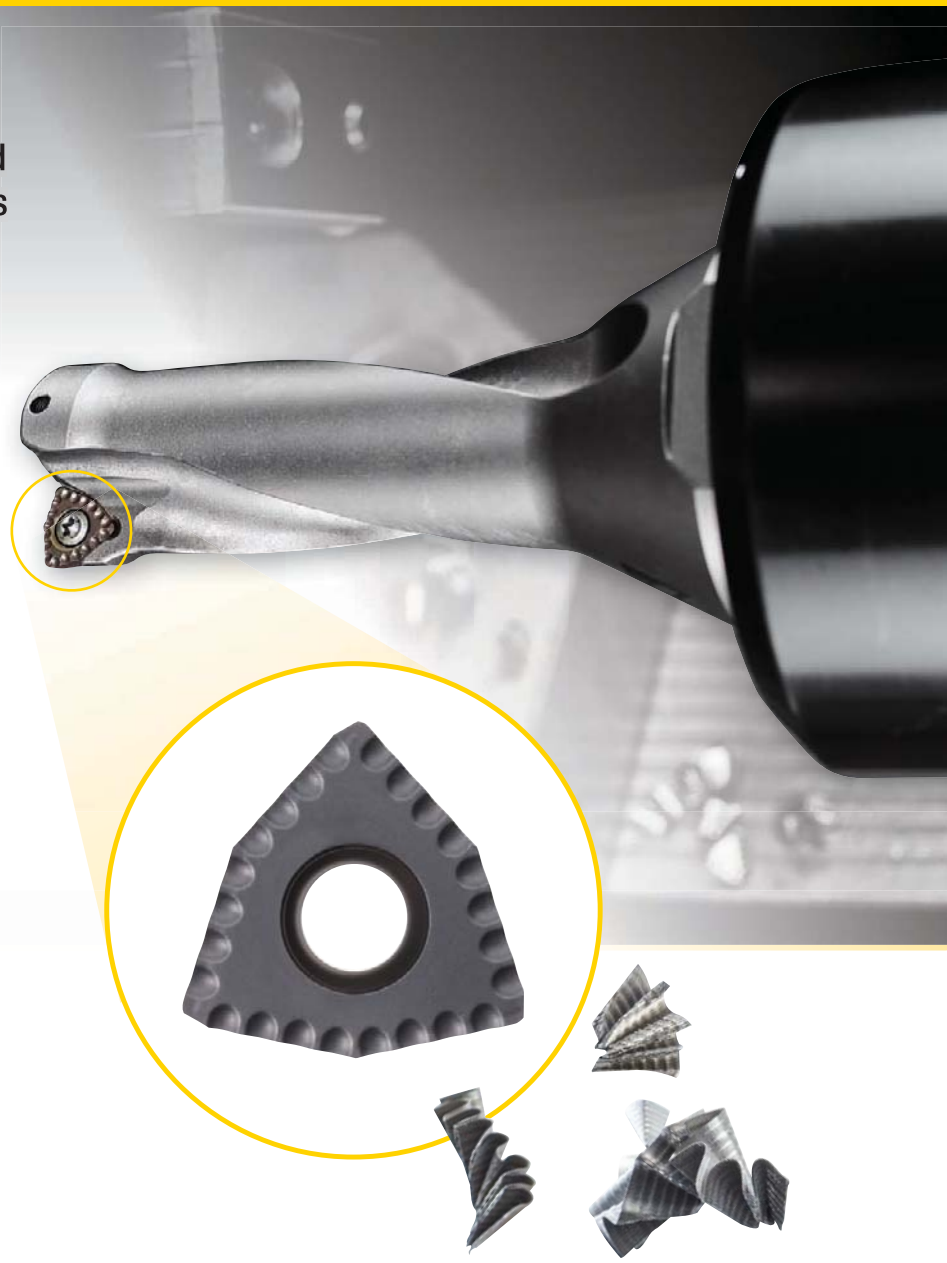
| Inch | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... .688–.750" | DFR04... .813–1.00" |
| K | 1 | S | O | GD | KCPK10 | 260 | **561** | 750 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | LD | KCU25 | 211 | **384** | 510 | IPR | .004–.008 | .005–.011 |
| | | | I | LD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 131 | **236** | 316 | IPR | .004–.008 | .005–.011 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | GD | KCPK10 | 247 | **533** | 712 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 211 | **365** | 510 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 131 | **224** | 316 | IPR | .004–.008 | .005–.011 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | GD | KCPK10 | 222 | **480** | 641 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 195 | **328** | 473 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | GD | KCU40 | 113 | **202** | 274 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCU40 | | | | | | |
| N | 1 | S | O | ST | KD1425 | 420 | **787** | 1176 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **525** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **341** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | ST | KD1425 | 391 | **732** | 1094 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | ST | KD1425 | 361 | **677** | 1011 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **451** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **293** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 4 | S | O | ST | KD1425 | 391 | **732** | 1094 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 5 | S | O | ST | KD1425 | 302 | **722** | 858 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 235 | **459** | 549 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 151 | **295** | 351 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

# Difficult Applications Made Easy

Use DS and LP geometries to avoid bird nesting and long, stringy chips in low-carbon steel applications.



- The new DS insert style can be used on Drill Fix™ DFT™, HTS, and KSEM PLUS™ tooling systems.
- LP-style inserts can be used on Drill Fix DFSP™ as outboard inserts.
- Use the new geometries in all applications where long chips are an issue.

**See pages J4–J59 for Drill Fix indexable drills.**

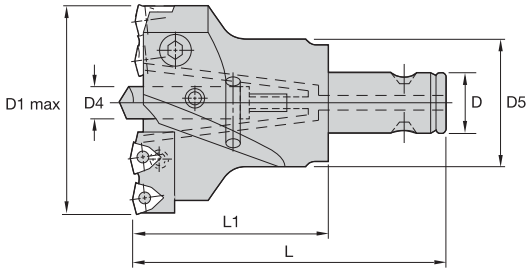
**See pages H102–H106, H108–H125, and H133 for KSEM PLUS A1 and B1 head systems.**

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

- Head shipped with clamping and adjusting screws.
- Order pilot drill separately; see page J86.
- Order cartridges separately; see page J84.

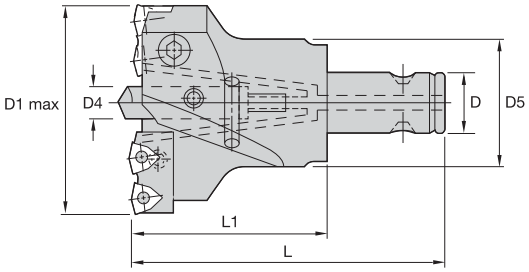


## HTS Adjustable Heads with DFT™ Inserts

| | D1 | | D1 max | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | D5 | D | L | L1 | pilot drill | cartridge interior | n | cartridge exterior | n | gage insert | ni | kg | lbs |
| **3.76045R028V** | 45 | 1.770 | 50 | 1.970 | 28 | 13 | 85 | 50 | B510S08. | 3.77000R050V | 1 | 3.77000R051V | 1 | DFT0303. | 4 | 0.3 | 0.66 |
| **3.76050R028V** | 50 | 1.970 | 55 | 2.170 | 28 | 13 | 85 | 50 | B510S08. | 3.77000R052V | 1 | 3.77000R053V | 1 | DFT0303. | 4 | 0.4 | 0.88 |
| **3.76055R032V** | 55 | 2.170 | 58 | 2.280 | 33 | 16 | 100 | 60 | B510S08. | 3.77000R038V | 1 | 3.77000R039V | 1 | DFT05T3. | 4 | 0.4 | 0.88 |
| **3.76058R032V** | 58 | 2.280 | 63 | 2.480 | 33 | 16 | 100 | 60 | B510S10. | 3.77000R023V | 1 | 3.77000R024V | 1 | DFT05T3. | 4 | 0.4 | 0.88 |
| **3.76063R032V** | 63 | 2.480 | 68 | 2.680 | 33 | 16 | 100 | 60 | B510S10. | 3.77000R025V | 1 | 3.77000R024V | 1 | DFT05T3. | 4 | 0.4 | 0.88 |
| **3.76063R040V** | 63 | 2.480 | 68 | 2.680 | 41 | 22 | 115 | 70 | B510S10. | 3.77000R025V | 1 | 3.77000R024V | 1 | DFT05T3. | 4 | 0.5 | 1.10 |
| **3.76068R040V** | 68 | 2.680 | 73 | 2.870 | 41 | 22 | 115 | 70 | B510S10. | 3.77000R026V | 1 | 3.77000R027V | 1 | DFT05T3. | 4 | 0.8 | 1.76 |
| **3.76073R040V** | 73 | 2.870 | 78 | 3.070 | 41 | 22 | 115 | 70 | B510S15. | 3.77000R026V | 1 | 3.77000R027V | 1 | DFT05T3. | 4 | 0.8 | 1.76 |
| **3.76078R040V** | 78 | 3.070 | 84 | 3.310 | 41 | 22 | 115 | 70 | B510S15. | 3.77000R028V | 1 | 3.77000R029V | 1 | DFT06T3. | 4 | 0.8 | 1.76 |
| **3.76078R048V** | 78 | 3.070 | 84 | 3.310 | 49 | 27 | 120 | 70 | B510S15. | 3.77000R028V | 1 | 3.77000R029V | 1 | DFT06T3. | 4 | 0.9 | 1.98 |
| **3.76084R048V** | 84 | 3.310 | 90 | 3.540 | 49 | 27 | 120 | 70 | B510S15. | 3.77000R028V | 1 | 3.77000R029V | 1 | DFT06T3. | 4 | 1.0 | 2.20 |
| **3.76090R048V** | 90 | 3.540 | 96 | 3.780 | 49 | 27 | 120 | 70 | B510S15. | 3.77000R030V | 1 | 3.77000R031V | 1 | DFT06T3. | 4 | 1.0 | 2.20 |
| **3.76096R048V** | 96 | 3.780 | 102 | 4.020 | 49 | 27 | 120 | 70 | B510S20. | 3.77000R030V | 1 | 3.77000R031V | 1 | DFT06T3. | 4 | 1.1 | 2.43 |
| **3.76096R058V** | 96 | 3.780 | 102 | 4.020 | 59 | 32 | 130 | 80 | B510S20. | 3.77000R030V | 1 | 3.77000R031V | 1 | DFT06T3. | 4 | 1.2 | 2.65 |
| **3.76102R058V** | 102 | 4.020 | 108 | 4.250 | 59 | 32 | 130 | 80 | B510S20. | 3.77000R081V | 1 | 3.77000R082V | 1 | DFT05T3. | 6 | 1.7 | 3.75 |
| **3.76108R058V** | 108 | 4.250 | 115 | 4.530 | 59 | 32 | 130 | 80 | B510S20. | 3.77000R083V | 1 | 3.77000R084V | 1 | DFT06T3. | 6 | 1.8 | 3.97 |
| **3.76115R070V** | 115 | 4.530 | 122 | 4.800 | 71 | 40 | 145 | 90 | B510S20. | 3.77000R085V | 1 | 3.77000R086V | 1 | DFT06T3. | 6 | 2.9 | 6.39 |
| **3.76122R070V** | 122 | 4.800 | 130 | 5.120 | 71 | 40 | 145 | 90 | B510S25. | 3.77000R079V | 1 | 3.77000R080V | 1 | DFT06T3. | 6 | 2.9 | 6.39 |
| **3.76130R070V** | 130 | 5.120 | 140 | 5.510 | 71 | 40 | 145 | 90 | B510S25. | 3.77000R087V | 1 | 3.77000R088V | 1 | DFT06T3. | 6 | 3.0 | 6.61 |
| **3.76140R080V** | 140 | 5.510 | 150 | 5.910 | 81 | 50 | 160 | 100 | B510S25. | 3.77000R077V | 1 | 3.77000R078V | 1 | DFT0704. | 6 | 4.3 | 9.48 |
| **3.76150R080V** | 150 | 5.910 | 158 | 6.220 | 81 | 50 | 160 | 100 | B510S25. | 3.77000R075V | 1 | 3.77000R076V | 1 | DFT0704. | 6 | 4.5 | 9.92 |
| **3.76158R080V** | 158 | 6.220 | 162 | 6.380 | 81 | 50 | 160 | 100 | B510S25. | 3.77000R073V | 1 | 3.77000R074V | 1 | DFT0704. | 6 | 4.5 | 9.92 |
| **3.76162R080V** | 162 | 6.380 | 170 | 6.690 | 80 | 50 | 160 | 100 | B510S30. | 3.77000R048V | 1 | 3.77000R049V | 1 | DFT0704. | 6 | 4.5 | 9.92 |
| **3.76180R110** | 180 | 7.090 | 186 | 7.320 | 110 | 60 | 185 | 125 | B510S30. | 3.77000R030V | 3 | 3.77000R031V | 1 | DFT06T3. | 8 | 6.0 | 13.23 |
| **3.76195R110** | 195 | 7.680 | 201 | 7.910 | 110 | 60 | 185 | 125 | B510S30. | 3.77000R081V | 3 | 3.77000R082V | 1 | DFT05T3. | 12 | 6.5 | 14.33 |
| **3.76213R125** | 213 | 8.390 | 220 | 8.660 | 125 | 60 | 200 | 125 | B510S30. | 3.77000R083V | 3 | 3.77000R084V | 1 | DFT06T3. | 12 | 7.5 | 16.53 |
| **3.76230R160** | 230 | 9.060 | 240 | 9.450 | 160 | 80 | 230 | 150 | B510S30. | 3.77000R079V | 2 | 3.77000R080V | 2 | DFT06T3. | 12 | 8.5 | 18.74 |
| **3.76260R160 *** | 260 | 10.240 | 270 | 10.630 | 160 | 80 | 230 | 150 | B510S30. | 3.77000R077V | 2 | 3.77000R078V | 2 | DFT06T3. | 12 | 9.0 | 19.84 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
n: number of cartridges required by head.
ni: number of inserts required by head.

- Head shipped with clamping and adjusting screws.
- Order pilot drill separately; see page J86.
- Order cartridges separately; see pages J84–J85.



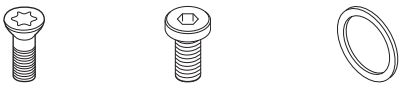
## HTS Adjustable Heads • DFT™ and SPHX Inserts

| catalog number | D1 mm | D1 in | D1 max mm | D1 max in | pilot drill | cartridge interior | n | cartridge interior 2 | n | gage insert | ni | cartridge exterior SPHX | n | gage insert | ni |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.76045R028V** | 45 | 1.770 | 50 | 1.970 | B510S08. | **3.77000R250V** | 1 | – | – | DFT0303. | 3 | 3.77000R251V | 1 | SPHX0703. | 1 |
| **3.76050R028V** | 50 | 1.970 | 55 | 2.170 | B510S08. | **3.77000R252V** | 1 | – | – | DFT0303. | 3 | 3.77000R253V | 1 | SPHX0703. | 1 |
| **3.76055R032V** | 55 | 2.170 | 58 | 2.280 | B510S08. | **3.77000R038V** | 1 | – | – | DFT05T3. | 3 | 3.77000R239V | 1 | SPHX0903. | 1 |
| **3.76058R032V** | 58 | 2.280 | 63 | 2.480 | B510S10. | **3.77000R023V** | 1 | – | – | DFT05T3. | 3 | 3.77000R224V | 1 | SPHX0903. | 1 |
| **3.76063R032V** | 63 | 2.480 | 68 | 2.680 | B510S10. | **3.77000R025V** | 1 | – | – | DFT05T3. | 3 | 3.77000R224V | 1 | SPHX0903. | 1 |
| **3.76063R040V** | 63 | 2.480 | 68 | 2.680 | B510S10. | **3.77000R025V** | 1 | – | – | DFT05T3. | 3 | 3.77000R224V | 1 | SPHX0903. | 1 |
| **3.76068R040V** | 68 | 2.680 | 73 | 2.870 | B510S10. | **3.77000R026V** | 1 | – | – | DFT05T3. | 3 | 3.77000R227V | 1 | SPHX0903. | 1 |
| **3.76073R040V** | 73 | 2.870 | 78 | 3.070 | B510S15. | **3.77000R026V** | 1 | – | – | DFT05T3. | 3 | 3.77000R227V | 1 | SPHX0903. | 1 |
| **3.76078R040V** | 78 | 3.070 | 84 | 3.310 | B510S15. | **3.77000R028V** | 1 | – | – | DFT06T3. | 3 | 3.77000R229V | 1 | SPHX0903. | 1 |
| **3.76078R048V** | 78 | 3.070 | 84 | 3.310 | B510S15. | **3.77000R028V** | 1 | – | – | DFT06T3. | 3 | 3.77000R229V | 1 | SPHX0903. | 1 |
| **3.76084R048V** | 84 | 3.310 | 90 | 3.540 | B510S15. | **3.77000R228V** | 1 | – | – | DFT06T3. | 3 | 3.77000R229V | 1 | SPHX0903. | 1 |
| **3.76090R048V** | 90 | 3.540 | 96 | 3.780 | B510S15. | **3.77000R230V** | 1 | – | – | DFT06T3. | 3 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76096R048V** | 96 | 3.780 | 102 | 4.020 | B510S20. | **3.77000R230V** | 1 | – | – | DFT06T3. | 3 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76096R058V** | 96 | 3.780 | 102 | 4.020 | B510S20. | **3.77000R230V** | 1 | – | – | DFT06T3. | 3 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76102R058V** | 102 | 4.020 | 108 | 4.250 | B510S20. | **3.77000R081V** | 1 | – | – | DFT05T3. | 5 | 3.77000R282V | 1 | SPHX0903. | 1 |
| **3.76108R058V** | 108 | 4.250 | 115 | 4.530 | B510S20. | **3.77000R083V** | 1 | – | – | DFT06T3. | 5 | 3.77000R284V | 1 | SPHX1204. | 1 |
| **3.76115R070V** | 115 | 4.530 | 122 | 4.800 | B510S20. | **3.77000R085V** | 1 | – | – | DFT06T3. | 5 | 3.77000R286V | 1 | SPHX1204. | 1 |
| **3.76122R070V** | 122 | 4.800 | 130 | 5.120 | B510S25. | **3.77000R079V** | 1 | – | – | DFT06T3. | 5 | 3.77000R280V | 1 | SPHX1204. | 1 |
| **3.76130R070V** | 130 | 5.120 | 140 | 5.510 | B510S25. | **3.77000R087V** | 1 | – | – | DFT06T3. | 5 | 3.77000R288V | 1 | SPHX1204. | 1 |
| **3.76140R080V** | 140 | 5.510 | 150 | 5.910 | B510S25. | **3.77000R077V** | 1 | – | – | DFT0704. | 5 | 3.77000R278V | 1 | SPHX1505. | 1 |
| **3.76150R080V** | 150 | 5.910 | 158 | 6.220 | B510S25. | **3.77000R075V** | 1 | – | – | DFT0704. | 5 | 3.77000R276V | 1 | SPHX1204. | 1 |
| **3.76158R080V** | 158 | 6.220 | 162 | 6.380 | B510S25. | **3.77000R073V** | 1 | – | – | DFT0704. | 5 | 3.77000R274V | 1 | SPHX1204. | 1 |
| **3.76162R08`0V** | 162 | 6.380 | 170 | 6.690 | B510S30. | **3.77000R248V** | 1 | – | – | DFT0704. | 5 | 3.77000R249V | 1 | SPHX1505. | 1 |
| **3.76180R110** | 180 | 7.090 | 186 | 7.320 | B510S30. | **3.77000R230V** | 3 | – | – | DFT06T3. | 7 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76195R110** | 195 | 7.680 | 201 | 7.910 | B510S30. | **3.77000R081V** | 3 | – | – | DFT05T3. | 11 | 3.77000R282V | 1 | SPHX0903. | 1 |
| **3.76213R125** | 213 | 8.390 | 220 | 8.660 | B510S30. | **3.77000R083V** | 3 | – | – | DFT06T3. | 11 | 3.77000R284V | 1 | SPHX1204. | 1 |
| **3.76230R160** | 230 | 9.060 | 240 | 9.450 | B510S30. | **3.77000R079V** | 2 | **3.77000R080V** | 1 | DFT06T3. | 11 | 3.77000R280V | 1 | SPHX1204. | 1 |
| **3.76260R160 *** | 260 | 10.240 | 270 | 10.630 | B510S30. | – | 2 | – | 1 | DFT06T3. | 11 | 3.77000R078V | 1 | SPHX1204. | 1 |

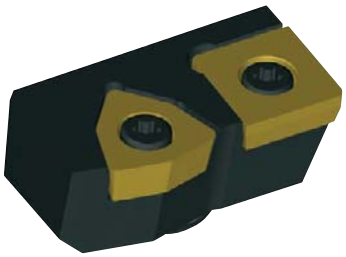
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
n: number of cartridges required by head.
ni: number of inserts required by head.

## HTS Interior and Exterior Cartridges • DFT™ Inserts





| catalog number | gage insert | number of inserts | insert screw | cartridge screw | fan washer | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|
| **3.77000R023V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R024V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R025V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R026V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R027V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R028V** | DFT06T3.. | 2 | **191.848** | **129.612** | **192.111** | 10,0 | 7.38 |
| **3.77000R029V** | DFT06T3.. | 2 | **191.848** | **129.612** | **192.111** | 10,0 | 7.38 |
| **3.77000R030V** | DFT06T3.. | 2 | **191.848** | **129.616** | **192.111** | 10,0 | 7.38 |
| **3.77000R031V** | DFT06T3.. | 2 | **191.848** | **129.616** | **192.111** | 10,0 | 7.38 |
| **3.77000R038V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R039V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R048V** | DFT0704.. | 3 | **191.698** | **125.830** | **192.112** | 35,0 | 25.81 |
| **3.77000R049V** | DFT0704.. | 3 | **191.698** | **125.830** | **192.112** | 35,0 | 25.81 |
| **3.77000R050V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R051V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R052V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R053V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R073V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R074V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R075V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R076V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R077V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R078V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R079V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R080V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R081V** | DFT05T3.. | 3 | **191.924** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R082V** | DFT05T3.. | 3 | **191.924** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R083V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R084V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R085V** | DFT06T3.. | 3 | **191.848** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R086V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R087V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R088V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |



## HTS Finishing Interior Cartridges • For Use with Exterior Cartridges Equipped with SPHX Inserts

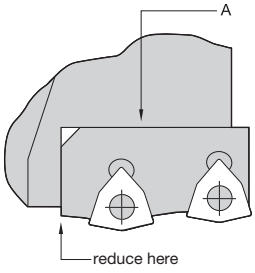
| catalog number | gage insert | number of inserts | insert screw | washer | Nm | ft. lbs. |
|---|---|---|---|---|---|---|
| **3.77000R228V** | DFT06T3.. | 2 | **191.848** | **192.111** | 10,0 | 7.38 |
| **3.77000R230V** | DFT06T3.. | 2 | **191.848** | **192.111** | 10,0 | 7.38 |
| **3.77000R248V** | DFT0704.. | 3 | **191.698** | **192.112** | 35,0 | 25.81 |
| **3.77000R250V** | DFT0303.. | 2 | **192.432** | **192.902** | 5,0 | 3.69 |
| **3.77000R252V** | DFT0303.. | 2 | **192.432** | **192.902** | 5,0 | 3.69 |

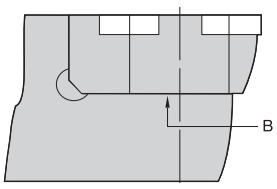
NOTE: Modified interior cartridges for use with SPHX-equipped exterior cartridges only.

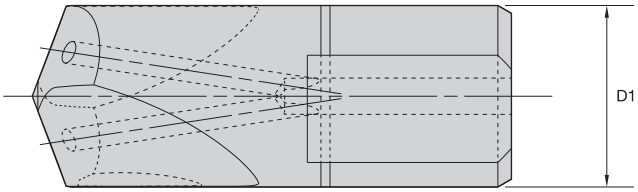
## HTS Finishing Exterior Cartridges • SPHX Inserts

| catalog number | gage insert inside | number of inserts | gage insert outside | number of inserts | insert screw | screw | washer | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|
| **3.77000R224V** | DFT05T3.. | 2 | SPHX0903.. | 1 | **191.924** | **193.451** | **192.903** | 5,0 | 3.69 |
| **3.77000R227V** | DFT05T3.. | 2 | SPHX0903.. | 1 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R229V** | DFT06T3.. | 2 | SPHX0903.. | 1 | **191.916** | **129.612** | **192.111** | 10,0 | 7.38 |
| **3.77000R231V** | DFT06T3.. | 2 | SPHX0903.. | 1 | **191.916** | **129.616** | **192.111** | 10,0 | 7.38 |
| **3.77000R239V** | DFT05T3.. | 2 | SPHX0903.. | 1 | **191.924** | **193.451** | **192.903** | 5,0 | 3.69 |
| **3.77000R249V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **125.830** | **192.112** | 35,0 | 25.81 |
| **3.77000R251V** | DFT0303.. | 2 | SPHX0703.. | 1 | **192.432** | **193.450** | **192.902** | 5,0 | 3.69 |
| **3.77000R253V** | DFT0303.. | 2 | SPHX0703.. | 1 | **192.432** | **193.450** | **192.902** | 5,0 | 3.69 |
| **3.77000R274V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R276V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R278V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R280V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R282V** | DFT05T3.. | 3 | SPHX0903.. | 1 | **191.924** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R284V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R286V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R288V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **125.820** | **192.112** | 35,0 | 25.81 |

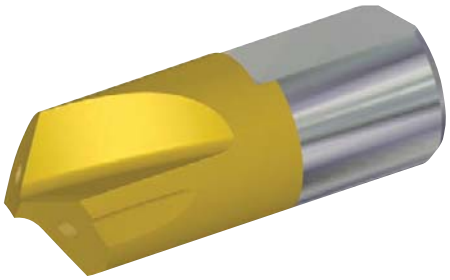
- Change drill diameter by shortening the outer cartridge.
- Shorten at 90° to the contact face A and the support face B.
- Shortening reduces the effective drill diameter by two times the amount removed.



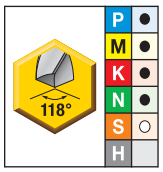


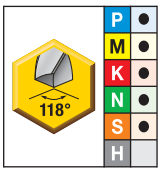

8–10mm sizes are without coolant.

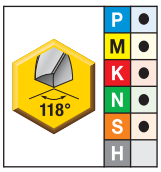




## HTS DFT™ • Pilot Drills

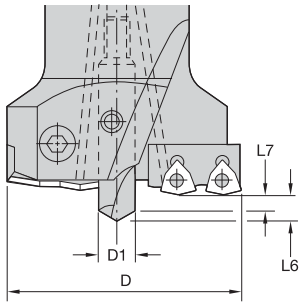



● first choice
○ alternate choice

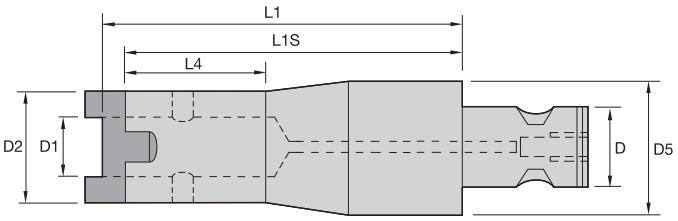
| high-speed steel uncoated | high-speed steel coated | carbide drills | D1 | |
|---|---|---|---|---|
| A30 | AS3 | KC7315 | mm | in |
| **B510S08000 A30** | **B510S08000 AS3** | **B511S08000 KC7315** | 8,00 | 0.315 |
| **B510S10000 A30** | **B510S10000 AS3** | **B511S10000 KC7315** | 10,00 | 0.394 |
| **B510S15000 A30** | **B510S15000 AS3** | **B511S15000 KC7315** | 15,00 | 0.591 |
| **B510S20000 A30** | **B510S20000 AS3** | **B511S20000 KC7315** | 20,00 | 0.787 |
| **B510S25000 A30** | **B510S25000 AS3** | **B511S25000 KC7315** | 25,00 | 0.984 |
| **B510S30000 A30** | **B510S30000 AS3** | **B511S30000 KC7315** | 30,00 | 1.181 |

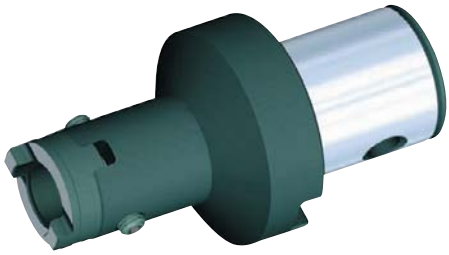



## Pilot Drill Setting Lengths

| D1 | | 2–4 x D | | | | 4–6 x D | | | | >6 x D | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L6 | | L7 | | L6 | | L7 | | L6 | | L7 | |
| mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in |
| 8,00 | .315 | 3,00 | .118 | 0,80 | .032 | 3,40 | .134 | 1,20 | .047 | 3,80 | .150 | 1,60 | .063 |
| 10,00 | .394 | 4,00 | .158 | 1,30 | .051 | 4,30 | .169 | 1,60 | .063 | 4,60 | .181 | 1,90 | .075 |
| 15,00 | .591 | 6,20 | .244 | 2,10 | .083 | 6,50 | .256 | 2,40 | .095 | 6,80 | .268 | 2,70 | .106 |
| 20,00 | .787 | 8,10 | .319 | 2,60 | .102 | 8,40 | .331 | 2,90 | .114 | 8,70 | .343 | 3,20 | .126 |
| 25,00 | .984 | 10.50 | .413 | 3,50 | .138 | 7,40 | .429 | 3,90 | .154 | 11,30 | .445 | 4,30 | .169 |
| 30,00 | 1181 | 12,30 | .484 | 4,10 | .158 | 12,80 | .504 | 4,50 | .177 | 13,20 | .520 | 5,00 | .197 |

- Reducers are shipped with drive ring and clamping screws.



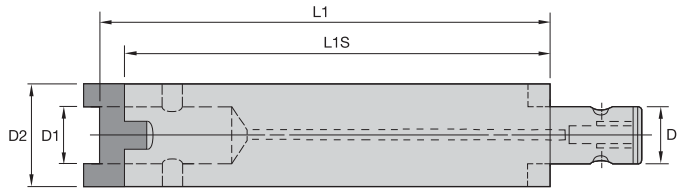



## Reducers

| | | | D2 | | D5 | | L1 | | L1S | | L4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | D1 coupling size | D coupling size | mm | in | mm | in | mm | in | mm | in | mm | in | drive ring | clamping screw | Nm | ft. lbs. |
| **5.34280R028080** | 13B | 50 | 27,6 | 1.09 | 80,0 | 3.15 | 90,0 | 3.54 | 80,0 | 3.15 | 50,0 | 1.97 | **192.419** | **192.156** | 10,2 | 7.5 |
| **5.34280R032080** | 16 | 50 | 31,6 | 1.24 | 80,0 | 3.15 | 90,0 | 3.54 | 80,0 | 3.15 | 55,0 | 2.17 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34280R040080** | 22 | 50 | 39,6 | 1.56 | 80,0 | 3.15 | 92,0 | 3.62 | 80,0 | 3.15 | 57,0 | 2.24 | **192.421** | **192.157** | 16,3 | 12.0 |
| **5.34280R048080** | 27 | 50 | 47,6 | 1.87 | 80,0 | 3.15 | 92,0 | 3.62 | 80,0 | 3.15 | 57,0 | 2.24 | **192.422** | **191.727** | 20,3 | 15.0 |
| **5.34280R058080** | 32 | 50 | 57,6 | 2.27 | 80,0 | 3.15 | 93,9 | 3.70 | 80,0 | 3.15 | 58,9 | 2.32 | **192.423** | **191.727** | 20,3 | 15.0 |
| **5.34240R032100** | 16 | 22 | 31,6 | 1.24 | 40,0 | 1.57 | 110,0 | 4.33 | 100,0 | 3.94 | 55,0 | 2.17 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34248R040100** | 22 | 27 | 39,6 | 1.56 | 48,0 | 1.89 | 112,0 | 4.41 | 100,0 | 3.94 | 57,0 | 2.24 | **192.421** | **192.157** | 16,3 | 12.0 |
| **5.34258R048100** | 27 | 32 | 47,6 | 1.87 | 58,0 | 2.28 | 112,0 | 4.41 | 100,0 | 3.94 | 57,0 | 2.24 | **192.422** | **191.727** | 20,3 | 15.0 |
| **5.34270R058100** | 32 | 40 | 57,6 | 2.27 | 70,0 | 2.76 | 113,9 | 4.48 | 100,0 | 3.94 | 58,9 | 2.32 | **192.423** | **191.727** | 20,3 | 15.0 |
| **5.34280R070150** | 40 | 50 | 69,6 | 2.74 | 80,0 | 3.15 | 163,9 | 6.45 | 150,0 | 5.91 | 68,9 | 2.71 | **192.424** | **191.728** | 33,9 | 25.0 |

NOTE: Assemble components using recommended torque values.

- Extensions are shipped with drive ring and clamping screws.

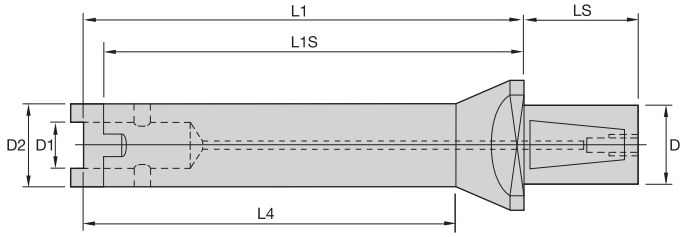


## Extensions

| | | | D2 | | L1 | | L1S | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | D1 coupling size | D coupling size | mm | in | mm | in | mm | in | drive ring | clamping screw | Nm | ft. lbs. |
| **5.34132R032100** | 16 | 16 | 32,0 | 1.26 | 110,0 | 4.33 | 100,0 | 3.94 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34125R025150** | 13A | 13A | 25,0 | 0.98 | 160,0 | 6.30 | 150,0 | 5.91 | **193.371** | **193.372** | 10,2 | 7.5 |
| **5.34128R028150** | 13B | 13B | 28,0 | 1.10 | 160,0 | 6.30 | 150,0 | 5.91 | **192.419** | **192.156** | 10,2 | 7.5 |
| **5.34170R070186** | 40 | 40 | 70,0 | 2.76 | 200,0 | 7.87 | 186,0 | 7.32 | **192.424** | **191.728** | 33,9 | 25.0 |
| **5.34132R032200** | 16 | 16 | 32,0 | 1.26 | 210,0 | 8.27 | 200,0 | 7.87 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34140R040200** | 22 | 22 | 40,0 | 1.57 | 212,0 | 8.35 | 200,0 | 7.87 | **192.421** | **192.157** | 16,3 | 12.0 |
| **5.34148R048200** | 27 | 27 | 48,0 | 1.89 | 212,0 | 8.35 | 200,0 | 7.87 | **192.422** | **191.727** | 20,3 | 15.0 |
| **5.34180R080204** | 50 | 50 | 80,0 | 3.15 | 220,0 | 8.66 | 204,0 | 8.03 | **192.425** | **191.728** | 33,9 | 25.0 |
| **5.34158R058300** | 32 | 32 | 58,0 | 2.28 | 314,0 | 12.36 | 300,0 | 11.81 | **192.423** | **191.727** | 33,9 | 25.0 |
| **5.34170R070300** | 40 | 40 | 70,0 | 2.76 | 314,0 | 12.36 | 300,0 | 11.81 | **192.424** | **191.728** | 33,9 | 25.0 |
| **5.34180R080300** | 50 | 50 | 80,0 | 3.15 | 316,0 | 12.44 | 300,0 | 11.81 | **192.425** | **191.728** | 33,9 | 25.0 |
| **5.34170R070500** | 40 | 40 | 70,0 | 2.76 | 514,0 | 20.24 | 500,0 | 19.69 | **192.424** | **191.728** | 33,9 | 25.0 |
| **5.34180R080500** | 50 | 50 | 80,0 | 3.15 | 516,0 | 20.32 | 500,0 | 19.69 | **192.425** | **191.728** | 33,9 | 25.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screws.

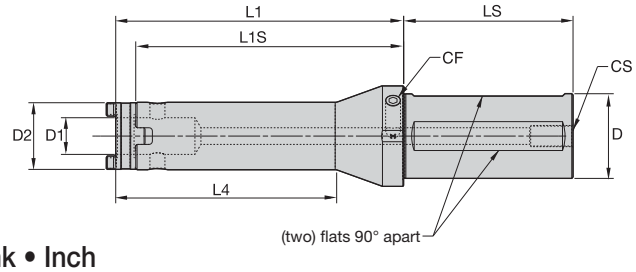


## Basic Shank WN/WD • Metric

| catalog number | D1 coupling size | D | D2 | L1 | L1S | L4 | LS | drive ring | clamping screw | Nm |
|---|---|---|---|---|---|---|---|---|---|---|
| **5.34032-025115** | 13A | 32,0 | 25,0 | 125,0 | 115,0 | 110,0 | 58,0 | **193.371** | **193.372** | 10,2 |
| **5.34032-028115** | 13B | 32,0 | 28,0 | 125,0 | 115,0 | 110,0 | 58,0 | **192.419** | **192.156** | 10,2 |
| **5.34032-032125** | 16 | 32,0 | 32,0 | 135,0 | 125,0 | 120,0 | 58,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-040148** | 22 | 50,0 | 40,0 | 160,0 | 148,0 | 140,0 | 68,0 | **192.421** | **192.157** | 16,3 |
| **5.34050-048168** | 27 | 50,0 | 48,0 | 175,0 | 168,0 | 160,0 | 68,0 | **192.422** | **191.727** | 20,3 |
| **5.34050-058186** | 32 | 50,0 | 58,0 | 200,0 | 186,0 | 180,0 | 68,0 | **192.423** | **191.727** | 20,3 |
| **5.34032-025200** | 13A | 32,0 | 25,0 | 210,0 | 200,0 | 195,0 | 58,0 | **193.371** | **193.372** | 10,2 |
| **5.34032-028200** | 13B | 32,0 | 28,0 | 210,0 | 200,0 | 195,0 | 58,0 | **192.419** | **192.156** | 10,2 |
| **5.34050-032200** | 16 | 50,0 | 32,0 | 210,0 | 200,0 | 165,0 | 68,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-025300** | 13A | 50,0 | 25,0 | 310,0 | 300,0 | 270,0 | 68,0 | **193.371** | **193.372** | 10,2 |
| **5.34050-028300** | 13B | 50,0 | 28,0 | 310,0 | 300,0 | 265,0 | 68,0 | **192.419** | **192.156** | 10,2 |
| **5.34050-040300** | 22 | 50,0 | 40,0 | 312,0 | 300,0 | 267,0 | 68,0 | **192.421** | **192.157** | 10,2 |
| **5.34050-048300** | 27 | 50,0 | 48,0 | 312,0 | 300,0 | 267,0 | 68,0 | **192.422** | **191.727** | 16,3 |
| **5.34050-058300** | 32 | 50,0 | 58,0 | 314,0 | 300,0 | 254,0 | 68,0 | **192.423** | **191.727** | 20,3 |
| **5.34050-032350** | 16 | 50,0 | 32,0 | 360,0 | 350,0 | 315,0 | 68,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-025450** | 13A | 50,0 | 25,0 | 460,0 | 450,0 | 420,0 | 68,0 | **193.371** | **193.372** | 10,2 |
| **5.34050-028450** | 13B | 50,0 | 28,0 | 460,0 | 450,0 | 415,0 | 68,0 | **192.419** | **192.156** | 10,2 |
| **5.34050-040450** | 22 | 50,0 | 40,0 | 462,0 | 450,0 | 417,0 | 68,0 | **192.421** | **192.157** | 10,2 |
| **5.34050-048450** | 27 | 50,0 | 48,0 | 462,0 | 450,0 | 417,0 | 68,0 | **192.422** | **191.727** | 16,3 |
| **5.34050-058450** | 32 | 50,0 | 58,0 | 464,0 | 450,0 | 404,0 | 68,0 | **192.423** | **191.727** | 20,3 |
| **5.34050-032500** | 16 | 50,0 | 32,0 | 510,0 | 500,0 | 465,0 | 68,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-040600** | 22 | 50,0 | 40,0 | 612,0 | 600,0 | 567,0 | 68,0 | **192.422** | **192.157** | 10,2 |
| **5.34050-048600** | 27 | 50,0 | 48,0 | 612,0 | 600,0 | 567,0 | 68,0 | **192.422** | **191.727** | 16,3 |
| **5.34050-058600** | 32 | 50,0 | 58,0 | 614,0 | 600,0 | 554,0 | 68,0 | **192.423** | **191.727** | 20,3 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screws.



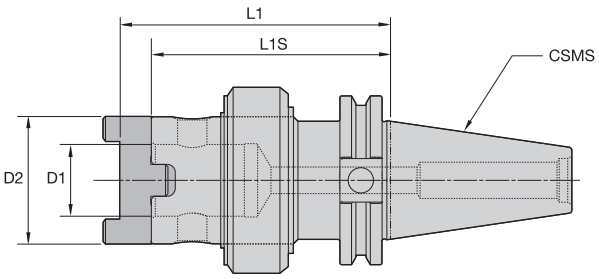
## Flanged Shank • Inch

| catalog number | D1 coupling size | D | D2 | L1 | L1S | L4 | LS | drive ring | clamping screw | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SSF150HTS130239 *** | 13A | 1.50 | 0.98 | 2.39 | 2.00 | 0.39 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS130450** | 13A | 1.50 | 0.98 | 4.50 | 4.11 | 2.50 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS130664** | 13A | 1.50 | 0.98 | 6.64 | 6.25 | 4.65 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS131114** | 13A | 1.50 | 0.98 | 11.14 | 10.75 | 9.14 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS131764** | 13A | 1.50 | 0.98 | 17.64 | 17.25 | 15.64 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF200HTS130239** | 13B | 2.00 | 1.10 | 2.39 | 2.00 | 0.39 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS130450 *** | 13B | 2.00 | 1.10 | 4.50 | 4.11 | 2.50 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS130664** | 13B | 2.00 | 1.10 | 6.64 | 6.25 | 4.65 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS131114** | 13B | 2.00 | 1.10 | 11.14 | 10.75 | 9.14 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS131764** | 13B | 2.00 | 1.10 | 17.64 | 17.25 | 15.64 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS160239** | 16 | 2.00 | 1.26 | 2.39 | 2.00 | 0.39 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS160450 *** | 16 | 2.00 | 1.26 | 4.50 | 4.11 | 2.50 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS160714** | 16 | 2.00 | 1.26 | 7.14 | 6.75 | 5.14 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS161214** | 16 | 2.00 | 1.26 | 12.14 | 11.75 | 10.14 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS161964** | 16 | 2.00 | 1.26 | 19.64 | 19.25 | 17.64 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS220297** | 22 | 2.00 | 1.57 | 2.97 | 2.50 | 0.47 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS220550** | 22 | 2.00 | 1.58 | 5.50 | 5.03 | 3.50 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS220922** | 22 | 2.00 | 1.57 | 9.22 | 8.75 | 7.22 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS221572** | 22 | 2.00 | 1.57 | 15.72 | 15.25 | 13.72 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS222572** | 22 | 2.00 | 1.57 | 25.72 | 25.25 | 23.72 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS270297** | 27 | 2.00 | 1.89 | 2.97 | 2.50 | 1.47 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS270550** | 27 | 2.00 | 1.89 | 5.50 | 5.03 | 3.50 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS271122** | 27 | 2.00 | 1.89 | 11.22 | 10.75 | 9.22 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS271922** | 27 | 2.00 | 1.89 | 19.22 | 18.75 | 17.22 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS273122** | 27 | 2.00 | 1.89 | 31.22 | 30.75 | 29.22 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS320305 *** | 32 | 2.00 | 2.28 | 3.05 | 2.50 | 1.55 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS320550** | 32 | 2.00 | 2.28 | 5.50 | 4.95 | 3.50 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS320805** | 32 | 2.00 | 2.28 | 8.05 | 7.50 | 6.05 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS321305** | 32 | 2.00 | 2.28 | 13.05 | 12.50 | 11.05 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS321805** | 32 | 2.00 | 2.28 | 18.05 | 17.50 | 16.05 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF250HTS400355** | 40 | 2.50 | 2.76 | 3.55 | 3.00 | 1.63 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS400650 *** | 40 | 2.50 | 2.76 | 6.50 | 5.95 | 4.50 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS401055** | 40 | 2.50 | 2.76 | 10.55 | 10.00 | 8.21 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS401555** | 40 | 2.50 | 2.76 | 15.55 | 15.00 | 13.21 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS402555** | 40 | 2.50 | 2.76 | 25.55 | 25.00 | 23.21 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF300HTS500413 *** | 50 | 3.00 | 3.15 | 4.13 | 3.50 | 1.87 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS500700 *** | 50 | 3.00 | 3.15 | 7.00 | 6.37 | 5.00 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS501313** | 50 | 3.00 | 3.15 | 13.13 | 12.50 | 10.55 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS502113** | 50 | 3.00 | 3.15 | 21.13 | 20.50 | 18.55 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS503113** | 50 | 3.00 | 3.15 | 31.13 | 30.50 | 28.55 | 4.50 | **192.425** | **191.728** | 26.0 |

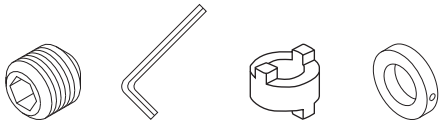
NOTE: Assemble components using recommended torque values.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

| D | CF | CS | side pipe plug |
|---|---|---|---|
| 1.500 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 2.000 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 2.500 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 3.000 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |

- Shanks are shipped with drive ring and clamping screws.



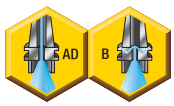
## CV Taper Shank • Form AD • Rotary Coolant Ring

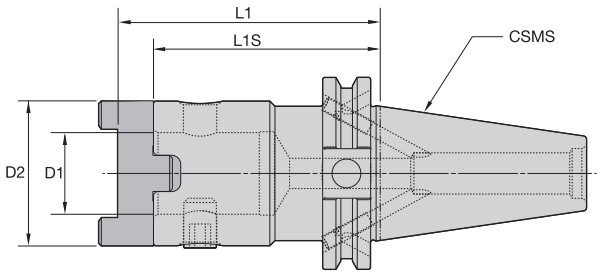


| catalog number | CSMS system size | D1 coupling size | D2 | L1 | L1S | clamping screw | hex wrench | drive ring | coolant ring | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CV50RMHTS13M394** | CV50 | 13B | 1.09 | 4.33 | 3.94 | **192.156** | **170.004** | **192.419** | **302.011** | 7.5 |
| **CV50RMHTS16M394** | CV50 | 16 | 1.25 | 4.33 | 3.94 | **192.156** | **170.004** | **192.420** | **302.011** | 7.5 |
| **CV50RMHTS22M394** | CV50 | 22 | 1.54 | 4.41 | 3.94 | **192.157** | **170.004** | **192.421** | **302.011** | 12.0 |
| **CV50RMHTS27M394** | CV50 | 27 | 1.88 | 4.41 | 3.94 | **191.727** | **170.006** | **192.422** | **302.011** | 15.0 |
| **CV50RMHTS32M394 *** | CV50 | 32 | 2.27 | 4.49 | 3.94 | **191.727** | **170.006** | **192.423** | **302.011** | 15.0 |
| **CV50RMHTS40M413** | CV50 | 40 | 2.74 | 4.69 | 4.13 | **191.728** | **170.008** | **192.424** | **302.009** | 26.0 |
| **CV50RMHTS50M413** | CV50 | 50 | 3.13 | 4.76 | 4.13 | **191.728** | **170.008** | **192.425** | **302.010** | 26.0 |

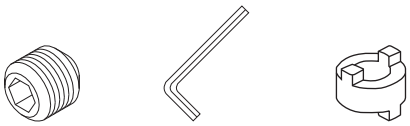
NOTE: Assemble components using recommended torque values.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Shanks are shipped with drive ring and clamping screws.



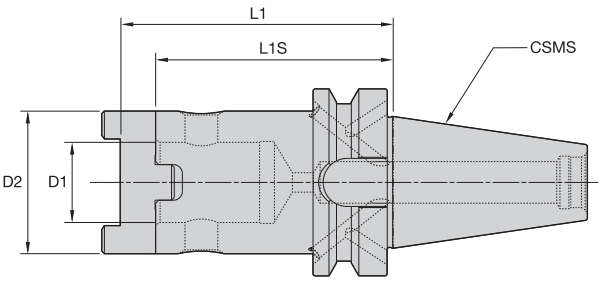
## CV Taper Shank • Form B/AD Coolant



| catalog number | CSMS system size | D1 coupling size | D2 | L1 | L1S | clamping screw | hex wrench | drive ring | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|
| **CV50BHTS13M295** | CV50 | 13B | 1.10 | 3.35 | 2.95 | **192.156** | **170.004** | **192.419** | 7.5 |
| **CV50BHTS16M295** | CV50 | 16 | 1.26 | 3.35 | 2.95 | **192.156** | **170.004** | **192.420** | 7.5 |
| **CV50BHTS22M295** | CV50 | 22 | 1.57 | 3.43 | 2.95 | **192.157** | **170.004** | **192.421** | 12.0 |
| **CV50BHTS27M295** | CV50 | 27 | 1.89 | 3.43 | 2.95 | **191.727** | **170.006** | **192.422** | 15.0 |
| **CV50BHTS32M314** | CV50 | 32 | 2.28 | 3.70 | 3.15 | **191.727** | **170.006** | **192.423** | 15.0 |
| **CV50BHTS40M314** | CV50 | 40 | 2.76 | 3.70 | 3.15 | **191.728** | **170.008** | **192.424** | 26.0 |
| **CV50BHTS50M314** | CV50 | 50 | 3.15 | 3.78 | 3.15 | **191.728** | **170.008** | **192.425** | 26.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screw.

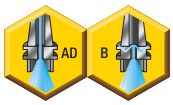


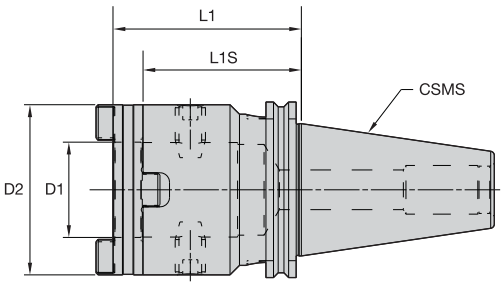
## BT Taper Shank • Form B/AD Coolant

| catalog number | CSMS system size | D1 coupling size | D2 | L1 mm | L1 in | L1S mm | L1S in | clamping screw | hex wrench | drive ring | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BT50BHTS22075M** | BT50 | 22 | 40,0 | 87,0 | 3.43 | 75,0 | 2.95 | **192.157** | **170.005** | **192.421** | 16,0 | 12.0 |
| **BT50BHTS32080M** | BT50 | 32 | 58,0 | 94,0 | 3.70 | 80,0 | 3.15 | **MS1276** | **170.006** | **192.423** | 20,0 | 15.0 |
| **BT50BHTS40080M** | BT50 | 40 | 70,0 | 94,0 | 3.70 | 80,0 | 3.15 | **191.728** | **170.008** | **192.424** | 34,0 | 26.0 |
| **BT50BHTS50080M** | BT50 | 50 | 80,0 | 96,0 | 3.78 | 80,0 | 3.15 | **191.728** | **170.008** | **192.425** | 34,0 | 26.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screw.

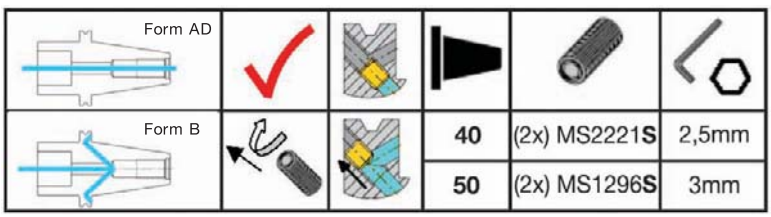


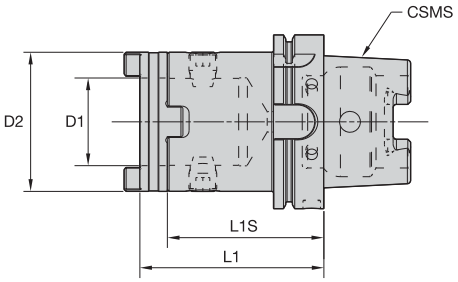
## DV Taper Shank • Form B/AD Coolant

| catalog number | CSMS system size | D1 coupling size | D2 | L1 mm | L1 in | L1S mm | L1S in | clamping screw | hex wrench | drive ring |
|---|---|---|---|---|---|---|---|---|---|---|
| **5.36050-154040** | DV50 | 40 | 70,0 | 100,0 | 3.94 | 84,0 | 3.31 | **191.728** | **170.008** | **192.424** |
| **5.36050-154050** | DV50 | 50 | 90,0 | 100,0 | 3.94 | 84,0 | 3.31 | **191.729** | **170.008** | **192.426** |

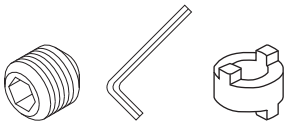
NOTE: Assemble components using recommended torque values.



- Shanks are shipped with drive ring and clamping screw.



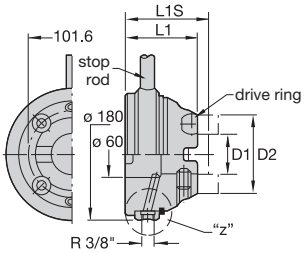
## HSK100A Taper Shank

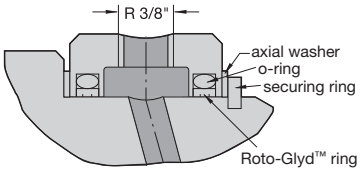


| catalog number | CSMS system size | D1 coupling size | D2 mm | D2 in | L1 mm | L1 in | L1S mm | L1S in | clamping screw | hex wrench | drive ring | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HSK100AHTS40085M** | HSK100A | 40 | 70,0 | 2.8 | 99,0 | 3.9 | 85,0 | 3.3 | **191.728** | **170.008** | **192.424** | 35,0 | 25.0 |
| **HSK100AHTS50090M** | HSK100A | 50 | 80,0 | 3.1 | 106,0 | 4.2 | 90,0 | 3.5 | **191.728** | **170.008** | **192.425** | 35,0 | 25.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screws.



## Flanged Adapter (Including Drive Ring)

| catalog number | D1 | D2 mm | D2 in | L1 mm | L1 in | L1S mm | L1S in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|
| **5.34350-090100** | 50,00 | 90,0 | 3.54 | 116,0 | 4.57 | 100,0 | 3.94 | 10,0 | 21.94 |

NOTE: Adapter includes all items shown except the nipple. Nipple must be ordered separately.
If replacement becomes necessary, the nipple is manufactured with a predetermined breaking point for safety purposes.
Maximum RPM is 1500. Maximum pressure is 72 psi or 5 bar.

## Spare Parts

| catalog number | drive ring | clamping screw | coolant ring | O-ring | securing ring | axial washer | ROTO-GLYD ring | stop bar | nipple |
|---|---|---|---|---|---|---|---|---|---|
| **5.34350-090100** | **192.426** | **191.729** | **302.014** | **192.731** | **192.126** | **192.158** | **192.730** | **460.716** | **192.759** |

## HTS DFT™ • Metric

| Metric | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 45,00–55,00mm | DFT05... 55,00–78,00mm | DFT06... 78,00–140,00mm | DFT07... 140,00–270,00mm |
| P | 1 | S | O | MD | KCU25 | 94 | **190** | 229 | mm/r | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,13–0,19 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 71 | **130** | 171 | mm/r | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,13–0,19 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KCU40 | 44 | **80** | 106 | mm/r | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,13–0,19 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KCU25 | 94 | **180** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 71 | **120** | 1714 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 44 | **70** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 3 | S | O | HP | KCU25 | 70 | **140** | 169 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 50 | **100** | 121 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 30 | **60** | 72 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 94 | **120** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 71 | **100** | 171 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 44 | **80** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 78 | **100** | 190 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 47 | **60** | 114 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 31 | **40** | 76 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 74 | **95** | 180 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 45 | **57** | 108 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 30 | **38** | 72 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| M | 1 | S | O | MD | KCU25 | 48 | **110** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 31 | **70** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 22 | **50** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | MD | KCU25 | 48 | **99** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 31 | **63** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 22 | **45** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 3 | S | O | MD | KCU25 | 48 | **88** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 31 | **56** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 22 | **40** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFT™ • Metric

| Metric | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 45,00–55,00mm | DFT05... 55,00–78,00mm | DFT06... 78,00–140,00mm | DFT07... 140,00–270,00mm |
| K | 1 | S | O | HP | KCPK10 | 94 | **171** | 229 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 64 | **117** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 40 | **72** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 94 | **162** | 229 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 64 | **111** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 40 | **68** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 90 | **146** | 217 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,15–0,31 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 59 | **100** | 144 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,15–0,31 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 35 | **62** | 84 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,15–0,31 |
| | | | I | HP | KCU40 | | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 154 | **240** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KC7140 | 102 | **160** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 67 | **104** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | ST | KD1425 | 154 | **223** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | ST | KD1425 | 154 | **206** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 102 | **138** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 67 | **89** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 4 | S | O | ST | KD1425 | 154 | **223** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | LD | KC7140 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | LD | KC7140 | | | | | | | | |
| | | I | O | LD | KC7140 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | LD | KC7140 | | | | | | | | |
| | 5 | S | O | ST | KD1425 | 112 | **220** | 262 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 72 | **140** | 167 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 46 | **90** | 107 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| S | 1 | S | O | HP | KC7140 | 24 | **40** | 49 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 18 | **30** | 37 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 15 | **25** | 30 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KC7140 | 25 | **35** | 48 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 18 | **25** | 34 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 14 | **20** | 27 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFT™ • Inch

| Inch | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 1.77–2.17" | DFT05... 2.17–3.07" | DFT06... 3.07–5.51" | DFT07... 5.51–10.63" |
| P | 1 | S | O | MD | KCU25 | 309 | **623** | 750 | IPR | .002–.004 | .003–.005 | .004–.006 | .005–.007 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 231 | **427** | 561 | IPR | .002–.004 | .003–.005 | .004–.006 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KCU40 | 143 | **262** | 348 | IPR | .002–.004 | .003–.005 | .004–.006 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KCU25 | 309 | **591** | 750 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 231 | **394** | 561 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 143 | **230** | 348 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 3 | S | O | HP | KCU25 | 229 | **459** | 555 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 163 | **328** | 396 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 98 | **197** | 238 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 309 | **394** | 750 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 231 | **328** | 561 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 143 | **262** | 348 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 257 | **328** | 622 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 154 | **197** | 373 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 103 | **131** | 250 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 244 | **312** | 591 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 146 | **187** | 355 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 98 | **125** | 238 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| M | 1 | S | O | MD | KCU25 | 159 | **361** | 439 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 101 | **230** | 281 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 72 | **164** | 199 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | MD | KCU25 | 159 | **325** | 439 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 101 | **207** | 281 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 72 | **148** | 199 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 3 | S | O | MD | KCU25 | 159 | **289** | 439 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 101 | **184** | 281 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 72 | **131** | 199 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

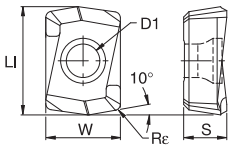
Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFT™ • Inch

| Inch | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 1.77–2.17" | DFT05... 2.17–3.07" | DFT06... 3.07–5.51" | DFT07... 5.51–10.63" |
| K | 1 | S | O | HP | KCPK10 | 309 | **561** | 750 | IPR | .004–.008 | .005–.011 | .006–.012 | .007–.013 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 211 | **384** | 510 | IPR | .004–.008 | .005–.011 | .006–.012 | .007–.013 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 131 | **236** | 316 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 309 | **533** | 750 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 211 | **365** | 510 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 131 | **224** | 316 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 294 | **480** | 712 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 195 | **328** | 473 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 113 | **202** | 274 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU40 | | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 504 | **787** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KC7140 | 336 | **525** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 218 | **341** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | ST | KD1425 | 504 | **732** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | ST | KD1425 | 504 | **677** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 336 | **451** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 218 | **293** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 4 | S | O | ST | KD1425 | 504 | **732** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | LD | KC7140 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | | |
| | | I | O | LD | KC7140 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | | |
| | 5 | S | O | ST | KD1425 | 368 | **722** | 858 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KC7140 | 235 | **459** | 549 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 151 | **295** | 351 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| S | 1 | S | O | HP | KC7140 | 80 | **131** | 160 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 60 | **98** | 120 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 50 | **82** | 100 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KC7140 | 82 | **115** | 158 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 58 | **82** | 112 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 46 | **66** | 90 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

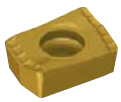


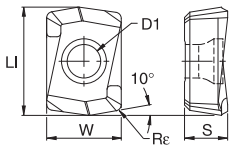

● first choice
○ alternate choice

| | | | | | |
|---|---|---|---|---|---|
| P | ● | ● | ● | ● | |
| M | ○ | ○ | ○ | ○ | |
| K | ● | ● | ○ | ○ | |
| N | ○ | | ○ | ○ | |
| S | ○ | | ● | ● | |
| H | | | ○ | ○ | |

## DFR-GD

| | LI | | W | | D1 | | S | | Rε | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCPK10 | KCU25 | KCU40 | KC7140 |
| DFR020204GD | 7,12 | .280 | 4,90 | .193 | 2,30 | .091 | 2,79 | .110 | 0,40 | .016 | ● | ● | ● | ● |
| DFR030204GD | 8,71 | .343 | 6,00 | .236 | 2,50 | .098 | 2,88 | .113 | 0,40 | .016 | ● | ● | ● | ● |
| DFR040304GD | 10,76 | .424 | 7,38 | .291 | 2,85 | .112 | 3,79 | .149 | 0,40 | .016 | ● | ● | ● | ● |



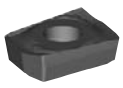


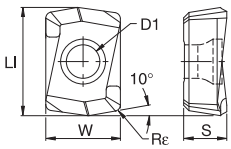

● first choice
○ alternate choice

| | | | | |
|---|---|---|---|---|
| P | ● | ● | ● | |
| M | ○ | ● | ● | |
| K | ○ | ○ | ○ | |
| N | ○ | ○ | ○ | |
| S | ○ | ● | ● | |
| H | | | | |

## DFR-MD

| | LI | | W | | D1 | | S | | Rε | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCU25 | KCU40 | KC7140 |
| DFR020204MD | 7,12 | .280 | 4,90 | .193 | 2,30 | .091 | 2,79 | .110 | 0,40 | .016 | ● | ● | ● |
| DFR030204MD | 8,71 | .343 | 6,00 | .236 | 2,50 | .098 | 2,88 | .113 | 0,40 | .016 | ● | ● | ● |
| DFR040304D28MD | 10,76 | .424 | 7,26 | .286 | 2,85 | .112 | 3,79 | .149 | 0,40 | .016 | – | – | ● |
| DFR040304MD | 10,76 | .424 | 7,38 | .291 | 2,85 | .112 | 3,79 | .149 | 0,40 | .016 | ● | ● | ● |



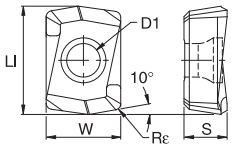



● first choice
○ alternate choice

| | | | | | |
|---|---|---|---|---|---|
| P | ○ | ● | ○ | ● | |
| M | | ○ | ● | ● | |
| K | ● | ● | ● | ○ | |
| N | | ○ | ● | ○ | |
| S | | ○ | ● | ○ | |
| H | | | ○ | | |

## DFR-LD

| | LI | | W | | D1 | | S | | Rε | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCPK10 | KCU25 | KCU40 | KC7140 |
| DFR020204LD | 7,12 | .280 | 4,90 | .193 | 2,30 | .091 | 2,79 | .110 | 0,40 | .016 | ● | ● | ● | ● |
| DFR030204LD | 8,71 | .343 | 6,00 | .236 | 2,50 | .098 | 2,86 | .113 | 0,40 | .016 | ● | ● | ● | ● |
| DFR040304LD | 10,76 | .424 | 7,38 | .291 | 2,85 | .112 | 3,76 | .148 | 0,40 | .016 | ● | ● | ● | ● |

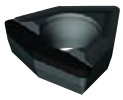


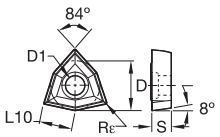

● first choice
○ alternate choice

| | |
|---|---|
| P | |
| M | |
| K | |
| N | ● |
| S | |
| H | |

## DFR • PCD • Single-Tipped

| | LI | | W | | D1 | | S | | Rε | | KD1425 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | |
| **DFR040304ST** | 10,50 | .413 | 7,40 | .291 | 2,85 | .112 | 3,18 | .125 | 0,40 | .015 | ● |






## DFT • PCD • Single-Tipped

| | L10 | | D | | D1 | | S | | Rε | | KD1425 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | |
| **DFT05T308ST** | 5,19 | .205 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT06T308ST** | 6,52 | .257 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT070408ST** | 7,84 | .309 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| **DFT090508ST** | 9,83 | .387 | 15,00 | .591 | 5,50 | .217 | 5,19 | .204 | 0,80 | .031 | ● |
| **DFT110508ST** | 11,53 | .454 | 17,60 | .693 | 5,85 | .230 | 4,81 | .189 | 0,80 | .031 | ● |

## DFR™ • PCD • Metric

| Metric | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (fz) by Diameter | |
| | | | | | | min | Starting Value | max | Ø | DFR04 20,50–24,00mm |
| N | 1 | S | O | ST | KD1425 | 396 | **720** | 841 | mm/r | 0,06–0,08 |
| | | | I | ST | KD1425 | | | | | |
| | 2 | S | O | ST | KD1425 | 369 | **670** | 782 | mm/r | 0,12–0,18 |
| | | | I | ST | KD1425 | | | | | |
| | 3 | S | O | ST | KD1425 | 341 | **619** | 723 | mm/r | 0,12–0,18 |
| | | | I | ST | KD1425 | | | | | |
| | 4 | S | O | ST | KD1425 | 475 | **720** | 841 | mm/r | 0,12–0,18 |
| | | | I | ST | KD1425 | | | | | |
| | 5 | S | O | ST | KD1425 | 480 | **720** | 864 | mm/r | 0,06–0,08 |
| | | | I | ST | KD1425 | | | | | |

## DFR™ • PCD • Inch

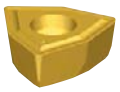
| Inch | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | |
| | | | | | | min | Starting Value | max | Ø | DFR04 .813–1.00" |
| N | 1 | S | O | ST | KD1425 | 1300 | **2362** | 2760 | IPR | .002–.003 |
| | | | I | ST | KD1425 | | | | | |
| | 2 | S | O | ST | KD1425 | 1209 | **2197** | 2567 | IPR | .005–.007 |
| | | | I | ST | KD1425 | | | | | |
| | 3 | S | O | ST | KD1425 | 1118 | **2032** | 2374 | IPR | .005–.007 |
| | | | I | ST | KD1425 | | | | | |
| | 4 | S | O | ST | KD1425 | 1560 | **2362** | 2760 | IPR | .005–.007 |
| | | | I | ST | KD1425 | | | | | |
| | 5 | S | O | ST | KD1425 | 1575 | **2362** | 2834 | IPR | .002–.003 |
| | | | I | ST | KD1425 | | | | | |

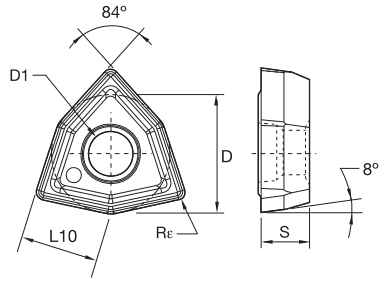
## DFT™ • PCD • Metric

| Metric | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 16–24,00mm | DFT05 25–32,00mm | DFT06 33–40,00mm | DFT07 41–48,00mm | DFT09 49–68,00mm | DFT11 69–82,00mm |
| N | 1 | S | O | ST/C | KD1425 | 480 | **720** | 864 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 2 | S | O | ST/C | KD1425 | 447 | **670** | 804 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 3 | S | O | ST/C | KD1425 | 413 | **619** | 743 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 4 | S | O | ST/C | KD1425 | 447 | **670** | 804 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 5 | S | O | ST/C | KD1425 | 480 | **720** | 864 | mm/r | 0,05–0,07 | 0,07–0,09 | 0,10–0,14 | 0,12–0,16 | 0,14–0,18 | 0,14–0,18 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |

## DFT™ • PCD • Inch

| Inch | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03 .625–.969" | DFT05 .984–1.250" | DFT06 1.313–1.563" | DFT07 1.625–1.875" | DFT09 1.938–2.125" | DFT11 2.750–3.250" |
| N | 1 | S | O | ST/C | KD1425 | 1575 | **2362** | 2834 | IPR | .002–.003 | .003–.004 | .004–.006 | .005–.006 | .006–.007 | .006–.007 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 2 | S | O | ST/C | KD1425 | 1465 | **2197** | 2636 | IPR | .002–.003 | .003–.004 | .004–.006 | .005–.006 | .006–.007 | .006–.007 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 3 | S | O | ST/C | KD1425 | 1355 | **2032** | 2438 | IPR | .002–.003 | .003–.004 | .004–.006 | .005–.006 | .006–.007 | .006–.007 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 4 | S | O | ST/C | KD1425 | 1465 | **2197** | 2636 | IPR | .002–.003 | .003–.004 | .004–.006 | .005–.006 | .006–.007 | .006–.007 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |
| | 5 | S | O | ST/C | KD1425 | 1575 | **2362** | 2834 | IPR | .002–.003 | .003–.004 | .004–.006 | .005–.006 | .006–.007 | .006–.007 |
| | | | I | ST/C | KD1425 | | | | | | | | | | |



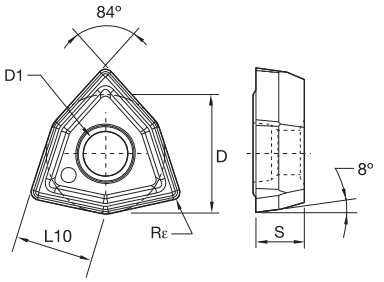



● first choice
○ alternate choice

| | | | | | |
|---|---|---|---|---|---|
| P | ● | ● | ● | ● | |
| M | ○ | ○ | ○ | ● | |
| K | ● | ● | ● | ○ | |
| N | ○ | | ○ | ○ | |
| S | ○ | | ● | ○ | |
| H | | | ○ | | |

## DFT-GD

| | L10 | | D | | D1 | | S | | Rε | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCPK10 | KCU25 | KCU40 | KC7140 |
| DFT030204GD | 3,97 | .156 | 6,00 | .236 | 2,25 | .089 | 2,45 | .096 | 0,40 | .016 | ● | ● | ● | – |
| DFT030304GD | 3,97 | .156 | 6,00 | .236 | 2,65 | .104 | 2,95 | .116 | 0,40 | .016 | ● | ● | ● | ● |
| DFT05T308GD | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● | ● | ● | ● |
| DFT06T308GD | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● | ● | ● | ● |
| DFT070408GD | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● | ● | ● | ● |
| DFT090508GD | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,85 | .034 | ● | ● | ● | ● |

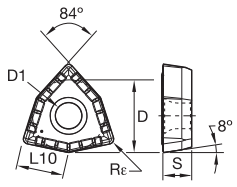



● first choice
○ alternate choice

| | | | | | |
|---|---|---|---|---|---|
| P | ● | ● | ● | ● | |
| M | ○ | ○ | ○ | ● | |
| K | ● | ● | ● | ○ | |
| N | ○ | | ○ | ○ | ● |
| S | ○ | | ● | ○ | |
| H | | | ○ | | |

## DFT-HP

| | L10 | | D | | D1 | | S | | Rε | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCPK10 | KCU25 | KCU40 | KC7140 | KMF |
| DFTX20204HP | 3,31 | .130 | 5,00 | .197 | 2,25 | .089 | 2,45 | .097 | 0,40 | .015 | – | ● | ● | ● | – |
| DFT030204HP | 3,97 | .156 | 6,00 | .236 | 2,25 | .089 | 2,45 | .096 | 0,40 | .016 | ● | ● | ● | ● | ● |
| DFT030304HP | 3,97 | .156 | 6,00 | .236 | 2,65 | .104 | 2,95 | .116 | 0,40 | .016 | ● | ● | ● | ● | ● |
| DFT05T308HP | 5,29 | .208 | 8,00 | .315 | 3,50 | .137 | 3,75 | .148 | 0,80 | .031 | ● | ● | ● | ● | ● |
| DFT06T308HP | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● | ● | ● | ● | ● |
| DFT070408HP | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● | ● | ● | ● | ● |
| DFT090508HP | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,85 | .033 | ● | ● | ● | ● | ● |



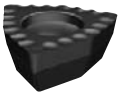

● first choice
○ alternate choice

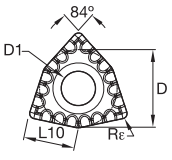
| | | | | | |
|---|---|---|---|---|---|
| P | ● | ● | ● | ● | |
| M | ○ | ○ | ○ | ● | |
| K | ● | ● | ● | ○ | |
| N | | | ○ | ○ | |
| S | | | ● | ○ | |
| H | | | ○ | | |

## DFT-MD

| | L10 | | D | | D1 | | S | | Rε | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | KCU25 | KCU40 | KC7140 |
| DFTX20204MD | 3,31 | .130 | 5,00 | .197 | 2,25 | .089 | 2,45 | .097 | 0,40 | .015 | ● | ● | ● |
| DFT030204MD | 3,97 | .156 | 6,00 | .236 | 2,25 | .089 | 2,45 | .096 | 0,40 | .016 | ● | ● | ● |
| DFT030304MD | 3,97 | .156 | 6,00 | .236 | 2,65 | .104 | 2,95 | .116 | 0,40 | .016 | ● | ● | ● |
| DFT05T308MD | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● | ● | ● |
| DFT06T308MD | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● | ● | ● |
| DFT070408MD | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● | ● | ● |
| DFT090508MD | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● | ● | ● |
| DFT110508MD | 11,64 | .458 | 17,60 | .693 | 5,85 | .230 | 4,88 | .192 | 0,80 | .031 | – | – | ● |

- DS geometry for improved control of chip flow, chip breakage, and chip curling.
- These inserts support drilling in P0 and P1 steel, higher alloyed tool steels, and stainless steels where high feed rates cannot be used to provide short chips.





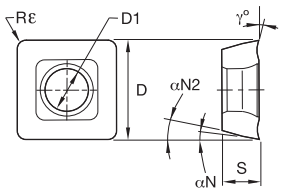

● first choice
○ alternate choice

| | |
|---|---|
| P | ● |
| M | ○ |
| K | |
| N | ○ |
| S | ○ |
| H | |

NEW!

## DFT • DS

| | L10 | | D | | D1 | | S | | Rε | | KCU40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | |
| **DFTX20204DS** | 3,31 | .130 | 5,00 | .197 | 2,25 | .089 | 2,45 | .097 | 0,40 | .016 | ● |
| **DFT030304DS** | 3,97 | .156 | 6,00 | .236 | 2,65 | .104 | 2,95 | .116 | 0,40 | .016 | ● |
| **DFT05T308DS** | 5,29 | .208 | 8,00 | .315 | 3,40 | .134 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT06T308DS** | 6,62 | .260 | 10,00 | .394 | 4,40 | .173 | 3,75 | .148 | 0,80 | .031 | ● |
| **DFT070408DS** | 7,94 | .313 | 12,00 | .472 | 4,40 | .173 | 4,75 | .187 | 0,80 | .031 | ● |
| **DFT090508DS** | 9,92 | .391 | 15,00 | .591 | 5,50 | .217 | 5,25 | .207 | 0,80 | .031 | ● |

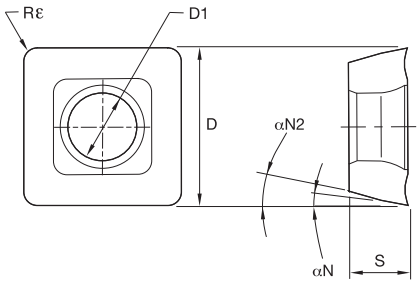



● first choice
○ alternate choice

| | | | | | |
|---|---|---|---|---|---|
| P | | ● | ● | ● | ● |
| M | | | ○ | ● | ● |
| K | | ● | ● | ● | ○ |
| N | | | ○ | ○ | ○ |
| S | | | ○ | ● | ○ |
| H | | | | | |

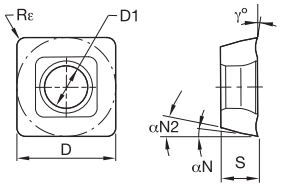
## SP..X..(R)HP

| | D | | D1 | | S | | Rε | | | | | KCPK10 | KCU25 | KCU40 | KC7140 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | γ° | αN | αN2 | | | | |
| SPGX050204HP | 5,56 | .219 | 2,25 | .089 | 2,38 | .094 | 0,40 | .016 | 10 | 7 | 11 | – | ● | ● | ● |
| SPGX060304RHP | 6,35 | .250 | 2,65 | .104 | 3,18 | .125 | 0,40 | .016 | 10 | 7 | 11 | – | ● | ● | ● |
| SPGX070304RHP | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 10 | 7 | 11 | – | ● | ● | ● |
| SPGX070308HP | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,80 | .031 | 10 | 7 | 11 | ● | ● | ● | – |
| SPPX09T308RHP | 9,53 | .375 | 3,60 | .142 | 3,97 | .156 | 0,80 | .031 | 10 | 7 | 11 | – | ● | ● | ● |
| SPPX09T310HP | 9,53 | .375 | 3,60 | .142 | 3,97 | .156 | 1,00 | .039 | 10 | 7 | 11 | ● | ● | ● | – |
| SPPX120408RHP | 12,70 | .500 | 4,60 | .181 | 4,76 | .188 | 0,80 | .031 | 10 | 7 | 11 | – | ● | ● | ● |
| SPPX120412HP | 12,70 | .500 | 4,60 | .181 | 4,76 | .188 | 1,20 | .047 | 10 | 7 | 11 | ● | ● | ● | – |
| SPPX15T508RHP | 15,73 | .625 | 5,50 | .234 | 5,95 | .234 | 0,80 | .031 | 10 | 7 | 11 | – | ● | ● | ● |
| SPPX15T512HP | 15,73 | .625 | 5,50 | .217 | 5,95 | .234 | 1,20 | .047 | 10 | 7 | 11 | ● | ● | ● | – |




## SP..X..MD

| | D | | D1 | | S | | Rε | | | | | KCPK10 | KCU25 | KCU40 | KC7140 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | γ° | αN | αN2 | | | | |
| SPGX050204MD | 5,56 | .219 | 2,25 | .089 | 2,38 | .094 | 0,40 | .016 | 16 | 7 | 11 | – | ● | ● | ● |
| SPGX060304MD | 6,35 | .250 | 2,65 | .104 | 3,18 | .125 | 0,40 | .016 | 20 | 7 | 11 | ● | ● | ● | ● |
| SPGX070304MD | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 16 | 7 | 11 | ● | ● | ● | ● |
| SPGX070308MD | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,80 | .031 | 16 | 7 | 11 | ● | ● | ● | – |
| SPPX09T308MD | 9,53 | .375 | 3,60 | .142 | 3,97 | .156 | 0,80 | .031 | 16 | 7 | 11 | – | ● | ● | ● |
| SPPX09T310MD | 9,53 | .375 | 3,60 | .142 | 3,97 | .156 | 1,00 | .039 | 16 | 7 | 11 | ● | ● | ● | – |
| SPPX120408MD | 12,70 | .500 | 4,60 | .181 | 4,76 | .188 | 0,80 | .031 | 16 | 7 | 11 | – | ● | ● | ● |
| SPPX120412MD | 12,70 | .500 | 4,60 | .181 | 4,76 | .188 | 1,20 | .047 | 16 | 7 | 11 | ● | ● | ● | – |
| SPPX15T508MD | 15,73 | .625 | 5,50 | .234 | 5,95 | .234 | 0,80 | .031 | 16 | 7 | 11 | – | ● | ● | ● |
| SPPX15T512MD | 15,73 | .625 | 5,50 | .217 | 5,95 | .234 | 1,20 | .047 | 16 | 7 | 11 | ● | ● | ● | – |



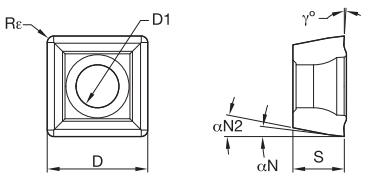

● first choice
○ alternate choice

| | | KCPK10 | KCU25 | KCU40 |
|---|---|---|---|---|
| P | | ● | ● | ● |
| M | | | ○ | ● |
| K | | ● | ● | ● |
| N | | | ○ | ○ |
| S | | | ○ | ● |
| H | | | | |

## SP..X..FP

| | D | | D1 | | S | | Rε | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | γ° | αN | αN2 | KCPK10 | KCU25 | KCU40 |
| **SPGX060304FP** | 6,35 | .250 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 6 | 7 | 11 | ● | ● | ● |
| **SPGX070304FP** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 6 | 7 | 11 | ● | ● | ● |
| **SPGX070308FP** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,80 | .031 | 6 | 7 | 11 | ● | ● | ● |
| **SPPX09T308FP** | 9,53 | .375 | 3,60 | .142 | 3,97 | .156 | 0,80 | .031 | 6 | 7 | 11 | ● | ● | ● |
| **SPPX09T310FP** | 9,53 | .375 | 3,60 | .142 | 3,97 | .156 | 1,00 | .039 | 6 | 7 | 11 | ● | ● | ● |
| **SPPX120408FP** | 12,70 | .500 | 4,60 | .181 | 4,76 | .188 | 0,80 | .031 | 6 | 7 | 11 | ● | ● | ● |
| **SPPX120412FP** | 12,70 | .500 | 4,60 | .181 | 4,76 | .188 | 1,20 | .047 | 6 | 7 | 11 | ● | ● | ● |
| **SPPX15T508FP** | 15,73 | .625 | 5,50 | .234 | 5,95 | .234 | 0,80 | .031 | 6 | 7 | 11 | ● | ● | ● |
| **SPPX15T512FP** | 15,73 | .625 | 5,50 | .217 | 5,95 | .234 | 1,20 | .047 | 6 | 7 | 11 | ● | ● | ● |

- LP geometry for improved control of chip flow, chip breakage, and chip curling.
- These inserts support drilling in P0 and P1 steel, higher alloyed tool steels, and stainless steels where high feed rates cannot be used to provide short chips.



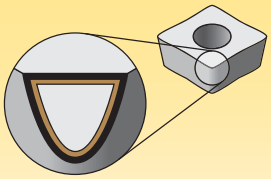

● first choice
○ alternate choice

| | | KCU40 |
|---|---|---|
| P | | ● |
| M | | ○ |
| K | | |
| N | | ○ |
| S | | ○ |
| H | | |

NEW!

## SP..X..LP

| | D | | D1 | | S | | Rε | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | γ° | αN | αN2 | KCU40 |
| **SPGX050204LP** | 5,42 | .213 | 2,25 | .089 | 2,38 | .094 | 0,40 | .016 | 4 | 7 | 11 | ● |
| **SPGX060304LP** | 6,35 | .250 | 2,65 | .104 | 3,18 | .125 | 0,40 | .016 | 4 | 7 | 11 | ● |
| **SPPX070304LP** | 7,80 | .307 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 4 | 7 | 11 | ● |
| **SPPX09T308LP** | 9,38 | .369 | 3,60 | .142 | 3,97 | .156 | 0,80 | .031 | 4 | 7 | 11 | ● |
| **SPPX120408LP** | 12,56 | .494 | 4,60 | .181 | 4,76 | .187 | 0,80 | .031 | 4 | 7 | 11 | ● |

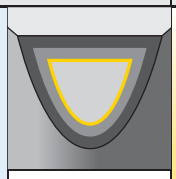
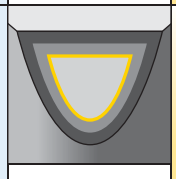
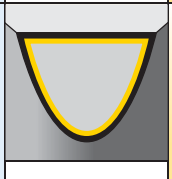


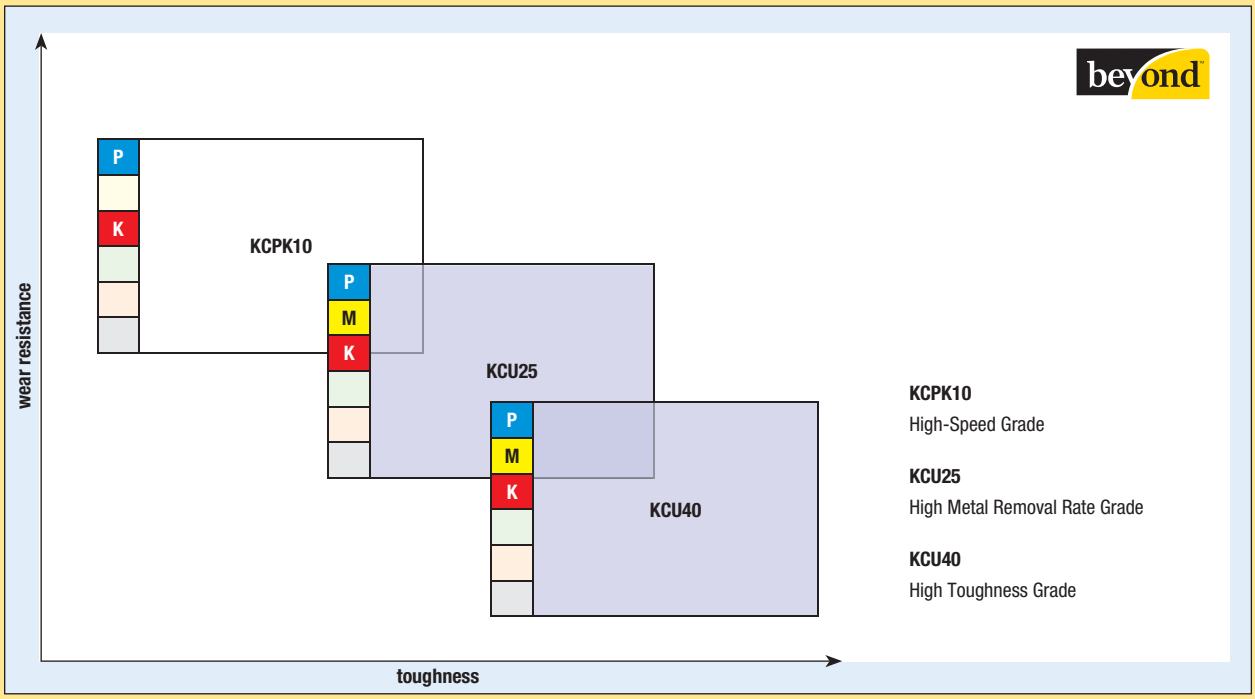
Coatings provide high-speed capability and are engineered for finishing to light roughing.

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

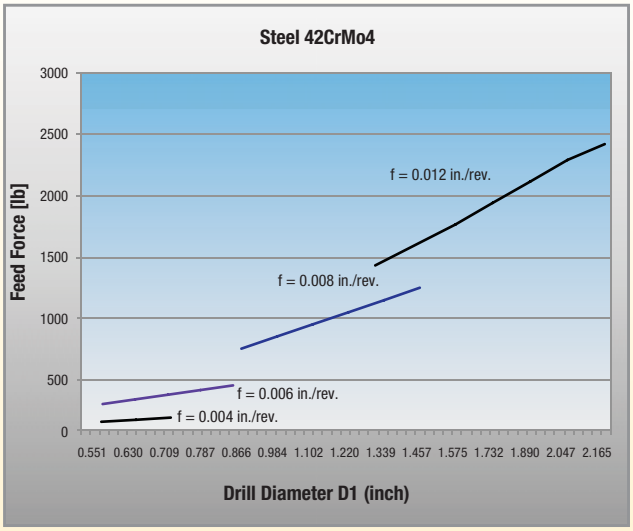
wear resistance ⟷ toughness

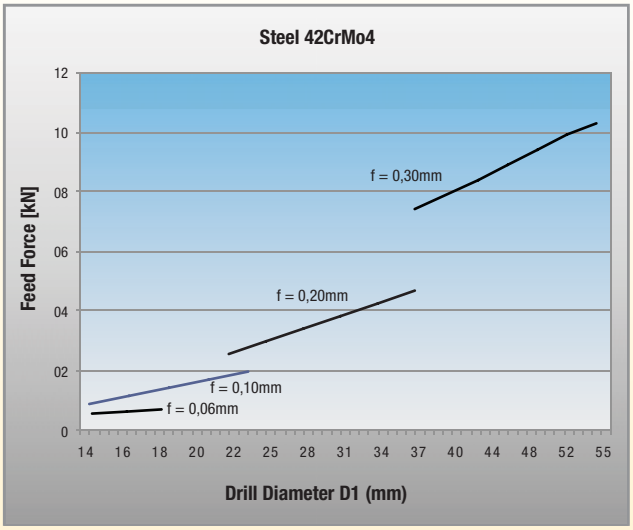
Grade

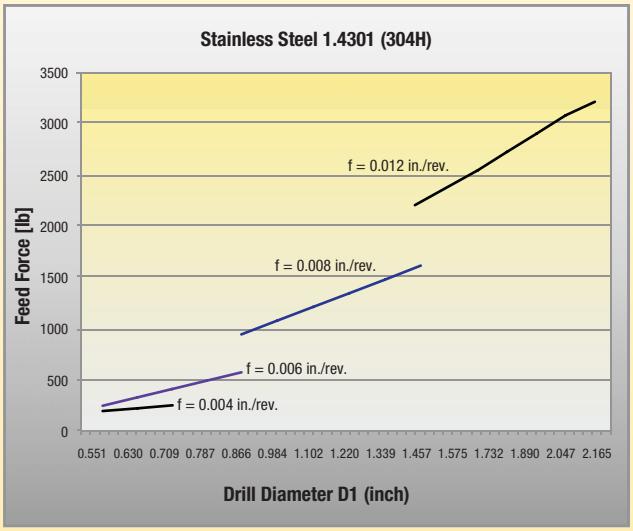
| Coating | Grade Description | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|
| KCPK10  $Al_2O_3$ TiCN | **Composition:** With an advanced CVD TiCN-$Al_2O_3$ coating combined with a cobalt-enriched carbide substrate, this grade offers a balanced combination of deformation-resistance and edge toughness. **Application:** The KCPK10™ grade offers outstanding abrasion and crater wear resistance for high-speed machining of steels and cast irons. Use for very high cutting speeds with low to medium feed rates. | P | P | P | P | | | | | |
| | | | | | | | | | | |
| | | K | K | K | K | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| KCU25  $Al_2O_3$ TiCN | **Composition:** This advanced CVD TiCN-$Al_2O_3$ coating, together with a newly engineered tough carbide substrate, ensures adequate deformation resistance along with excellent edge strength, and offers very good wear resistance over a wide range of machining conditions. **Application:** KCU25, as a high productivity grade with high speeds and feeds, is the first choice for productive process with very good reliability in steels, stainless steels, and cast irons. | P | | | P | P | P | P | | |
| | | M | | M | M | M | M | | | |
| | | K | | K | K | K | K | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| KCU40  PVD TiN_TiAlN | **Composition:** With a multilayered PVD TiN-TiAlN coating and a tough substrate, this grade withstands interruptions and provides high wear resistance for long tool life. **Application:** The KCU40 grade is the first choice for high reliability in most materials. This grade should be used at medium speeds and high feeds due to sharper edges, and as a grade for high toughness applications. It covers steel, stainless steel, cast iron, and high-temp alloys under certain conditions. | P | | | | | P | P | P | P |
| | | M | | | | M | M | M | M | |
| | | K | | | K | K | K | K | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

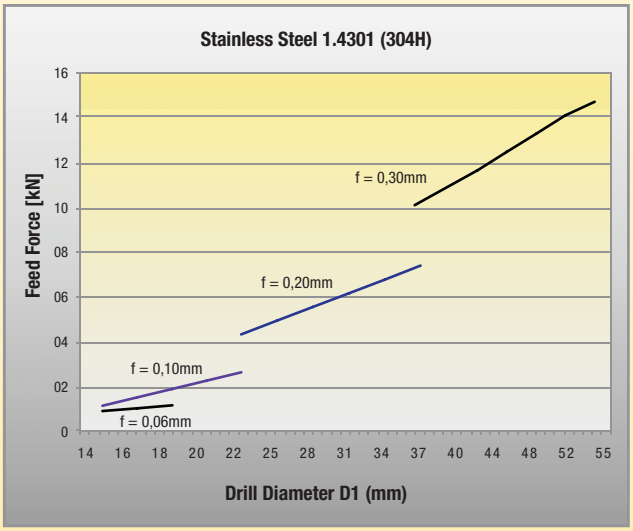


## Feed Force Requirement

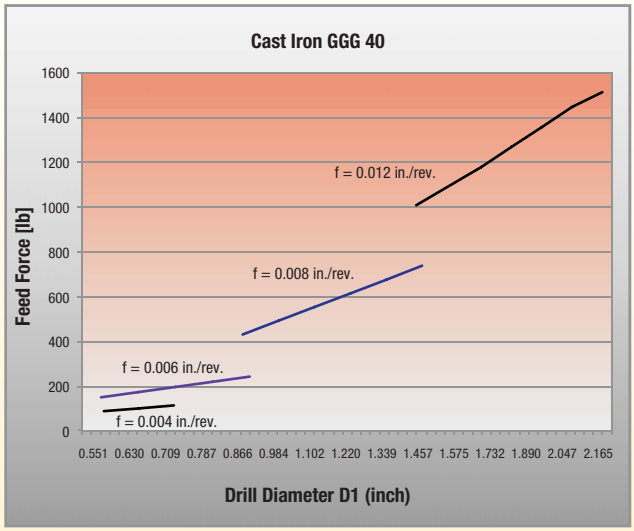


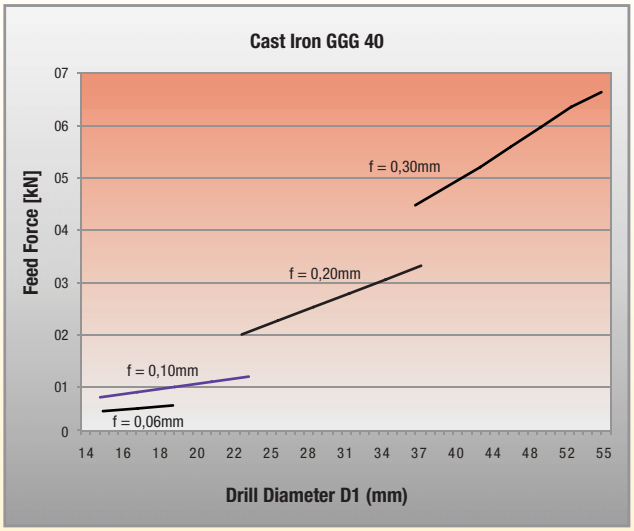



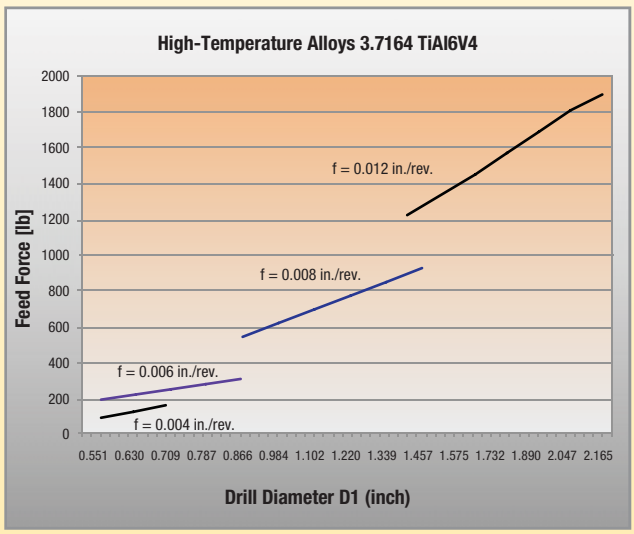



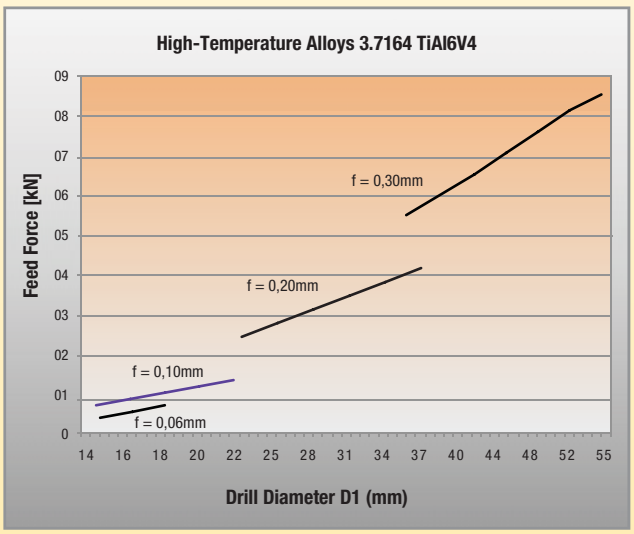



## Feed Force Requirement

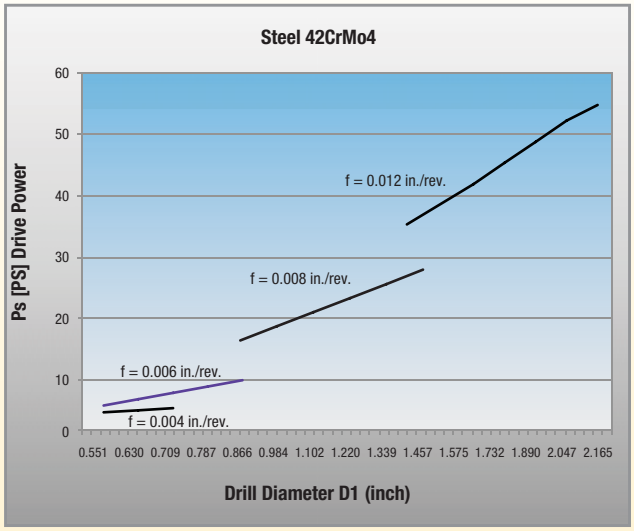


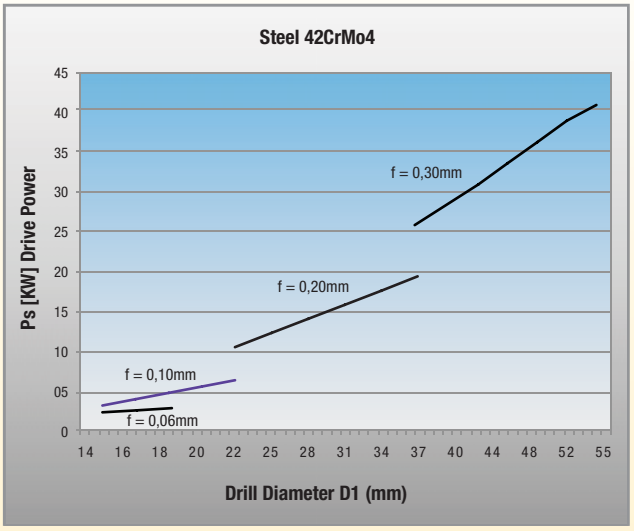



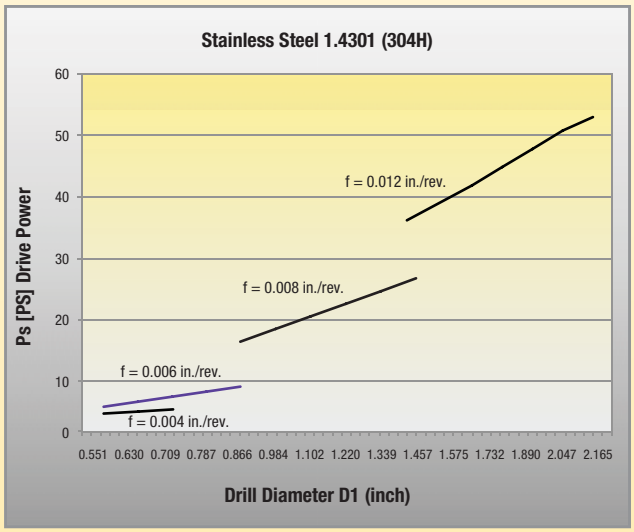



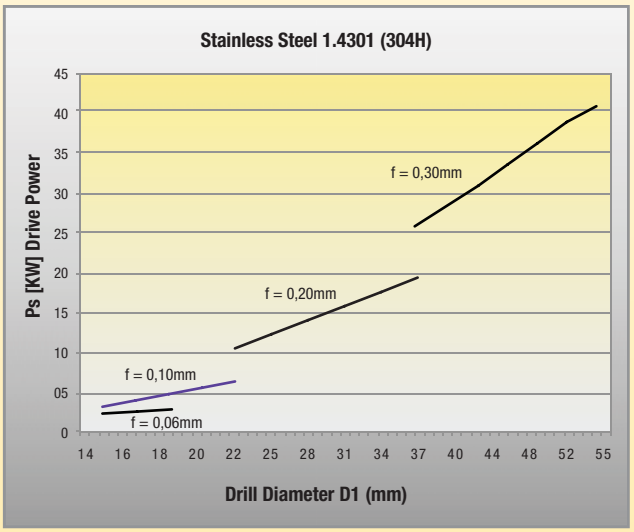



## Power Recommendation

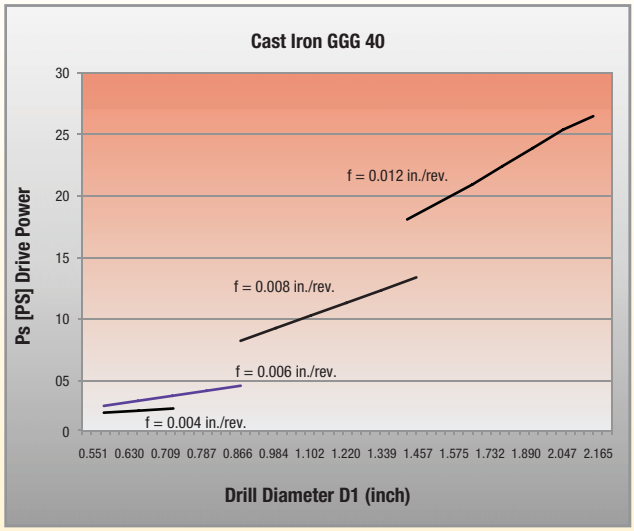


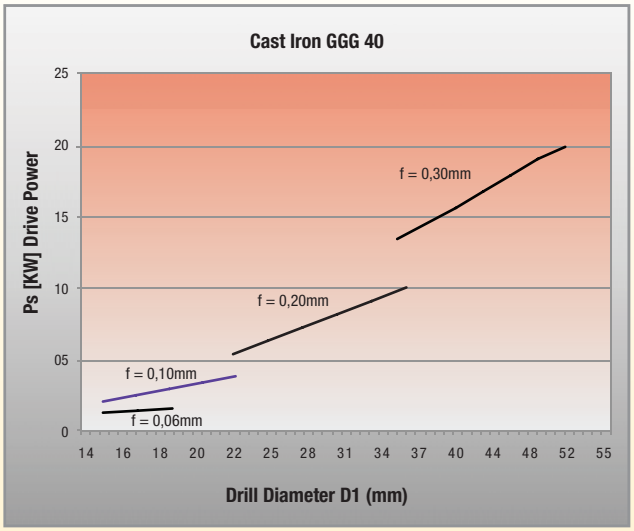



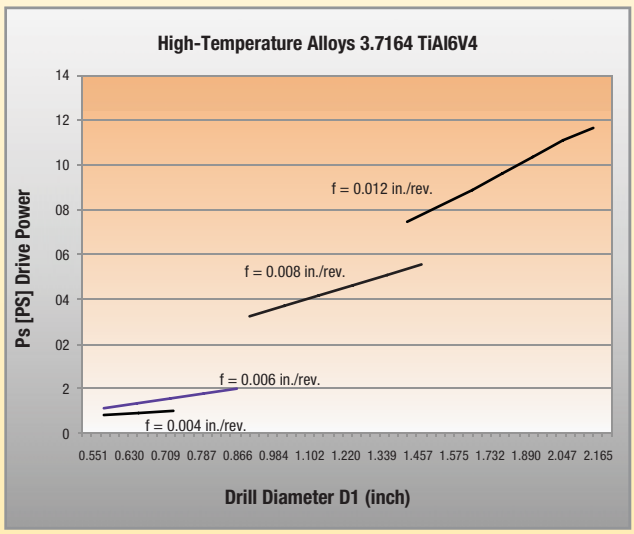



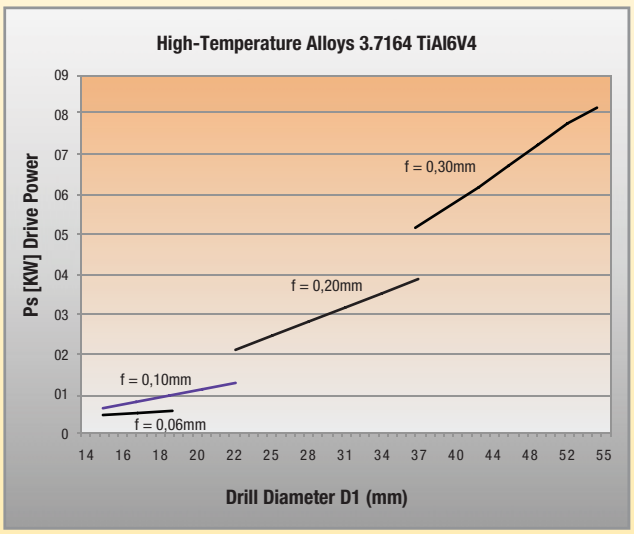



## Power Recommendation

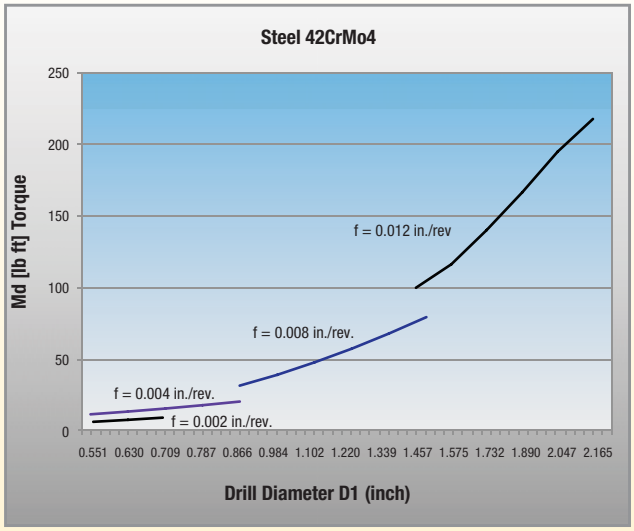


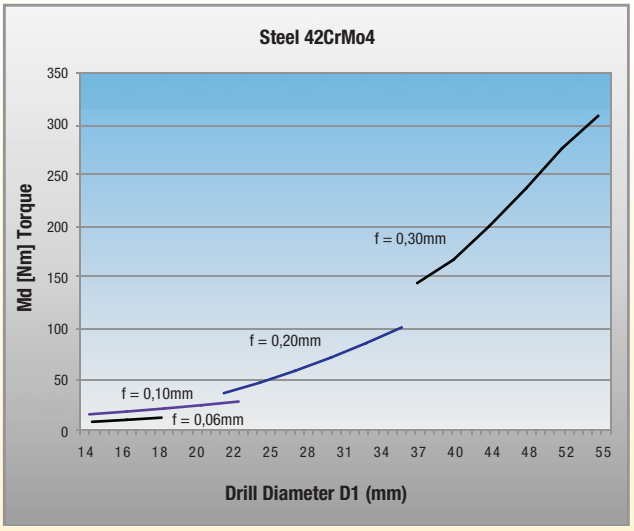



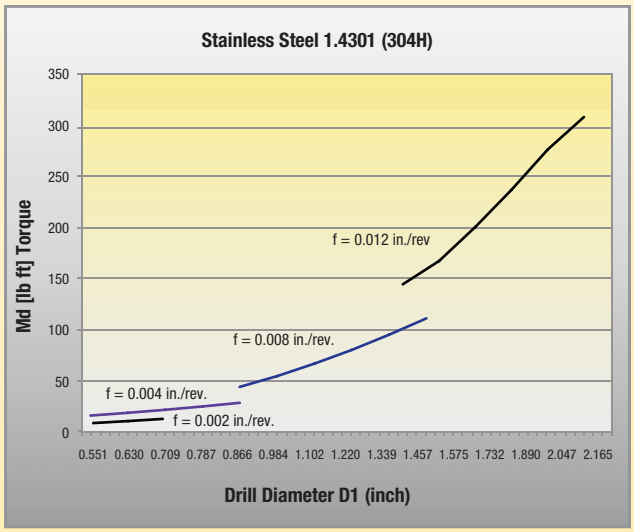



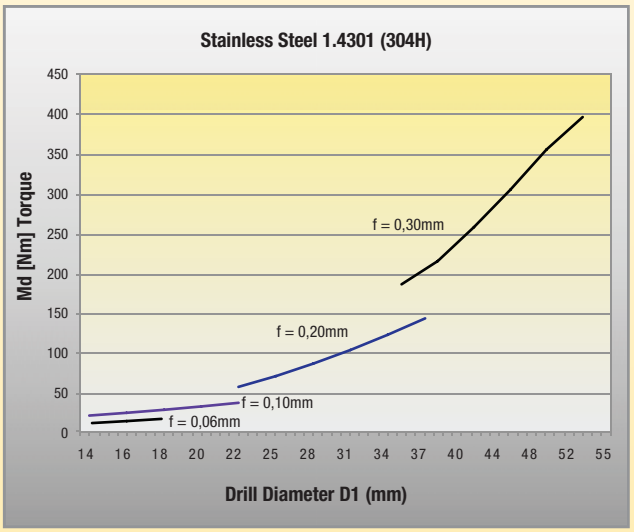



## Torque Recommendation

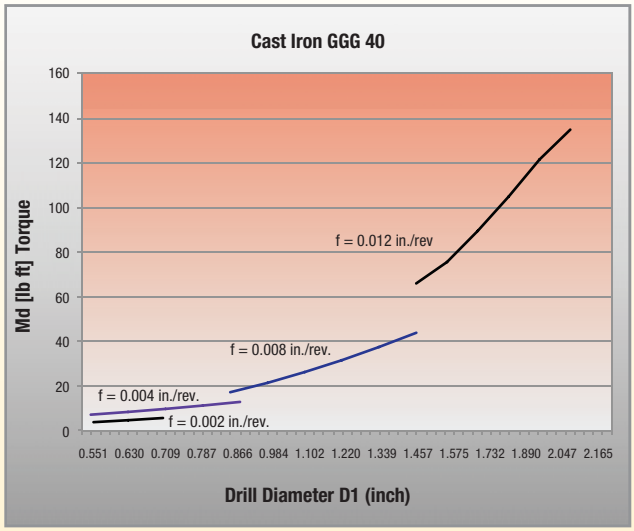


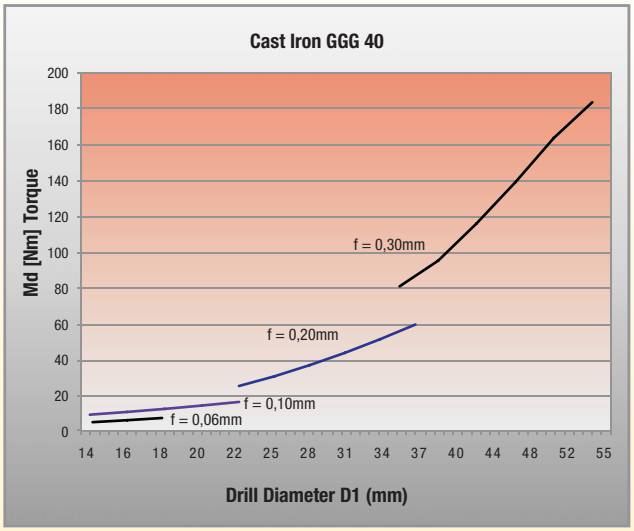



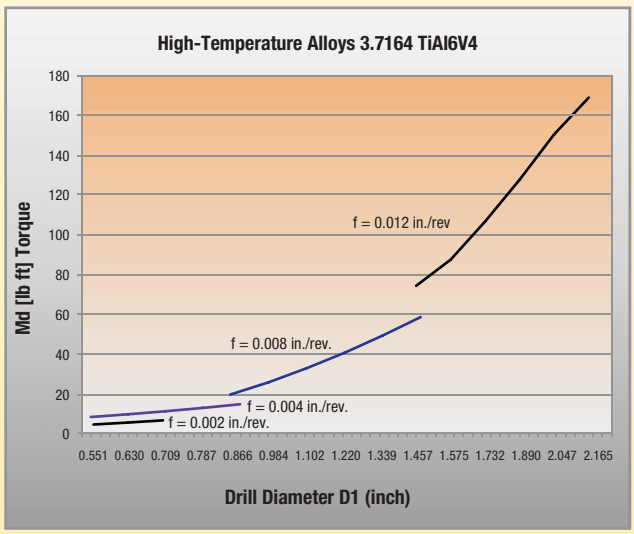



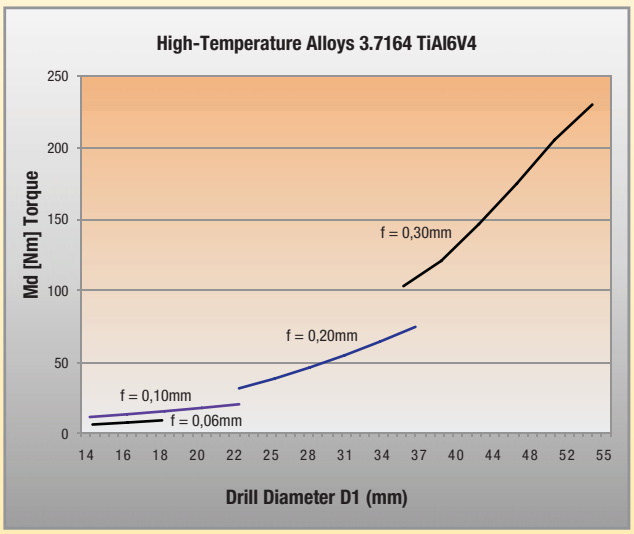



## Torque Recommendation



# CTR™ Counterboring Tools

CTR counterboring tools are designed for high-production screw-head counterbores and similar counterboring operations. Tools can be adapted to almost all applications for optimum cutting performance and long tool life.

Extremely unequal insert positioning and flutes prevent chattering and generate less noise. A precise 90° bottom can be achieved with the S2 S inserts.

## Features and Benefits

### Productivity and Reliability

- S2 S inserts reduce additional drill operations to achieve a precise 90° bottom.
- Chatter-free operations for improved surface quality due to extremely unequal insert positioning and flutes.
- Achieve high metal removal rates to reduce machine time and manufacturing costs.

### Versatility

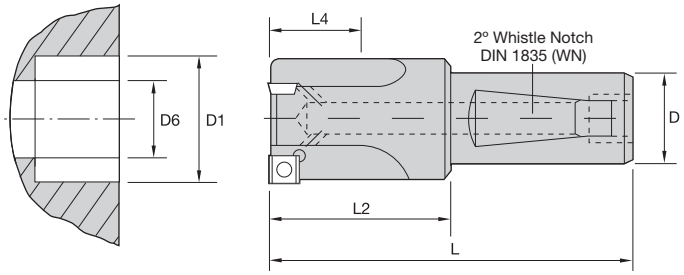
- Counterboring tools can be used in steel, stainless steel, non-ferrous materials, cast irons, and heat-resistant alloy applications.
- Toolholders are double- or triple-fluted at a diameter range of 15–46mm (.591–1.811") with through-coolant capabilities.
- S2 S standard inserts are double-edged and available in various grades and geometries.

# Achieve high metal removal rates to reduce machine time and manufacturing costs.

## Customization

- Length and diameter variations with and without adjustable cartridges available.
- Combination and multistep tooling based on drilling tools, like the Drill Fix™ system, with short distance and small diameter steps.
- Various radii and customized grades available upon request.

- Counterboring tool shipped with insert screws and Torx wrench.
- Order inserts separately; see pages J115–J117.



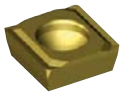
## S2 S Whistle Notch WN Shank • Metric

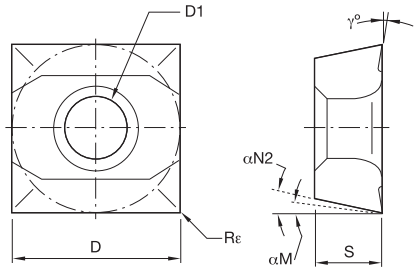
| catalog number | D1 mm | D1 in | tol min D1 mm | tol min D1 in | tol max D1 mm | tol max D1 in | D | D6 | L | L2 | L4 max | gage insert | number of inserts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CBTF150R2WD20N2M** | 15,14 | 0.596 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 6,0 | 81 | 31 | 8,5 | SPHX060204R.. | 2 |
| **CBTF160R2WD20N2M** | 16,14 | 0.635 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 7,0 | 81 | 31 | 8,5 | SPHX060204R.. | 2 |
| **CBTF170R2WD20N2M** | 17,14 | 0.675 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 8,0 | 86 | 36 | 13,5 | SPHX060204R.. | 2 |
| **CBTF180R2WD20N2M** | 18,14 | 0.714 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 8,4 | 86 | 36 | 13,5 | SPHX070304R.. | 2 |
| **CBTF180R2WD20N3M** | 18,14 | 0.714 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 8,4 | 86 | 36 | 13,5 | SPHX060204R.. | 3 |
| **CBTF200R2WD20N2M** | 20,17 | 0.794 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 8,5 | 86 | 36 | 16,0 | SPHX070304R.. | 2 |
| **CBTF200R2WD20N3M** | 20,17 | 0.794 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 8,5 | 86 | 36 | 16,0 | SPHX060204R.. | 3 |
| **CBTF210R2WD20N2M** | 21,17 | 0.833 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 8,5 | 86 | 36 | 16,0 | SPHX070304R.. | 2 |
| **CBTF210R2WD20N3M** | 21,17 | 0.833 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 86 | 36 | 11,0 | SPHX060204R.. | 3 |
| **CBTF220R2WD20N2M** | 22,17 | 0.873 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,4 | 86 | 36 | 16,0 | SPHX070304R.. | 2 |
| **CBTF220R2WD20N3M** | 22,17 | 0.873 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 86 | 36 | 16,0 | SPHX060204R.. | 3 |
| **CBTF230R2WD20N2M** | 23,17 | 0.912 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 91 | 41 | 21,0 | SPHX090304R.. | 2 |
| **CBTF230R2WD20N3M** | 23,17 | 0.912 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 91 | 41 | 16,0 | SPHX070304R.. | 3 |
| **CBTF240R2WD20N2M** | 24,17 | 0.951 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 91 | 41 | 18,5 | SPHX090304R.. | 2 |
| **CBTF240R2WD20N3M** | 24,17 | 0.951 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 91 | 41 | 16,0 | SPHX070304R.. | 3 |
| **CBTF250R2WD20N2M** | 25,17 | 0.991 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 12,0 | 96 | 46 | 23,5 | SPHX090304R.. | 2 |
| **CBTF250R2WD20N3M** | 25,17 | 0.991 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 96 | 46 | 21,0 | SPHX070304R.. | 3 |
| **CBTF260R2WD20N2M** | 26,17 | 1.030 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 13,0 | 96 | 46 | 23,5 | SPHX090304R.. | 2 |
| **CBTF270R2WD20N3M** | 27,17 | 1.070 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 10,5 | 96 | 46 | 21,0 | SPHX090304R.. | 3 |
| **CBTF280R2WD20N3M** | 28,17 | 1.109 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 15,0 | 101 | 51 | 23,5 | SPHX090304R.. | 3 |
| **CBTF300R2WD20N3M** | 30,17 | 1.188 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 15,0 | 101 | 51 | 23,0 | SPHX090304R.. | 3 |
| **CBTF320R2WD20N3M** | 32,20 | 1.268 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 17,0 | 101 | 51 | 23,0 | SPHX090304R.. | 3 |
| **CBTF330R2WD20N3M** | 33,20 | 1.307 | -0,120 | -0.005 | 0,120 | 0.005 | 20 | 17,0 | 101 | 51 | 25,5 | SPHX090304R.. | 3 |
| **CBTF340R2WD32N3M** | 34,20 | 1.346 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 18,0 | 111 | 51 | 25,5 | SPHX090304R.. | 3 |
| **CBTF350R2WD32N3M** | 35,20 | 1.386 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 19,0 | 111 | 51 | 25,5 | SPHX090304R.. | 3 |
| **CBTF360R2WD32N3M** | 36,20 | 1.425 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 19,0 | 116 | 56 | 27,5 | SPHX090304R.. | 3 |
| **CBTF380R2WD32N3M** | 38,20 | 1.504 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 22,0 | 121 | 61 | 30,0 | SPHX120404R.. | 3 |
| **CBTF400R2WD32N3M** | 40,20 | 1.582 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 21,0 | 121 | 61 | 30,5 | SPHX120404R.. | 3 |
| **CBTF420R2WD32N3M** | 42,20 | 1.661 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 22,0 | 126 | 66 | 33,5 | SPHX120404R.. | 3 |
| **CBTF460R2WD32N3M** | 46,20 | 1.819 | -0,120 | -0.005 | 0,120 | 0.005 | 32 | 25,0 | 126 | 66 | 33,5 | SPHX120404R.. | 3 |

## Spare Parts

| gage insert | insert screw | wrench | Torx size |
|---|---|---|---|
| SPHX060204R.. | **192.432** | **170.028** | T8 |
| SPHX070304R.. | **192.432** | **170.028** | T8 |
| SPHX090304R.. | **191.924** | **170.024** | T9 |
| SPHX120404R.. | **191.916** | **170.025** | T15 |

- Double-sided insert style.





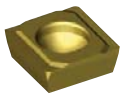

● first choice
○ alternate choice

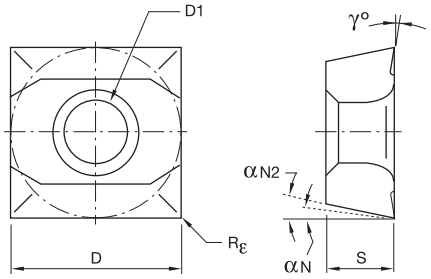
| | | | | | |
|---|---|---|---|---|---|
| P | | ● | ● | ● | ● |
| M | | ○ | ○ | ○ | ● |
| K | | ○ | ○ | ○ | ○ |
| N | | | | | ○ |
| S | | | | | ○ |
| H | | | | | |

## SPHX..R-20

| | D | | D1 | | S | | Rε | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | γ° | αN2 | αN M | KCU25 | KCU40 | KC7215 | KC7140 |
| **SPHX060202R20** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,20 | .008 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX060204R20** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,40 | .016 | 12 | 11 | 7 | ● | ● | – | ● |
| **SPHX060206R20** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,60 | .024 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX060208R20** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,80 | .031 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX070302R20** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,20 | .008 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX070304R20** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 12 | 11 | 7 | ● | ● | – | ● |
| **SPHX070306R20** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,60 | .024 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX070308R20** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,80 | .031 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX070310R20** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 1,00 | .039 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX070312R20** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 1,20 | .047 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX090304R20** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 0,40 | .016 | 12 | 11 | 7 | ● | ● | ● | ● |
| **SPHX090308R20** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 0,80 | .031 | 12 | 11 | 7 | ● | ● | – | – |
| **SPHX090310R20** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 1,00 | .039 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX090312R20** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 1,20 | .047 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX090316R20** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 1,60 | .063 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX120404R20** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 0,40 | .016 | 12 | 11 | 7 | ● | ● | – | ● |
| **SPHX120408R20** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 0,80 | .031 | 12 | 11 | 7 | ● | ● | – | – |
| **SPHX120410R20** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 1,00 | .039 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX120412R20** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 1,20 | .047 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX120416R20** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 1,60 | .063 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX120420R20** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 2,00 | .079 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX150504R20** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 0,40 | .016 | 12 | 11 | 7 | ● | ● | – | – |
| **SPHX150508R20** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 0,80 | .031 | 12 | 11 | 7 | ● | ● | – | – |
| **SPHX150512R20** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 1,20 | .047 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX150516R20** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 1,60 | .063 | 12 | 11 | 7 | – | – | ● | – |
| **SPHX150520R20** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 2,00 | .079 | 12 | 11 | 7 | – | – | ● | – |

NOTE: SPHX...R-20: This geometry is first choice for steel applications.





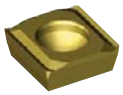

● first choice
○ alternate choice

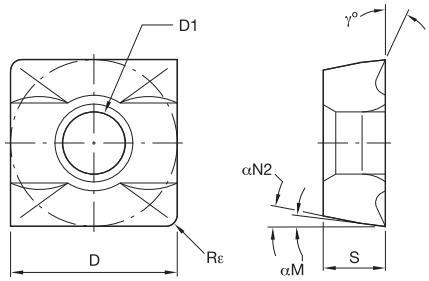
| | | KCPK10 | KCU25 | KCU40 | KC7215 | KM1 |
|---|---|---|---|---|---|---|
| P | | ○ | ○ | ○ | ○ | ○ |
| M | | | | ○ | ○ | ○ |
| K | | ● | ● | ● | ● | ● |
| N | | | | | | ○ |
| S | | | | ○ | ○ | |
| H | | | | | | |

## SPHX..R-21

| catalog number | D mm | D in | D1 mm | D1 in | S mm | S in | Rε mm | Rε in | γ° | αN2 | αN | KCPK10 | KCU25 | KCU40 | KC7215 | KM1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX060202R21** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,20 | .008 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX060204R21** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,40 | .016 | 4 | 11 | 7 | ● | ● | ● | – | – |
| **SPHX060204R-21** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,40 | .016 | 4 | 11 | 7 | – | – | – | – | ● |
| **SPHX060206R21** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,60 | .024 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX060208R21** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,80 | .031 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX070304R21** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 4 | 11 | 7 | ● | ● | ● | – | – |
| **SPHX070304R-21** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 4 | 11 | 7 | – | – | – | – | ● |
| **SPHX070306R21** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,60 | .024 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX070308R21** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,80 | .031 | 4 | 11 | 7 | ● | – | ● | – | – |
| **SPHX070310R21** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 1,00 | .039 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX090304R21** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 0,40 | .016 | 4 | 11 | 7 | ● | ● | ● | – | – |
| **SPHX090304R-21** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 0,40 | .016 | 4 | 11 | 7 | – | – | – | – | ● |
| **SPHX090308R21** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 0,80 | .032 | 4 | 11 | 7 | ● | ● | ● | – | – |
| **SPHX090310R21** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 1,00 | .039 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX090312R21** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 1,20 | .047 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX090316R21** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 1,60 | .063 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX120404R21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 0,40 | .016 | 4 | 11 | 7 | ● | ● | ● | – | – |
| **SPHX120404R-21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 0,40 | .016 | 4 | 11 | 7 | – | – | – | – | ● |
| **SPHX120408R21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 0,80 | .031 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX120410R21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 1,00 | .039 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX120412R21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 1,20 | .047 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX120416R21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 1,60 | .063 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX120420R21** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 2,00 | .079 | 4 | 11 | 7 | – | – | – | ● | – |
| **SPHX150504R-21** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 0,40 | .016 | 4 | 11 | 7 | – | – | – | – | ● |

NOTE: SPHX...R-21: This geometry is first choice for cast iron applications.






● first choice
○ alternate choice

| | |
|---|---|
| P | |
| M | |
| K | ○ |
| N | ● |
| S | |
| H | |

## SPHX..R-22

| | D | | D1 | | S | | Rε | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | mm | in | γ° | αN2 | αN M | KM1 |
| **SPHX060204R-22** | 6,35 | .250 | 2,85 | .112 | 2,38 | .094 | 0,40 | .016 | 25 | 11 | – | ● |
| **SPHX070304R-22** | 7,94 | .313 | 2,85 | .112 | 3,18 | .125 | 0,40 | .016 | 25 | 11 | – | ● |
| **SPHX090304R-22** | 9,53 | .375 | 3,50 | .138 | 3,18 | .125 | 0,40 | .016 | 25 | 11 | – | ● |
| **SPHX120404R-22** | 12,70 | .500 | 4,50 | .177 | 4,76 | .187 | 0,40 | .016 | 25 | 11 | – | ● |
| **SPHX150504R-22** | 15,88 | .625 | 5,50 | .217 | 5,95 | .234 | 0,40 | .016 | 25 | 11 | 7 | ● |

NOTE: SPHX...R-22: This geometry is first choice for aluminum applications.

# Hole Finishing


**Introduction** ..... **K2–K5**

Tool Selection Guide ..... K4–K5

**RMS Solid Carbide Reaming** ..... **K6–K11**

**RMR, RMB, and RMB-E Tipped Reaming** ..... **K12–K25**

RMR Disc Tipped Reaming ..... K12, K15–K16, K22

RMB Cermet Tipped Reaming ..... K13, K17–K18, K23–K24

RMB-E Expansion Reaming ..... K14, K19–K21, K23–K24

**RHR, RHM, and RHM-E Modular Reaming** ..... **K26–K45**

RHR Disc Tipped Reaming ..... K26, K29–K30, K38

RHM Cermet Tipped Reaming ..... K27, K31–K34, K39–K40

RHM-E Expansion Reaming ..... K28, K35–K37, K39–K40

Modular Reaming Bodies ..... K42–K45

**SIF Steerable Toolholder** ..... **K46–K52**

**RIR and RIQ Guided Reaming** ..... **K53–K71**

**Romicron High-Performance Boring System** ..... **K72–K117**

**ModBORE Boring Systems** ..... **K118–K153**

**PCD Customized Tooling** ..... **K154–K158**

**Application Examples** ..... **K160–K220**

# Hole Finishing with Kennametal

Owning the entire process chain from raw materials to reconditioning makes Kennametal one of the few sources in the metalworking industry where you can get complete hole finishing tooling, from reaming and fine boring to motion tooling. Kennametal provides customized solutions that are the best fit for any application or machining challenge, without limitations from product portfolio or capacity.

## PCD Tooling

- Extremely productive and tailored for satisfying your high-volume production needs.
- Several standard PCD grades, like KD1415™ and KD1425™, are available to provide the highest tool life and cutting data as well as unmatched surface and diameter tolerance quality.
- Platforms are available depending on your application and preference from steel to carbide based, adjustable pocket seats, fine-boring components like Romicron™ or FB cartridges, spindle couplings, or SIF™ steerable adapters.

## Multi-flute Reaming

- RMR™, RMB™, and RMB-E™ tipped reaming.
- RHR™, RHM™, and RHM-E™ modular reaming.
- Highly productive and easy to use.
- Large, standard, off-the-shelf portfolio of solid carbide, cermet, carbide-tipped, and modular reaming tools, all ground to achieve H7 without customization.
- Complex specials with multiple steps, coupling, and length variations are available.
- Intermediate sizes, grades, and lead chamfers available with short delivery.

## Motion Tooling

- Sophisticated tooling achieves most challenging tasks.
- Large, customized complex solution portfolio of:
  — Linear feed-out heads.
  — Eccentric actuating heads.
  — Pivot heads.
  — Cylinder boring tools.
  — Line boring bars.
  — Bottle boring tools.
  — Valve seat and guide tools.
  — Machining center tools.
- Depending on your application and preference, tools are based on the positive-stop principle; use drawbars, like with engineered solution machines; or don't require machining center modification.

## Padded Reaming

- RIQ™ Quattro Cut™ and RIR™ reaming systems.
- Highest precision and surface quality achievable but still easy to apply.
- RIQ is the market-leading reaming technology that eliminates back taper adjustment, dramatically reduces setup time while still offering highest accuracy and surface quality, and offers four cutting edges with PCD, CBN, carbide, or cermet styles.
- RIR provides the most stable pocket seat and fail-safe clamping, from smallest to largest diameters.
- Combine the large, standard RIQ and RIR insert offering with your customized tool body.

## Fine Boring

- Romicron™ and ModBORE™ systems.
- Extremely flexible, with an extensive diameter and length range.
- Offers the latest grade technology using standard turning inserts.
- Romicron enables diameter modifications by hand directly at the machine without setup equipment or affecting lock screw accuracy.
- The ModBORE system offers a very large diameter range with each tool along, with roughing to finishing tooling, and can be easily and safely adapted to every KM™ spindle.

● first choice
○ alternate choice

| | | | P | M | K | N | S | H | standard diameter range | standard diameter accuracy | custom solution diameter range | custom solution diameter accuracy | Position | Cylindricity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| reaming tools | | **RMS™**<br>Solid<br>*Carbide* | ● | ● | ● | ● | ○ | | .196–.551"<br>5–14mm | IT7 | .056–1.00"<br>1,4–25,4mm | IT6<br>>.39"<br>>10mm | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RMR™**<br>Disc Style<br>*Carbide* | ● | ● | ● | ● | ○ | | .551–787"<br>14–20mm | IT7 | .551–1.65"<br>14–42mm | IT6 | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RMB™**<br>Cermet Tipped<br>*Cermet* | ● | | ○ | ○ | | | .551–.787"<br>14–20mm | IT7 | .551–2.55"<br>14–65mm | IT6 | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RMB-E™**<br>Expandable Reamer<br>*Carbide/Cermet* | ● | ● | ● | ● | ○ | | .551–1.65"<br>14–42mm | IT6 | .551–1.65"<br>14–42mm | IT5–IT6 | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RHR™**<br>Modular Disc Style<br>*Carbide* | ● | ● | ● | ● | ○ | | .551–1.65"<br>14–42mm | IT7 | .551–1.65"<br>14–42mm | IT6 | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RHM™**<br>Modular Cermet Tipped<br>*Cermet* | ● | | ○ | ○ | | | .551–1.65"<br>14–42mm | IT7 | .551–1.96"<br>14–50mm | IT6 | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RHM-E™ (Expandable)**<br>Modular Expandable Reamer<br>*Carbide/Cermet* | ● | ● | ● | ● | ○ | | .551–1.65"<br>14–42mm | IT6 | .551–1.65"<br>14–42mm | IT5–IT6 | .0004"<br>10 µm | .0003"<br>7 µm |
| | | **RIR™**<br>Reamer Insert Rectangular<br>*Carbide* | ● | ● | ● | ● | ● | ○ | – | – | .236–11.8"<br>6–300mm | IT5 | .0004"<br>10 µm | .0002"<br>4 µm |
| | | **Quattro Cut™ RIQ™**<br>Reamer Insert Quattro Cut<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ○ | – | – | .630–11.8"<br>16–300mm | IT5 | .0004"<br>10 µm | .0002"<br>4 µm |
| boring/fine-boring tools | | **Romicron™ SVU BB**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ○ | .157–3.93"<br>4–100mm | IT6 | .062–3.93"<br>1,6–100mm | IT6 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **Romicron AVS00B—3B/SVS4B—6B**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ● | .984–5.47"<br>25–139mm | IT6 | .984–7.2"<br>25–183mm | IT6 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **Romicron SVU65/92**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ○ | 2.79–8.38"<br>71–213mm | IT6 | .394–12.83"<br>10–326mm | IT6 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **Romicron SVS M**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ○ | ● | ○ | >1.57"<br>>40mm | IT6 | 1.57–63.0"<br>40–1600mm | IT6 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **ModBORE™ RBHT**<br>Roughing<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | | .925–6.024"<br>23,5–153mm | IT9 | .925–6.0"<br>23,5–153mm | IT9 | .0004"<br>10 µm | >.0008"<br>>20 µm |
| | | **ModBORE FBHO**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ○ | .383–3.469"<br>9,75–88,1mm | IT7 | .118–3.4"<br>3,0–88,1mm | IT7 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **ModBORE FBHM**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ○ | .383–12.598"<br>9,75–320mm | IT7 | .118–12.5"<br>3,0–320mm | IT7 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **ModBORE FBHS**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | ○ | .925–6.024"<br>23,5–153mm | IT7 | .925–6.0"<br>23,5–153mm | IT7 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| | | **ModBORE Bridge Tools**<br>Roughing<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | | 5.9–86.8"<br>150–2205mm | IT9 | 5.9–86.8"<br>150–2205mm | IT9 | .0004"<br>10 µm | >.0008"<br>>20 µm |
| | | **ModBORE Bridge Tools**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ● | ● | ● | ● | | 5.9–86.8"<br>150–2205mm | IT7 | 5.9–86.8"<br>150–2205mm | IT7 | .0002"<br>5 µm | >.0004"<br>>10 µm |
| | | **Fine Boring Cartridges**<br>Fine Boring<br>*Carbide/Cermet/PCD/CBN* | ● | ○ | ● | ● | ○ | | >1.10"<br>>28mm | IT7 | >1.10"<br>>28mm | IT7 | .0002"<br>5 µm | .0002–.0004"<br>5–10 µm |
| PCD | | **PCD**<br>Round Tools<br>*Steel Base* | | | | ● | | | – | – | .394–4.00"<br>10–100mm | IT6 | .0004"<br>10 µm | .0004"<br>10 µm |
| | | **PCD**<br>Round Tools<br>*Carbide Base* | | | | ● | | | – | – | .197–1.00"<br>5–25mm | IT6 | .0002"<br>5 µm | .0003"<br>7 µm |

Cylindricity
NOTE: Process- and application-dependent.
Highly dependent on the pre-machine hole accuracy.
Use of high-performance drilling/pre-machining tools mandatory to reach values.

Position
NOTE: Process- and application-dependent.
Highly dependent on the pre-machine hole accuracy.
Use of high-performance drilling/pre-machining tools mandatory to reach values.

| achievable surface quality Ra | | | | | | capability | | | | cost/part | cycle time | required operator experience | page(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | M | K | N | S | H | | | | | | | | |
| 20–40 µ-in 0,5–1,0 µm | 20–40 µ-in 0,5–1,0 µm | 20–60 µ-in 0,5–1,5 µm | – | 20–40 µ-in 0,5–1,0 µm | – | ● | ● | ● | ● | moderate | low | low | K6–K11 |
| 8–24 µ-in 0,2–0,6 µm | 20–40 µ-in 0,5–1,0 µm | 20–40 µ-in 0,5–1,0 µm | – | 20–40 µ-in 0,5–1,0 µm | – | ● | ● | ● | ● | low | low | low | K12, K15–K16, K22 |
| 8–24 µ-in 0,2–0,6 µm | – | 20–60 µ-in 0,5–1,5 µm | 4–24 µ-in 0,1–0,6 µm | – | – | ● | ● | ● | ● | moderate | low | low | K13, K17–K18, K23–K24 |
| 20–40 µ-in 0,5–1,0 µm | 20–40 µ-in 0,5–1,0 µm | 20–60 µ-in 0,5–1,5 µm | – | 20–40 µ-in 0,5–1,0 µm | – | ● | ● | ● | ● | moderate | low | moderate | K14, K19–K21, K23–K24 |
| 8–24 µ-in 0,2–0,6 µm | 20–40 µ-in 0,5–1,0 µm | 20–40 µ-in 0,5–1,0 µm | – | 20–40 µ-in 0,5–1,0 µm | – | ● | ● | ● | ● | moderate | low | low | K26, K29–K30, K38 |
| 8–24 µ-in 0,2–0,6 µm | – | 20–60 µ-in 0,5–1,5 µm | 4–24 µ-in 0,1–0,6 µm | – | – | ● | ● | ● | ● | moderate | low | low | K27, K31–K34, K39–K40 |
| 20–40 µ-in 0,5–1,0 µm | 20–40 µ-in 0,5–1,0 µm | 20–60 µ-in 0,5–1,5 µm | – | 20–40 µ-in 0,5–1,0 µm | – | ● | ● | ● | ● | moderate | low | moderate | K28, K35–K37, K39–K40 |
| 8–24 µ-in 0,2–0,6 µm | 20–63 µ-in 0,5–1,6 µm | 20–72 µ-in 0,5–1,8 µm | 4–24 µ-in 0,1–0,6 µm | <32 µ-in <08 µm | <32 µ-in <08 µm | ● | ● | ● | ● | low | moderate | high | K53–K57, K60–K64 |
| 8–24 µ-in 0,2–0,6 µm | 20–63 µ-in 0,5–1,6 µm | 20–72 µ-in 0,5–1,8 µm | 4–24 µ-in 0,1–0,6 µm | <32 µ-in <08 µm | <32 µ-in <08 µm | ● | ● | ● | ● | low | moderate | moderate | K53–K55, K57–K65 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ○ | ○ | low | moderate | low | K76–K80 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ● | ● | low | moderate | low | K81–K86 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ○ | ○ | low | moderate | low | K87–K90 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ● | ● | low | moderate | low | please contact us |
| 40–200 µ-in 1,0–5,0 µm | 40–200 µ-in 1,0–5,0 µm | 40–200 µ-in 1,0–5,0 µm | 40–80 µ-in 1,0–2,0 µm | 40–200 µ-in 1,0–5,0 µm | – | ● | ● | ● | ● | low | low | low–moderate | K122–K126 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ● | ● | low | moderate | low–moderate | K128–K129, K134–K135 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ● | ● | low | moderate | low–moderate | K131–K136 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | <48 µ-in <1,2 µm | ● | ● | ● | ● | low | moderate | low–moderate | K137–K141 |
| 40–200 µ-in 1,0–5,0 µm | 40–200 µ-in 1,0–5,0 µm | 40–200 µ-in 1,0–5,0 µm | 40–80 µ-in 1,0–2,0 µm | 40–200 µ-in 1,0–5,0 µm | – | ● | ● | ● | ● | low | low | low–moderate | K141–K145 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | – | ● | ● | ● | ● | low | moderate | low–moderate | K141–K145 |
| 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | 32–80 µ-in 0,8–2,0 µm | – | ● | ● | ○ | ○ | low | moderate | low–moderate | K116–K117 |
| – | – | – | 4–32 µ-in 0,1–0,8 µm | – | – | ● | ● | ● | ● | low | very low | moderate | K154–K158 |
| – | – | – | 4–32 µ-in 0,1–0,8 µm | – | – | ● | ● | ● | ● | low | very low | moderate | K154–K158 |

**Ra** Surface roughness

NOTE: Surface roughness values are guidelines and depend on the application, coolant situation, machine, and cutting data applied.

# RMS™ Multi-Flute Reaming Tools

RMS™ multi-flute reaming tools achieve the highest metal removal rates in 5–14mm (.197-.551") diameters. All standard reamers are ground to an ISO H7 tolerance class hole to address common applications. Specific coatings and lead configurations enable high-speed machining of steel, stainless steel, cast iron, and non-ferrous materials at accelerated speeds.

### Primary Application

Use standard SIF™ steerable hydraulic chucks or SIF adapters for easy compensation of radial runout and angular inaccuracies of the spindle to achieve the highest possible hole straightness and surface quality.

## Features and Benefits

### Higher Productivity and Profitability

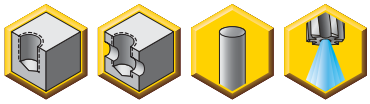
- Longer tool life with increased hole and surface quality due to lapped ground leads.
- Highest metal removal rates at higher speeds and feeds due to reaming-specific grades and substrates.
- Improved straightness and cylindrical form compared to competitive tools, and reduced vibration due to unequal flutes.
- All RMS reamers have internal coolant capability.

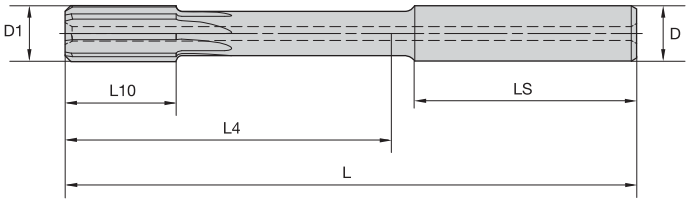
# RMS™ multi-flute reaming tools achieve highest metal removal rates from 5–14mm (.197–.551").

## Customization

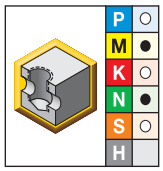
- Diameters 1,40–14,15mm (.055–.557") available with and without internal coolant in 0,001mm (.00004") steps.
- Intermediate diameters of standard program available as simple specials with short delivery time.
- Solid cermet reaming tools and tooling for heat-resistant materials are available on request.

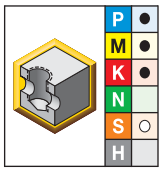
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT7 hole tolerance class available.
- Starting with Ø .393" (10mm) in IT6 hole tolerance available.





## RMS • Blind Hole Solid Carbide Reamer with Internal Coolant




● first choice
○ alternate choice

| K605 | KC6305 | D1 | | D | | L | | L4 | | L10 | | LS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | Z |
| RMS05000H7SF | RMS05000H7SF | 5,00 | .197 | 6,00 | .236 | 74,0 | 2.913 | 32,0 | 1.260 | 12,0 | .472 | 36,0 | 1.417 | 4 |
| RMS05500H7SF * | RMS05500H7SF | 5,50 | .217 | 6,00 | .236 | 74,0 | 2.913 | 32,0 | 1.260 | 12,0 | .472 | 36,0 | 1.417 | 4 |
| RMS06000H7SF | RMS06000H7SF | 6,00 | .236 | 6,00 | .236 | 74,0 | 2.913 | 32,0 | 1.260 | 12,0 | .472 | 36,0 | 1.417 | 4 |
| RMS06500H7SF | RMS06500H7SF | 6,50 | .256 | 8,00 | .315 | 91,0 | 3.583 | 49,0 | 1.930 | 16,0 | .630 | 36,0 | 1.417 | 4 |
| RMS07000H7SF | RMS07000H7SF | 7,00 | .276 | 8,00 | .315 | 91,0 | 3.583 | 49,0 | 1.930 | 16,0 | .630 | 36,0 | 1.417 | 4 |
| RMS08000H7SF | RMS08000H7SF | 8,00 | .315 | 8,00 | .315 | 91,0 | 3.583 | 49,0 | 1.930 | 16,0 | .630 | 36,0 | 1.417 | 6 |
| RMS09000H7SF | RMS09000H7SF | 9,00 | .354 | 10,00 | .394 | 103,0 | 4.055 | 57,0 | 2.240 | 20,0 | .787 | 40,0 | 1.575 | 6 |
| RMS10000H7SF | RMS10000H7SF | 10,00 | .394 | 10,00 | .394 | 103,0 | 4.055 | 57,0 | 2.240 | 20,0 | .787 | 40,0 | 1.575 | 6 |
| RMS11000H7SF | RMS11000H7SF | 11,00 | .433 | 12,00 | .472 | 118,0 | 4.646 | 67,0 | 2.640 | 24,0 | .945 | 45,0 | 1.772 | 6 |
| RMS12000H7SF | RMS12000H7SF | 12,00 | .472 | 12,00 | .472 | 118,0 | 4.646 | 67,0 | 2.640 | 24,0 | .945 | 45,0 | 1.772 | 6 |
| RMS13000H7SF | RMS13000H7SF | 13,00 | .512 | 14,00 | .551 | 132,0 | 5.197 | 81,0 | 3.190 | 28,0 | 1.102 | 45,0 | 1.772 | 6 |
| RMS14000H7SF | RMS14000H7SF | 14,00 | .551 | 14,00 | .551 | 132,0 | 5.197 | 81,0 | 3.190 | 28,0 | 1.102 | 45,0 | 1.772 | 6 |

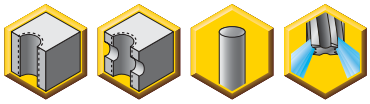
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

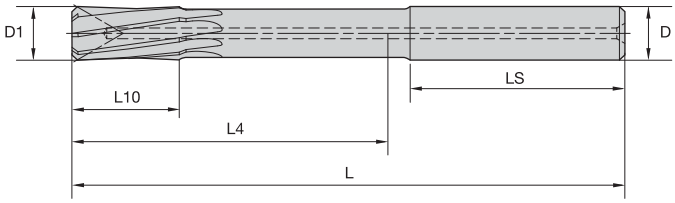
## Dimensions for Engineered-Solution Reamers

| D1 min | | D1 max | | D | | L | | L4 | | L10 | | LS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | Z |
| 14,000 | 0.5512 | 15,999 | 0.6299 | 16 | 0.630 | 147,4 | 5.80 | 92,4 | 3.64 | 7,5 | 0.30 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 17,999 | 0.7086 | 20 | 0.787 | 159,4 | 6.28 | 102,4 | 4.03 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 20,000 | 0.7874 | 20 | 0.787 | 173,4 | 6.83 | 116,4 | 4.58 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 20,001 | 0.7874 | 22,499 | 0.8858 | 20 | 0.787 | 202,4 | 7.97 | 145,4 | 5.72 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 22,500 | 0.8858 | 24,999 | 0.9842 | 20 | 0.787 | 212,4 | 8.36 | 155,4 | 6.12 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 25,000 | 0.9843 | 27,499 | 1.0826 | 25 | 0.984 | 232,4 | 9.15 | 169,4 | 6.67 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 27,500 | 1.0827 | 29,999 | 1.1811 | 25 | 0.984 | 242,4 | 9.54 | 179,4 | 7.06 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 30,000 | 1.1811 | 32,499 | 1.2795 | 25 | 0.984 | 272,4 | 10.72 | 209,4 | 8.24 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 32,500 | 1.2795 | 34,999 | 1.3779 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 35,000 | 1.3780 | 37,499 | 1.4763 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 37,500 | 1.4764 | 39,999 | 1.5748 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 40,000 | 1.5748 | 42,500 | 1.6732 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |

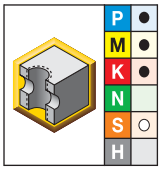
NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

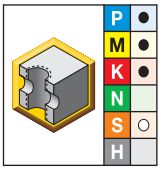
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT7 hole tolerance class available.
- Starting with Ø .393" (10mm) in IT6 hole tolerance available.





## RMS • Through Hole Solid Carbide Reamer with Internal Coolant




● first choice
○ alternate choice

| K605 | KC6305 | D1 | | D | | L | | L4 | | L10 | | LS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | Z |
| **RMS05000H7HF** | **RMS05000H7HF** | 5,00 | .197 | 6,00 | .236 | 74,0 | 2.913 | 32,0 | 1.260 | 12,0 | .472 | 36,0 | 1.417 | 4 |
| **RMS05500H7HF** | **RMS05500H7HF** | 5,50 | .217 | 6,00 | .236 | 74,0 | 2.913 | 32,0 | 1.260 | 12,0 | .472 | 36,0 | 1.417 | 4 |
| **RMS06000H7HF** | **RMS06000H7HF** | 6,00 | .236 | 6,00 | .236 | 74,0 | 2.913 | 32,0 | 1.260 | 12,0 | .472 | 36,0 | 1.417 | 4 |
| **RMS06500H7HF** | **RMS06500H7HF** | 6,50 | .256 | 8,00 | .315 | 91,0 | 3.583 | 49,0 | 1.930 | 16,0 | .630 | 36,0 | 1.417 | 4 |
| **RMS07000H7HF** | **RMS07000H7HF** | 7,00 | .276 | 8,00 | .315 | 91,0 | 3.583 | 49,0 | 1.930 | 16,0 | .630 | 36,0 | 1.417 | 4 |
| **RMS08000H7HF** | **RMS08000H7HF** | 8,00 | .315 | 8,00 | .315 | 91,0 | 3.583 | 49,0 | 1.930 | 16,0 | .630 | 36,0 | 1.417 | 6 |
| **RMS09000H7HF** * | **RMS09000H7HF** | 9,00 | .354 | 10,00 | .394 | 103,0 | 4.055 | 57,0 | 2.240 | 20,0 | .787 | 40,0 | 1.575 | 6 |
| **RMS10000H7HF** | **RMS10000H7HF** | 10,00 | .394 | 10,00 | .394 | 103,0 | 4.055 | 57,0 | 2.240 | 20,0 | .787 | 40,0 | 1.575 | 6 |
| **RMS11000H7HF** | **RMS11000H7HF** | 11,00 | .433 | 12,00 | .472 | 118,0 | 4.646 | 67,0 | 2.640 | 24,0 | .945 | 45,0 | 1.772 | 6 |
| **RMS12000H7HF** | **RMS12000H7HF** | 12,00 | .472 | 12,00 | .472 | 118,0 | 4.646 | 67,0 | 2.640 | 24,0 | .945 | 45,0 | 1.772 | 6 |
| **RMS13000H7HF** | **RMS13000H7HF** | 13,00 | .512 | 14,00 | .551 | 132,0 | 5.197 | 81,0 | 3.190 | 28,0 | 1.102 | 45,0 | 1.772 | 6 |
| **RMS14000H7HF** | **RMS14000H7HF** | 14,00 | .551 | 14,00 | .551 | 132,0 | 5.197 | 81,0 | 3.190 | 28,0 | 1.102 | 45,0 | 1.772 | 6 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Dimensions for Engineered-Solution Reamers

| D1 min | | D1 max | | D | | L | | L4 | | L10 | | LS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | Z |
| 14,000 | 0.5512 | 15,999 | 0.6299 | 16 | 0.630 | 147,4 | 5.80 | 92,4 | 3.64 | 7,5 | 0.30 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 17,999 | 0.7086 | 20 | 0.787 | 159,4 | 6.28 | 102,4 | 4.03 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 20,000 | 0.7874 | 20 | 0.787 | 173,4 | 6.83 | 116,4 | 4.58 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 20,001 | 0.7874 | 22,499 | 0.8858 | 20 | 0.787 | 202,4 | 7.97 | 145,4 | 5.72 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 22,500 | 0.8858 | 24,999 | 0.9842 | 20 | 0.787 | 212,4 | 8.36 | 155,4 | 6.12 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 25,000 | 0.9843 | 27,499 | 1.0826 | 25 | 0.984 | 232,4 | 9.15 | 169,4 | 6.67 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 27,500 | 1.0827 | 29,999 | 1.1811 | 25 | 0.984 | 242,4 | 9.54 | 179,4 | 7.06 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 30,000 | 1.1811 | 32,499 | 1.2795 | 25 | 0.984 | 272,4 | 10.72 | 209,4 | 8.24 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 32,500 | 1.2795 | 34,999 | 1.3779 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 35,000 | 1.3780 | 37,499 | 1.4763 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 37,500 | 1.4764 | 39,999 | 1.5748 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 40,000 | 1.5748 | 42,500 | 1.6732 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

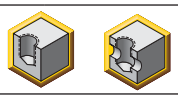
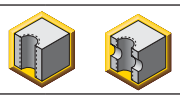
## RMS™ • Metric

straight flute

helical flute

| Material Group | | Cutting Speed – vc Range – m/min | | | | | | Metric Recommended Feed Rate per Tooth | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | K605 | | | KC6305 | | | Tool Diameter (mm) | 4,16–7,15mm | | 7,16–9,59mm | | 9,60–14,00mm | |
| | | min | Starting Value | max | min | Starting Value | max | Feed/ Tooth | min | max | min | max | min | max |
| P | 1 | 40 | **60** | 70 | 90 | **120** | 155 | mm/z | 0,05 | 0,10 | 0,05 | 0,12 | 0,05 | 0,15 |
| | 2 | 40 | **60** | 70 | 90 | **120** | 155 | mm/z | 0,05 | 0,10 | 0,05 | 0,12 | 0,05 | 0,15 |
| | 3 | 35 | **50** | 60 | 75 | **100** | 130 | mm/z | 0,05 | 0,10 | 0,05 | 0,12 | 0,05 | 0,15 |
| | 4 | 25 | **40** | 45 | 60 | **80** | 105 | mm/z | 0,05 | 0,10 | 0,05 | 0,12 | 0,05 | 0,15 |
| | 5 | 15 | **20** | 25 | 30 | **40** | 55 | mm/z | 0,04 | 0,08 | 0,04 | 0,10 | 0,04 | 0,12 |
| | 6 | 15 | **20** | 25 | 30 | **40** | 55 | mm/z | 0,04 | 0,08 | 0,04 | 0,10 | 0,04 | 0,12 |
| M | 1 | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,04 | 0,08 | 0,04 | 0,09 | 0,04 | 0,10 |
| | 2 | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,04 | 0,08 | 0,04 | 0,09 | 0,04 | 0,10 |
| | 3 | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,04 | 0,08 | 0,04 | 0,09 | 0,04 | 0,10 |
| K | 1 | 35 | **50** | 60 | 75 | **100** | 130 | mm/z | 0,05 | 0,16 | 0,05 | 0,18 | 0,05 | 0,20 |
| | 2 | 25 | **40** | 50 | 60 | **90** | 110 | mm/z | 0,05 | 0,14 | 0,05 | 0,16 | 0,05 | 0,18 |
| | 3 | 20 | **30** | 45 | 60 | **80** | 105 | mm/z | 0,05 | 0,12 | 0,05 | 0,14 | 0,05 | 0,16 |
| N | 1 | 110 | **150** | 195 | – | **–** | – | mm/z | 0,06 | 0,16 | 0,06 | 0,18 | 0,06 | 0,20 |
| | 2 | 110 | **150** | 195 | – | **–** | – | mm/z | 0,06 | 0,16 | 0,06 | 0,18 | 0,06 | 0,20 |
| | 3 | 110 | **150** | 195 | – | **–** | – | mm/z | 0,06 | 0,16 | 0,06 | 0,18 | 0,06 | 0,20 |
| | 4 | 110 | **150** | 195 | – | **–** | – | mm/z | 0,06 | 0,16 | 0,06 | 0,18 | 0,06 | 0,20 |
| | 5 | 105 | **140** | 180 | – | **–** | – | mm/z | 0,06 | 0,16 | 0,06 | 0,18 | 0,06 | 0,20 |
| S | 1 | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,04 | 0,08 | 0,04 | 0,10 | 0,04 | 0,12 |
| | 2 | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,04 | 0,08 | 0,04 | 0,10 | 0,04 | 0,12 |
| | 3 | 15 | **20** | 30 | 20 | **30** | 40 | mm/z | 0,05 | 0,10 | 0,05 | 0,12 | 0,05 | 0,15 |
| | 4 | 15 | **20** | 30 | 20 | **30** | 40 | mm/z | 0,05 | 0,10 | 0,05 | 0,12 | 0,05 | 0,15 |

## RMS™ • Inch

| Material Group | |  straight flute | | |  helical flute | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | K605 | | | KC6305 | | | Inch | | | | | | |
| | | Cutting Speed — vc | | | Cutting Speed — vc | | | Recommended Feed Rate per Tooth | | | | | | |
| | | Range — SFM | | | Range — SFM | | | Tool Diameter (inch) | .164–.281" | | .282–.378" | | .378–.551" | |
| | | min | Starting Value | max | min | Starting Value | max | Feed/ Tooth | min | max | min | max | min | max |
| P | 1 | 131 | **197** | 230 | 295 | **394** | 508 | inch/z | .002 | .004 | .002 | .005 | .002 | .006 |
| | 2 | 131 | **197** | 230 | 295 | **394** | 508 | inch/z | .002 | .004 | .002 | .005 | .002 | .006 |
| | 3 | 115 | **164** | 197 | 246 | **328** | 426 | inch/z | .002 | .004 | .002 | .005 | .002 | .006 |
| | 4 | 82 | **131** | 148 | 197 | **262** | 344 | inch/z | .002 | .004 | .002 | .005 | .002 | .006 |
| | 5 | 49 | **66** | 82 | 98 | **131** | 180 | inch/z | .002 | .003 | .002 | .004 | .002 | .005 |
| | 6 | 49 | **66** | 82 | 98 | **131** | 180 | inch/z | .002 | .003 | .002 | .004 | .002 | .005 |
| M | 1 | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .002 | .003 | .002 | .004 | .002 | .004 |
| | 2 | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .002 | .003 | .002 | .004 | .002 | .004 |
| | 3 | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .002 | .003 | .002 | .004 | .002 | .004 |
| K | 1 | 115 | **164** | 197 | 246 | **328** | 426 | inch/z | .002 | .006 | .002 | .007 | .002 | .008 |
| | 2 | 82 | **131** | 164 | 197 | **295** | 361 | inch/z | .002 | .006 | .002 | .006 | .002 | .007 |
| | 3 | 66 | **98** | 148 | 197 | **262** | 344 | inch/z | .002 | .005 | .002 | .006 | .002 | .006 |
| N | 1 | 361 | **492** | 640 | – | **–** | – | inch/z | .002 | .006 | .002 | .007 | .002 | .008 |
| | 2 | 361 | **492** | 640 | – | **–** | – | inch/z | .002 | .006 | .002 | .007 | .002 | .008 |
| | 3 | 361 | **492** | 640 | – | **–** | – | inch/z | .002 | .006 | .002 | .007 | .002 | .008 |
| | 4 | 361 | **492** | 640 | – | **–** | – | inch/z | .002 | .006 | .002 | .007 | .002 | .008 |
| | 5 | 344 | **459** | 590 | – | **–** | – | inch/z | .002 | .006 | .002 | .007 | .002 | .008 |
| S | 1 | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .002 | .003 | .002 | .004 | .002 | .005 |
| | 2 | 26 | **33** | 49 | 50 | **66** | 92 | inch/z | .002 | .003 | .002 | .004 | .002 | .005 |
| | 3 | 49 | **66** | 98 | 66 | **98** | 131 | inch/z | .002 | .004 | .002 | .005 | .002 | .006 |
| | 4 | 49 | **66** | 98 | 66 | **98** | 131 | inch/z | .002 | .004 | .002 | .005 | .002 | .006 |

# RMR™ Disc Reaming

## Primary Application

In comparison to solid carbide reamers or single-tipped reamers, RMR disc reamers are the economic alternative without disadvantages to productivity or hole quality. Combine RMR disc reamers with the Kennametal SIF™ steerable holder for best results.

## Features and Benefits

- Solid carbide disc at front instead of single-tipped carbide blanks.
- Unique coating specifically for reaming applications.
- High-speed and high-performance ready.
- Superior surface finish due to lapped ground leads.
- Improved hole straightness and roundness due to unequal flute spacing (less vibrations) and runout <3 microns.
- Helical and straight flutes for chip control in through and blind holes.
- Adjustment screw with straight-fluted RMR reamers to change internal coolant supply from axial to radial.

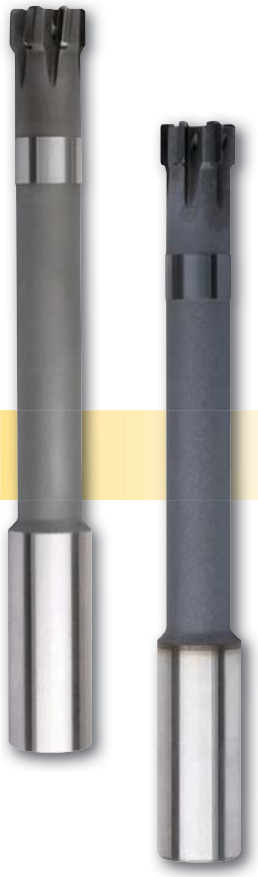
## Customization

- All diameters between 14–42,5mm (.5512–1.6732").
- Variation of leads and cylindrical margin for application-specific optimization.

# RMB™ Cermet Tipped Reamers

## Primary Application

RMB™ multi-flute reamers are tipped with cermet blanks and are available in 14–20mm (.5512–.7874") diameters off-the-shelf and up to 50mm (1.968") as custom solutions. Cermet reamers provide excellent tool life and surface finishes in steel applications. Combine RMB reamers with the Kennametal SIF™ steerable holder for best results.



## Features and Benefits

### Higher productivity and profitability

- Longer tool life with increased hole and surface quality due to lapped ground leads.
- Cermet enables highest metal removal rates at higher speeds and feeds in steel.
- Improved straightness and cylindrical form compared to competitive tools and reduced vibration due to unequal flutes.
- Adjustment screw with straight-fluted RMB reamers to change internal coolant supply from axial to radial.

### Customization

- Diameters up to 50mm (1.968") available with and without internal coolant in 0,001mm (.00004") steps.
- Intermediate diameters from standard offering available as simple specials with short delivery time.
- RMB tooling for machining heat-resistant materials available on request.

# RMB-E™ Expandable Reamers

## Primary Application

The original idea behind an expansion reamer is to achieve more regrinds. The expansion mechanism is designed for this purpose only.

The Kennametal expandable reaming system is different. It offers a completely linear expansion rate of 2 microns per 30° turn, over an expansion rate of 48 microns. The micron adjustability of this system eliminates manufacturing tolerances and enables machining to the tightest tolerances, typically achieved only by using an uncoated tool or guide pad reaming. No presetting equipment is required.

## Features and Benefits

### Precision and Productivity

- Use with SIF™ steerable chucks for KST toolholders for easy compensation of radial runout and angular inaccuracies.
- Tools are preadjusted to hit IT6 tolerance.
- Expansion range of 48 microns.
- Completely linear expansion.
- 2 microns per 30° turn.

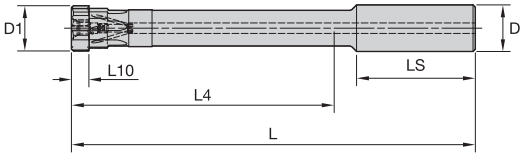
### Increased Tool Life

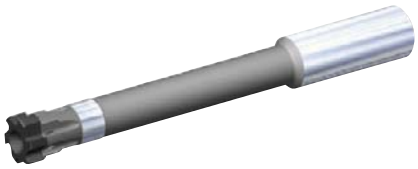
- Longer tool life at smaller tolerances.

### Customization

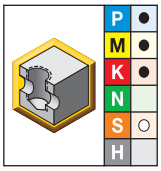
- Diameters up to 42mm (1.65") available with helical and straight flutes in 0,001mm (.00004") increments.

- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Adjustment screw to change internal coolant supply from axial to radial.



## RMR • Disc Style Reamer • Straight Fluted for Blind Holes with Internal Coolant




● first choice
○ alternate choice

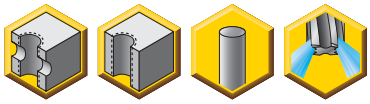
| KCU05 | D1 mm | D1 in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RMR14000H7SF** | 14,00 | .551 | 16,000 | 0.63 | 147,4 | 5.8 | 92,4 | 3.638 | 7,50 | .295 | 49,00 | 1.929 | 6 |
| **RMR15000H7SF** | 15,00 | .591 | 16,000 | 0.63 | 147,4 | 5.8 | 92,4 | 3.638 | 7,50 | .295 | 49,00 | 1.929 | 6 |
| **RMR16000H7SF** | 16,00 | .630 | 20,000 | 0.79 | 159,4 | 6.3 | 102,4 | 4.031 | 7,50 | .295 | 51,00 | 2.008 | 6 |
| **RMR17000H7SF** | 17,00 | .669 | 20,000 | 0.79 | 159,4 | 6.3 | 102,4 | 4.031 | 7,50 | .295 | 51,00 | 2.008 | 6 |
| **RMR18000H7SF** | 18,00 | .709 | 20,000 | 0.79 | 173,4 | 6.8 | 116,4 | 4.583 | 7,50 | .295 | 51,00 | 2.008 | 6 |
| **RMR19000H7SF** | 19,00 | .748 | 20,000 | 0.79 | 173,4 | 6.8 | 116,4 | 4.583 | 7,50 | .295 | 51,00 | 2.008 | 6 |
| **RMR20000H7SF** | 20,00 | .787 | 20,000 | 0.79 | 173,4 | 6.8 | 116,4 | 4.583 | 7,50 | .295 | 51,00 | 2.008 | 6 |

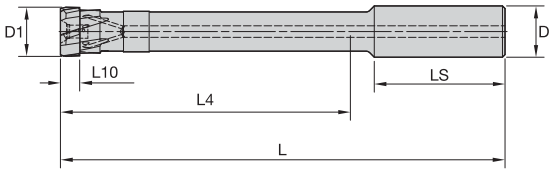
## Dimensions for Engineered-Solution Reamers

| D1 min mm | D1 min in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000 | 0.5512 | 15,999 | 0.6299 | 16 | 0.630 | 147,4 | 5.80 | 92,4 | 3.64 | 7,5 | 0.30 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 17,999 | 0.7086 | 20 | 0.787 | 159,4 | 6.28 | 102,4 | 4.03 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 20,000 | 0.7874 | 20 | 0.787 | 173,4 | 6.83 | 116,4 | 4.58 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 20,001 | 0.7874 | 22,499 | 0.8858 | 20 | 0.787 | 202,4 | 7.97 | 145,4 | 5.72 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 22,500 | 0.8858 | 24,999 | 0.9842 | 20 | 0.787 | 212,4 | 8.36 | 155,4 | 6.12 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 25,000 | 0.9843 | 27,499 | 1.0826 | 25 | 0.984 | 232,4 | 9.15 | 169,4 | 6.67 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 27,500 | 1.0827 | 29,999 | 1.1811 | 25 | 0.984 | 242,4 | 9.54 | 179,4 | 7.06 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 30,000 | 1.1811 | 32,499 | 1.2795 | 25 | 0.984 | 272,4 | 10.72 | 209,4 | 8.24 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 32,500 | 1.2795 | 34,999 | 1.3779 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 35,000 | 1.3780 | 37,499 | 1.4763 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 37,500 | 1.4764 | 39,999 | 1.5748 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 40,000 | 1.5748 | 42,500 | 1.6732 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |

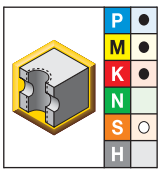
NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.





## RMR • Disc Style Reamer • Helical Fluted for Through Holes with Internal Coolant




● first choice
○ alternate choice

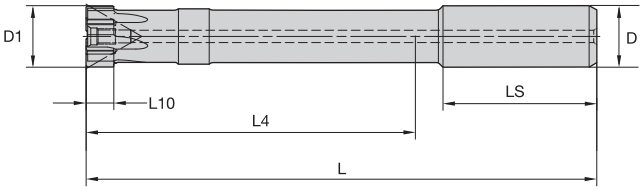
| KCU05 | D1 mm | D1 in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RMR14000H7HF** | 14,00 | .551 | 16,00 | 0.630 | 147,4 | 5.80 | 92,4 | 3.638 | 7,5 | 0.30 | 49,00 | 1.93 | 6 |
| **RMR15000H7HF** | 15,00 | .591 | 16,00 | 0.630 | 147,4 | 5.80 | 92,4 | 3.638 | 7,5 | 0.30 | 49,00 | 1.93 | 6 |
| **RMR16000H7HF** | 16,00 | .630 | 20,00 | 0.787 | 159,4 | 6.28 | 102,4 | 4.031 | 7,5 | 0.30 | 51,00 | 2.01 | 6 |
| **RMR17000H7HF** | 17,00 | .669 | 20,00 | 0.787 | 159,4 | 6.28 | 102,4 | 4.031 | 7,5 | 0.30 | 51,00 | 2.01 | 6 |
| **RMR18000H7HF** | 18,00 | .709 | 20,00 | 0.787 | 173,4 | 6.83 | 116,4 | 4.583 | 7,5 | 0.30 | 51,00 | 2.01 | 6 |
| **RMR19000H7HF** | 19,00 | .748 | 20,00 | 0.787 | 173,4 | 6.83 | 116,4 | 4.583 | 7,5 | 0.30 | 51,00 | 2.01 | 6 |
| **RMR20000H7HF** | 20,00 | .787 | 20,00 | 0.787 | 173,4 | 6.83 | 116,4 | 4.583 | 7,5 | 0.30 | 51,00 | 2.01 | 6 |

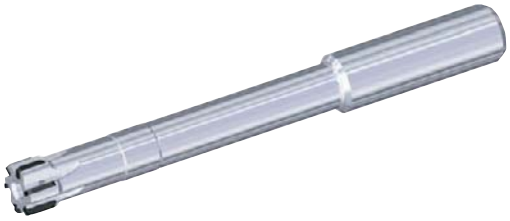
## Dimensions for Engineered-Solution Reamers

| D1 min mm | D1 min in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000 | 0.5512 | 15,999 | 0.6299 | 16 | 0.630 | 147,4 | 5.80 | 92,4 | 3.64 | 7,5 | 0.30 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 17,999 | 0.7086 | 20 | 0.787 | 159,4 | 6.28 | 102,4 | 4.03 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 20,000 | 0.7874 | 20 | 0.787 | 173,4 | 6.83 | 116,4 | 4.58 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 20,001 | 0.7874 | 22,499 | 0.8858 | 20 | 0.787 | 202,4 | 7.97 | 145,4 | 5.72 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 22,500 | 0.8858 | 24,999 | 0.9842 | 20 | 0.787 | 212,4 | 8.36 | 155,4 | 6.12 | 7,5 | 0.30 | 51 | 2.01 | 6 |
| 25,000 | 0.9843 | 27,499 | 1.0826 | 25 | 0.984 | 232,4 | 9.15 | 169,4 | 6.67 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 27,500 | 1.0827 | 29,999 | 1.1811 | 25 | 0.984 | 242,4 | 9.54 | 179,4 | 7.06 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 30,000 | 1.1811 | 32,499 | 1.2795 | 25 | 0.984 | 272,4 | 10.72 | 209,4 | 8.24 | 7,5 | 0.30 | 57 | 2.24 | 8 |
| 32,500 | 1.2795 | 34,999 | 1.3779 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 35,000 | 1.3780 | 37,499 | 1.4763 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 37,500 | 1.4764 | 39,999 | 1.5748 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |
| 40,000 | 1.5748 | 42,500 | 1.6732 | 32 | 1.260 | 272,4 | 10.72 | 205,4 | 8.09 | 7,5 | 0.30 | 61 | 2.40 | 8 |

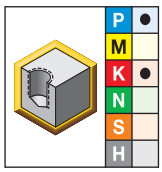
NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Adjustment screw to change internal coolant supply from axial to radial.



## RMB • Blind Hole Cermet-Tipped Reamer




● first choice
○ alternate choice

| KT6215 | D1 mm | D1 in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RMB14000H7SF** * | 14,00 | .550 | 16,00 | 0.63 | 145,0 | 5.7 | 76,0 | 2.990 | 8,0 | 0.3 | 49,0 | 1.9 | 6 |
| **RMB15000H7SF** | 15,00 | .590 | 16,00 | 0.63 | 145,0 | 5.7 | 76,0 | 2.990 | 8,0 | 0.3 | 49,0 | 1.9 | 6 |
| **RMB16000H7SF** | 16,00 | .630 | 20,00 | 0.79 | 157,0 | 6.2 | 86,0 | 3.390 | 8,0 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB17000H7SF** * | 17,00 | .670 | 20,00 | 0.79 | 157,0 | 6.2 | 86,0 | 3.390 | 8,0 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB18000H7SF** * | 18,00 | .710 | 20,00 | 0.79 | 171,0 | 6.7 | 100,0 | 3.940 | 8,0 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB19000H7SF** * | 19,00 | .750 | 20,00 | 0.79 | 171,0 | 6.7 | 100,0 | 3.940 | 8,0 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB20000H7SF** * | 20,00 | .790 | 20,00 | 0.79 | 200,0 | 7.9 | 129,0 | 5.080 | 8,0 | 0.3 | 51,0 | 2.0 | 6 |

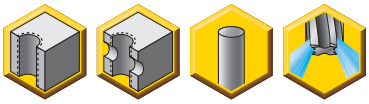
NOTE: Uncoated carbide grade K605™ and uncoated cermet grade KT325™ are available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

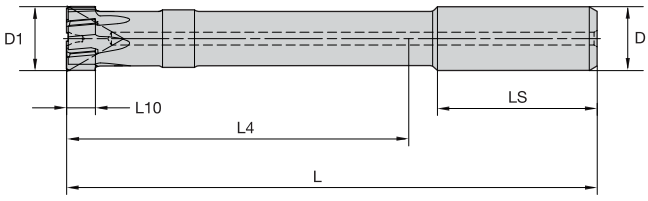
## Dimensions for Engineered-Solution Reamers

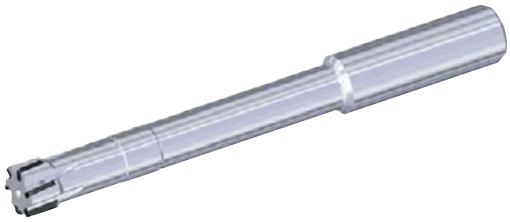
| D1 min mm | D1 min in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000 | 0.5512 | 15,999 | 0.6299 | 16 | 0.630 | 145 | 5.71 | 76 | 2.99 | 8 | 0.31 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 17,999 | 0.7086 | 20 | 0.787 | 157 | 6.18 | 86 | 3.39 | 8 | 0.31 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 19,999 | 0.7874 | 20 | 0.787 | 171 | 6.73 | 100 | 3.94 | 8 | 0.31 | 51 | 2.01 | 6 |
| 20,000 | 0.7874 | 21,999 | 0.8661 | 20 | 0.787 | 200 | 7.87 | 129 | 5.08 | 8 | 0.31 | 51 | 2.01 | 6 |
| 22,000 | 0.8661 | 25,999 | 1.0236 | 20 | 0.787 | 210 | 8.27 | 139 | 5.47 | 10 | 0.39 | 51 | 2.01 | 6 |
| 26,000 | 1.0236 | 29,999 | 1.1811 | 25 | 0.984 | 240 | 9.45 | 163 | 6.42 | 10 | 0.39 | 57 | 2.24 | 8 |
| 30,000 | 1.1811 | 32,000 | 1.2598 | 25 | 0.984 | 270 | 10.63 | 193 | 7.60 | 12 | 0.47 | 57 | 2.24 | 8 |

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Adjustment screw to change internal coolant supply from axial to radial.

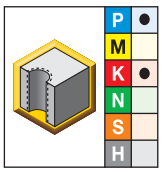






## RMB • Through Hole Cermet-Tipped Reamer




● first choice
○ alternate choice

| KT6215 | D1 mm | D1 in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RMB14000H7HF** * | 14,00 | .550 | 16,00 | 0.63 | 145,0 | 5.7 | 76,0 | 2.990 | 7,6 | 0.3 | 49,0 | 1.9 | 6 |
| **RMB15000H7HF** * | 15,00 | .590 | 16,00 | 0.63 | 145,0 | 5.7 | 76,0 | 2.990 | 7,6 | 0.3 | 49,0 | 1.9 | 6 |
| **RMB16000H7HF** | 16,00 | .630 | 20,00 | 0.79 | 157,0 | 6.2 | 86,0 | 3.390 | 7,6 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB18000H7HF** * | 18,00 | .710 | 20,00 | 0.79 | 171,0 | 6.7 | 100,0 | 3.940 | 7,6 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB19000H7HF** * | 19,00 | .750 | 20,00 | 0.79 | 171,0 | 6.7 | 100,0 | 3.940 | 7,6 | 0.3 | 51,0 | 2.0 | 6 |
| **RMB20000H7HF** * | 20,00 | .790 | 20,00 | 0.79 | 200,0 | 7.9 | 129,0 | 5.080 | 7,6 | 0.3 | 51,0 | 2.0 | 6 |

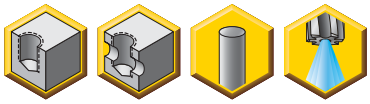
NOTE: Uncoated carbide grade K605™ is available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

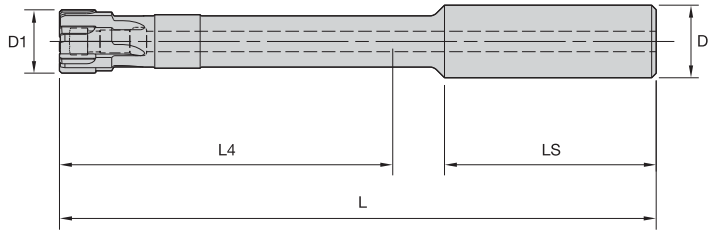
## Dimensions for Engineered-Solution Reamers

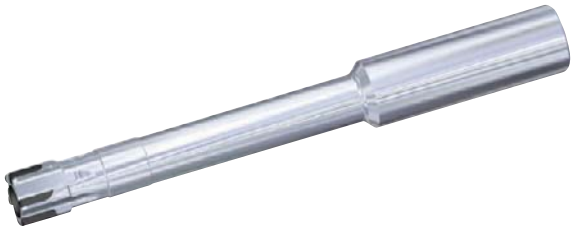
| D1 min mm | D1 min in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L4 mm | L4 in | L10 mm | L10 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000 | 0.5512 | 15,999 | 0.6299 | 16 | 0.630 | 145 | 5.71 | 76 | 2.99 | 8 | 0.31 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 17,999 | 0.7086 | 20 | 0.787 | 157 | 6.18 | 86 | 3.39 | 8 | 0.31 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 19,999 | 0.7874 | 20 | 0.787 | 171 | 6.73 | 100 | 3.94 | 8 | 0.31 | 51 | 2.01 | 6 |
| 20,000 | 0.7874 | 21,999 | 0.8661 | 20 | 0.787 | 200 | 7.87 | 129 | 5.08 | 8 | 0.31 | 51 | 2.01 | 6 |
| 22,000 | 0.8661 | 25,999 | 1.0236 | 20 | 0.787 | 210 | 8.27 | 139 | 5.47 | 10 | 0.39 | 51 | 2.01 | 6 |
| 26,000 | 1.0236 | 29,999 | 1.1811 | 25 | 0.984 | 240 | 9.45 | 163 | 6.42 | 10 | 0.39 | 57 | 2.24 | 8 |
| 30,000 | 1.1811 | 32,000 | 1.2598 | 25 | 0.984 | 270 | 10.63 | 193 | 7.60 | 12 | 0.47 | 57 | 2.24 | 8 |

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

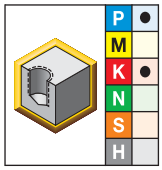
- For hole tolerance H6.
- Intermediate sizes available.
- Allen expansion screw.

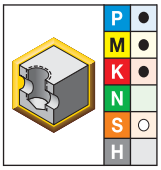




## RMB-E • Blind Hole Expansion Reamer




● first choice
○ alternate choice

| KC6005 | KC6305 | D1 mm | D1 in | D mm | D in | L mm | L in | L4 mm | L4 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RMBE14000H6SF * | RMBE14000H6SF | 14,00 | .551 | 16,00 | 0.63 | 131,5 | 5.2 | 72,5 | 2.854 | 49,0 | 1.9 | 6 |
| RMBE15000H6SF * | RMBE15000H6SF * | 15,00 | .591 | 16,00 | 0.63 | 136,5 | 5.4 | 77,5 | 3.051 | 49,0 | 1.9 | 6 |
| RMBE16000H6SF * | RMBE16000H6SF * | 16,00 | .630 | 20,00 | 0.79 | 143,5 | 5.7 | 82,5 | 3.248 | 54,4 | 2.1 | 6 |
| RMBE17000H6SF * | RMBE17000H6SF * | 17,00 | .669 | 20,00 | 0.79 | 148,5 | 5.8 | 87,5 | 3.445 | 51,0 | 2.0 | 6 |
| RMBE18000H6SF * | RMBE18000H6SF * | 18,00 | .709 | 20,00 | 0.79 | 153,5 | 6.0 | 92,5 | 3.642 | 51,0 | 2.0 | 6 |
| RMBE19000H6SF * | RMBE19000H6SF | 19,00 | .748 | 20,00 | 0.79 | 158,5 | 6.2 | 97,5 | 3.839 | 51,0 | 2.0 | 6 |
| RMBE20000H6SF * | RMBE20000H6SF * | 20,00 | .787 | 25,00 | 0.98 | 169,8 | 6.7 | 102,5 | 4.035 | 57,0 | 2.2 | 6 |

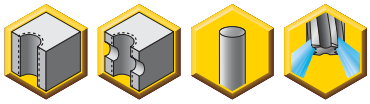
NOTE: Uncoated carbide grade K605™ and uncoated cermet grade KT325™ are available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

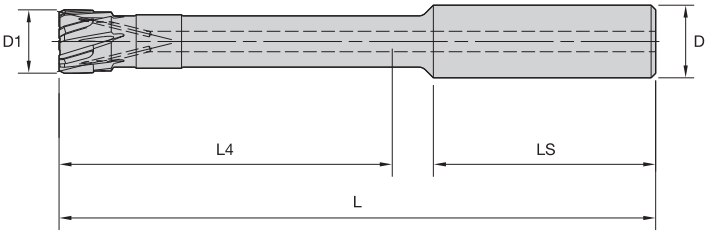
## Dimensions for Engineered-Solution Reamers

| D1 min mm | D1 min in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L4 mm | L4 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000 | 0.5512 | 14,499 | 0.5708 | 16 | 0.630 | 131,5 | 5.18 | 72,5 | 2.85 | 49 | 1.93 | 6 |
| 14,500 | 0.5709 | 14,999 | 0.5905 | 16 | 0.630 | 134,0 | 5.28 | 75,0 | 2.95 | 49 | 1.93 | 6 |
| 15,000 | 0.5906 | 15,499 | 0.6102 | 16 | 0.630 | 136,5 | 5.37 | 77,5 | 3.05 | 49 | 1.93 | 6 |
| 15,500 | 0.6102 | 15,999 | 0.6299 | 16 | 0.630 | 139,0 | 5.47 | 80,0 | 3.15 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 16,499 | 0.6496 | 20 | 0.787 | 143,5 | 5.65 | 82,5 | 3.25 | 51 | 2.01 | 6 |
| 16,500 | 0.6496 | 16,999 | 0.6693 | 20 | 0.787 | 146,0 | 5.75 | 85,0 | 3.35 | 51 | 2.01 | 6 |
| 17,000 | 0.6693 | 17,499 | 0.6889 | 20 | 0.787 | 148,5 | 5.85 | 87,5 | 3.44 | 51 | 2.01 | 6 |
| 17,500 | 0.6890 | 17,999 | 0.7086 | 20 | 0.787 | 151,0 | 5.94 | 90,0 | 3.54 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 18,499 | 0.7283 | 20 | 0.787 | 153,5 | 6.04 | 92,5 | 3.64 | 51 | 2.01 | 6 |
| 18,500 | 0.7283 | 18,999 | 0.7480 | 20 | 0.787 | 156,0 | 6.14 | 95,0 | 3.74 | 51 | 2.01 | 6 |
| 19,000 | 0.7480 | 19,499 | 0.7677 | 20 | 0.787 | 158,5 | 6.24 | 97,5 | 3.84 | 51 | 2.01 | 6 |
| 19,500 | 0.7677 | 19,999 | 0.7874 | 20 | 0.787 | 161,0 | 6.34 | 100,0 | 3.94 | 51 | 2.01 | 6 |
| 20,000 | 0.7874 | 20,499 | 0.8070 | 25 | 0.984 | 169,8 | 6.68 | 102,5 | 4.04 | 57 | 2.24 | 6 |

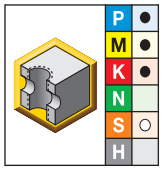
NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.
Custom expandable reamers available starting from a diameter of 8mm.

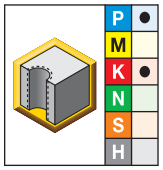
- For hole tolerance H6.
- Intermediate sizes available.
- Allen expansion screw.





## RMB-E • Through Hole Expansion Reamer




● first choice
○ alternate choice

| KC6005 | KC6305 | D1 mm | D1 in | D mm | D in | L mm | L in | L4 mm | L4 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RMBE14000H6HF | RMBE14000H6HF * | 14,00 | .551 | 16,00 | 0.63 | 131,5 | 5.2 | 72,5 | 2.854 | 49,0 | 1.9 | 6 |
| RMBE15000H6HF * | RMBE15000H6HF | 15,00 | .591 | 16,00 | 0.63 | 136,5 | 5.4 | 77,5 | 3.051 | 49,0 | 1.9 | 6 |
| RMBE16000H6HF * | RMBE16000H6HF | 16,00 | .630 | 20,00 | 0.79 | 143,5 | 5.7 | 82,5 | 3.248 | 51,0 | 2.0 | 6 |
| RMBE17000H6HF * | RMBE17000H6HF * | 17,00 | .669 | 20,00 | 0.79 | 148,5 | 5.8 | 87,5 | 3.445 | 51,0 | 2.0 | 6 |
| RMBE18000H6HF * | RMBE18000H6HF | 18,00 | .709 | 20,00 | 0.79 | 153,5 | 6.0 | 92,5 | 3.642 | 51,0 | 2.0 | 6 |
| RMBE19000H6HF * | RMBE19000H6HF * | 19,00 | .748 | 20,00 | 0.79 | 158,5 | 6.2 | 97,5 | 3.839 | 51,0 | 2.0 | 6 |
| RMBE20000H6HF * | RMBE20000H6HF | 20,00 | .787 | 25,00 | 0.98 | 169,8 | 6.7 | 102,5 | 4.035 | 57,0 | 2.2 | 6 |

NOTE: Uncoated carbide grade K605™ is available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

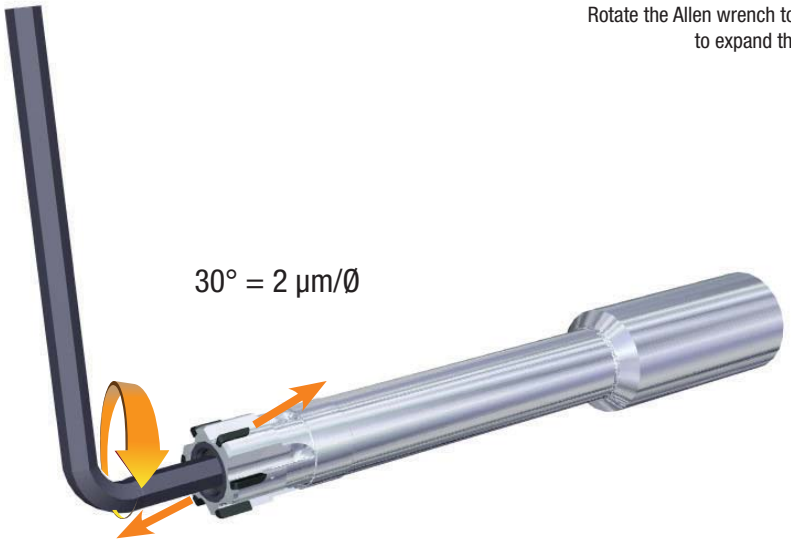
## Dimensions for Engineered-Solution Reamers

| D1 min mm | D1 min in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L4 mm | L4 in | LS mm | LS in | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,000 | 0.5512 | 14,499 | 0.5708 | 16 | 0.630 | 131,5 | 5.18 | 72,5 | 2.85 | 49 | 1.93 | 6 |
| 14,500 | 0.5709 | 14,999 | 0.5905 | 16 | 0.630 | 134,0 | 5.28 | 75,0 | 2.95 | 49 | 1.93 | 6 |
| 15,000 | 0.5906 | 15,499 | 0.6102 | 16 | 0.630 | 136,5 | 5.37 | 77,5 | 3.05 | 49 | 1.93 | 6 |
| 15,500 | 0.6102 | 15,999 | 0.6299 | 16 | 0.630 | 139,0 | 5.47 | 80,0 | 3.15 | 49 | 1.93 | 6 |
| 16,000 | 0.6299 | 16,499 | 0.6496 | 20 | 0.787 | 143,5 | 5.65 | 82,5 | 3.25 | 51 | 2.01 | 6 |
| 16,500 | 0.6496 | 16,999 | 0.6693 | 20 | 0.787 | 146,0 | 5.75 | 85,0 | 3.35 | 51 | 2.01 | 6 |
| 17,000 | 0.6693 | 17,499 | 0.6889 | 20 | 0.787 | 148,5 | 5.85 | 87,5 | 3.44 | 51 | 2.01 | 6 |
| 17,500 | 0.6890 | 17,999 | 0.7086 | 20 | 0.787 | 151,0 | 5.94 | 90,0 | 3.54 | 51 | 2.01 | 6 |
| 18,000 | 0.7087 | 18,499 | 0.7283 | 20 | 0.787 | 153,5 | 6.04 | 92,5 | 3.64 | 51 | 2.01 | 6 |
| 18,500 | 0.7283 | 18,999 | 0.7480 | 20 | 0.787 | 156,0 | 6.14 | 95,0 | 3.74 | 51 | 2.01 | 6 |
| 19,000 | 0.7480 | 19,499 | 0.7677 | 20 | 0.787 | 158,5 | 6.24 | 97,5 | 3.84 | 51 | 2.01 | 6 |
| 19,500 | 0.7677 | 19,999 | 0.7874 | 20 | 0.787 | 161,0 | 6.34 | 100,0 | 3.94 | 51 | 2.01 | 6 |
| 20,000 | 0.7874 | 20,499 | 0.8070 | 25 | 0.984 | 169,8 | 6.68 | 102,5 | 4.04 | 57 | 2.24 | 6 |

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.
Custom expandable reamers available starting with a diameter of 8mm.

## To Expand

Rotate the Allen wrench to the right to expand the reamer.




## To Contract

Expansion always reversible: Rotate the Allen wrench to the left to contract the reamer.

- 30° = 2 µm linear expansion.
- 720° = 2 revolutions; = 48 µm maximum expansion.
- Hard stop after 720° expansion. You cannot over expand!
- The expansion occurs in the elastic material behavior.
- You cannot reduce the diameter below D1.

## RMR • Metric

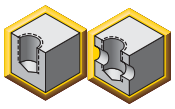
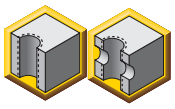
| Material Group | | KCU05 Cutting Speed — vc Range — m/min | | | Metric Recommended Feed Rate per Tooth | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Tool Diameter (mm) | 14,00–19,99mm | | 20,00–32,00mm | |
| | | min | Starting Value | max | Feed/Tooth | min | max | min | max |
| P | 1 | 90 | **120** | 155 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 2 | 90 | **120** | 155 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 3 | 75 | **100** | 130 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 4 | 50 | **80** | 105 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 5 | 30 | **40** | 60 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 6 | 30 | **40** | 60 | mm/z | 0,08 | 0,20 | 0,08 | 0,22 |
| M | 1 | 15 | **20** | 40 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 |
| | 2 | 15 | **20** | 30 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 |
| | 3 | 15 | **20** | 30 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 |
| K | 1 | 80 | **110** | 130 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 2 | 65 | **90** | 110 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 |
| | 3 | 50 | **70** | 90 | mm/z | 0,10 | 0,20 | 0,10 | 0,25 |
| S | 1 | 15 | **20** | 30 | mm/z | 0,10 | 0,18 | 0,10 | 0,20 |
| | 2 | 15 | **20** | 30 | mm/z | 0,10 | 0,18 | 0,10 | 0,20 |
| | 3 | 20 | **30** | 40 | mm/z | 0,10 | 0,20 | 0,10 | 0,20 |
| | 4 | 20 | **30** | 40 | mm/z | 0,10 | 0,20 | 0,10 | 0,20 |

Hole Finishing

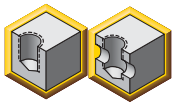
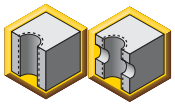
## RMR • Inch

| Material Group | | KCU05 Cutting Speed — vc Range — SFM | | | Inch Recommended Feed Rate per Tooth | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Tool Diameter (inch) | .551–.787" | | .787–1.260" | |
| | | min | Starting Value | max | Feed/Tooth | min | max | min | max |
| P | 1 | 295 | **394** | 509 | inch/z | .004 | .009 | .004 | .010 |
| | 2 | 295 | **394** | 509 | inch/z | .004 | .009 | .004 | .010 |
| | 3 | 246 | **328** | 427 | inch/z | .004 | .009 | .004 | .010 |
| | 4 | 164 | **262** | 344 | inch/z | .004 | .009 | .004 | .010 |
| | 5 | 98 | **131** | 197 | inch/z | .004 | .009 | .004 | .010 |
| | 6 | 98 | **131** | 197 | inch/z | .003 | .008 | .003 | .009 |
| M | 1 | 49 | **66** | 131 | inch/z | .003 | .007 | .003 | .008 |
| | 2 | 49 | **66** | 98 | inch/z | .003 | .007 | .003 | .008 |
| | 3 | 49 | **66** | 98 | inch/z | .003 | .007 | .003 | .008 |
| K | 1 | 262 | **361** | 427 | inch/z | .004 | .009 | .004 | .010 |
| | 2 | 213 | **295** | 361 | inch/z | .004 | .009 | .004 | .010 |
| | 3 | 164 | **230** | 295 | inch/z | .004 | .008 | .004 | .010 |
| S | 1 | 49 | **66** | 98 | inch/z | .004 | .007 | .004 | .008 |
| | 2 | 49 | **66** | 98 | inch/z | .004 | .007 | .004 | .008 |
| | 3 | 66 | **98** | 131 | inch/z | .004 | .008 | .004 | .008 |
| | 4 | 66 | **98** | 131 | inch/z | .004 | .008 | .004 | .008 |

## RMB™ and RMB-E™ • Metric

| Material Group | | RMB™ — Cermet Tipped | | | | | | RMB-E™ | | | | | | Metric | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | |  | | |  | | | | | | | | |
| | | straight flute | | | helical flute | | | straight flute | | | helical flute | | | | | | | | |
| | | KT6215 | | | KT6215 | | | K605 | | | KC6305 | | | | | | | | |
| | | Cutting Speed — vc | | | | | | | | | | | | Recommended Feed Rate per Tooth | | | | | |
| | | Range — m/min | | | | | | | | | | | | Tool Diameter (mm) | 14,00–19,99mm | | 20,00–32,00mm | | |
| Material Group | | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | Feed/ Tooth | min | max | min | max | |
| P | 1 | 150 | **180** | 210 | 180 | **210** | 240 | 40 | **60** | 70 | 90 | **120** | 155 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 | |
| | 2 | 150 | **180** | 210 | 180 | **210** | 240 | 40 | **60** | 70 | 90 | **120** | 155 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 | |
| | 3 | 130 | **160** | 180 | 150 | **180** | 210 | 30 | **40** | 50 | 75 | **100** | 130 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 | |
| | 4 | 100 | **130** | 150 | 120 | **150** | 170 | 25 | **40** | 45 | 50 | **80** | 105 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 | |
| | 5 | 80 | **100** | 120 | 100 | **130** | 150 | 10 | **20** | 30 | 30 | **40** | 55 | mm/z | 0,08 | 0,20 | 0,08 | 0,22 | |
| | 6 | 80 | **100** | 120 | 100 | **130** | 150 | 10 | **20** | 30 | 30 | **40** | 55 | mm/z | 0,08 | 0,20 | 0,08 | 0,22 | |
| M | 1 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | |
| | 2 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | |
| | 3 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | |
| K | 1 | 150 | **180** | 200 | 180 | **210** | 240 | 30 | **50** | 60 | 80 | **110** | 130 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 | |
| | 2 | 130 | **160** | 180 | 150 | **180** | 210 | 25 | **40** | 45 | 65 | **90** | 110 | mm/z | 0,10 | 0,22 | 0,10 | 0,25 | |
| | 3 | 100 | **130** | 160 | 120 | **150** | 170 | 20 | **30** | 40 | 50 | **70** | 90 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | |
| N | 1 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | |
| | 2 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | |
| | 3 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | |
| | 4 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | |
| | 5 | – | **–** | – | – | **–** | – | 105 | **140** | 180 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | |
| S | 1 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,10 | 0,18 | 0,10 | 0,20 | |
| | 2 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,10 | 0,18 | 0,10 | 0,20 | |
| | 3 | – | **–** | – | – | **–** | – | 15 | **20** | 30 | 20 | **30** | 40 | mm/z | 0,10 | 0,20 | 0,10 | 0,20 | |
| | 4 | – | **–** | – | – | **–** | – | 15 | **20** | 30 | 20 | **30** | 40 | mm/z | 0,10 | 0,20 | 0,10 | 0,20 | |

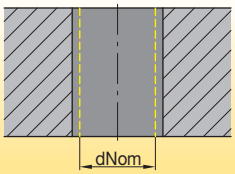
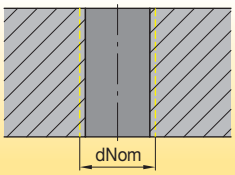
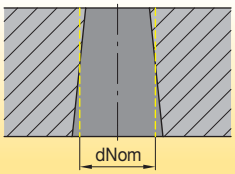
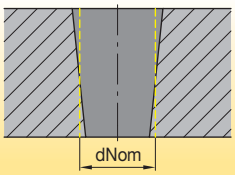
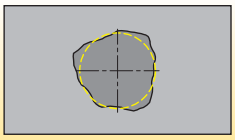
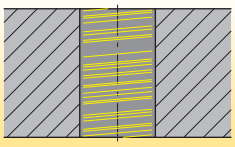
## RMB™ and RMB-E™ • Inch

| | | RMB — Cermet Tipped | | | | | | RMB-E | | | | | | Inch | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | |  | | |  | | | | | | | |
| | | straight flute | | | helical flute | | | straight flute | | | helical flute | | | | | | | |
| | | KT6215 | | | KT6215 | | | K605 | | | KC6305 | | | | | | | |
| | | Cutting Speed — vc | | | | | | | | | | | | Recommended Feed Rate per Tooth | | | | |
| | | Range — SFM | | | | | | | | | | | | Tool Diameter (inch) | .551–.787" | | .787–1.260" | |
| Material Group | | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | Feed/ Tooth | min | max | min | max |
| P | 1 | 492 | **590** | 689 | 590 | **689** | 787 | 131 | **197** | 230 | 295 | **394** | 508 | inch/z | .004 | .009 | .004 | .010 |
| | 2 | 492 | **590** | 689 | 590 | **689** | 787 | 131 | **197** | 230 | 295 | **394** | 508 | inch/z | .004 | .009 | .004 | .010 |
| | 3 | 426 | **525** | 590 | 492 | **590** | 689 | 98 | **131** | 164 | 246 | **328** | 426 | inch/z | .004 | .009 | .004 | .010 |
| | 4 | 328 | **426** | 492 | 394 | **492** | 558 | 82 | **131** | 148 | 164 | **262** | 344 | inch/z | .004 | .009 | .004 | .010 |
| | 5 | 262 | **328** | 394 | 328 | **426** | 492 | 33 | **66** | 98 | 98 | **131** | 180 | inch/z | .003 | .008 | .003 | .009 |
| | 6 | 262 | **328** | 394 | 328 | **426** | 492 | 33 | **66** | 98 | 98 | **131** | 180 | inch/z | .003 | .008 | .003 | .009 |
| M | 1 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .003 | .007 | .003 | .008 |
| | 2 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .003 | .007 | .003 | .008 |
| | 3 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .003 | .007 | .003 | .008 |
| K | 1 | 492 | **590** | 656 | 590 | **689** | 787 | 98 | **164** | 197 | 262 | **361** | 426 | inch/z | .004 | .009 | .004 | .010 |
| | 2 | 426 | **525** | 590 | 492 | **590** | 689 | 82 | **131** | 148 | 213 | **295** | 361 | inch/z | .004 | .009 | .004 | .010 |
| | 3 | 328 | **426** | 525 | 394 | **492** | 558 | 66 | **98** | 131 | 164 | **230** | 295 | inch/z | .004 | .008 | .004 | .009 |
| N | 1 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 |
| | 2 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 |
| | 3 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 |
| | 4 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 |
| | 5 | – | **–** | – | – | **–** | – | 344 | **459** | 590 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 |
| S | 1 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .004 | .007 | .004 | .008 |
| | 2 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .004 | .007 | .004 | .008 |
| | 3 | – | **–** | – | – | **–** | – | 49 | **66** | 98 | 66 | **98** | 131 | inch/z | .004 | .008 | .004 | .008 |
| | 4 | – | **–** | – | – | **–** | – | 49 | **66** | 98 | 66 | **98** | 131 | inch/z | .004 | .008 | .004 | .008 |

## Reaming Allowances for Multi-Blade Reaming

| | | reaming allowances in diameter | | | | | |
|---|---|---|---|---|---|---|---|
| | | mm | | | in | | |
| mm | in | min | middle | max | min | middle | max |
| 1,40–4,80 | .055–.189 | 0,08 | 0,12 | 0,20 | .003 | .005 | .008 |
| 4,81–9,59 | .189–.378 | 0,10 | 0,15 | 0,25 | .004 | .006 | .010 |
| 9,60–15,00 | .378–.591 | 0,15 | 0,20 | 0,30 | .006 | .008 | .012 |
| 15,00–20,00 | .591–.787 | 0,15 | 0,25 | 0,35 | .006 | .010 | .014 |
| 20,00–50,00 | .787–1.969 | 0,20 | 0,30 | 0,40 | .008 | .012 | .016 |

## Troubleshooting

| Problem | | Cause | Possible Remedy |
|---|---|---|---|
| Hole diameter too large. |  | • Reaming tool running out-of-center.<br>• Concentricity of pilot hole and ream machining unsatisfactory.<br>• Built-up edge.<br>• Unsuitable cooling lubricant.<br>• Reaming tool diameter too large. | • Use equalizing adapter.<br>• Re-align, use floating head.<br>• Change cooling lubricant.<br>• Change cutting speed.<br>• Measure reamers and send for repairs. |
| Hole diameter too small. |  | • Reamer worn.<br>• Unsuitable cooling lubricant.<br>• Reaming allowance too small. | • Replace and refit tool.<br>• Change cooling lubricant.<br>• Increase reaming allowance. |
| Conical hole profile wider towards drill runout. |  | • Concentricity of pilot hole and reaming unsatisfactory.<br>• Positioning accuracy of pilot hole to reaming. | • Re-align, use equalizing adapter.<br>• Correct positioning accuracy. |
| Conical hole profile wider at drill entry point. |  | • Concentricity of pilot hole and reaming unsatisfactory.<br>• Reaming tool skim cutting with ledger. | • Re-align, use floating head.<br>• Securely clamp reaming tool axially. |
| Hole out-of-center and/or showing chatter marks. |  | • Reaming tool running out-of-center.<br>• Slanted cutting surface/asymmetrical cutting.<br>• Workpiece twisted. | • Use equalizing adapter.<br>• Spot face as drilling preparation.<br>• Take the direction of impact into account when clamping the workpiece. |
| Surface quality does not meet specification. | | • Tool cutters worn.<br>• Reaming tool running out-of-center.<br>• Incorrect technology data (cutting parameters).<br>• Inadequate chip evacuation. | • Use equalizing adapter.<br>• Re-align, use floating head.<br>• Change cooling lubricant.<br>• Change cutting speed.<br>• Measure reamers and send for repairs. |
| Feed grooves |  | • Built-up edge. | • Change cooling lubricant.<br>• Change cutting speed. |

# RHR™ Disc Reaming

## Primary Application

The RHR modular disc reaming system combines the productivity of disc reamers with the idea of interchangeable reaming heads. Only five coupling sizes cover the whole diameter range, a comfortable interchange mechanism, and no need for setting fixtures or repeat measurements makes this system very attractive. Combine RHR disc reamers with the Kennametal SIF™ steerable holder for the best results.

## Features and Benefits

- Solid carbide disc at front instead of single-tipped carbide blanks.
- Unique coating specifically for reaming applications.
- Unique patented coupling system enables same runout accuracy as monoblock systems (<3 microns), eliminating repeat runout checking.
- Quick radial clamping change-outs, even in narrow situations.
- No fixture for clamping or dismounting necessary.
- Helical and straight flutes for chip control in through and blind holes.
- Bodies available with straight shank, HSK back end, and SIF connection.

## Customization

- All diameters between 14–42,5mm (.5512–1.6732").
- Variation of leads and cylindrical margin for application-specific optimization.

# RHM™ Modular Cermet-Tipped System

## Primary Application

RHM modular reamers are tipped with cermet blanks and available in diameters from 14–42,5mm (.5512–1.6732") as standards, and up to 50mm (1.968") as custom solutions. Cermet reamers provide excellent tool life and surface finishes in steel applications. Combine RHM module reamers with the Kennametal SIF™ steerable holder for best results.

Use SIF steerable hydraulic chucks or SIF adapters for easy compensation of radial runout and angular inaccuracies of the spindle to achieve the highest possible hole straightness and surface quality. Radial or axial tool bodies are available at diameter 20mm.

## Features and Benefits

### Taper-Face Contact with KST Coupling

- Symmetrical torque transmission near head.
- Higher feed rate than conventional reaming tools.
- Better surface quality and tool life due to less tendency to vibrate.
- No need for head to body orientation.

### Customization

- Diameters up to 50mm (1.968") available with and without internal coolant in 0,001mm (.00004") steps.
- Intermediate diameters from standard offering available with short delivery time.
- RHM tooling for machining heat-resistant materials, as well as different lengths and couplings or shanks, available on request.

### Higher productivity and profitability

- Longer tool life with increased hole and surface quality due to lapped ground leads.
- Cermet enables highest metal removal rates at higher speeds and feeds in steel.
- Improved straightness and cylindrical form compared to competitive tools and reduced vibration tendency due to unequal flutes.

# RHM-E™ Expandable Reamers

## Primary Application

The original idea behind an expansion reamer is to achieve more regrinds. The expansion mechanism is designed for this purpose only.

The Kennametal expandable reaming system is different. Over an expansion range of 48 microns, it comes with a completely linear expansion rate of 2 microns per 30° turn. The micron-adjustability of this system eliminates manufacturing tolerances and thus allows for machining tightest tolerances, usually only achievable by using an uncoated tool or guide pad reaming. No pre-setting equipment is required.

## Features and Benefits

### Precision and Productivity

- Use with SIF™ steerable chucks for KST toolholders for easy compensation of radial runout and angular inaccuracies.
- Tools are preadjusted to hit IT6 tolerance.
- Expansion range of 48 microns.
- Completely linear expansion.
- 2 microns per 30° turn.

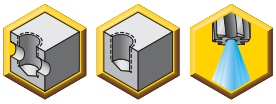
### Increased Tool Life

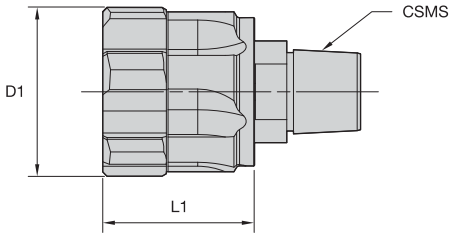
- Longer tool life at smaller tolerances.

### Customization

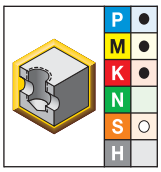
- Diameters up to 42mm (1.65") available with helical and straight flutes in 0,001mm (.00004") increments.

- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Please order lock screw and retention knob separately.





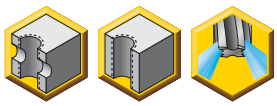
## RHR • Disc Style Reamer Head • Straight Fluted for Blind Holes with Internal Coolant

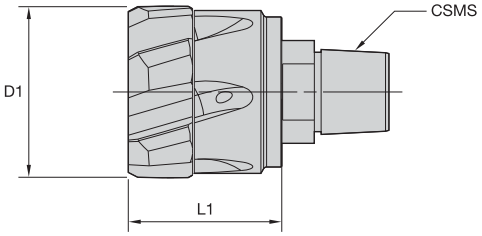



● first choice
○ alternate choice

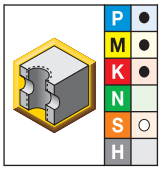
| KCU05 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|
| **RHR14000KST115H7SF** | KST115 | 14,00 | .551 | 17,90 | .705 | 6 |
| **RHR15000KST115H7SF** | KST115 | 15,00 | .591 | 17,90 | .705 | 6 |
| **RHR16000KST135H7SF** | KST135 | 16,00 | .630 | 17,90 | .705 | 6 |
| **RHR17000KST135H7SF** | KST135 | 17,00 | .669 | 17,90 | .705 | 6 |
| **RHR18000KST155H7SF** | KST155 | 18,00 | .709 | 17,90 | .705 | 6 |
| **RHR19000KST155H7SF** | KST155 | 19,00 | .748 | 17,90 | .705 | 6 |
| **RHR20000KST175H7SF** | KST175 | 20,00 | .787 | 17,90 | .705 | 6 |
| **RHR21000KST175H7SF** | KST175 | 21,00 | .827 | 17,90 | .705 | 6 |
| **RHR22000KST175H7SF** | KST175 | 22,00 | .866 | 17,90 | .705 | 6 |
| **RHR23000KST200H7SF** | KST200 | 23,00 | .906 | 18,90 | .744 | 6 |
| **RHR24000KST200H7SF** | KST200 | 24,00 | .945 | 18,90 | .744 | 6 |
| **RHR25000KST200H7SF** | KST200 | 25,00 | .984 | 18,90 | .744 | 8 |
| **RHR26000KST200H7SF** | KST200 | 26,00 | 1.024 | 18,90 | .744 | 8 |
| **RHR27000KST200H7SF** | KST200 | 27,00 | 1.063 | 18,90 | .744 | 8 |
| **RHR28000KST250H7SF** | KST250 | 28,00 | 1.102 | 18,90 | .744 | 8 |
| **RHR29000KST250H7SF** | KST250 | 29,00 | 1.142 | 18,90 | .744 | 8 |
| **RHR30000KST250H7SF** | KST250 | 30,00 | 1.181 | 18,90 | .744 | 8 |
| **RHR31000KST250H7SF** | KST250 | 31,00 | 1.221 | 18,90 | .744 | 8 |
| **RHR32000KST250H7SF** | KST250 | 32,00 | 1.260 | 18,90 | .744 | 8 |
| **RHR33000KST300H7SF** | KST300 | 33,00 | 1.299 | 20,40 | .803 | 8 |
| **RHR34000KST300H7SF** | KST300 | 34,00 | 1.339 | 20,40 | .803 | 8 |
| **RHR35000KST300H7SF** | KST300 | 35,00 | 1.378 | 20,40 | .803 | 8 |
| **RHR36000KST300H7SF** | KST300 | 36,00 | 1.417 | 20,40 | .803 | 8 |
| **RHR37000KST300H7SF** | KST300 | 37,00 | 1.457 | 20,40 | .803 | 8 |
| **RHR38000KST350H7SF** | KST350 | 38,00 | 1.496 | 20,40 | .803 | 8 |
| **RHR39000KST350H7SF** | KST350 | 39,00 | 1.535 | 20,40 | .803 | 8 |
| **RHR40000KST350H7SF** | KST350 | 40,00 | 1.575 | 20,40 | .803 | 8 |
| **RHR41000KST350H7SF** | KST350 | 41,00 | 1.614 | 20,40 | .803 | 8 |
| **RHR42000KST350H7SF** | KST350 | 42,00 | 1.654 | 20,40 | .803 | 8 |

- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Please order lock screw and retention knob separately.





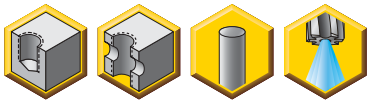
## RHR • Disc Style Reamer Head • Helical Fluted for Through Holes with Internal Coolant

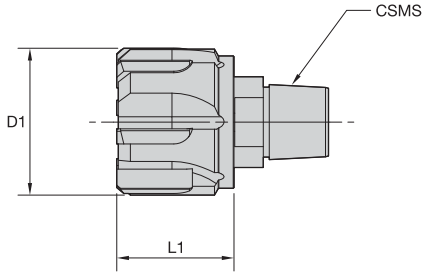



● first choice
○ alternate choice

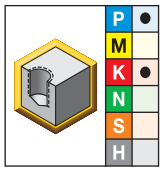
| KCU05 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|
| **RHR14000KST115H7HF** | KST115 | 14,00 | .551 | 17,90 | .705 | 6 |
| **RHR15000KST115H7HF** | KST115 | 15,00 | .591 | 17,90 | .705 | 6 |
| **RHR16000KST135H7HF** | KST135 | 16,00 | .630 | 17,90 | .705 | 6 |
| **RHR17000KST135H7HF** | KST135 | 17,00 | .669 | 17,90 | .705 | 6 |
| **RHR18000KST155H7HF** | KST155 | 18,00 | .709 | 17,90 | .705 | 6 |
| **RHR19000KST155H7HF** | KST155 | 19,00 | .748 | 17,90 | .705 | 6 |
| **RHR20000KST175H7HF** | KST175 | 20,00 | .787 | 17,90 | .705 | 6 |
| **RHR21000KST175H7HF** | KST175 | 21,00 | .827 | 17,90 | .705 | 6 |
| **RHR22000KST175H7HF** | KST175 | 22,00 | .866 | 17,90 | .705 | 6 |
| **RHR23000KST200H7HF** | KST200 | 23,00 | .906 | 18,90 | .744 | 6 |
| **RHR24000KST200H7HF** | KST200 | 24,00 | .945 | 18,90 | .744 | 6 |
| **RHR25000KST200H7HF** | KST200 | 25,00 | .984 | 18,90 | .744 | 8 |
| **RHR26000KST200H7HF** | KST200 | 26,00 | 1.024 | 18,90 | .744 | 8 |
| **RHR27000KST200H7HF** | KST200 | 27,00 | 1.063 | 18,90 | .744 | 8 |
| **RHR28000KST250H7HF** | KST250 | 28,00 | 1.102 | 18,90 | .744 | 8 |
| **RHR29000KST250H7HF** | KST250 | 29,00 | 1.142 | 18,90 | .744 | 8 |
| **RHR30000KST250H7HF** | KST250 | 30,00 | 1.181 | 18,90 | .744 | 8 |
| **RHR31000KST250H7HF** | KST250 | 31,00 | 1.221 | 18,90 | .744 | 8 |
| **RHR32000KST250H7HF** | KST250 | 32,00 | 1.260 | 18,90 | .744 | 8 |
| **RHR33000KST300H7HF** | KST300 | 33,00 | 1.299 | 20,40 | .803 | 8 |
| **RHR34000KST300H7HF** | KST300 | 34,00 | 1.339 | 20,40 | .803 | 8 |
| **RHR35000KST300H7HF** | KST300 | 35,00 | 1.378 | 20,40 | .803 | 8 |
| **RHR36000KST300H7HF** | KST300 | 36,00 | 1.417 | 20,40 | .803 | 8 |
| **RHR37000KST300H7HF** | KST300 | 37,00 | 1.457 | 20,40 | .803 | 8 |
| **RHR38000KST350H7HF** | KST350 | 38,00 | 1.496 | 20,40 | .803 | 8 |
| **RHR39000KST350H7HF** | KST350 | 39,00 | 1.535 | 20,40 | .803 | 8 |
| **RHR40000KST350H7HF** | KST350 | 40,00 | 1.575 | 20,40 | .803 | 8 |
| **RHR41000KST350H7HF** | KST350 | 41,00 | 1.614 | 20,40 | .803 | 8 |
| **RHR42000KST350H7HF** | KST350 | 42,00 | 1.654 | 20,40 | .803 | 8 |

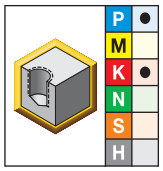
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Please order lock screw for axial use or retention knob separately.





## RHM • Blind Hole Cermet Tipped Reamer



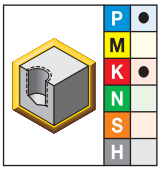



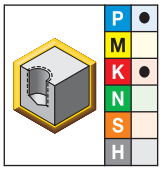

● first choice
○ alternate choice

| KT325 | KT6215 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|---|
| RHM14000KST115H7SF * | RHM14000KST115H7SF | KST115 | 14,00 | .551 | 13,50 | .531 | 6 |
| RHM14288KST115H7SF * | RHM14288KST115H7SF | KST115 | 14,29 | .563 | 13,50 | .531 | 6 |
| RHM15000KST115H7SF * | – | KST115 | 15,00 | .591 | 13,50 | .531 | 6 |
| RHM15875KST115H7SF * | RHM15875KST115H7SF | KST115 | 15,88 | .625 | 13,50 | .531 | 6 |
| RHM16000KST135H7SF * | RHM16000KST135H7SF | KST135 | 16,00 | .630 | 13,50 | .531 | 6 |
| RHM17000KST135H7SF * | RHM17000KST135H7SF * | KST135 | 17,00 | .669 | 15,50 | .610 | 6 |
| RHM17463KST135H7SF * | – | KST135 | 17,46 | .688 | 15,50 | .610 | 6 |
| RHM18000KST155H7SF | RHM18000KST155H7SF | KST155 | 18,00 | .709 | 15,50 | .610 | 6 |
| RHM19000KST155H7SF * | – | KST155 | 19,00 | .748 | 15,50 | .610 | 6 |
| – | RHM19050KST155H7SF * | KST155 | 19,05 | .750 | 15,50 | .610 | 6 |
| RHM20000KST175H7SF | RHM20000KST175H7SF | KST175 | 20,00 | .787 | 15,50 | .610 | 6 |
| RHM20640KST175H7SF * | RHM20640KST175H7SF * | KST175 | 20,64 | .813 | 15,50 | .610 | 6 |
| RHM21000KST175H7SF * | RHM21000KST175H7SF | KST175 | 21,00 | .827 | 15,50 | .610 | 6 |
| – | RHM22000KST175H7SF * | KST175 | 22,00 | .866 | 15,50 | .610 | 6 |
| RHM22230KST175H7SF * | RHM22230KST175H7SF * | KST175 | 22,23 | .875 | 15,50 | .610 | 6 |
| RHM22500KST200H7SF * | RHM22500KST200H7SF * | KST200 | 22,50 | .886 | 16,50 | .650 | 6 |
| RHM23000KST200H7SF * | RHM23000KST200H7SF * | KST200 | 23,00 | .906 | 16,50 | .650 | 6 |
| RHM23810KST200H7SF * | RHM23810KST200H7SF * | KST200 | 23,81 | .937 | 16,50 | .650 | 6 |
| RHM24000KST200H7SF * | RHM24000KST200H7SF * | KST200 | 24,00 | .945 | 16,50 | .650 | 6 |
| RHM25000KST200H7SF * | RHM25000KST200H7SF | KST200 | 25,00 | .984 | 16,50 | .650 | 6 |
| RHM25400KST200H7SF * | RHM25400KST200H7SF * | KST200 | 25,40 | 1.000 | 16,50 | .650 | 6 |
| RHM26000KST200H7SF * | – | KST200 | 26,00 | 1.024 | 16,50 | .650 | 8 |
| RHM26990KST200H7SF * | RHM26990KST200H7SF * | KST200 | 26,99 | 1.063 | 16,50 | .650 | 8 |
| RHM27000KST200H7SF | RHM27000KST200H7SF * | KST200 | 27,00 | 1.063 | 16,50 | .650 | 8 |

*(continued)*

*(RHM • Blind Hole Cermet Tipped Reamer — continued)*



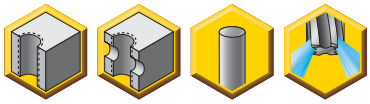



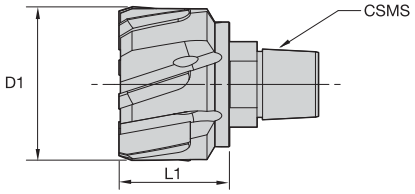

● first choice
○ alternate choice

| KT325 | KT6215 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|---|
| **RHM27500KST250H7SF** * | **RHM27500KST250H7SF** * | KST250 | 27,50 | 1.083 | 16,50 | .650 | 8 |
| **RHM28000KST250H7SF** * | **RHM28000KST250H7SF** | KST250 | 28,00 | 1.102 | 16,50 | .650 | 8 |
| **RHM28580KST250H7SF** * | **RHM28580KST250H7SF** * | KST250 | 28,58 | 1.125 | 16,50 | .650 | 8 |
| **RHM29000KST250H7SF** | **RHM29000KST250H7SF** * | KST250 | 29,00 | 1.142 | 16,50 | .650 | 8 |
| **RHM30000KST250H7SF** | **RHM30000KST250H7SF** * | KST250 | 30,00 | 1.181 | 16,50 | .650 | 8 |
| **RHM30160KST250H7SF** * | – | KST250 | 30,16 | 1.187 | 16,50 | .650 | 8 |
| **RHM31000KST250H7SF** * | **RHM31000KST250H7SF** * | KST250 | 31,00 | 1.221 | 16,50 | .650 | 8 |
| **RHM31750KST250H7SF** * | **RHM31750KST250H7SF** * | KST250 | 31,75 | 1.250 | 16,50 | .650 | 8 |
| **RHM32000KST250H7SF** * | – | KST250 | 32,00 | 1.260 | 16,50 | .650 | 8 |
| **RHM32500KST300H7SF** * | **RHM32500KST300H7SF** * | KST300 | 32,50 | 1.280 | 18,00 | .709 | 8 |
| **RHM33000KST300H7SF** * | **RHM33000KST300H7SF** * | KST300 | 33,00 | 1.299 | 18,00 | .709 | 8 |
| **RHM33340KST300H7SF** * | **RHM33340KST300H7SF** * | KST300 | 33,34 | 1.313 | 18,00 | .709 | 8 |
| **RHM34000KST300H7SF** * | – | KST300 | 34,00 | 1.339 | 18,00 | .709 | 8 |
| **RHM34930KST300H7SF** * | **RHM34930KST300H7SF** * | KST300 | 34,93 | 1.375 | 18,00 | .709 | 8 |
| **RHM35000KST300H7SF** * | **RHM35000KST300H7SF** * | KST300 | 35,00 | 1.378 | 18,00 | .709 | 8 |
| **RHM36000KST300H7SF** * | **RHM36000KST300H7SF** * | KST300 | 36,00 | 1.417 | 18,00 | .709 | 8 |
| **RHM36510KST300H7SF** * | **RHM36510KST300H7SF** * | KST300 | 36,51 | 1.437 | 18,00 | .709 | 8 |
| **RHM37000KST300H7SF** * | – | KST300 | 37,00 | 1.457 | 18,00 | .709 | 8 |
| **RHM37500KST350H7SF** * | **RHM37500KST350H7SF** * | KST350 | 37,50 | 1.476 | 18,00 | .709 | 8 |
| **RHM38000KST350H7SF** * | **RHM38000KST350H7SF** * | KST350 | 38,00 | 1.496 | 18,00 | .709 | 8 |
| **RHM38100KST350H7SF** * | **RHM38100KST350H7SF** * | KST350 | 38,10 | 1.500 | 18,00 | .709 | 8 |
| **RHM39000KST350H7SF** * | **RHM39000KST350H7SF** * | KST350 | 39,00 | 1.535 | 18,00 | .709 | 8 |
| **RHM39690KST350H7SF** * | **RHM39690KST350H7SF** * | KST350 | 39,69 | 1.563 | 18,00 | .709 | 8 |
| – | **RHM40000KST350H7SF** * | KST350 | 40,00 | 1.575 | 18,00 | .709 | 8 |
| **RHM41000KST350H7SF** * | **RHM41000KST350H7SF** * | KST350 | 41,00 | 1.614 | 18,00 | .709 | 8 |
| **RHM41280KST350H7SF** * | **RHM41280KST350H7SF** * | KST350 | 41,28 | 1.625 | 18,00 | .709 | 8 |
| **RHM42000KST350H7SF** | **RHM42000KST350H7SF** * | KST350 | 42,00 | 1.654 | 18,00 | .709 | 8 |

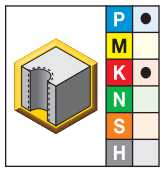
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

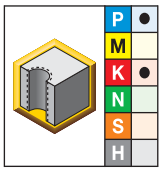
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Please order lock screw for axial use or retention knob separately.





## RHM • Through Hole Cermet Tipped Reamer



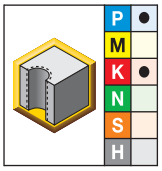



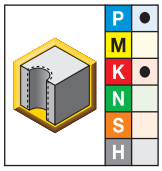

● first choice
○ alternate choice

| KT325 | KT6215 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|---|
| RHM14000KST115H7HF * | RHM14000KST115H7HF | KST115 | 14,00 | .551 | 13,50 | .531 | 6 |
| RHM14288KST115H7HF * | RHM14288KST115H7HF * | KST115 | 14,29 | .563 | 13,50 | .531 | 6 |
| RHM15875KST115H7HF * | – | KST115 | 15,88 | .625 | 13,50 | .531 | 6 |
| RHM16000KST135H7HF | RHM16000KST135H7HF | KST135 | 16,00 | .630 | 13,50 | .531 | 6 |
| RHM17000KST135H7HF * | RHM17000KST135H7HF | KST135 | 17,00 | .669 | 15,50 | .610 | 6 |
| RHM17463KST135H7HF * | RHM17463KST135H7HF * | KST135 | 17,46 | .688 | 15,50 | .610 | 6 |
| RHM18000KST155H7HF * | RHM18000KST155H7HF | KST155 | 18,00 | .709 | 15,50 | .610 | 6 |
| RHM19000KST155H7HF * | RHM19000KST155H7HF | KST155 | 19,00 | .748 | 15,50 | .610 | 6 |
| RHM19050KST155H7HF * | RHM19050KST155H7HF | KST155 | 19,05 | .750 | 15,50 | .610 | 6 |
| RHM20000KST175H7HF | RHM20000KST175H7HF | KST175 | 20,00 | .787 | 15,50 | .610 | 6 |
| RHM20640KST175H7HF * | RHM20640KST175H7HF | KST175 | 20,64 | .813 | 15,50 | .610 | 6 |
| RHM21000KST175H7HF | RHM21000KST175H7HF | KST175 | 21,00 | .827 | 15,50 | .610 | 6 |
| RHM22000KST175H7HF | RHM22000KST175H7HF * | KST175 | 22,00 | .866 | 15,50 | .610 | 6 |
| RHM22230KST175H7HF * | RHM22230KST175H7HF * | KST175 | 22,23 | .875 | 15,50 | .610 | 6 |
| RHM22500KST200H7HF * | RHM22500KST200H7HF * | KST200 | 22,50 | .886 | 16,50 | .650 | 6 |
| RHM23000KST200H7HF * | RHM23000KST200H7HF * | KST200 | 23,00 | .906 | 16,50 | .650 | 6 |
| RHM23810KST200H7HF * | RHM23810KST200H7HF * | KST200 | 23,81 | .937 | 16,50 | .650 | 6 |
| RHM24000KST200H7HF | RHM24000KST200H7HF * | KST200 | 24,00 | .945 | 16,50 | .650 | 6 |
| RHM25000KST200H7HF | RHM25000KST200H7HF | KST200 | 25,00 | .984 | 16,50 | .650 | 6 |
| RHM25400KST200H7HF * | RHM25400KST200H7HF | KST200 | 25,40 | 1.000 | 16,50 | .650 | 6 |
| RHM26000KST200H7HF * | – | KST200 | 26,00 | 1.024 | 16,50 | .650 | 8 |
| RHM26990KST200H7HF * | RHM26990KST200H7HF * | KST200 | 26,99 | 1.063 | 16,50 | .650 | 8 |
| RHM27000KST200H7HF * | RHM27000KST200H7HF * | KST200 | 27,00 | 1.063 | 16,50 | .650 | 8 |
| RHM27500KST250H7HF * | RHM27500KST250H7HF * | KST250 | 27,50 | 1.083 | 16,50 | .650 | 8 |

(continued)

*(RHM • Through Hole Cermet Tipped Reamer — continued)*



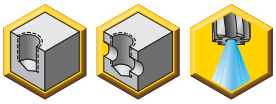



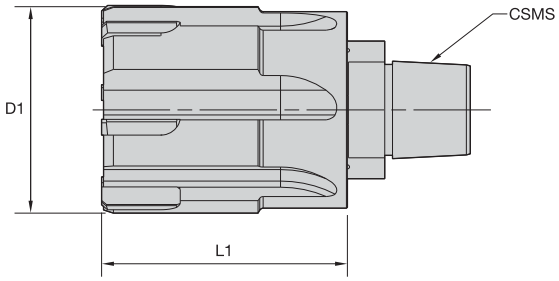

● first choice
○ alternate choice

| KT325 | KT6215 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|---|
| **RHM28000KST250H7HF** | **RHM28000KST250H7HF** | KST250 | 28,00 | 1.102 | 16,50 | .650 | 8 |
| **RHM28580KST250H7HF** * | – | KST250 | 28,58 | 1.125 | 16,50 | .650 | 8 |
| **RHM29000KST250H7HF** * | **RHM29000KST250H7HF** * | KST250 | 29,00 | 1.142 | 16,50 | .650 | 8 |
| **RHM30000KST250H7HF** | **RHM30000KST250H7HF** | KST250 | 30,00 | 1.181 | 16,50 | .650 | 8 |
| **RHM30160KST250H7HF** * | **RHM30160KST250H7HF** * | KST250 | 30,16 | 1.187 | 16,50 | .650 | 8 |
| **RHM31000KST250H7HF** * | **RHM31000KST250H7HF** * | KST250 | 31,00 | 1.221 | 16,50 | .650 | 8 |
| **RHM31750KST250H7HF** * | **RHM31750KST250H7HF** * | KST250 | 31,75 | 1.250 | 16,50 | .650 | 8 |
| **RHM32000KST250H7HF** * | **RHM32000KST250H7HF** * | KST250 | 32,00 | 1.260 | 16,50 | .650 | 8 |
| **RHM32500KST300H7HF** * | **RHM32500KST300H7HF** * | KST300 | 32,50 | 1.280 | 18,00 | .709 | 8 |
| **RHM33000KST300H7HF** * | **RHM33000KST300H7HF** * | KST300 | 33,00 | 1.299 | 18,00 | .709 | 8 |
| **RHM33340KST300H7HF** * | **RHM33340KST300H7HF** * | KST300 | 33,34 | 1.313 | 18,00 | .709 | 8 |
| – | **RHM34000KST300H7HF** | KST300 | 34,00 | 1.339 | 18,00 | .709 | 8 |
| **RHM34930KST300H7HF** * | **RHM34930KST300H7HF** * | KST300 | 34,93 | 1.375 | 18,00 | .709 | 8 |
| **RHM35000KST300H7HF** | **RHM35000KST300H7HF** | KST300 | 35,00 | 1.378 | 18,00 | .709 | 8 |
| **RHM36000KST300H7HF** | – | KST300 | 36,00 | 1.417 | 18,00 | .709 | 8 |
| **RHM36510KST300H7HF** * | **RHM36510KST300H7HF** * | KST300 | 36,51 | 1.437 | 18,00 | .709 | 8 |
| **RHM37000KST300H7HF** * | **RHM37000KST300H7HF** | KST300 | 37,00 | 1.457 | 18,00 | .709 | 8 |
| **RHM37500KST350H7HF** * | **RHM37500KST350H7HF** * | KST350 | 37,50 | 1.476 | 18,00 | .709 | 8 |
| **RHM38100KST350H7HF** * | – | KST350 | 38,10 | 1.500 | 18,00 | .709 | 8 |
| **RHM39000KST350H7HF** * | **RHM39000KST350H7HF** * | KST350 | 39,00 | 1.535 | 18,00 | .709 | 8 |
| **RHM39690KST350H7HF** * | **RHM39690KST350H7HF** * | KST350 | 39,69 | 1.563 | 18,00 | .709 | 8 |
| **RHM40000KST350H7HF** | **RHM40000KST350H7HF** | KST350 | 40,00 | 1.575 | 18,00 | .709 | 8 |
| **RHM41000KST350H7HF** * | **RHM41000KST350H7HF** * | KST350 | 41,00 | 1.614 | 18,00 | .709 | 8 |
| **RHM41280KST350H7HF** * | **RHM41280KST350H7HF** * | KST350 | 41,28 | 1.625 | 18,00 | .709 | 8 |
| **RHM42000KST350H7HF** | **RHM42000KST350H7HF** * | KST350 | 42,00 | 1.654 | 18,00 | .709 | 8 |

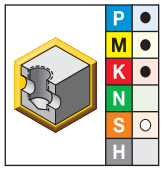
NOTE: Uncoated carbide grade K605™ is available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

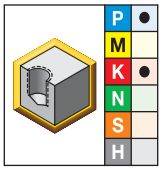
- For hole tolerance H6.
- Intermediate sizes available.
- Lock screw for axial use or retention knob comes with holder.
- Allen expansion screw.





## RHM-E • Blind Hole Expansion Reamer



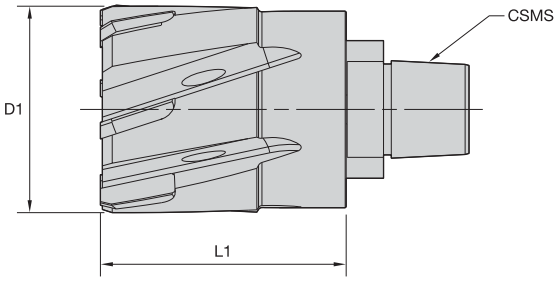




● first choice
○ alternate choice

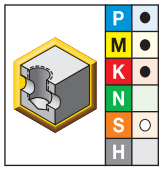
| KC6005 | KC6305 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|---|
| RHME14000KST115H6SF * | RHME14000KST115H6SF | KST115 | 14,00 | .551 | 25,00 | .984 | 6 |
| RHME14288KST115H6SF * | RHME14288KST115H6SF * | KST115 | 14,29 | .563 | 25,00 | .984 | 6 |
| RHME15000KST115H6SF * | RHME15000KST115H6SF | KST115 | 15,00 | .591 | 25,00 | .984 | 6 |
| RHME16000KST135H6SF | RHME16000KST135H6SF | KST135 | 16,00 | .630 | 25,00 | .984 | 6 |
| RHME17000KST135H6SF * | RHME17000KST135H6SF | KST135 | 17,00 | .669 | 25,00 | .984 | 6 |
| RHME17463KST135H6SF * | RHME17463KST135H6SF * | KST135 | 17,46 | .688 | 25,00 | .984 | 6 |
| RHME18000KST155H6SF * | RHME18000KST155H6SF * | KST155 | 18,00 | .709 | 25,00 | .984 | 6 |
| RHME19000KST155H6SF * | RHME19000KST155H6SF * | KST155 | 19,00 | .748 | 25,00 | .984 | 6 |
| RHME19050KST155H6SF * | RHME19050KST155H6SF * | KST155 | 19,05 | .750 | 25,00 | .984 | 6 |
| RHME20000KST175H6SF * | RHME20000KST175H6SF | KST175 | 20,00 | .787 | 25,00 | .984 | 6 |
| RHME21000KST175H6SF | RHME21000KST175H6SF * | KST175 | 21,00 | .827 | 25,00 | .984 | 6 |
| RHME22000KST175H6SF * | RHME22000KST175H6SF * | KST175 | 22,00 | .866 | 25,00 | .984 | 6 |
| RHME22225KST175H6SF * | RHME22225KST175H6SF | KST175 | 22,23 | .875 | 25,00 | .984 | 6 |
| RHME23000KST200H6SF * | RHME23000KST200H6SF * | KST200 | 23,00 | .906 | 25,00 | .984 | 6 |
| RHME23813KST200H6SF * | RHME23813KST200H6SF * | KST200 | 23,81 | .938 | 25,00 | .984 | 6 |
| RHME24000KST200H6SF | RHME24000KST200H6SF * | KST200 | 24,00 | .945 | 25,00 | .984 | 6 |
| RHME25000KST200H6SF | RHME25000KST200H6SF | KST200 | 25,00 | .984 | 30,00 | 1.181 | 6 |
| RHME25400KST200H6SF * | RHME25400KST200H6SF * | KST200 | 25,40 | 1.000 | 30,00 | 1.181 | 6 |
| RHME26000KST200H6SF * | RHME26000KST200H6SF * | KST200 | 26,00 | 1.024 | 30,00 | 1.181 | 8 |
| RHME27000KST200H6SF * | RHME27000KST200H6SF | KST200 | 27,00 | 1.063 | 30,00 | 1.181 | 8 |
| RHME28000KST250H6SF | RHME28000KST250H6SF | KST250 | 28,00 | 1.102 | 36,00 | 1.417 | 8 |
| RHME30000KST250H6SF | RHME30000KST250H6SF | KST250 | 30,00 | 1.181 | 36,00 | 1.417 | 8 |
| RHME31750KST250H6SF * | RHME31750KST250H6SF * | KST250 | 31,75 | 1.250 | 36,00 | 1.417 | 8 |
| RHME32000KST250H6SF * | RHME32000KST250H6SF * | KST250 | 32,00 | 1.260 | 36,00 | 1.417 | 8 |
| RHME34000KST300H6SF * | RHME34000KST300H6SF * | KST300 | 34,00 | 1.339 | 36,00 | 1.417 | 8 |
| RHME36000KST300H6SF * | RHME36000KST300H6SF * | KST300 | 36,00 | 1.417 | 36,00 | 1.417 | 8 |
| RHME38000KST350H6SF * | RHME38000KST350H6SF * | KST350 | 38,00 | 1.496 | 36,00 | 1.417 | 8 |
| RHME40000KST350H6SF * | RHME40000KST350H6SF * | KST350 | 40,00 | 1.575 | 36,00 | 1.417 | 8 |
| RHME42000KST350H6SF | RHME42000KST350H6SF * | KST350 | 42,00 | 1.654 | 36,00 | 1.417 | 8 |

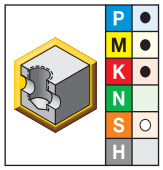
NOTE: Uncoated carbide grade K605™ is available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- For hole tolerance H6.
- Intermediate sizes available.
- Lock screw for axial use or retention knob comes with holder.
- Allen expansion screw.



## RHM-E • Through Hole Expansion Reamer



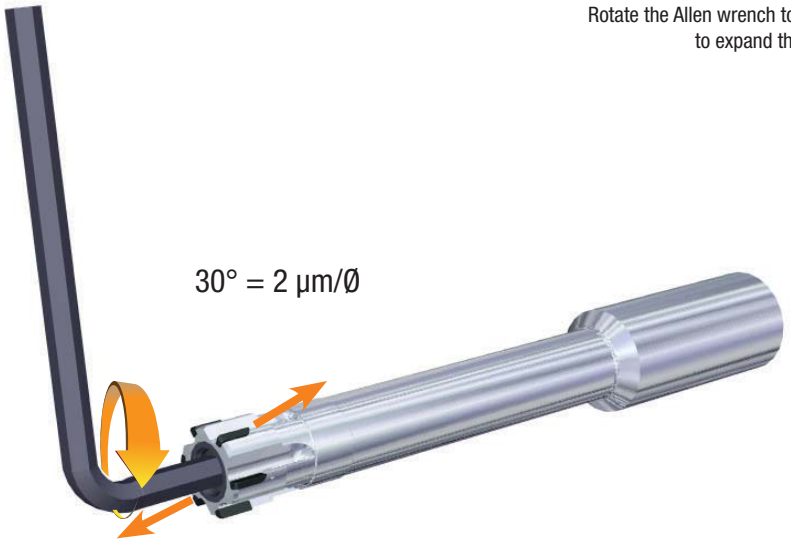

● first choice
○ alternate choice

| KC6005 | KC6305 | CSMS system size | D1 mm | D1 in | L1 mm | L1 in | Z |
|---|---|---|---|---|---|---|---|
| RHME14000KST115H6HF * | RHME14000KST115H6HF * | KST115 | 14,00 | .551 | 25,00 | .984 | 6 |
| RHME14288KST115H6HF * | RHME14288KST115H6HF * | KST115 | 14,29 | .563 | 25,00 | .984 | 6 |
| RHME15000KST115H6HF * | RHME15000KST115H6HF * | KST115 | 15,00 | .591 | 25,00 | .984 | 6 |
| RHME16000KST135H6HF | RHME16000KST135H6HF | KST135 | 16,00 | .630 | 25,00 | .984 | 6 |
| RHME17000KST135H6HF | RHME17000KST135H6HF * | KST135 | 17,00 | .669 | 25,00 | .984 | 6 |
| RHME17463KST135H6HF | RHME17463KST135H6HF * | KST135 | 17,46 | .688 | 25,00 | .984 | 6 |
| RHME18000KST155H6HF * | RHME18000KST155H6HF | KST155 | 18,00 | .709 | 25,00 | .984 | 6 |
| RHME19000KST155H6HF * | RHME19000KST155H6HF * | KST155 | 19,00 | .748 | 25,00 | .984 | 6 |
| RHME19050KST155H6HF * | RHME19050KST155H6HF | KST155 | 19,05 | .750 | 25,00 | .984 | 6 |
| RHME20000KST175H6HF | RHME20000KST175H6HF | KST175 | 20,00 | .787 | 25,00 | .984 | 6 |
| RHME21000KST175H6HF * | RHME21000KST175H6HF * | KST175 | 21,00 | .827 | 25,00 | .984 | 6 |
| RHME22000KST175H6HF | RHME22000KST175H6HF | KST175 | 22,00 | .866 | 25,00 | .984 | 6 |
| RHME22225KST175H6HF * | RHME22225KST175H6HF | KST175 | 22,23 | .875 | 25,00 | .984 | 6 |
| RHME23000KST200H6HF * | RHME23000KST200H6HF * | KST200 | 23,00 | .906 | 25,00 | .984 | 6 |
| RHME23813KST200H6HF * | RHME23813KST200H6HF * | KST200 | 23,81 | .938 | 25,00 | .984 | 6 |
| RHME24000KST200H6HF * | RHME24000KST200H6HF * | KST200 | 24,00 | .945 | 25,00 | .984 | 6 |
| RHME25000KST200H6HF * | RHME25000KST200H6HF | KST200 | 25,00 | .984 | 30,00 | 1.181 | 6 |
| RHME25400KST200H6HF | RHME25400KST200H6HF | KST200 | 25,40 | 1.000 | 30,00 | 1.181 | 6 |
| RHME26000KST200H6HF * | RHME26000KST200H6HF | KST200 | 26,00 | 1.024 | 30,00 | 1.181 | 8 |
| RHME27000KST200H6HF * | RHME27000KST200H6HF * | KST200 | 27,00 | 1.063 | 30,00 | 1.181 | 8 |
| RHME28000KST250H6HF | RHME28000KST250H6HF | KST250 | 28,00 | 1.102 | 36,00 | 1.417 | 8 |
| RHME30000KST250H6HF | RHME30000KST250H6HF | KST250 | 30,00 | 1.181 | 36,00 | 1.417 | 8 |
| RHME31750KST250H6HF * | RHME31750KST250H6HF | KST250 | 31,75 | 1.250 | 36,00 | 1.417 | 8 |
| RHME32000KST250H6HF * | RHME32000KST250H6HF * | KST250 | 32,00 | 1.260 | 36,00 | 1.417 | 8 |
| RHME34000KST300H6HF * | RHME34000KST300H6HF * | KST300 | 34,00 | 1.339 | 36,00 | 1.417 | 8 |
| RHME36000KST300H6HF * | RHME36000KST300H6HF * | KST300 | 36,00 | 1.417 | 36,00 | 1.417 | 8 |
| RHME38000KST350H6HF * | RHME38000KST350H6HF * | KST350 | 38,00 | 1.496 | 36,00 | 1.417 | 8 |
| RHME40000KST350H6HF * | – | KST350 | 39,99 | 1.574 | 36,00 | 1.417 | 8 |
| – | RHME40000KST350H6HF * | KST350 | 40,00 | 1.575 | 36,00 | 1.417 | 8 |
| RHME42000KST350H6HF * | RHME42000KST350H6HF * | KST350 | 42,00 | 1.654 | 36,00 | 1.417 | 8 |

NOTE: Uncoated carbide grade K605™ is available on request.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

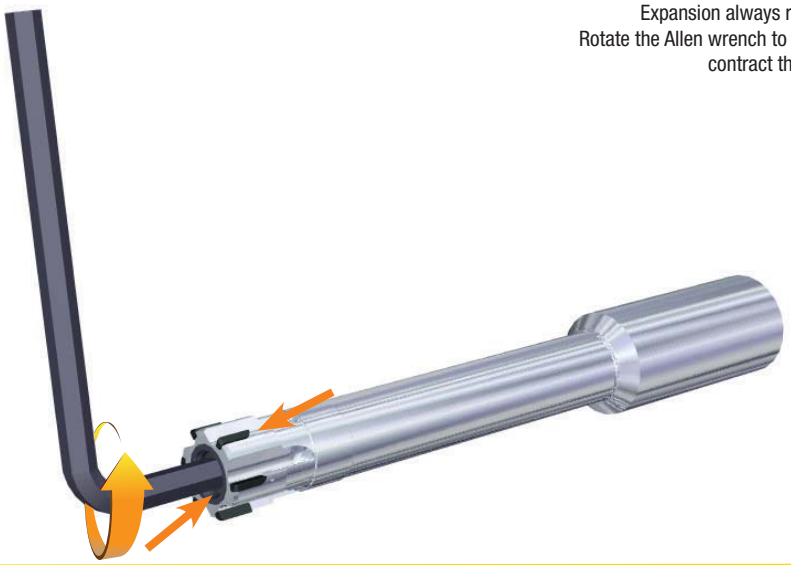
## To Expand

Rotate the Allen wrench to the right to expand the reamer.




## To Contract

Expansion always reversible:
Rotate the Allen wrench to the left to contract the reamer.



- 30° = 2 µm linear expansion.
- 720° = 2 revolutions; = 48 µm maximum expansion.
- Hard stop after 720° expansion. You cannot over expand!
- The expansion occurs in the elastic material behavior.
- You cannot reduce the diameter below D1.

## RHR • Metric

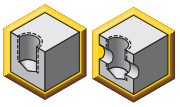
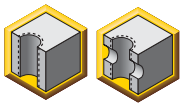
| Material Group | | KCU05 Cutting Speed — vc Range — m/min | | | Metric Recommended Feed Rate per Tooth | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Tool Diameter (mm) | 14,00–19,99mm | | 20,00–32,00mm | | 32,50–42,00mm | |
| | | min | Starting Value | max | Feed/Tooth | min | max | min | max | min | max |
| P | 1 | 90 | **120** | 155 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 2 | 90 | **120** | 155 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 3 | 75 | **100** | 130 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 4 | 50 | **80** | 105 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 5 | 30 | **40** | 60 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | 0,08 | 0,22 |
| | 6 | 30 | **40** | 60 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | 0,08 | 0,22 |
| M | 1 | 15 | **20** | 40 | mm/z | 0,08 | 0,15 | 0,08 | 0,18 | 0,08 | 0,20 |
| | 2 | 15 | **20** | 30 | mm/z | 0,08 | 0,15 | 0,08 | 0,18 | 0,08 | 0,20 |
| | 3 | 15 | **20** | 30 | mm/z | 0,08 | 0,15 | 0,08 | 0,18 | 0,08 | 0,20 |
| K | 1 | 80 | **110** | 130 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 2 | 65 | **90** | 110 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 3 | 50 | **70** | 90 | mm/z | 0,10 | 0,18 | 0,10 | 0,20 | 0,10 | 0,22 |
| S | 1 | 15 | **20** | 30 | mm/z | 0,06 | 0,15 | 0,10 | 0,18 | 0,10 | 0,20 |
| | 2 | 15 | **20** | 30 | mm/z | 0,06 | 0,15 | 0,10 | 0,18 | 0,10 | 0,20 |
| | 3 | 20 | **30** | 40 | mm/z | 0,08 | 0,18 | 0,10 | 0,20 | 0,10 | 0,20 |
| | 4 | 20 | **30** | 40 | mm/z | 0,08 | 0,18 | 0,10 | 0,20 | 0,10 | 0,20 |

Hole Finishing

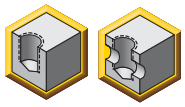
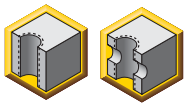
## RHR • Inch

| Material Group | | KCU05 Cutting Speed — vc Range — SFM | | | Inch Recommended Feed Rate per Tooth | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Tool Diameter (inch) | .551–.787" | | .787–1.260" | | 1.260–1.654" | |
| | | min | Starting Value | max | Feed/Tooth | min | max | min | max | min | max |
| P | 1 | 295 | **394** | 509 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 2 | 295 | **394** | 509 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 3 | 246 | **328** | 427 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 4 | 164 | **262** | 344 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 5 | 98 | **131** | 197 | inch/z | .003 | .007 | .004 | .008 | .004 | .009 |
| | 6 | 98 | **131** | 197 | inch/z | .003 | .007 | .003 | .008 | .003 | .009 |
| M | 1 | 49 | **66** | 131 | inch/z | .003 | .006 | .003 | .007 | .003 | .008 |
| | 2 | 49 | **66** | 98 | inch/z | .003 | .006 | .003 | .007 | .003 | .008 |
| | 3 | 49 | **66** | 98 | inch/z | .003 | .006 | .003 | .007 | .003 | .008 |
| K | 1 | 262 | **361** | 427 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 2 | 213 | **295** | 361 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 3 | 164 | **230** | 295 | inch/z | .004 | .007 | .004 | .008 | .004 | .009 |
| S | 1 | 49 | **66** | 98 | inch/z | .002 | .006 | .004 | .007 | .004 | .008 |
| | 2 | 49 | **66** | 98 | inch/z | .002 | .006 | .004 | .007 | .004 | .008 |
| | 3 | 66 | **98** | 131 | inch/z | .003 | .007 | .004 | .008 | .004 | .008 |
| | 4 | 66 | **98** | 131 | inch/z | .003 | .007 | .004 | .008 | .004 | .008 |

## RHM™ and RHM-E™ • Metric

| Material Group | | Cermet Tipped | | | | | | Carbide Tipped | | | | | | Metric | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | |  | | |  | | | | | | | | | |
| | | straight flute | | | helical flute | | | straight flute | | | helical flute | | | | | | | | | |
| | | KT325 | | | KT6215 | | | K605 | | | KC6305 | | | | | | | | | |
| | | Cutting Speed — vc | | | | | | | | | | | | Recommended Feed Rate per Tooth | | | | | | |
| | | Range — m/min | | | | | | | | | | | | Tool Diameter (mm) | 14,00–19,99mm | | 20,00–32,00mm | | 32,50–42,00mm | |
| | | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | Feed/ Tooth | min | max | min | max | min | max |
| P | 1 | 150 | **180** | 210 | 180 | **210** | 240 | 40 | **60** | 70 | 90 | **120** | 155 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 2 | 150 | **180** | 210 | 180 | **210** | 240 | 40 | **60** | 70 | 90 | **120** | 155 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 3 | 130 | **160** | 180 | 150 | **180** | 210 | 30 | **40** | 50 | 75 | **100** | 130 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 4 | 100 | **130** | 150 | 120 | **150** | 170 | 25 | **40** | 45 | 50 | **80** | 105 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 5 | 80 | **100** | 120 | 100 | **130** | 150 | 10 | **20** | 30 | 30 | **40** | 55 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | 0,08 | 0,22 |
| | 6 | 80 | **100** | 120 | 100 | **130** | 150 | 10 | **20** | 30 | 30 | **40** | 55 | mm/z | 0,08 | 0,18 | 0,08 | 0,20 | 0,08 | 0,22 |
| M | 1 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,08 | 0,15 | 0,08 | 0,18 | 0,08 | 0,20 |
| | 2 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,08 | 0,15 | 0,08 | 0,18 | 0,08 | 0,20 |
| | 3 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,08 | 0,15 | 0,08 | 0,18 | 0,08 | 0,20 |
| K | 1 | 150 | **180** | 200 | 180 | **210** | 240 | 30 | **50** | 60 | 80 | **110** | 130 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 2 | 130 | **160** | 180 | 150 | **180** | 210 | 25 | **40** | 45 | 65 | **90** | 110 | mm/z | 0,10 | 0,20 | 0,10 | 0,22 | 0,10 | 0,25 |
| | 3 | 100 | **130** | 160 | 120 | **150** | 170 | 20 | **30** | 40 | 50 | **70** | 90 | mm/z | 0,10 | 0,18 | 0,10 | 0,20 | 0,10 | 0,22 |
| N | 1 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | 0,10 | 0,30 |
| | 2 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | 0,10 | 0,30 |
| | 3 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | 0,10 | 0,30 |
| | 4 | – | **–** | – | – | **–** | – | 110 | **150** | 195 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | 0,10 | 0,30 |
| | 5 | – | **–** | – | – | **–** | – | 105 | **140** | 180 | – | **–** | – | mm/z | 0,10 | 0,30 | 0,10 | 0,30 | 0,10 | 0,30 |
| S | 1 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,06 | 0,15 | 0,10 | 0,18 | 0,10 | 0,20 |
| | 2 | – | **–** | – | – | **–** | – | 8 | **10** | 15 | 15 | **20** | 28 | mm/z | 0,06 | 0,15 | 0,10 | 0,18 | 0,10 | 0,20 |
| | 3 | – | **–** | – | – | **–** | – | 15 | **20** | 30 | 20 | **30** | 40 | mm/z | 0,08 | 0,18 | 0,10 | 0,20 | 0,10 | 0,20 |
| | 4 | – | **–** | – | – | **–** | – | 15 | **20** | 30 | 20 | **30** | 40 | mm/z | 0,08 | 0,18 | 0,10 | 0,20 | 0,10 | 0,20 |

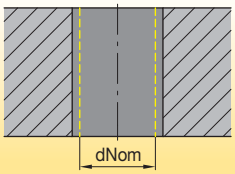
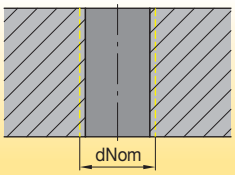
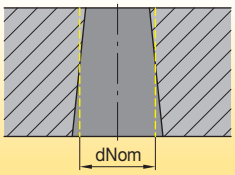
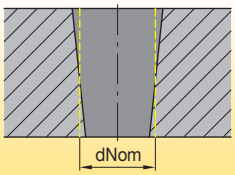
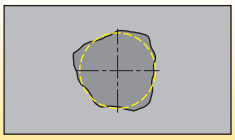
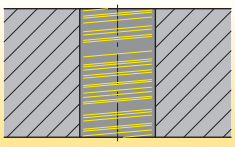
## RHM™ and RHM-E™ • Inch

| Material Group | | Cermet Tipped | | | | | | Carbide Tipped | | | | | | Inch | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | |  | | |  | | | | | | | | | |
| | | straight flute | | | helical flute | | | straight flute | | | helical flute | | | | | | | | | |
| | | KT325 | | | KT6215 | | | K605 | | | KC6305 | | | | | | | | | |
| | | Cutting Speed — vc | | | | | | | | | | | | Recommended Feed Rate per Tooth | | | | | | |
| | | Range — SFM | | | | | | | | | | | | Tool Diameter (inch) | .551–.787" | | .787–1.260" | | 1.280–1.654" | |
| | | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | min | Starting Value | max | Feed/Tooth | min | max | min | max | min | max |
| P | 1 | 492 | **590** | 689 | 590 | **689** | 787 | 131 | **197** | 230 | 295 | **394** | 508 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 2 | 492 | **590** | 689 | 590 | **689** | 787 | 131 | **197** | 230 | 295 | **394** | 508 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 3 | 426 | **525** | 590 | 492 | **590** | 689 | 98 | **131** | 164 | 246 | **328** | 426 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 4 | 328 | **426** | 492 | 394 | **492** | 558 | 82 | **131** | 148 | 164 | **262** | 344 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 5 | 262 | **328** | 394 | 328 | **426** | 492 | 33 | **66** | 98 | 98 | **131** | 180 | inch/z | .003 | .007 | .003 | .008 | .003 | .009 |
| | 6 | 262 | **328** | 394 | 328 | **426** | 492 | 33 | **66** | 98 | 98 | **131** | 180 | inch/z | .003 | .007 | .003 | .008 | .003 | .009 |
| M | 1 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .003 | .006 | .003 | .007 | .003 | .008 |
| | 2 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .003 | .006 | .003 | .007 | .003 | .008 |
| | 3 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .003 | .006 | .003 | .007 | .003 | .008 |
| K | 1 | 492 | **590** | 656 | 590 | **689** | 787 | 98 | **164** | 197 | 262 | **361** | 426 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 2 | 426 | **525** | 590 | 492 | **590** | 689 | 82 | **131** | 148 | 213 | **295** | 361 | inch/z | .004 | .008 | .004 | .009 | .004 | .010 |
| | 3 | 328 | **426** | 525 | 394 | **492** | 558 | 66 | **98** | 131 | 164 | **230** | 295 | inch/z | .004 | .007 | .004 | .008 | .004 | .009 |
| N | 1 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 | .004 | .012 |
| | 2 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 | .004 | .012 |
| | 3 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 | .004 | .012 |
| | 4 | – | **–** | – | – | **–** | – | 361 | **492** | 640 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 | .004 | .012 |
| | 5 | – | **–** | – | – | **–** | – | 344 | **459** | 590 | – | **–** | – | inch/z | .004 | .012 | .004 | .012 | .004 | .012 |
| S | 1 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .002 | .006 | .004 | .007 | .004 | .008 |
| | 2 | – | **–** | – | – | **–** | – | 26 | **33** | 49 | 49 | **66** | 92 | inch/z | .002 | .006 | .004 | .007 | .004 | .008 |
| | 3 | – | **–** | – | – | **–** | – | 49 | **66** | 98 | 66 | **98** | 131 | inch/z | .003 | .007 | .004 | .008 | .004 | .008 |
| | 4 | – | **–** | – | – | **–** | – | 49 | **66** | 98 | 66 | **98** | 131 | inch/z | .003 | .007 | .004 | .008 | .004 | .008 |

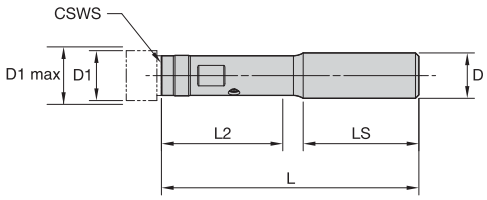
## Reaming Allowances for Multi-Blade Reaming

| | | reaming allowances in diameter | | | | | |
|---|---|---|---|---|---|---|---|
| | | mm | | | in | | |
| mm | in | min | middle | max | min | middle | max |
| 1,40–4,80 | .055–.189 | 0,08 | 0,12 | 0,20 | .003 | .005 | .008 |
| 4,81–9,59 | .189–.378 | 0,10 | 0,15 | 0,25 | .004 | .006 | .010 |
| 9,60–15,00 | .378–.591 | 0,15 | 0,20 | 0,30 | .006 | .008 | .012 |
| 15,00–20,00 | .591–.787 | 0,15 | 0,25 | 0,35 | .006 | .010 | .014 |
| 20,00–50,00 | .787–1.969 | 0,20 | 0,30 | 0,40 | .008 | .012 | .016 |

## Troubleshooting

| Problem | | Cause | Possible Remedy |
|---|---|---|---|
| Hole diameter too large. |  | • Reaming tool running out-of-center.<br>• Concentricity of pilot hole and ream machining unsatisfactory.<br>• Built-up edge.<br>• Unsuitable cooling lubricant.<br>• Reaming tool diameter too large. | • Use equalizing adapter.<br>• Re-align, use floating head.<br>• Change cooling lubricant.<br>• Change cutting speed.<br>• Measure reamers and send for repairs. |
| Hole diameter too small. |  | • Reamer worn.<br>• Unsuitable cooling lubricant.<br>• Reaming allowance too small. | • Replace and refit tool.<br>• Change cooling lubricant.<br>• Increase reaming allowance. |
| Conical hole profile wider towards drill runout. |  | • Concentricity of pilot hole and reaming unsatisfactory.<br>• Positioning accuracy of pilot hole to reaming. | • Re-align, use equalizing adapter.<br>• Correct positioning accuracy. |
| Conical hole profile wider at drill entry point. |  | • Concentricity of pilot hole and reaming unsatisfactory.<br>• Reaming tool skim cutting with ledger. | • Re-align, use floating head.<br>• Securely clamp reaming tool axially. |
| Hole out-of-center and/or showing chatter marks. |  | • Reaming tool running out-of-center.<br>• Slanted cutting surface/asymmetrical cutting.<br>• Workpiece twisted. | • Use equalizing adapter.<br>• Spot face as drilling preparation.<br>• Take the direction of impact into account when clamping the workpiece. |
| Surface quality does not meet specification. | | • Tool cutters worn.<br>• Reaming tool running out-of-center.<br>• Incorrect technology data (cutting parameters).<br>• Inadequate chip evacuation. | • Use equalizing adapter.<br>• Re-align, use floating head.<br>• Change cooling lubricant.<br>• Change cutting speed.<br>• Measure reamers and send for repairs. |
| Feed grooves |  | • Built-up edge. | • Change cooling lubricant.<br>• Change cutting speed. |

- Tool body shipped with lock screw and wrench.
- Order reamer head separately.

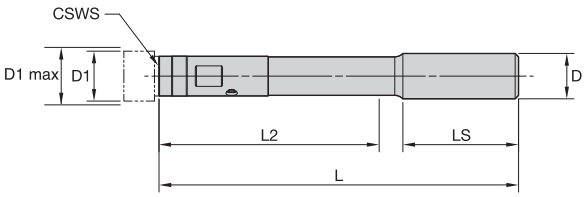


## Straight Shank • Axial Clamping • 3 x D



| order number | catalog number | CSWS system size | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L2 mm | L2 in | LS mm | LS in | central lock screw | Torx wrench | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4056174 | SS16KST115AR3M | KST115 | 14,00 | .551 | 15,999 | .630 | 16,00 | .630 | 91,00 | 3.583 | 36,00 | 1.420 | 48,00 | 1.89 | KST115115AS | FT8 | 3,0 | 2.2 |
| 4056175 | SS20KST135AR3M | KST135 | 16,00 | .630 | 17,999 | .709 | 20,00 | .787 | 99,00 | 3.898 | 39,00 | 1.540 | 51,00 | 2.01 | KST135155AS | FT10 | 4,0 | 3.0 |
| 4056176 | SS20KST155AR3M | KST155 | 18,00 | .709 | 19,999 | .787 | 20,00 | .787 | 106,00 | 4.173 | 45,00 | 1.770 | 51,00 | 2.01 | KST135155AS | FT10 | 4,0 | 3.0 |
| 3861185 | SS20KST175AR3M | KST175 | 20,00 | .787 | 22,499 | .886 | 20,00 | .787 | 113,50 | 4.469 | 51,50 | 2.028 | 51,00 | 2.01 | KST175200AS | TT15 | 5,0 | 3.7 |
| 3861186 | SS20KST200AR3M | KST200 | 22,50 | .886 | 27,499 | 1.083 | 20,00 | .787 | 130,50 | 5.138 | 65,50 | 2.579 | 51,00 | 2.01 | KST175200AS | TT15 | 5,0 | 3.7 |
| 3861187 | SS25KST250AR3M | KST250 | 27,50 | 1.083 | 32,499 | 1.280 | 25,00 | .984 | 152,50 | 6.004 | 80,50 | 3.169 | 56,00 | 2.20 | KST250250AS | TT25 | 9,0 | 6.7 |
| 3861188 | SS32KST300AR3M | KST300 | 32,50 | 1.280 | 37,499 | 1.476 | 32,00 | 1.260 | 174,00 | 6.850 | 94,00 | 3.701 | 61,00 | 2.40 | KST300350AS | TT30 | 13,0 | 9.7 |
| 3861189 | SS32KST350AR3M | KST350 | 37,50 | 1.476 | 42,000 | 1.654 | 32,00 | 1.260 | 190,00 | 7.480 | 108,00 | 4.252 | 61,00 | 2.40 | KST300350AS | TT30 | 13,0 | 9.7 |

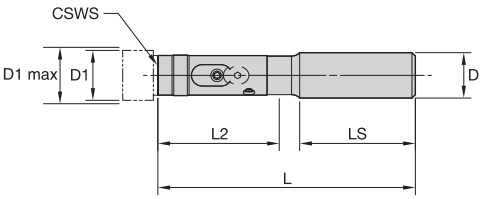
- Tool body shipped with lock screw and wrench.
- Order reamer head separately.



## Straight Shank • Axial Clamping • 5 x D

| order number | catalog number | CSWS system size | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L2 mm | L2 in | LS mm | LS in | central lock screw | Torx wrench | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4056177 | SS16KST115AR5M | KST115 | 14,00 | .551 | 15,999 | .630 | 16,00 | .630 | 123,00 | 4.843 | 68,00 | 2.680 | 48,00 | 1.89 | KST115115AS | FT8 | 3,0 | 2.2 |
| 4056178 | SS20KST135AR5M | KST135 | 16,00 | .630 | 17,999 | .709 | 20,00 | .787 | 135,00 | 5.315 | 75,00 | 2.950 | 51,00 | 2.01 | KST135155AS | FT10 | 4,0 | 3.0 |
| 4056179 | SS20KST155AR5M | KST155 | 18,00 | .709 | 19,999 | .787 | 20,00 | .787 | 146,00 | 5.748 | 85,00 | 3.350 | 51,00 | 2.01 | KST135155AS | FT10 | 4,0 | 3.0 |
| 3861190 | SS20KST175AR5M | KST175 | 20,00 | .787 | 22,499 | .886 | 20,00 | .787 | 158,50 | 6.240 | 96,50 | 3.799 | 51,00 | 2.01 | KST175200AS | TT15 | 5,0 | 3.7 |
| 3861191 | SS20KST200AR5M | KST200 | 22,50 | .886 | 27,499 | 1.083 | 20,00 | .787 | 185,50 | 7.303 | 120,50 | 4.744 | 51,00 | 2.01 | KST175200AS | TT15 | 5,0 | 3.7 |
| 3861192 | SS25KST250AR5M | KST250 | 27,50 | 1.083 | 32,499 | 1.280 | 25,00 | .984 | 217,50 | 8.563 | 145,50 | 5.728 | 56,00 | 2.20 | KST250250AS | TT25 | 9,0 | 6.7 |
| 3861193 | SS32KST300AR5M | KST300 | 32,50 | 1.280 | 37,499 | 1.476 | 32,00 | 1.260 | 249,00 | 9.803 | 169,00 | 6.654 | 61,00 | 2.40 | KST300350AS | TT30 | 13,0 | 9.7 |
| 3861194 | SS32KST350AR5M | KST350 | 37,50 | 1.476 | 42,000 | 1.654 | 32,00 | 1.260 | 274,00 | 10.787 | 192,00 | 7.559 | 61,00 | 2.40 | KST300350AS | TT30 | 13,0 | 9.7 |

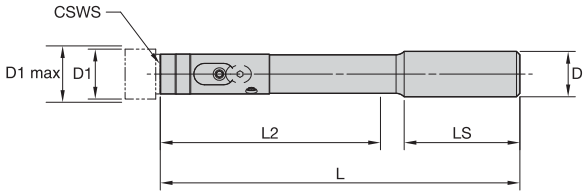
- Tool body shipped with retention knob, clamp set, and wrench.
- Order reamer head separately.



## Straight Shank • Radial Clamping • 3 x D

| order number | catalog number | CSWS system size | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L2 mm | L2 in | LS mm | LS in | retention knob | clamp set | Torx wrench | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3861195 | SS20KST175RR3M | KST175 | 20,00 | .787 | 22,499 | .886 | 20,00 | .787 | 113,50 | 4.469 | 51,50 | 2.028 | 51,00 | 2.01 | KST175200RK | KST175CS | TT15 | 5,0 | 3.7 |
| 3861196 | SS20KST200RR3M | KST200 | 22,50 | .886 | 27,499 | 1.083 | 20,00 | .787 | 130,50 | 5.138 | 65,50 | 2.579 | 51,00 | 2.01 | KST175200RK | KST200CS | TT15 | 5,0 | 3.7 |
| 3861197 | SS25KST250RR3M | KST250 | 27,50 | 1.083 | 32,499 | 1.280 | 25,00 | .984 | 152,50 | 6.004 | 80,50 | 3.169 | 56,00 | 2.21 | KST250250RK | KST250CS | TT25 | 9,0 | 6.7 |
| 3861198 | SS32KST300RR3M | KST300 | 32,50 | 1.280 | 37,499 | 1.476 | 32,00 | 1.259 | 174,00 | 6.850 | 94,00 | 3.701 | 61,00 | 2.40 | KST300350RK | KST300CS | TT30 | 13,0 | 9.7 |
| 3861199 | SS32KST350RR3M | KST350 | 37,50 | 1.476 | 42,000 | 1.654 | 32,00 | 1.259 | 190,00 | 7.480 | 108,00 | 4.252 | 61,00 | 2.40 | KST300350RK | KST350CS | TT30 | 13,0 | 9.7 |

- Tool body shipped with retention knob, clamp set, and wrench.
- Order reamer head separately.

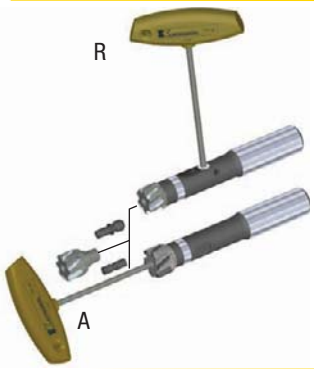


## Straight Shank • Radial Clamping • 5 x D

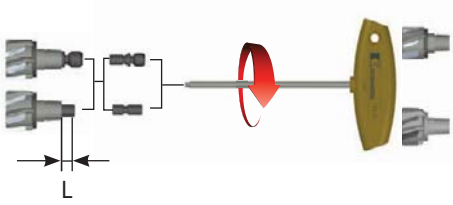
| order number | catalog number | CSWS system size | D1 mm | D1 in | D1 max mm | D1 max in | D mm | D in | L mm | L in | L2 mm | L2 in | LS mm | LS in | retention knob | clamp set | Torx wrench | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3861200 | SS20KST175RR5M | KST175 | 20,00 | .787 | 22,499 | .886 | 20,00 | .787 | 158,50 | 6.24 | 96,50 | 3.80 | 51,00 | 2.01 | KST175200RK | KST175CS | TT15 | 5,0 | 3.7 |
| 3861201 | SS20KST200RR5M | KST200 | 22,50 | .886 | 27,499 | 1.083 | 20,00 | .787 | 185,50 | 7.30 | 120,50 | 4.74 | 51,00 | 2.01 | KST175200RK | KST200CS | TT15 | 5,0 | 3.7 |
| 3861202 | SS25KST250RR5M | KST250 | 27,50 | 1.083 | 32,499 | 1.280 | 25,00 | .984 | 217,50 | 8.56 | 145,50 | 5.73 | 56,00 | 2.21 | KST250250RK | KST250CS | TT25 | 9,0 | 6.7 |
| 3861203 | SS32KST300RR5M | KST300 | 32,50 | 1.280 | 37,499 | 1.476 | 32,00 | 1.259 | 249,00 | 9.80 | 169,00 | 6.65 | 61,00 | 2.40 | KST300350RK | KST300CS | TT30 | 13,0 | 9.7 |
| 3861204 | SS32KST350RR5M | KST350 | 37,50 | 1.476 | 42,000 | 1.654 | 32,00 | 1.259 | 274,00 | 10.79 | 192,00 | 7.56 | 61,00 | 2.40 | KST300350RK | KST350CS | TT30 | 13,0 | 9.7 |

# Assemble

**1**

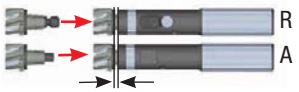



**2**

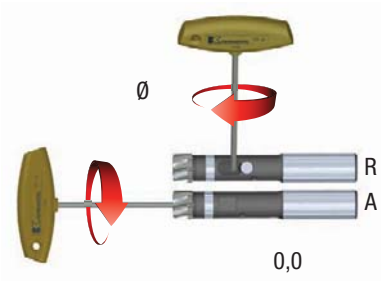



| Ø (mm) | | Ø (in) | | L (mm) |
|---|---|---|---|---|
| 14,000 | 27,499 | 0.549 | 1.078 | 5–5,5 |
| 27,500 | 42,000 | 1.078 | 1.647 | 5,5–6 |

**3**




**4**

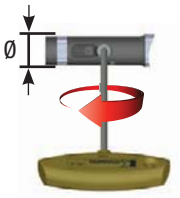



| Ø (mm) | | Ø (in) | | | (Nm) | (ft. lbs.) |
|---|---|---|---|---|---|---|
| 14,000 | 15,999 | 0.549 | 0.627 | DT - 8 | 2 | 1.5 |
| 16,000 | 19,999 | 0.627 | 0.784 | DT - 10 | 3 | 2.2 |
| 20,000 | 27,499 | 0.784 | 1.078 | TT - 15 | 4 | 3.7 |
| 27,500 | 32,499 | 1.078 | 1.274 | TT - 25 | 5 | 6.7 |
| 32,500 | 42,000 | 1.275 | 1.647 | TT- 30 | 13 | 9.7 |

**Disassemble** 4 → 3 → 2 → 1

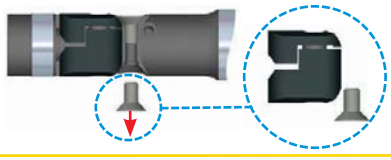
## Disassemble

1

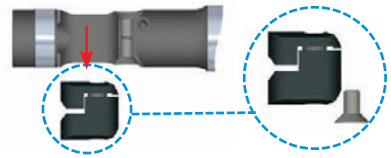



| Ø (mm) | Ø (in) | | | (Nm) | (ft. lbs.) |
|---|---|---|---|---|---|
| 17,5 | 0.686 | KST175CS | 2,5 | 2,5 | 1.9 |
| 20 | 0.784 | KST200CS | 2,5 | 2,5 | 1.9 |
| 25 | 0.980 | KST250CS | 3 | 5 | 3.7 |
| 30 | 1.176 | KST300CS | 4 | 9 | 6.7 |
| 35 | 1.373 | KST350CS | 4 | 9 | 9.7 |

2



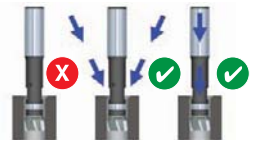
3



**Assemble** 3 → 2 → 1

### SIF™

### Coolant flow



### Application

# SIF™ Steerable Toolholder

## Primary Application

SIF steerable toolholders should be used for easy compensation of radial runout and angular inaccuracies caused by the machine spindle or gravity. SIF tooling improves hole roundness for highest possible hole straightness and surface quality. Runout-optimized reaming tools provide higher process stability and longer tool life.

Use a separate SIF tooling package for each machine to ensure best configuration between reaming tool and spindle and HSK bushes. This enables faster tool change to avoid repeating adjustments.

## Features and Benefits

### Higher Productivity and Profitability

- Easy compensation of radial runout and angular inaccuracies increases process control and tool life.
- Less time-consuming adjustment due to eight radial screws.
- Increased rigidity by using a SIF back-end as a monoblock solution with the reamer.

### Versatility

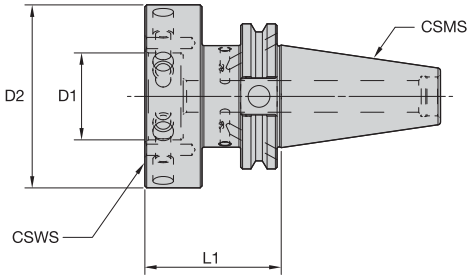
- Use standard DV, BT, CV, and HSK adapters in combination with SIF hydraulic chucks for precise concentric clamping, highest accuracy, and flexible clamping using hydraulic chuck sleeves.
- HSK bushes with SIF coupling enable fast tool exchange and eliminate repeated runout adjustment, reducing adjustment and downtime.

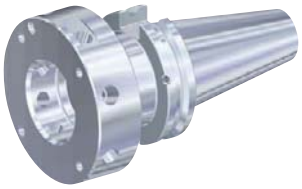
# SIF™ adaptation practically eliminates all spindle errors in terms of runout and angular misalignment.

## Customization

- Different length versions and coupling size combinations are available.

- Through-the-toolholder coolant capability — form AD or form B.
- Suitable for SIF adapters.



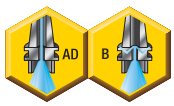


## SIF-CV50 Form B/AD

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | D1 mm | D1 in | L1 mm | L1 in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3738506** | **CV50BSIF70236** | CV50 | SIF70 | 70 | 3 | 38 | 1.496 | 60 | 2.362 | **121.808** | **170.004** | **170.005** | **125.625** | 3,49 | 7.700 |
| **3738507** | **CV50BSIF100236** | CV50 | SIF100 | 100 | 4 | 58 | 2.283 | 60 | 2.362 | **121.812** | **170.004** | **170.006** | **–** | 4,14 | 9.140 |

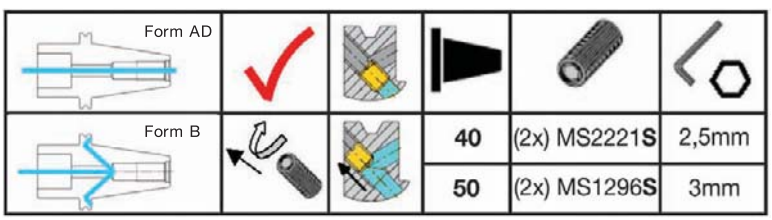
## SIF-CV40 Form B/AD

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | D1 mm | D1 in | L1 mm | L1 in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3738505** | **CV40BSIF80248** | CV40 | SIF80 | 80 | 3 | 38 | 1.496 | 63 | 2.480 | **121.812** | **170.004** | **170.005** | **125.625** | 1,77 | 3.900 |

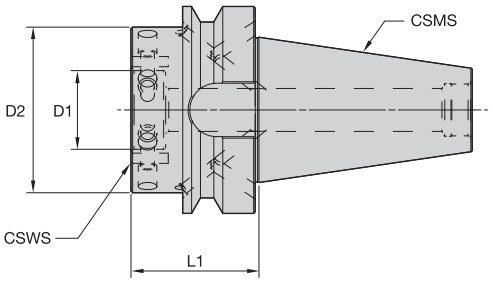



## SIF-BT40 Form B/AD

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | D1 mm | D1 in | L1 mm | L1 in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3738492** | **BT40BSIF80063M** | BT40 | SIF80 | 80 | 3 | 38 | 1.496 | 63 | 2.480 | **121.812** | **170.004** | **170.005** | **125.625** | 1,86 | 4.110 |



- Through-the-toolholder coolant capability — form AD or form B.
- Suitable for SIF adapters.



## SIF-BT50 Form B/AD

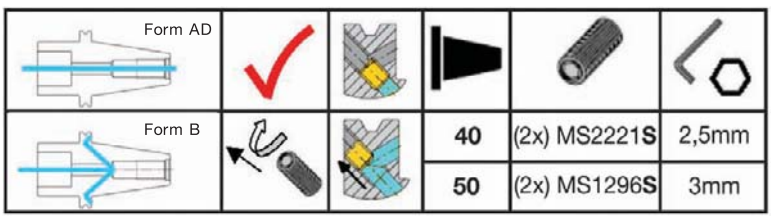
| | | | | D2 | | D1 | | L1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | CSMS system size | CSWS system size | mm | in | mm | in | mm | in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
| 3738503 | BT50BSIF70063M | BT50 | SIF70 | 70 | 3 | 38 | 1.496 | 63 | 2.480 | 121.808 | 170.004 | 170.005 | 125.625 | 4,08 | 9.000 |
| 3738504 | BT50BSIF100068M | BT50 | SIF100 | 100 | 4 | 58 | 2.283 | 68 | 2.677 | 121.812 | 170.004 | 170.006 | – | 4,94 | 10.890 |

## SIF-DV40 Form B/AD

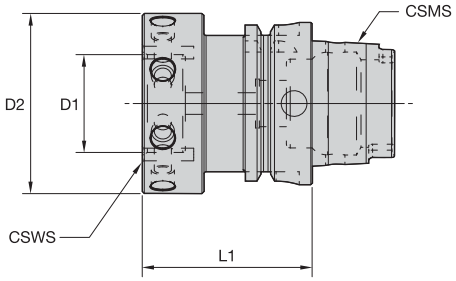
| | | | | D2 | | D1 | | L1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | CSMS system size | CSWS system size | mm | in | mm | in | mm | in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
| 3738488 | DV40BSIF80061M | DV40 | SIF80 | 80 | 3 | 38 | 1.496 | 61 | 2.402 | 121.812 | 170.004 | 170.005 | 125.625 | 1,83 | 4.020 |

## SIF-DV50 Form B/AD

| | | | | D2 | | D1 | | L1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | CSMS system size | CSWS system size | mm | in | mm | in | mm | in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
| 3738490 | DV50BSIF70060M | DV50 | SIF70 | 70 | 3 | 38 | 1.496 | 60 | 2.362 | 121.808 | 170.004 | 170.005 | 125.625 | 3,60 | 7.930 |
| 3738491 | DV50BSIF100060M | DV50 | SIF100 | 100 | 4 | 58 | 2.283 | 60 | 2.362 | 121.812 | 170.004 | 170.006 | – | 4,30 | 9.480 |



- Through-the-toolholder coolant capability.
- Suitable for SIF adapters.



## SIF-HSK63 Form A

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | D1 mm | D1 in | L1 mm | L1 in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3738508** | **HSK63ASIF70066M** | HSK63A | SIF70 | 70 | 3 | 38 | 1.496 | 66 | 2.598 | **121.808** | **170.004** | **170.005** | **125.625** | 1,44 | 3.180 |
| **3878347** | **HSK63ASIF80063M** | HSK63A | SIF80 | 80 | 3 | 38 | 1.496 | 63 | 2.480 | **121.812** | **170.004** | **170.005** | **125.625** | 1,48 | 3.250 |

## SIF-HSK80 Form A

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | D1 mm | D1 in | L1 mm | L1 in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3738510** | **HSK80ASIF70066M** | HSK80A | SIF70 | 70 | 3 | 38 | 1.496 | 66 | 2.598 | **121.808** | **170.004** | **170.005** | **125.625** | 2,05 | 4.520 |

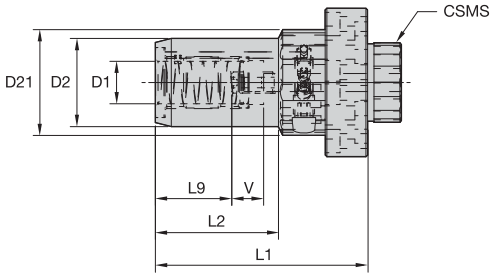
NOTE: HSK coolant unit and wrench are available and must be ordered separately.

## SIF-HSK100 Form A

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | D1 mm | D1 in | L1 mm | L1 in | dog-point set screw | hex wrench | hex wrench | socket-head cap screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3738511** | **HSK100ASIF70050M** | HSK100A | SIF70 | 70 | 3 | 38 | 1.496 | 50 | 1.969 | **121.808** | **170.004** | **170.005** | **125.625** | 2,43 | 5.360 |
| **3738512** | **HSK100ASIF100070M** | HSK100A | SIF100 | 100 | 4 | 58 | 2.283 | 70 | 2.756 | **121.812** | **170.004** | **170.006** | **–** | 3,84 | 8.460 |

NOTE: HSK coolant unit and wrench are available and must be ordered separately.

- Runout < .0001" (0,003mm).
- External side actuation adjustment stop, giving 3/8" (10mm) axial adjustment.



## HC HP Line • SIF70

| order number | catalog number | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | D21 mm | D21 in | L1 mm | L1 in | L2 mm | L2 in | L9 mm | L9 in | V mm | V in | hex wrench | T-handle hex wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3667056** | **SIF70HC12090M** | SIF70 | 12 | .472 | 32 | 1.244 | 44 | 1.724 | 90 | 3.543 | 45 | 1.752 | 36 | 1.417 | 10 | .394 | **170.002** | **170.135** | 1,13 | 2.49 |
| **3667057** | **SIF70HC20100M** | SIF70 | 20 | .787 | 42 | 1.636 | 44 | 1.724 | 100 | 3.937 | 58 | 2.283 | 41 | 1.614 | 10 | .394 | **170.003** | **170.135** | 2,00 | 4.41 |

NOTE: HSK coolant unit and wrench are available and must be ordered separately.

IMPORTANT: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.

## HC HP Line • SIF80

| order number | catalog number | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | D21 mm | D21 in | L1 mm | L1 in | L2 mm | L2 in | L9 mm | L9 in | V mm | V in | hex wrench | T-handle hex wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3667058** | **SIF80HC12090M** | SIF80 | 12 | .472 | 32 | 1.244 | 50 | 1.963 | 90 | 3.543 | 45 | 1.752 | 36 | 1.417 | 10 | .394 | **170.002** | **170.135** | 9,00 | 19.84 |
| **3667059** | **SIF80HC20100M** | SIF80 | 20 | .787 | 42 | 1.638 | 50 | 1.963 | 100 | 3.937 | 58 | 2.283 | 41 | 1.614 | 10 | .394 | **170.003** | **170.135** | 1,60 | 3.53 |
| **3667060** | **SIF80HC25100M** | SIF80 | 25 | .984 | 50 | 1.959 | 54 | 2.118 | 100 | 3.937 | 51 | 2.008 | 47 | 1.850 | 10 | .394 | **170.003** | **170.136** | 1,83 | 4.03 |

NOTE: HSK coolant unit and wrench are available and must be ordered separately.

IMPORTANT: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.

## HC HP Line • SIF100

| order number | catalog number | CSMS system size | D1 | D2 | D21 | L1 | L2 | L9 | V | hex wrench | T-handle hex wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3667061** | **SIF100HC12090M** | SIF100 | 12 | 32 | 50 | 90 | 45 | 36 | 10 | **170.002** | **170.135** | 1,98 | 4.37 |
| **3667062** | **SIF100HC20100M** | SIF100 | 20 | 42 | 50 | 100 | 58 | 41 | 10 | **170.003** | **170.135** | 2,19 | 4.84 |
| **3668023** | **SIF100HC25100M** | SIF100 | 25 | 50 | 63 | 100 | 51 | 47 | 10 | **170.004** | **170.136** | 2,56 | 5.64 |

NOTE: HSK coolant unit and wrench are available and must be ordered separately.

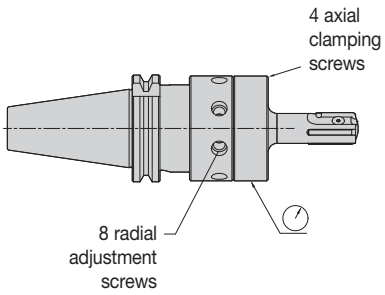
IMPORTANT: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.

# SIF Tooling Setup

## Step 1: Rough setup of runout at flange

1

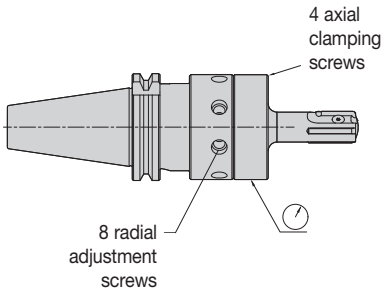
- Set gage (TIR) at SIF flange.
- Tight axial clamping screws 4.4–5.9 ft. lbs. (6–8 Nm).
- Use radial adjustment screws to achieve .0002" (5 µm) runout.



## Step 2: Fine setup of runout at the flange

2

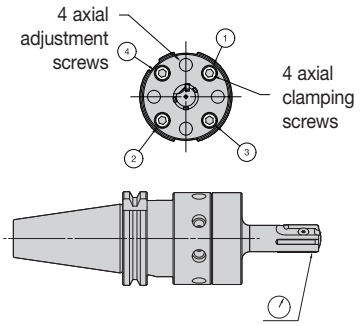
- Tight axial clamping screws crosswise:
  SIF70/80 13.3 ft. lbs. (18 Nm).
  SIF100 23.6 ft. lbs. (32 Nm).
- Use radial adjustment screws to achieve .00008" (2 µm) runout.
- All radial adjustment screws to be clamped tight at 3.0 ft. lbs. (4 Nm).



## Step 3: Adjustment of runout at front

3

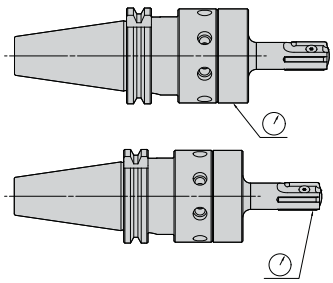
- Set gage (TIR) at control grind, cylindrical land, or guide pads.
- Use axial adjustment screws to achieve a maximum runout error of .00008" (2 µm).
- All axial adjustment screws to be clamped tight at 3.0 ft. lbs. (4 Nm).



## Step 4: Final runout check

4

- Check using gage (TIR) at flange; no deviation by theory.
- If needed, use radial adjustment screws to set runout below .00008" (2 µm).
- Any modification of radial setup demands an axial runout check and adjustment, if necessary.



# RIQ™ (Quattro Cut™) and RIR™
## Padded Reamers

### Primary Application

Master the highest precision reaming with standard inserts in almost all materials with two unique systems: RIR padded reamers for small-diameter applications and RIQ padded reamers for easy setup in large-diameters applications.

RIQ reamers are available starting at diameter 16mm (.630") with four cutting edges for lowest cost per hole. The proprietary pocket seat only requires setup of the diameter, which is a huge benefit in simplicity compared to systems that require the diameter and back taper to be adjusted simultaneously. RIR padded reamers are also proprietary and available starting at diameter 6mm (.236") with one cutting edge, and diameter 8mm (.315") with two edges.

## Features and Benefits

### Higher Productivity and Profitability

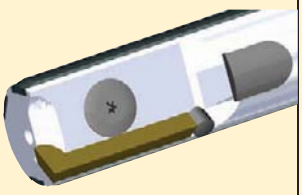
- Longer tool life with Kennametal grades.
- User friendly — RIQ padded reamers reduce setup time.
- Use four full edges even in PCD or PcBN styles of RIQ inserts.

### Complete Insert Portfolio

- Large standard offering of lead geometries — E13, EDS, EDR, EGU, EGR, radius, and taper inserts.
- Large offering of grades — coated and uncoated carbide, cermet, PcBN, and PCD.

### Customization

- All RIQ tooling engineered to specific needs in diameters 16–245mm (.630–9.645") with internal coolant.
- All RIR tooling engineered to specific needs in diameters 6–245mm (.236–9.645") with internal coolant.
- RIR taper reamers available upon request.
- Multiflute and step reaming applications and special blade shapes available upon request.
- Measuring and adjustment equipment available as standard.

| Application recommendation | RIR | RIQ |
|---|---|---|
| | Bore tolerances less than 10 µm (can be greater). Geometric tolerances down to 2 µm. Skilled workforce experience required.  | Bore tolerances less than 10 µm. Geometric tolerances down to 2 µm. Lower skilled workforce, easier adjustment. Multidiameter bores. |
| Pocket seat | Flat with clamping groove in blade. | Serrated. Greater insert stability. |
| Cutting edges | 2 (1 with PCD or CBN and 1 within diameter range 6–8mm [.236–.315"]) | 4 (SC, cermet, PCD, CBN) |
| Special blade forms | yes | yes |
| Multiple inserts on diameter | no | yes |
| Blade adjustment | Diameter and back taper. | Diameter only (back taper defined by serration). |
| Blade adjusting screws | 2 | 1 |
| Chamfer or valve seat machining | Yes, but adjustment required on position and angle. | Yes, only adjustment of position. Angle adjustment not required due to precision of serrated pocket seat. |
| General comments | For small diameters with high setup effort. | For larger diameters with low setup effort. |

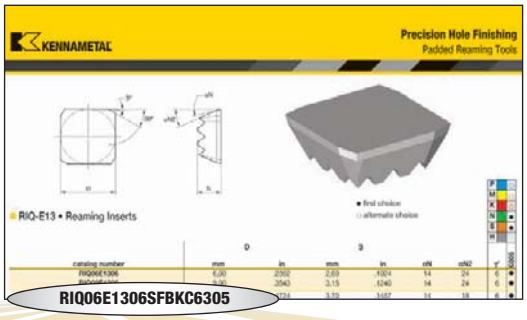
RIR™ Reamer

RIQ™ Reamer

RIQ™ Valve Seat Tool

## How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.




| RIQ | 06 | E13 | 06 | S | FB | KC6305 |
|---|---|---|---|---|---|---|
| Type | Size | Lead | Rake | Edge | Chipbreaker | Grade |

**RIR** = Reamer Insert Rectangular

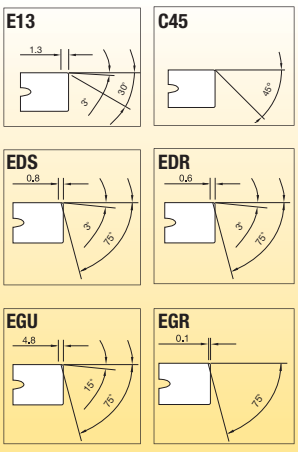
**RIQ** = Reamer Insert Quattro Cut™

**Blade Size**

| Ø [mm] | RIQ | |
|---|---|---|
| 16,0–24,99 | **06** | 6,0 x 6,0mm |
| Valve Seat | **B6** | 6,0 x 6,0mm |
| Valve Seat | **B7** | 6,5 x 6,5mm |
| Valve Seat | **07** | 7,0 x 7,0mm |
| Valve Seat | **08** | 8,0 x 8,0mm |
| >25 | **09** | 9,0 x 9,0mm |
| >25 | **12** | 12,0 x 12,0mm |

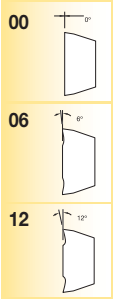
| Ø [mm] | RIR | |
|---|---|---|
| 6,0–7,99 | **A0** | 10,5 x 2,50mm |
| 8,0–10,99 | **01** | 15,0 x 2,80mm |
| 11,0–13,99 | **02** | 18,0 x 4,00mm |
| 14,0–17,99 | **03** | 20,0 x 4,76mm |
| 18,0–45,99 | **04** | 27,0 x 5,56mm |
| >46 | **05** | 27,0 x 6,75mm |
| Taper Reamer | **T4** | 45,0 x 5,56mm |

**Cutting Lead**




**R** = Radius Blade
R02
R04
R05

**Rake Angle**

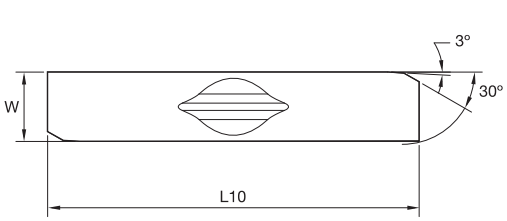



**S** Chamfered and Rounded

**FB** = Finishing Blind Hole

**FT** = Finishing Through Hole

| Grade | |
|---|---|
| Carbide | KC6005 |
| Carbide | KC6105 |
| Carbide | KC6305 |
| Cermet | KT6225 |
| Cermet | KT6315 |
| PCD | KD1415 |
| CBN | KB1610 |



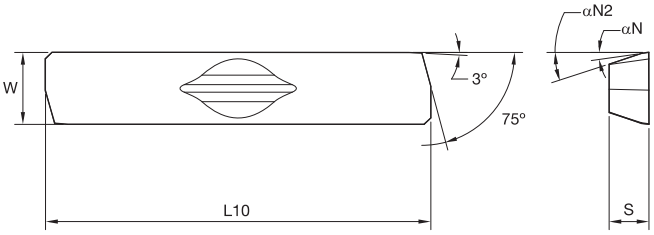
● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | ● | ● | ○ |
| M | ○ | ○ | ● |
| K | ● | ● | ● |
| N | ○ | ○ | ○ |
| S | | | |
| H | | | |

## RIR-E13 • Reaming Inserts

| ISO catalog number | ANSI catalog number | L10 mm | L10 in | S mm | S in | W mm | W in | αN° | αN2° | γ° | KC6005 | KC6105 | KC6305 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIR01E1306 * | RIR01E1306 * | 15,00 | .5906 | 1,53 | .0602 | 2,80 | .1102 | 8 | 18 | 6 | – | ● | – |
| RIR01E1312 * | RIR01E1312 * | 15,00 | .5910 | 1,53 | .0600 | 2,80 | .1100 | 8 | 18 | 12 | – | ● | – |
| RIR02E1312 * | RIR02E1312 * | 18,00 | .7090 | 1,93 | .0760 | 4,00 | .1575 | 8 | 18 | 12 | – | ● | ● |
| RIR03E1312 * | RIR03E1312 * | 20,00 | .7870 | 2,33 | .0920 | 4,76 | .1870 | 8 | 18 | 12 | – | – | ● |
| RIR04E1312 | RIR04E1312 | 27,00 | 1.0630 | 3,13 | .1230 | 5,56 | .2190 | 8 | 18 | 12 | ● | – | – |
| RIR04E1312 * | RIR04E1312 * | 27,00 | 1.0630 | 3,13 | .1230 | 5,56 | .2190 | 8 | 18 | 12 | – | ● | – |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



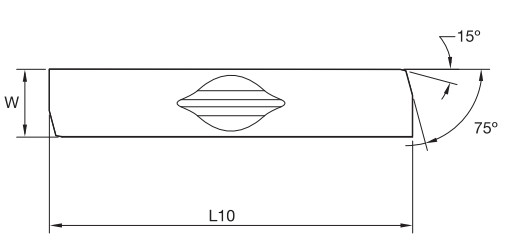
● first choice
○ alternate choice

| | |
|---|---|
| P | |
| M | |
| K | |
| N | ● |
| S | |
| H | |

## RIR-EDS • Reaming Inserts

| ISO catalog number | ANSI catalog number | L10 mm | L10 in | S mm | S in | W mm | W in | αN° | αN2° | γ° | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RIR04EDS06 * | RIR04EDS06 * | 27,00 | 1.0630 | 3,15 | .1240 | 5,56 | .2190 | 8 | 18 | 6 | |

NOTE: All KD1415™ inserts are single tipped except full face at size RIR01.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



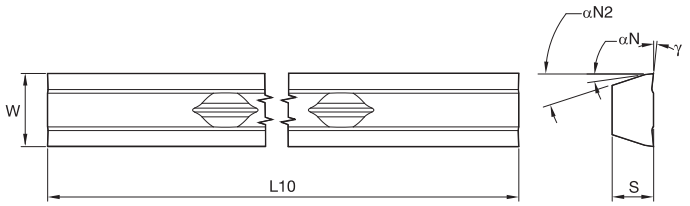
● first choice
○ alternate choice

| | |
|---|---|
| P | ● |
| M | ○ |
| K | ● |
| N | ○ |
| S | |
| H | |

## RIR-EGU • Reaming Inserts

| ISO catalog number | ANSI catalog number | L10 mm | L10 in | S mm | S in | W mm | W in | αN° | αN2° | KC6105 |
|---|---|---|---|---|---|---|---|---|---|---|
| RIR01EGU00 | RIR01EGU00 | 14,48 | .5699 | 1,55 | .0610 | 2,80 | .1100 | 8 | 18 | |
| RIR05EGU00 * | RIR05EGU00 * | 27,00 | 1.0630 | 3,15 | .1240 | 6,75 | .2660 | 8 | 18 | |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



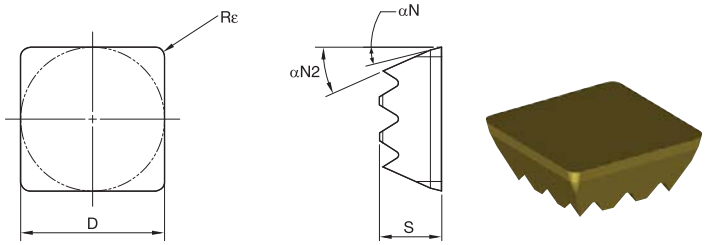
● first choice
○ alternate choice

| P | ● |
|---|---|
| M | ○ |
| K | ● |
| N | ○ |
| S | |
| H | |

## RIR-C45 • Reaming Inserts

| ISO catalog number | ANSI catalog number | L10 mm | L10 in | S mm | S in | W mm | W in | αN° | αN2° | γ° | KC6005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RIRT4C4512** | **RIRT4C4512** | 45,00 | 1.7720 | 3,15 | .1240 | 5,56 | .2190 | 8 | 18 | 12 | ● |

NOTE: For use with taper reamer bodies.





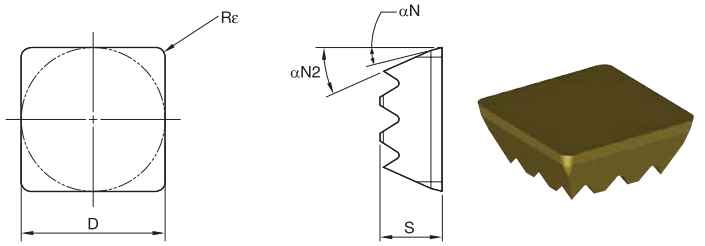

● first choice
○ alternate choice

| P | |
|---|---|
| M | |
| K | |
| N | ● |
| S | |
| H | |

## RIQ-R02 • Reaming Inserts

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | Rε mm | Rε in | αN° | αN2° | γ° | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RIQ06R0200 *** | **RIQ06R0200 *** | 6,00 | .2362 | 2,60 | .1024 | 0,20 | .0079 | 8 | 18 | 0 | ● |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



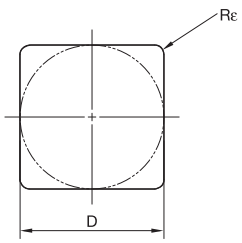


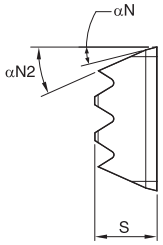

● first choice
○ alternate choice

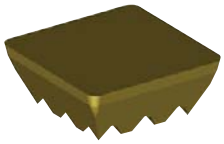
| P | ● |
|---|---|
| M | ○ |
| K | ○ |
| N | |
| S | |
| H | ● |

## RIQ-R04 • Reaming Inserts

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | Rε mm | Rε in | αN° | αN2° | γ° | KB1610 | KT6225 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RIQ06R0400S** | **RIQ06R0400S** | 6,00 | .2362 | 2,60 | .1024 | 0,40 | .0160 | 8 | 18 | 0 | ● | – |
| **RIQ09R0400S** | **RIQ09R0400S** | 9,00 | .3540 | 3,15 | .1240 | 0,40 | .0160 | 8 | 18 | 0 | ● | – |



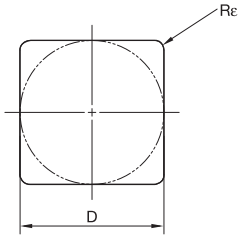
● first choice
○ alternate choice

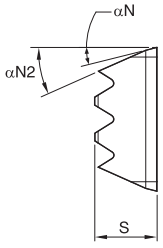
| | | |
|---|---|---|
| P | | ● |
| M | | ○ |
| K | ○ | |
| N | | |
| S | | |
| H | ● | |

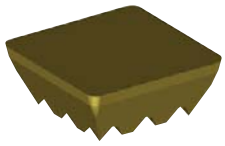
## RIQ-R04-FB • Reaming Inserts • With Chipbreaker • For Blind Holes

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | Rε mm | Rε in | αN° | αN2° | γ° | KB1610 | KT6225 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIQ06R0400FB | RIQ06R0400FB | 6,00 | .2362 | 2,60 | .1024 | 0,40 | .0169 | 3 | 18 | 12 | – | ● |
| RIQ09R0400FB | RIQ09R0400FB | 9,00 | .3543 | 3,15 | .1240 | 0,40 | .0156 | 3 | 18 | 12 | – | ● |





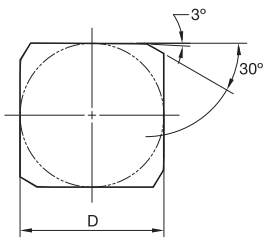



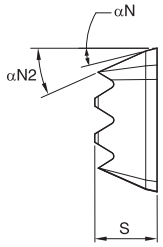
● first choice
○ alternate choice

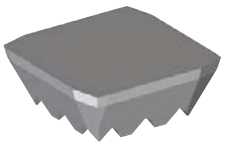
| | | |
|---|---|---|
| P | | ● |
| M | | ○ |
| K | | |
| N | | |
| S | | |
| H | | |

## RIQ-R05 • Reaming Inserts • With Chipbreaker • For Through Holes

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | Rε mm | Rε in | αN° | αN2° | γ° | KT6315 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RIQ06R0500FT | RIQ06R0500FT | 6,00 | .2362 | 2,60 | .1024 | 0,50 | .0197 | 8 | 18 | 0 | ● |
| RIQ09R0506FT | RIQ09R0506FT | 9,00 | .3543 | 3,15 | .1240 | 0,50 | .0197 | 14 | 24 | 6 | ● |



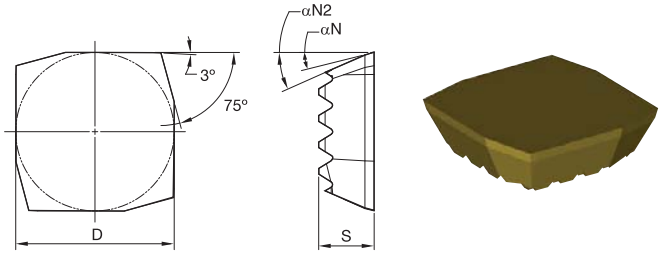
● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | ● | ● | ○ |
| M | ○ | ○ | ● |
| K | ● | ● | ● |
| N | ○ | ○ | ○ |
| S | | | |
| H | | | |

## RIQ-E13 • Reaming Inserts

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | αN° | αN2° | γ° | KC6005 | KC6105 | KC6305 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RIQ06E1300 * | RIQ06E1300 * | 6,00 | .2362 | 2,60 | .1024 | 8 | 18 | 0 | ● | ● | ● |
| RIQ06E1306 * | RIQ06E1306 * | 6,00 | .2362 | 2,60 | .1024 | 14 | 24 | 6 | ● | ● | ● |
| RIQ06E1312 * | RIQ06E1312 * | 6,00 | .2362 | 2,60 | .1024 | 20 | 30 | 12 | ● | ● | ● |
| RIQ09E1300 * | RIQ09E1300 * | 9,00 | .3543 | 3,15 | .1240 | 8 | 18 | 0 | ● | ● | ● |
| RIQ09E1306 * | RIQ09E1306 * | 9,00 | .3543 | 3,15 | .1240 | 14 | 24 | 6 | ● | ● | ● |
| RIQ09E1312 * | RIQ09E1312 * | 9,00 | .3543 | 3,15 | .1240 | 20 | 30 | 12 | ● | ● | ● |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



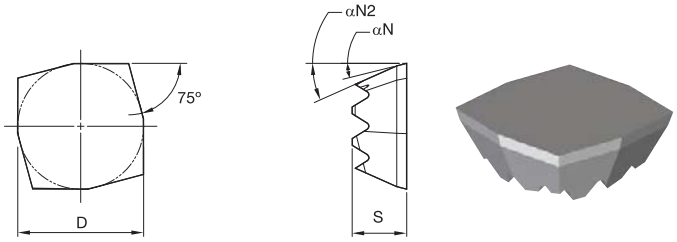

● first choice
○ alternate choice

| | | | | |
|---|---|---|---|---|
| P | ● | ● | ○ | |
| M | ○ | ○ | ● | |
| K | ● | ● | ● | |
| N | ○ | ○ | ○ | ● |
| S | | | | |
| H | | | | |

## RIQ-EDR • Reaming Inserts

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | αN° | αN2° | γ° | KC6005 | KC6105 | KC6305 | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIQ06EDR00 | RIQ06EDR00 | 6,00 | .2362 | 2,60 | .1024 | 8 | 18 | 0 | ● | – | ● | – |
| RIQ06EDR00 * | RIQ06EDR00 * | 6,00 | .2362 | 2,60 | .1024 | 8 | 18 | 0 | – | ● | – | – |
| RIQ06EDR06 * | RIQ06EDR06 * | 6,00 | .2362 | 2,60 | .1024 | 14 | 24 | 6 | ● | – | – | – |
| RIQ06EDR06 | RIQ06EDR06 | 6,00 | .2362 | 2,60 | .1024 | 14 | 24 | 6 | – | ● | ● | ● |
| RIQ06EDR12 * | RIQ06EDR12 * | 6,00 | .2362 | 2,60 | .1024 | 20 | 30 | 12 | ● | ● | ● | – |
| RIQ09EDR00 * | RIQ09EDR00 * | 9,00 | .3543 | 3,15 | .1240 | 8 | 18 | 0 | ● | ● | ● | – |
| RIQ09EDR06 * | RIQ09EDR06 * | 9,00 | .3543 | 3,15 | .1240 | 14 | 24 | 6 | ● | ● | ● | ● |
| RIQ09EDR12 * | RIQ09EDR12 * | 9,00 | .3543 | 3,15 | .1240 | 20 | 30 | 12 | ● | ● | ● | – |

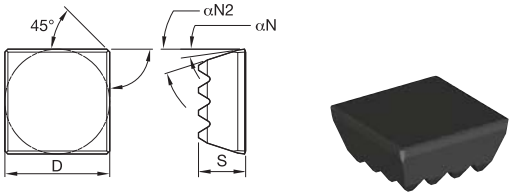
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.




## RIQ-EGR • Reaming Inserts

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | αN° | αN2° | γ° | KC6005 | KC6105 | KC6305 | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIQ06EGR00 | RIQ06EGR00 | 6,00 | .2362 | 2,60 | .1020 | 8 | 18 | 0 | ● | – | – | – |
| RIQ06EGR00 * | RIQ06EGR00 * | 6,00 | .2362 | 2,60 | .1020 | 8 | 18 | 0 | – | ● | ● | – |
| RIQ06EGR06 | RIQ06EGR06 | 6,00 | .2362 | 2,60 | .1020 | 14 | 24 | 6 | ● | – | – | ● |
| RIQ06EGR06 * | RIQ06EGR06 * | 6,00 | .2362 | 2,60 | .1020 | 14 | 24 | 6 | – | ● | ● | – |
| RIQ06EGR12 * | RIQ06EGR12 * | 6,00 | .2362 | 2,60 | .1020 | 20 | 30 | 12 | ● | ● | ● | – |
| RIQ09EGR00 | RIQ09EGR00 | 9,00 | .3543 | 3,15 | .1240 | 8 | 18 | 0 | ● | – | – | – |
| RIQ09EGR00 * | RIQ09EGR00 * | 9,00 | .3543 | 3,15 | .1240 | 8 | 18 | 0 | – | ● | ● | – |
| RIQ09EGR06 * | RIQ09EGR06 * | 9,00 | .3543 | 3,15 | .1240 | 14 | 24 | 6 | ● | ● | – | – |
| RIQ09EGR06 | RIQ09EGR06 | 9,00 | .3543 | 3,15 | .1240 | 14 | 24 | 6 | – | – | ● | ● |
| RIQ09EGR12 * | RIQ09EGR12 * | 9,00 | .3543 | 3,15 | .1240 | 20 | 30 | 12 | ● | ● | ● | – |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.




● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | |
| M | | |
| K | ● | ● |
| N | | |
| S | | |
| H | ● | ● |

## RIQ-C45 • Valve Seat Finishing

| ISO catalog number | ANSI catalog number | D mm | D in | S mm | S in | αN° | αN2° | KBHK10 | KBHK15 |
|---|---|---|---|---|---|---|---|---|---|
| RIQB6C4500S | RIQB6C4500S | 6,00 | .2362 | 2,60 | .1024 | 8 | 18 | ● | ● |
| RIQB7C4500S | RIQB7C4500S | 6,50 | .2559 | 2,60 | .1024 | 8 | 18 | ● | ● |
| RIQ07C4500S | RIQ07C4500S | 7,00 | .2756 | 3,15 | .1240 | 8 | 18 | ● | ● |
| RIQ08C4500S | RIQ08C4500S | 8,00 | .3150 | 3,15 | .1240 | 8 | 18 | ● | ● |
| RIQ09C4500S | RIQ09C4500S | 9,00 | .3540 | 3,15 | .1240 | 8 | 18 | ● | ● |

## RIR™/RIQ™ • Metric



| Material Group | | Grade | Cutting Speed — vc Range — m/min | | | Hole Types | 1 | 2 | 3 | 4 | 5 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Metric | | | | | | | |
| | | | | | | Recommended Feed Rate per Tooth | | | | | | | |
| | | | min | Starting Value | max | | E13 | EDS | EDR | EGR | EGU | R0X | C45* |
| P | 1 | KC6005 | 30 | **60** | 100 | mm/r | 0,10–0,20 | – | – | – | – | – | 0,20–0,30 |
| | 2 | KC6005 | 20 | **50** | 90 | mm/r | 0,10–0,20 | – | – | – | – | – | 0,20–0,30 |
| | 3 | KC6005 | 20 | **40** | 80 | mm/r | 0,05–0,20 | – | – | – | – | – | 0,20–0,30 |
| | | KT6225 | 120 | **180** | 240 | mm/r | – | – | – | – | – | 0,15–0,20 | – |
| | | KT6315 | 120 | **180** | 240 | mm/r | – | – | – | – | – | 0,15–0,20 | – |
| | 4 | KC6005 | 15 | **30** | 50 | mm/r | 0,05–0,20 | – | – | – | – | – | 0,20–0,30 |
| | | KC6105 | 15 | **30** | 50 | mm/r | 0,05–0,20 | – | – | – | – | – | – |
| | | KT6225 | 120 | **180** | 240 | mm/r | – | – | – | – | – | 0,15–0,20 | – |
| | | KT6315 | 120 | **180** | 240 | mm/r | – | – | – | – | – | 0,15–0,20 | – |
| | 5 | KC6105 | 10 | **25** | 40 | mm/r | 0,05–0,20 | – | – | – | – | – | – |
| | 6 | KC6105 | 10 | **25** | 40 | mm/r | 0,05–0,20 | – | – | – | – | – | – |
| M | 1 | KC6305 | 10 | **25** | 40 | mm/r | 0,05–0,20 | – | – | – | – | – | – |
| | 2 | KC6305 | 10 | **25** | 40 | mm/r | 0,05–0,20 | – | – | – | – | – | – |
| | 3 | KC6305 | 10 | **25** | 40 | mm/r | 0,05–0,20 | – | – | – | – | – | – |
| K | 1 | KC6005 | 20 | **70** | 100 | mm/r | 0,10–0,20 | 0,15–0,20 | 0,15–0,20 | 0,18–0,20 | – | – | 0,20–0,30 |
| | | K6105 | 20 | **70** | 100 | mm/r | – | – | – | – | 0,20 | – | – |
| | 2 | KC6005 | 20 | **60** | 100 | mm/r | 0,10–0,20 | 0,15–0,20 | 0,15–0,20 | 0,18–0,20 | – | – | 0,20–0,30 |
| | | K6105 | 20 | **60** | 100 | mm/r | – | – | – | – | 0,20 | – | – |
| | 3 | KC6005 | 20 | **60** | 100 | mm/r | 0,10–0,20 | 0,13–0,20 | 0,13–0,20 | 0,15–0,20 | 0,17–0,20 | – | 0,20–0,30 |
| N | 1 | KD1415 | 100 | **250** | 600+ | mm/r | – | 0,10–0,20 | 0,10–0,20 | 0,10–0,20 | – | – | – |
| | 2 | KD1415 | 100 | **250** | 600+ | mm/r | – | 0,10–0,20 | 0,10–0,20 | 0,10–0,20 | – | – | – |
| | 3 | KD1415 | 100 | **250** | 600+ | mm/r | – | 0,10–0,20 | 0,10–0,20 | 0,10–0,20 | – | – | – |
| | 4 | KD1415 | 100 | **250** | 600+ | mm/r | – | 0,10–0,20 | 0,10–0,20 | 0,10–0,20 | – | – | – |
| S | 1 | – | – | **–** | – | mm/r | Recommendations available on request | | | | | | |
| | 2 | – | – | **–** | – | mm/r | | | | | | | |
| | 3 | – | – | **–** | – | mm/r | | | | | | | |
| | 4 | – | – | **–** | – | mm/r | | | | | | | |
| H | 1 | KB1610 | 150 | **180** | 200 | mm/r | – | – | – | – | – | 0,05–0,10 | – |

*For taper reamers vc min 16 SFM (5 m/min), starting vc 33 SFM (10 m/min), max. vc 66 SFM (20 m/min).

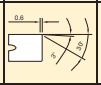
## RIR™/RIQ™ • Inch

| Material Group | | Grade | Cutting Speed — vc Range — SFM min | Starting Value | max | Hole Types | 1 | 2 | 3 | 4 | 5 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Inch | | | | | | | |
| | | | | | | Recommended Feed Rate per Tooth | | | | | | | |
| | | | | | | | E13 | EDS | EDR | EGR | EGU | R0X | C45* |
| P | 1 | KC6005 | 98 | **197** | 328 | IPR | 0.004–0.008 | – | – | – | – | – | 0.008–0.012 |
| | 2 | KC6005 | 66 | **164** | 295 | IPR | 0.004–0.008 | – | – | – | – | – | 0.008–0.012 |
| | 3 | KC6005 | 66 | **131** | 262 | IPR | 0.002–0.008 | – | – | – | – | – | 0.008–0.012 |
| | | KT6225 | 394 | **590** | 787 | IPR | – | – | – | – | – | 0.006–0.008 | – |
| | | KT6315 | 394 | **590** | 787 | IPR | – | – | – | – | – | 0.006–0.008 | – |
| | 4 | KC6005 | 49 | **98** | 164 | IPR | 0.002–0.008 | – | – | – | – | – | 0.008–0.012 |
| | | KC6105 | 49 | **98** | 164 | IPR | 0.002–0.008 | – | – | – | – | – | – |
| | | KT6225 | 394 | **590** | 787 | IPR | – | – | – | – | – | 0.006–0.008 | – |
| | | KT6315 | 394 | **590** | 787 | IPR | – | – | – | – | – | 0.006–0.008 | – |
| | 5 | KC6105 | 33 | **82** | 131 | IPR | 0.002–0.008 | – | – | – | – | – | – |
| | 6 | KC6105 | 33 | **82** | 131 | IPR | 0.002–0.008 | – | – | – | – | – | – |
| M | 1 | KC6305 | 33 | **82** | 131 | IPR | 0.002–0.008 | – | – | – | – | – | – |
| | 2 | KC6305 | 33 | **82** | 131 | IPR | 0.002–0.008 | – | – | – | – | – | – |
| | 3 | KC6305 | 33 | **82** | 131 | IPR | 0.002–0.008 | – | – | – | – | – | – |
| K | 1 | KC6005 | 66 | **230** | 328 | IPR | 0.004–0.008 | 0.006–0.008 | 0.006–0.008 | 0.007–0.008 | – | – | 0.008–0.012 |
| | | K6105 | 66 | **230** | 328 | IPR | – | – | – | – | 0.008 | – | – |
| | 2 | KC6005 | 66 | **197** | 328 | IPR | 0.004–0.008 | 0.006–0.008 | 0.006–0.008 | 0.007–0.008 | – | – | 0.008–0.012 |
| | | K6105 | 66 | **197** | 328 | IPR | – | – | – | – | 0.008 | – | – |
| | 3 | KC6005 | 66 | **197** | 328 | IPR | 0.004–0.008 | 0.005–0.008 | 0.005–0.008 | 0.006–0.008 | 0.007–0.008 | – | 0.008–0.012 |
| N | 1 | KD1415 | 328 | **820** | 1968+ | IPR | – | 0.004–0.008 | 0.004–0.008 | 0.004–0.008 | – | – | – |
| | 2 | KD1415 | 328 | **820** | 1968+ | IPR | – | 0.004–0.008 | 0.004–0.008 | 0.004–0.008 | – | – | – |
| | 3 | KD1415 | 328 | **820** | 1968+ | IPR | – | 0.004–0.008 | 0.004–0.008 | 0.004–0.008 | – | – | – |
| | 4 | KD1415 | 328 | **820** | 1968+ | IPR | – | 0.004–0.008 | 0.004–0.008 | 0.004–0.008 | – | – | – |
| S | 1 | – | – | **–** | – | IPR | Recommendations available on request | | | | | | |
| | 2 | – | – | **–** | – | IPR | | | | | | | |
| | 3 | – | – | **–** | – | IPR | | | | | | | |
| | 4 | – | – | **–** | – | IPR | | | | | | | |
| H | 1 | KB1610 | 492 | **590** | 656 | IPR | – | – | – | – | – | 0.002–0.004 | – |

*For taper reamers vc min 16 SFM (5 m/min), starting vc 33 SFM (10 m/min), max. vc 66 SFM (20 m/min).

## Overview of RIR and RIQ insert leads

**Alternative insert lead that can be used**

| Tool designed for below listed lead | E06 | E13 | EDS | EGS | EKS | EGU | EGR | EDR | EKR | ESR | EUR | R02 | R04 | R06 | R08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  | | | | | | | | | | | | | | R |
| **E06** | ● | – | – | – | – | – | – | – | – | – | – | ● | – | – | – |
| **E13** | ● | ● | – | – | – | – | ○ | ○ | ○ | ○ | ○ | ● | ○ | – | – |
| **EDS** | ● | – | ● | ● | – | – | ● | ● | ○ | – | – | ● | ○ | – | – |
| **EGS** | ○ | – | – | ● | – | – | ● | – | – | – | – | ● | ○ | – | – |
| **EKS** | ● | – | – | – | ● | – | ● | ● | ● | – | – | ● | ○ | – | – |
| **EGU** | ○ | – | ○ | ○ | ○ | ● | ● | ○ | ○ | ○ | ○ | ● | ○ | ○ | – |
| **EGR** | ● | – | – | – | – | – | ● | – | – | – | – | ● | ○ | – | – |
| **EDR** | ● | – | – | ○ | – | – | ● | ● | ● | ● | ○ | ● | ○ | – | – |
| **EKR** | ● | – | – | ○ | – | – | ● | ● | ● | ● | ○ | ● | ○ | – | – |
| **ESR** | ● | – | – | ○ | – | – | ● | ● | ● | ● | ○ | ● | ○ | – | – |
| **EUR** | ● | – | – | ○ | – | – | ● | ● | ● | ● | ● | ● | ● | – | – |
| **R02** | – | – | – | – | – | – | ○ | – | – | – | – | ● | – | – | – |
| **R04** | – | – | – | – | – | – | ○ | – | – | – | – | ● | ● | – | – |
| **R06** | ● | – | – | – | – | – | ● | ● | ● | ● | ● | ● | ● | ● | – |
| **R08** | ● | – | – | – | – | – | ● | ● | ● | ● | ● | ● | ● | ● | ● |

**Insert Lead**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Surface finish** | ●●● | ●●● | ●● | ● | ●● | ●● | ● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● |
| **Postioning accuracy** | – | – | ●● | ●●● | ●● | ●● | ●●● | ●● | ●● | ●● | ●● | ● | ● | ● | ● |

**Legend**

| | | |
|---|---|---|
| ● | Alternative Inserts | Delivery condition of tool. Insert lead = tool lead. |
| ● | | 90% compatible. Later support of guide pads at the bore entrance can happen, if leads are not identical. |
| ○ | | Under certain circumstances compatible. Refer to a Kennametal expert for further support. |
| – | | Do not use in this tool. Can lead to tool damage. |

| | | |
|---|---|---|
| ●●● | Surface/ Positioning | Excellent results |
| ●● | | Good results |
| ● | | Sufficient results |
| – | | Not given |

General advice: To mount an insert, where the lead is not identical to the tool lead, the rake angle and insert size have to be identical.

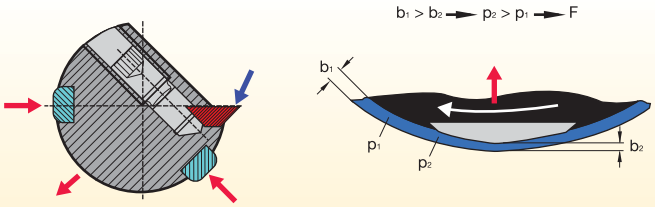
| coolant selection | | |
|---|---|---|
| | recommended | alternative |
| material type | mineral-oil-based emulsions | semi-synthetic |
| steel | 6% | 10% |
| nickel chrome steel | 6% | 12% |
| stainless steel | 6% | 12% |
| cast iron | 6% | 6% |
| aluminum | 6% | 12% |
| zinc alloys | 6% | 12% |
| copper | 6% | 12% |
| brass | 6% | 6% |

| pressure and flow rates | | | | | |
|---|---|---|---|---|---|
| cut diameter (mm) | cut diameter (in) | flow rate (L/min) | flow rate (gal/min) | pressure (bar) | pressure (psi) |
| 6–12 | .25–.468 | 15–20 | 55–75 | >10 | >150 |
| 12–16 | .468–.625 | 20–40 | 75–150 | >8 | >120 |
| 16–20 | .625–.781 | 30–50 | 115–190 | >7 | >100 |
| 20–32 | .781–1.25 | 40–75 | 150–285 | >5 | >75 |
| 32–50 | 1.25–2.0 | 65–250 | 245–950 | >4 | >50 |
| 50–100 | 2.0–4.0 | 175–350 | 660–1325 | >3 | >40 |

## Basic Principle

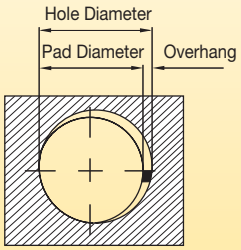
The Kennametal padded reaming tools follow two basic rules. The result, perfectly cylindrical bores with exceptional straightness and superior surface finishes combined with a bore diameter tolerance held to microns:

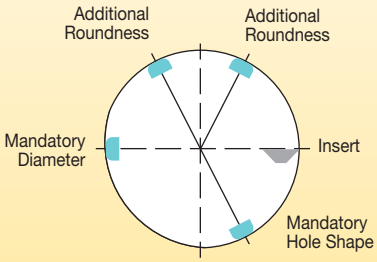
1. A SINGLE-POINT BORING TOOL SUPPORTED BY BEARING PADS, FLOATING ON A COOLANT FILM.
2. A TOOL MUST DEFLECT ONTO THE PADS, ON ENTERING THE HOLE, IN ORDER TO OBTAIN THE CORRECT SIZE.




Each padded reamer hosts a selection of guide pads that are positioned to resist the cutting forces created during machining. A minimum of two guide pads are necessary guiding the reamer in the predrilled hole.

The lubricant, in the form of coolant, gets between the pad and component surface, resulting in frictionless stability during cutting.




Guide pads are ground slightly smaller than the targeted diameter, this allows for blade/insert wear. Most common is a 10 µm overhang but can vary depending on the material to be cut.

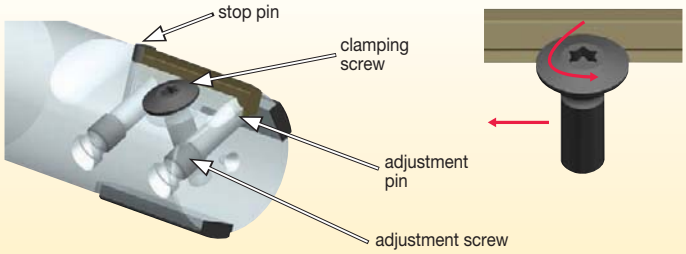
As padded reamers are specifically ground, relative to diameter and tolerance, guide pads are not flexible or adjustable. The pad below the insert ensures hole roundness while the pad opposite the insert defines the bore diameter. Each further pad improves the roundness, straightness, and bridges interruptions within the bore.

These carbide, cermet, PCD, and ceramic guide pads are selected and brazed or bonded to the body depending on coolant availability/type and abrasiveness of the material to be cut. Especially with high L/D ratio tooling (e.g., cam and crank boring bars), bonding of guide pads offers higher precision due to less thermal influence to the steel base body.

● first choice ○ alternate choice

| material | P | M | K | N | S | H | MQL |
|---|---|---|---|---|---|---|---|
| carbide | ● | ○ | ● | ● | | ○ | ○ |
| cermet | ● | ○ | ● | | | ○ | ● |
| PCD | | | ○ | | ● | | ● |

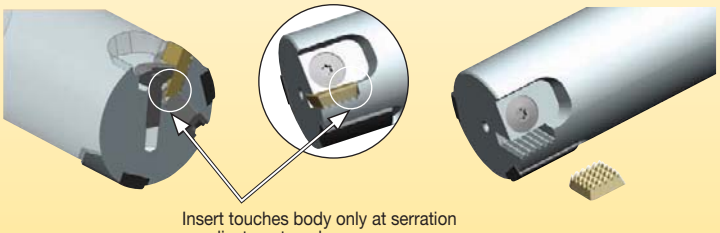
## RIR Clamping




RIR reaming inserts are clamped by a single screw to avoid weakening of the pocket seat against common clamping wedges. This clamp screw has a left hand thread to move and securely hold the blade against the stop pin. The stop pin ensures correct advancement of cutting insert to guiding pad.

Like other types of padded reamers using rectangular reaming inserts, two adjustment screws and wedges are required to adjust diameter and back taper accurately. Therefore, RIR is the preferred solution for diameters below RIQ range.

## RIQ Clamping




There is no need to adjust back taper as this is already predefined by the serrations. Only the overhang of the cutting edge, relative to the guide pads, needs to be adjusted.

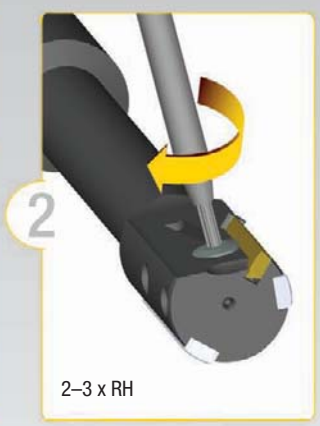
The right-hand clamp screw locks the insert securely onto the high-precision serration. The three cutting edges that are not in use are completely protected by the body while not touching them. All four cutting edges of full-face CBN and PCD inserts can be completely used without the danger of accidently damaging one of them.

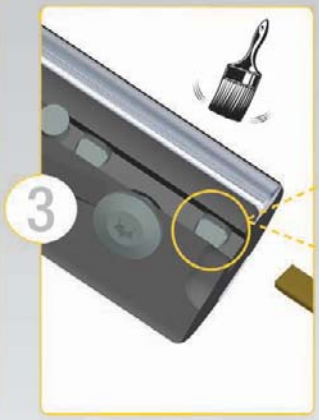
The special form of the clamp screw provides the highest clamping forces enabling less loss of diameter by bedding in effects than known on finger-clamp systems

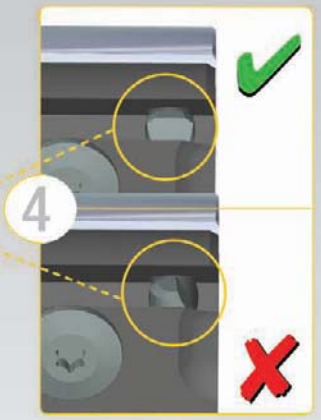
The proprietary adjustment wedge prevents any unpredictable rotation. This avoids errors during setup that cause tool damages.

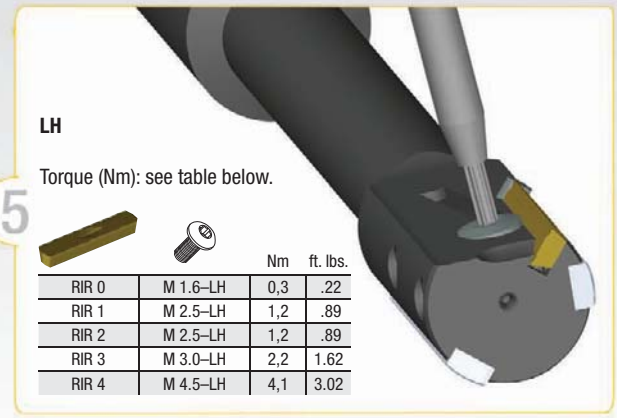
## Adjustment Pin and Screw

## RIR Tooling Setup

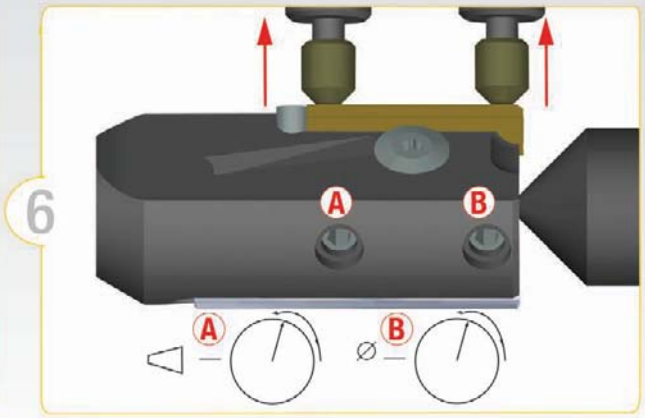


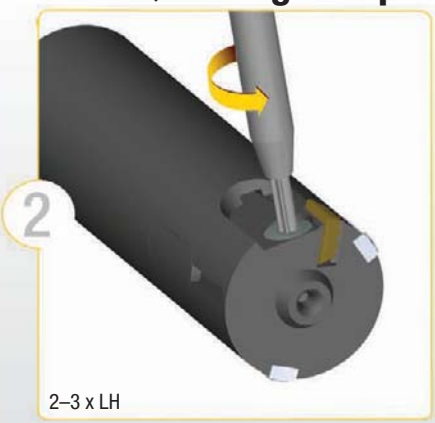



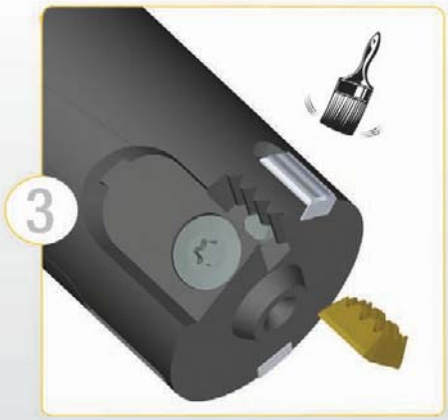



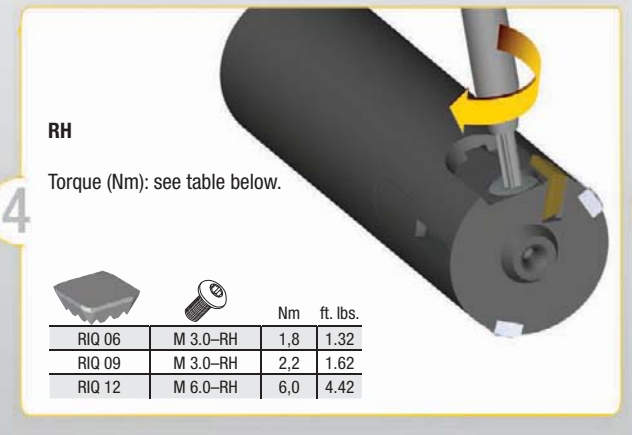

| | | Nm | ft. lbs. |
|---|---|---|---|
| RIR 0 | M 1.6–LH | 0,3 | .22 |
| RIR 1 | M 2.5–LH | 1,2 | .89 |
| RIR 2 | M 2.5–LH | 1,2 | .89 |
| RIR 3 | M 3.0–LH | 2,2 | 1.62 |
| RIR 4 | M 4.5–LH | 4,1 | 3.02 |



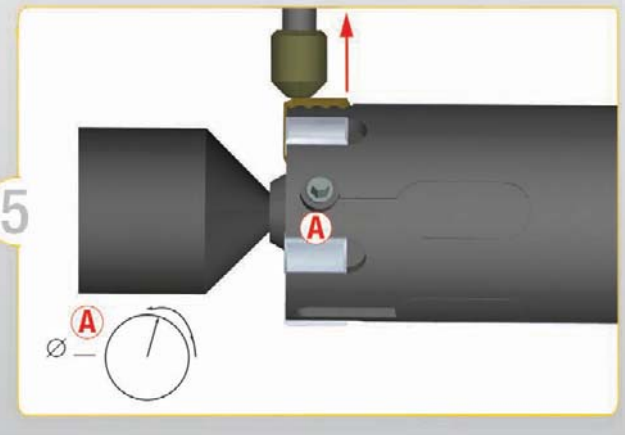

## RIQ Tooling Setup



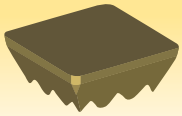



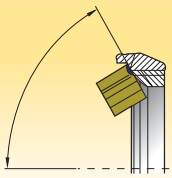

| | | Nm | ft. lbs. |
|---|---|---|---|
| RIQ 06 | M 3.0–RH | 1,8 | 1.32 |
| RIQ 09 | M 3.0–RH | 2,2 | 1.62 |
| RIQ 12 | M 6.0–RH | 6,0 | 4.42 |

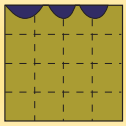


# Valve Seat Tools • RIQ™ Quattro Cut™ Based Tooling

RIQ technology enables bypassing any angular adjustment of the insert and provides up to 12 cutting edges.





- Causing in three wear areas per edge.
- Resulting into 12 usable cutting edges per insert.

## Valve Seat Tools • Machining Center Solutions

RIQ valve seat tooling with integrated hydraulic chuck to clamp multiflute RMS™ or RIR™ guide pad reamer.

**Machining Center • Integrated Hydraulic Chuck**

**RMS Multiflute Reamer**
for regular runout accuracy of valve seat to value guide demands

**RIR Guide Pad Reamer**
for highest requests regarding valve guide roundness and cylindricity

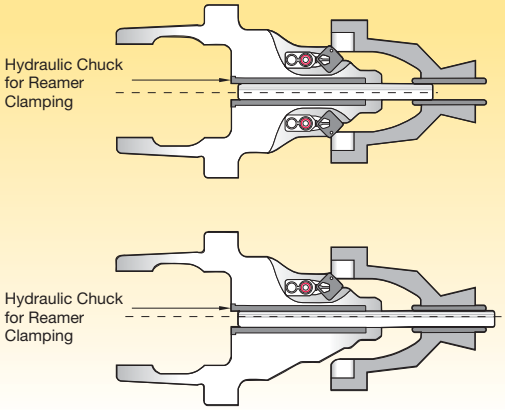
**Machining Center Process • All Angles Formed to Finish Specifications in TWO Passes**

**Process A (Preferred)**
**Tool 1 • Semi-Finish:**
- Finish of secondary angles.
- Semi-finish of primary angles.
- Create pilot bore (short version of RMS or RIR reamer).

**Tool 2 • Finish:**
- Finish of primary angles.
- Finish of guide bore (long version of RMS or RIR reamer).

**Process B (Alternate)**
**Tool 1 • Finish Valve Seat:**
- Finish of primary and secondary angles.
- Create pilot bore (short version of RMS or RIR reamer).

**Tool 2 • Finish Valve Guide:**
- Finish of guide bore (long version of RMS or RIR reamer).



## Valve Seat Tools • Transfer Line Solutions

RIQ valve seat tooling with carbide bushing guiding RMS or RIR reamer machining the valve guide on transfer lines.

**Transfer Line • Integrated Carbide Bushing**

**Multiflute Reamer RMS**
for regular runout accuracy of valve seat to value guide demands

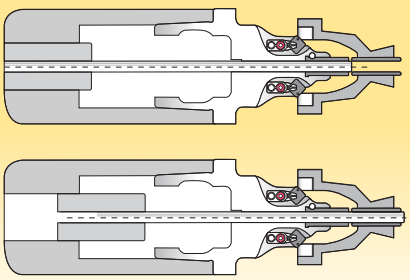
**RIR Guide Pad Reamer**
for highest requests regarding valve guide roundness and cylindricity

**Transfer Line Process • All Angles Formed to Finish Specifications in TWO Passes/ONE Pass**

**Process A (Preferred)**
**Tool 1 • Semi-Finish:**
- Semi-finish of secondary angles.
- Semi-finish of primary angles.

**Tool 2 • Finish:**
- Finish of primary angles.
- Finish of secondary angles.
- Finish of guide bore with feed out multiflute or guide pad reamer (squirt-through type).

**Process B (Alternate)**
**Tool 1 • Semi-Finish and Finish Combined:**
- Finish of primary and secondary seat angles.
- Finish of guide bore with feed out multiflute or guide pad reamer (squirt-through type).



## Fine Boring Application Sheet

Feature tolerances, surface finishes, and geometric tolerances have to be content of the workpiece drawing

| | | | |
|---|---|---|---|
| **Q-Number:** | | **Date:** | |
| **Customer:** | | **Sales eng.:** | |
| **Location:** | | **Application eng.:** | |
| **Contact person:** | | **Competitors:** | |

### General

| | | | | |
|---|---|---|---|---|
| **Status:** | ❒ Launch | ❒ Running progress | ❒ Process change | |
| **Volume:** | | Holes/Year | **Similar tool:** | |

### Workpiece

| | | | | | | |
|---|---|---|---|---|---|---|
| **Operation name:** | | | | | | |
| **Diameters/features to be machined** | **1:** | **2:** | **3:** | **4:** | **5:** | **6:** |

| | | | | | |
|---|---|---|---|---|---|
| **Tolerance target:** | ❒ Upper third<br>❒ Middle third (e.g., if CpK is needed)<br>❒ Lower third (e.g., if Go/NoGo Gage) | | **Interrupted cut:** | ❒ Yes | ❒ No |
| | | | **Facing included:** | ❒ Yes | ❒ No |
| | | | **Max lead length:** | | |
| **CpK-value:** | ❒ Yes | ❒ No | **Hole type:** | ❒ Blind | ❒ Through |
| **Workpiece material:** | | | **Hardness/ strength:** | | (N/mm², HRC,...) |
| **Premachining:** (detailed description including stock amounts) | | | | | |

### Machine/Fixture/Hole Gaging

| | | | | | | |
|---|---|---|---|---|---|---|
| **Machine type:** | ❒ Machining center | ❒ Transfer line | ❒ Lathe | ❒ Special purpose machine | | |
| **Machine name:** | | | | | | |
| **Tool:** | ❒ Rotating | ❒ Stationary | **Spindle connection:** | | | (HSK80A, DV50, BT40,...) |
| **Spindle orientation:** | ❒ Horizontal | ❒ Vertical | **Number of spindles:** | | | (for same operation on same machine) |
| **Workpiece clamping:** | ❒ Rigid | ❒ Weak | **M/C spindle adjustment:** | ❒ Radial runout | ❒ Axial runout | ❒ No |
| **Setting device available:** (only for adjustable tools) | ❒ Yes: | | Description | ❒ No | | |
| **Gauging method:** | ❒ Go/NoGo-gage | ❒ Air or electronic gage | ❒ Other | | | |
| **Coolant type** | ❒ Soluble | ❒ Semi-synthetic | ❒ Synthetic | ❒ MQL | | |
| **Coolant supply:** | ❒ Internal | ❒ External | ❒ None | | | |

| | | | | |
|---|---|---|---|---|
| **Coolant pressure:** | bar | **Coolant concentration:** | | % |
| | | **Coolant flow:** | | l/min |

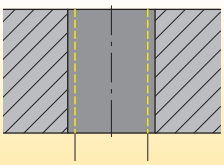
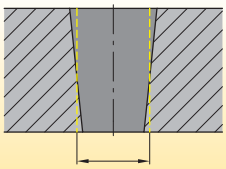
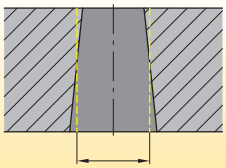
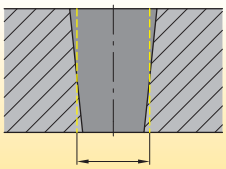
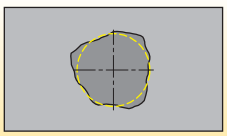
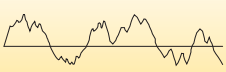
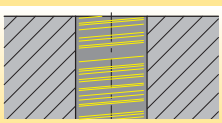
Additional Information: (e.g. interferences, weight or dimensional restrictions, customer reason for change, known issues,...)

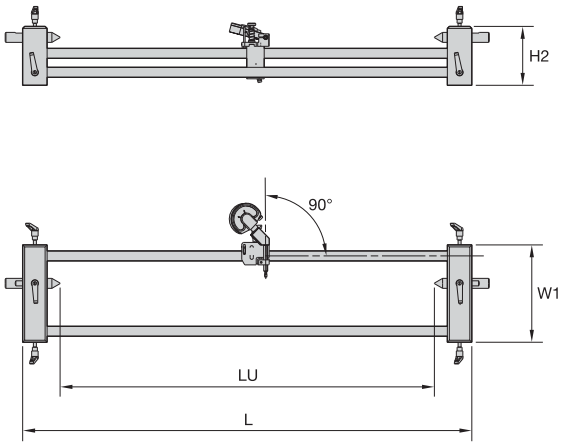
**Quotation Processing Only with Workpiece Drawing and Filled Out Form**

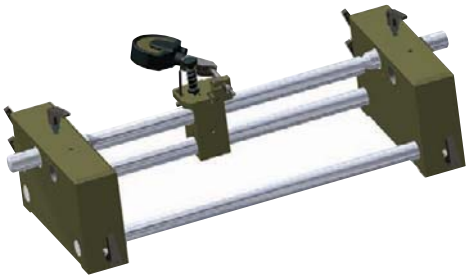
## Reaming Allowances for Single Blade Reaming

| | | reaming allowance in diameter | | | | | |
|---|---|---|---|---|---|---|---|
| | | mm | | | in | | |
| mm | in | min | middle | max | min | middle | max |
| 6,00–9,59 | .189–.378 | 0,10 | 0,15 | 0,25 | .004 | .006 | .010 |
| 9,60–15,00 | .378–.591 | 0,15 | 0,20 | 0,30 | .006 | .008 | .012 |
| 15,00–20,00 | .591–.787 | 0,15 | 0,25 | 0,35 | .006 | .010 | .014 |
| 20,00–50,00 | .787–1.969 | 0,20 | 0,30 | 0,40 | .008 | .012 | .016 |

## Causes of and Remedies for Reaming Problems

| Problem | | Cause | Possible Remedy |
|---|---|---|---|
| Drill diameter too large |  $d_{Nom}$ | 1. Reaming tool running out-of-center.<br>2. Concentricity of pilot hole and ream machining unsatisfactory.<br>3. Built-up edge.<br>4. Unsuitable cooling lubricant.<br>5. Reaming tool Ø too large. | • Use SIF™ equalizing adapter.<br>• Re-align, use floating head.<br>• Change cooling lubricant.<br>• Change cutting speed.<br>• Measure reamers and send for repairs. |
| Drill diameter too small |  $d_{Nom}$ | 1. Reamer worn.<br>2. Unsuitable cooling lubricant.<br>3. Reaming allowance too small. | • Replace and refit tool.<br>• Change cooling lubricant.<br>• Increase reaming allowance. |
| Conical drill profile wider towards drill runout |  $d_{Nom}$ | 1. Concentricity of pilot hole and reaming unsatisfactory.<br>2. Positioning accuracy of pilot hole to reaming. | • Re-align, use SIF equalizing adapter.<br>• Correct positioning accuracy. |
| Conical drill profile wider at drill entry point |  $d_{Nom}$ | 1. Concentricity of pilot hole and reaming unsatisfactory.<br>2. Reaming tool skim cutting with ledger. | • Re-align, use floating head.<br>• Securely clamp reaming tool axially. |
| Hole out-of-center and/or showing chatter marks |  | 1. Reaming tool running out-of-center.<br>2. Slanted cutting surface/asymmetrical cutting.<br>3. Workpiece twisted. | • Use SIF equalizing adapter.<br>• Flatten surface before drilling or reaming.<br>• Take the direction of impact into account when clamping the workpiece. |
| Surface quality does not meet specification |  | 1. Tool cutters worn.<br>2. Reaming tool running out-of-center.<br>3. Incorrect technology data (cutting parameters).<br>4. Inadequate chip evacuation. | • Replace and refit tool.<br>• Use SIF equalizing adapter.<br>• Change cutting parameters in machining range.<br>• Optimize coolant supply; increase coolant pressure and volume. |
| Feed grooves |  | 1. Built-up edge. | • Change cooling lubricant.<br>• Change cutting speed. |

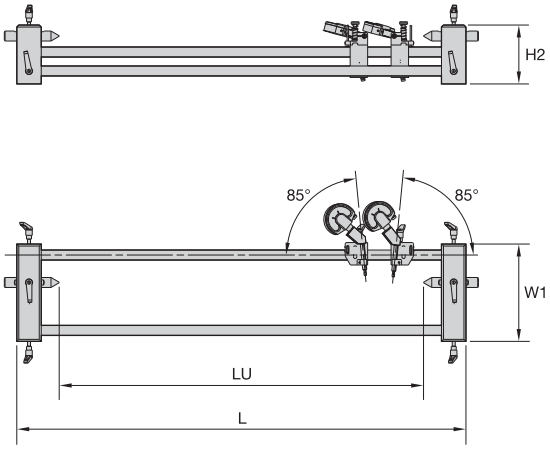


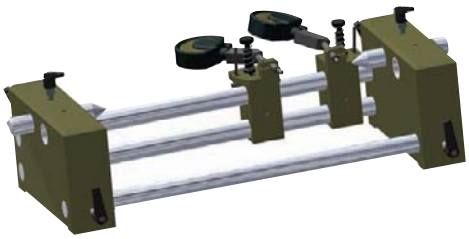





## Setting Fixture • One Gage

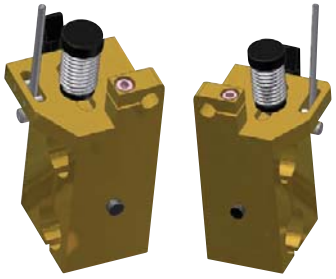
| | | H2 | | L | | LU | | W1 | |
|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in |
| 5025599 | SF300M1RS | 118 | 4.646 | 450 | 17.717 | 300 | 11.811 | 195 | 7.677 |
| 5025670 | SF750M1RS | 118 | 4.646 | 900 | 35.443 | 750 | 29.527 | 195 | 7.677 |



## Setting Fixture • Two Gage

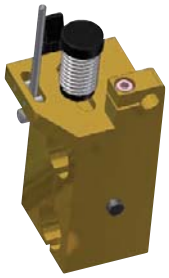
| | | H2 | | L | | LU | | W1 | |
|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in |
| 5025597 | SF300M1LA1RA | 118 | 4.646 | 450 | 17.717 | 300 | 11.811 | 195 | 7.677 |
| 5025598 | SF750M1LA1RA | 118 | 4.646 | 900 | 35.443 | 750 | 29.527 | 195 | 7.677 |



Left Hand Right Hand

## Axial Slide • 90° with Angle Fine Adjustment

| order number | catalog number |
|---|---|
| 5025672 | SFSLLS |
| 5025671 | SFSLRS |



SM Screw Sets for Slides

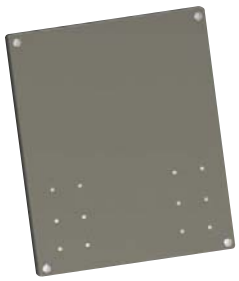
## Axial Slides

| order number | catalog number |
|---|---|
| 5025683 | SFSLSS |

Left Hand Right Hand

## Axial Slide • 85°

| order number | catalog number |
|---|---|
| 5025674 | SFSLLA |
| 5025673 | SFSLRA |



## Base Plate for Vertical Setup

| order number | catalog number |
|---|---|
| 5025680 | SFVB |

SM Clamp Handle

## Clamp Handle for End Blocks and Axial Slides

| order number | catalog number |
|---|---|
| 5025682 | SFEBCH |

SM End Block

## End Block Including Screws

| order number | catalog number |
|---|---|
| 5025681 | SFEBS |

## Contact Pins Set

| order number | catalog number |
|---|---|
| 5025686 | SFCPS |

## Support Bars (450mm and 900mm)

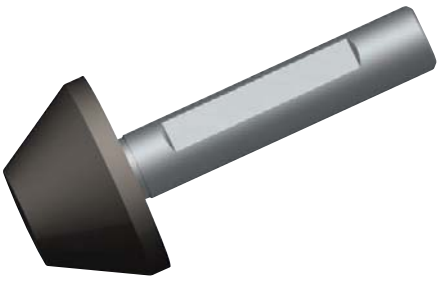
| order number | catalog number |
|---|---|
| 5025684 | SFSB450 |
| 5025685 | SFSB900 |

## Gage Set

| order number | catalog number |
|---|---|
| 5025675 | SFMGS |

## Spring-Loaded Center Ø 20mm

| order number | catalog number |
|---|---|
| 5025679 | SFCR20S |



## HSK Center

| order number | catalog number |
|---|---|
| 5025677 | SFCRHSK3263 |
| 5025678 | SFCRHSK63100 |

## Standard Center Ø 20mm

| order number | catalog number |
|---|---|
| 5025676 | SFCR20 |

# Romicron™ Fine-Boring System

## Primary Application

The Romicron tooling portfolio has a diameter range of 4–213mm (.1575-8.3858") and reduces setup time and scrap rates while increasing overall equipment efficiency. This premium fine-boring system can be used in most materials in metalcutting applications by applying the latest Kennametal standard ISO turning inserts. Its closed loop boring (CLB) provides a unique opportunity to automate insert wear compensation with minimal investment due to the precise 2 µm diameter adjustment per increment.

The Romicron system should be used where extremely close tolerances are critical to the overall process or where fast and easy diameter adjustments are needed.

## Features and Benefits

### Higher Productivity and Profitability

- Reduce scrap rates and setup time with backlash-free adjustment.
- Diameter adjustment can be done inside the machine, avoiding routine insert changes in the setup room.
- Avoid time-consuming control cuts or sister tooling.
- No training or experience needed for use, resulting in less stressful adjustments.

### Versatility

- Retrofit existing machines to automated wear compensation using standard CLB pin. No electronic equipment needed, except hole measuring device.
- AVS00B-SVS6B prebalanced heads are preferred solution for diameter 25–139mm (.984–5.472").
- SVUBB1 tooling for high-speed applications 4–16,5mm (.157–.650").
- Broad diameter range of 6–100mm (.236–3.937") using SVUBB2 tooling.
- SVU65 and SVU92 for larger diameters of 71–213mm (2.79–8.386").

# 100% mechanical system with micron adjustment by hand or fully automated.

## Ease of Adjustment

- No tools are needed so adjustment is done on the machine tool. Eliminates need to remove and return boring head to the presetting area, increasing productivity.
- SEE, FEEL, and HEAR the adjustment mechanism for fail-safe size control.

## Customization

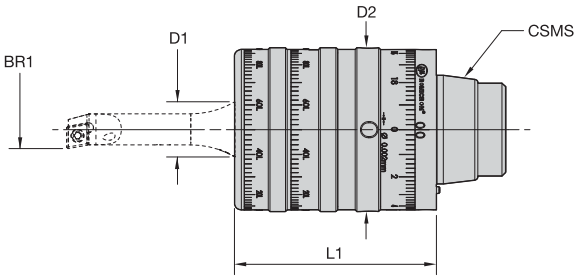
- Engineered solutions available for multistep or high length-to-diameter tooling.
- Anti-chatter devices and various non-standard machine spindle coupling sizes available.

Boring range, coolant capacity, and maximum RPM features for all Romicron boring heads.

| | head size | bore range |
|---|---|---|
| • 25,000 RPM max.<br>• Balanceable.<br>• 1,050 psi coolant capacity.<br>• 1,050 psi/70 bar coolant capacity.<br>• Movable zero reference. | **SVUBB1** | .157" 4mm — .650" 16,5mm |
| • 10,000 RPM max.<br>• Balanceable.<br>• 1,050 psi coolant capacity.<br>• 1,050 psi/70 bar coolant capacity.<br>• Movable zero reference. | **SVUBB2** | .236" 6mm — 1.00" 25,5mm |
| • 20,000 RPM.<br>• Prebalanced.<br>• 1740 psi/120 bar coolant capacity. | **AVS00B** | .984" 25mm — 1.26" 32mm |
| • 20,000 RPM.<br>• Prebalanced.<br>• 1740 psi/120 bar coolant capacity. | **AVS0B** | 1.24" 31,5mm — 1.67" 42,5mm |
| • 20,000 RPM.<br>• Prebalanced.<br>• 1740 psi/120 bar coolant capacity. | **AVS1B** | 1.65" 42mm — 2.08" 53mm |
| • 20,000 RPM.<br>• Prebalanced.<br>• 1740 psi/120 bar coolant capacity. | **AVS2B** | 2.04" 52mm — 2.59" 66mm |
| • 20,000 RPM.<br>• Prebalanced.<br>• 1740 psi/120 bar coolant capacity. | **AVS3B** | 2.55" 65mm — 3.11" 79mm |
| • 4,500 RPM.<br>• Prebalanced.<br>• 300 psi/20 bar coolant capacity. | **SVS4B** | 3.07" 78mm — 3.85" 98mm |
| • 4,500 RPM.<br>• Prebalanced.<br>• 300 psi/20 bar coolant capacity. | **SVS5B** | 3.81" 97mm — 4.60" 117mm |
| • 3,500 RPM.<br>• Prebalanced.<br>• 300 psi/20 bar coolant capacity. | **SVS6B** | 4.56" 116mm — 5.47" 139mm |
| • 6,000 RPM.<br>• Balanceable.<br>• 300 psi/20 bar coolant capacity.<br>• Movable zero reference. | **SVU65** | 2.79" 71mm — 4.37" 111mm |
| • 6,000 RPM.<br>• Balanceable.<br>• 300 psi/20 bar coolant capacity.<br>• Movable zero reference. | **SVU92** | 3.97" 101mm — 8.38" 213mm |
| • 6,000 RPM.<br>• Balanceable.<br>• 300 psi/20 bar coolant capacity.<br>• Movable zero reference. | **SVU120** | 5.47" 139mm — 12.83" 326mm |

| range mm | range in | order number | catalog number | content | |
|---|---|---|---|---|---|
| 4,00–16,50 | .1575–.6496 | **4046076** | **SVUBB1KR32KIT** | KR32SVUBB1060M<br>KRBB10FADRS102C<br>KRBB10SCLDRS4060C<br>KRBB10SCFPR06085C<br>KRBB10SCFPR06110C<br>KRBB10SCFPR06135C | |
| 6,00–25,50 | .2362–1.0040 | **4046077** | **SVUBB2KR32KITD025M** | KR32SVUBB2085M<br>KRBB16SCLDRS4060A<br>KRBB16SCFPR06085A<br>KRBB16SCFPR06110A<br>KRBB16SCFPR06135A<br>KRBB16SCFPR06160A<br>KRBB16SCFPR06190A<br>KRBB16SCFPR06220A | |
| 6,00–25,50 | .2362–1.0040 | **4046078** | **SVUBB2KR50KITD025M** | KRBB16SCFPR06220A<br>KR50SVUBB2075M<br>KRBB16SCLDRS4060A<br>KRBB16SCFPR06085A<br>KRBB16SCFPR06110A<br>KRBB16SCFPR06135A<br>KRBB16SCFPR06160A<br>KRBB16SCFPR06190A<br>KRBB16SCFPR06220A | |
| 6,00–100,00 | .2362–3.9370 | **4052608** | **SVUBB2KR32KITD100M** | KR32SVUBB2085M<br>KRBB16SCLDRS4060A<br>KRBB16SCFPR06085A<br>KRBB16SCFPR06110A<br>KRBB16SCFPR06135A<br>KRBB16SCFPR06160A<br>KRBB16SCFPR06190A<br>KRBB16SCFPR06220A<br>KRDEA046AM<br>KRDE025010M<br>KRDE033010M<br>KRDEA051AM<br>KRDE043010M<br>KRDEA012AM<br>KRDE065012M<br>KRCW032A | |
| 6,00–100,00 | .2362–3.9370 | **4052609** | **SVUBB2KR50KITD100M** | KR50SVUBB2075M<br>KRBB16SCLDRS4060A<br>KRBB16SCFPR06085A<br>KRBB16SCFPR06110A<br>KRBB16SCFPR06135A<br>KRBB16SCFPR06160A<br>KRBB16SCFPR06190A<br>KRBB16SCFPR06220A<br>KRDEA046AM<br>KRDE025010M<br>KRDE033010M<br>KRDEA051AM<br>KRDE043010M<br>KRDEA012AM<br>KRDE065012M<br>KRCW032A | |

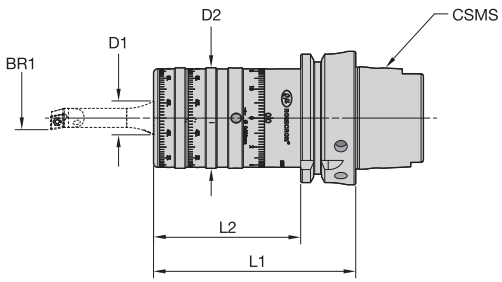
- For correct balance ring settings, see page K100–K101.
- Order boring bar separately; see page K78.
- Order taper shank seperately; see page K91.



## SVU BB1 • KR Back End with CLB Capability

| | | BR1 bore range | | | D1 | | D2 | | L1 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | CSMS system size | mm | in | mm | in | mm | in | Torx wrench | hex wrench | kg | lbs |
| 4054737 | KR32SVUBB1060MCLB | 4,000-16,500 | 0.1575-0.6496 | KR32 | 10,0 | .39 | 46,5 | 1.83 | 58,6 | 2.31 | KT8 | 170.000 | 0,94 | 2.07 |

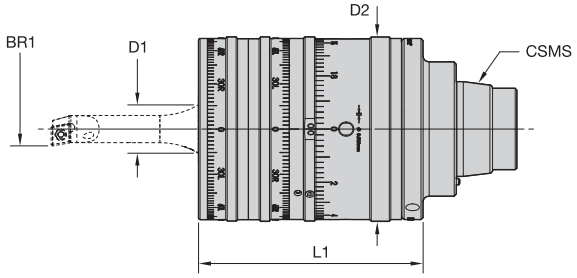
- For correct balance ring settings, see page K100–K101.
- Order boring bar separately; see page K78.



## SVU BB1 • HSK Back End with CLB Capability

| | | BR1 bore range | | | D1 | | D2 | | L1 | | L2 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | CSMS system size | mm | in | mm | in | mm | in | mm | in | Torx wrench | radial adjusting screw | kg | lbs |
| 4054734 | HSK63ASVUBB1095MCLB | 4,000-16,500 | 0.1575-0.6496 | HSK63A | 10,0 | .39 | 46,5 | 1.83 | 95,5 | 3.76 | 69,4 | 2.73 | KT15 | 191.282 | 1,45 | 3.20 |

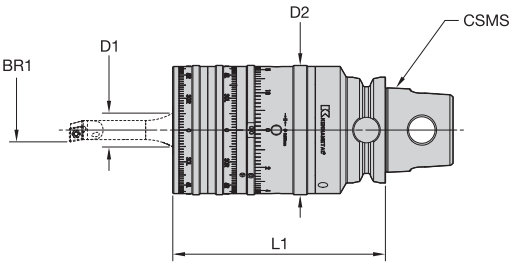
- For correct balance ring settings, see page K102–K107.
- Order boring bar separately; see page K79.
- Order taper shank separately; see page K91.



## SVU BB2 • KR Back End with CLB Capability

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4054738 | KR32SVUBB2085MCLB | 6,000-25,500 | 0.2362-1.0039 | KR32 | 16,0 | .63 | 60,0 | 2.36 | 85,0 | 3.35 | KT27 | 1,81 | 3.99 |
| 4054739 | KR50SVUBB2075MCLB | 6,000-25,500 | 0.2362-1.0039 | KR50 | 16,0 | .63 | 60,0 | 2.36 | 75,0 | 2.95 | KT27 | 1,61 | 3.55 |

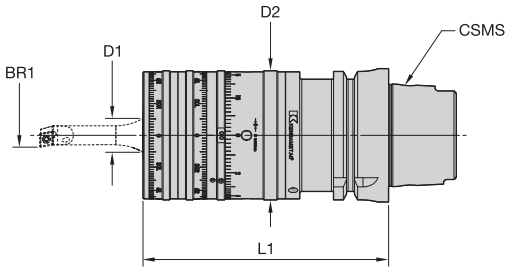
- For correct balance ring settings, see page K102–K107.
- Order boring bar separately; see page K79.



## SVU BB2 • KM™ Back End with CLB Capability

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4054736 | KM50TSSVUBB2100MCLB | 6,000-25,500 | 0.2362-1.0039 | KM50TS | 16,0 | .63 | 60,0 | 2.36 | 100,0 | 3.94 | KT27 | 1,91 | 4.21 |

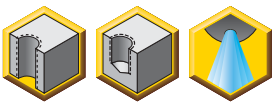
- For correct balance ring settings, see page K102–K107.
- Order boring bar separately; see page K79.

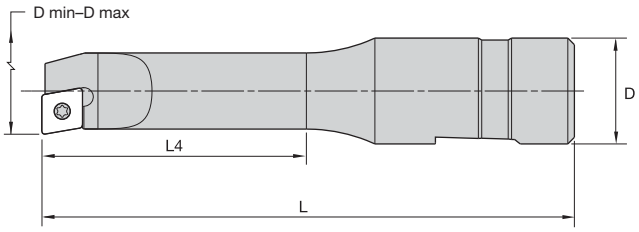


## SVU BB2 • HSK Back End with CLB Capability

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4054735** | **HSK63ASVUBB2116MCLB** | 6,000-25,500 | 0.2362-1.0039 | HSK63A | 16,0 | .63 | 60,0 | 2.36 | 116,0 | 4.57 | **KT27** | 2,52 | 5.56 |
| **4054733** | **HSK100ASVUBB2124MCLB** | 6,000-25,500 | 0.2362-1.0039 | HSK100A | 16,0 | .63 | 60,0 | 2.36 | 124,4 | 4.90 | **KT27** | 4,21 | 9.28 |

- Order inserts separately.



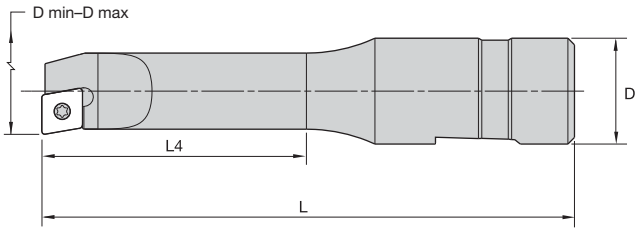


## SVU BB1 • Universal Boring Bars

| order number | catalog number | D min mm | D min in | D max mm | D max in | D mm | D in | L mm | L in | L4 mm | L4 in | gage insert | insert screw | Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2202438** | **KRBB10FABDRS204C** | 4,00 | .158 | 7,00 | .276 | 10 | .394 | 57 | 2.23 | 14 | .56 | – | **–** | **–** | 0,05 | .11 |
| **2202439** | **KRBB10SCLDR4060C** | 6,00 | .236 | 9,00 | .354 | 10 | .394 | 53 | 2.09 | 22 | .85 | CD..S4T004 | **MS1454** | **FT5** | 0,05 | .11 |
| **2202440** | **KRBB10SCFPR06085C** | 8,50 | .335 | 11,50 | .453 | 10 | .394 | 58 | 2.28 | 31 | 1.20 | CP..060204 | **MS2005** | **FT7** | 0,08 | .17 |
| **2202450** | **KRBB10SCFPR06110C** | 11,00 | .433 | 14,00 | .551 | 10 | .394 | 60 | 2.36 | 33 | 1.28 | CP..060204 | **MS2005** | **FT7** | 0,08 | .18 |
| **2202451** | **KRBB10SCFPR06135C** | 13,50 | .532 | 16,50 | .650 | 10 | .394 | 65 | 2.56 | 39 | 1.52 | CP..060204 | **MS1153** | **FT7** | 0,09 | .20 |

NOTE: Carbide shank and customized boring bars are available upon request to meet your specific requirements.
Please contact Kennametal for a design and quotation.

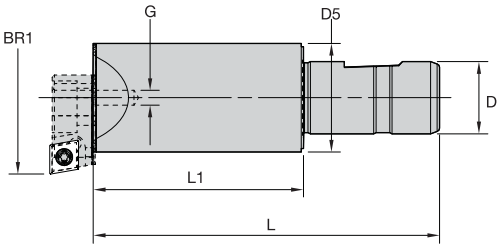
- Order inserts separately.



## SVU BB2 • Universal Boring Bars

| order number | catalog number | D min mm | D min in | D max mm | D max in | D mm | D in | L mm | L in | L4 mm | L4 in | gage insert | insert screw | Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1522063 | KRBB16SCFPR06085A | 8,50 | .335 | 12,00 | .472 | 16 | .630 | 68 | 2.70 | 26 | 1.04 | CP..060204 | MS1153 | FT7 | 0,06 | .14 |
| 1522062 | KRBB16SCLDRS406A | 6,00 | .236 | 9,50 | .374 | 16 | .630 | 62 | 2.44 | 20 | .80 | CD..S4T004 | MS1454 | FT6 | 0,06 | .13 |
| 1522064 | KRBB16SCFPR0611A | 11,00 | .433 | 14,50 | .571 | 16 | .630 | 78 | 3.09 | 36 | 1.42 | CP..060204 | MS1153 | FT7 | 0,08 | .17 |
| 1522068 | KRBB16SCFPR06135A | 13,50 | .532 | 17,00 | .669 | 16 | .630 | 80 | 3.17 | 40 | 1.57 | CP..060204 | MS1153 | FT7 | 0,09 | .20 |
| 1522069 | KRBB16SCFPR0616A | 16,00 | .630 | 19,50 | .768 | 16 | .630 | 90 | 3.54 | 55 | 2.17 | CP..060204 | MS1153 | FT7 | 0,11 | .25 |
| 1522070 | KRBB16SCFPR0619A | 19,00 | .748 | 22,50 | .886 | 16 | .630 | 90 | 3.54 | 60 | 2.36 | CP..060204 | MS1153 | FT7 | 0,12 | .27 |
| 1522071 | KRBB16SCFPR0622A | 22,00 | .866 | 25,50 | 1.004 | 16 | .630 | 90 | 3.54 | 60 | 2.36 | CP..060204 | MS1153 | FT7 | 0,15 | .32 |

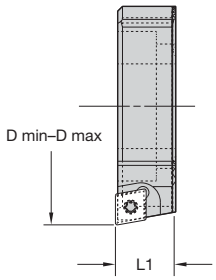
NOTE: Carbide shank and customized boring bars are available upon request to meet your specific requirements. Please contact Kennametal for a design and quotation.

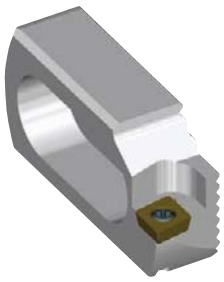


## SVU BB2 • Universal Adapters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | D mm | D in | D5 mm | D5 in | G | L mm | L in | L1 mm | L1 in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2541200 | KRDEA046AM | 25,500-43,500 | 1.0039-1.7126 | 16 | .63 | 24,0 | .94 | M4X0.70 | 76,4 | 3.01 | 46,4 | 1.83 | 0,2 | .50 |
| 2541201 | KRDEA051AM | 43,000-65,000 | 1.6929-2.5591 | 16 | .63 | 25,0 | .98 | M6X1.00 | 81,7 | 3.22 | 51,7 | 2.04 | 0,2 | .52 |
| 2541202 | KRDEA012AM | 65,000-100,000 | 2.5591-3.9371 | 16 | .63 | 63,5 | 2.50 | M8X1.25 | 42,5 | 1.67 | 12,5 | .49 | 0,2 | .42 |

- Order inserts separately.

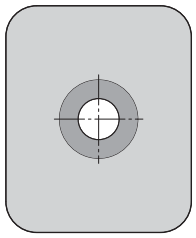


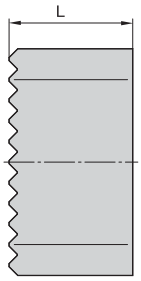



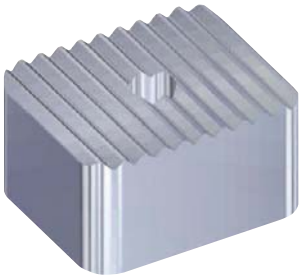
## SVU BB2 • Universal Diameter Extenders



| | | D min | | D max | | L1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | gage insert | insert screw | Torx wrench | kg | lbs |
| **2541213** | **KRDE025010M** | 25,50 | 1.004 | 33,50 | 1.319 | 10,0 | .39 | CP..0602../CP..215... | **MS1153** | **FT7** | 0,02 | .04 |
| **2541214** | **KRDE033010M** | 33,50 | 1.319 | 43,50 | 1.713 | 10,0 | .39 | CP..0602../CP..215... | **MS1153** | **FT7** | 0,02 | .05 |
| **2541215** | **KRDE043010M** | 43,00 | 1.693 | 65,00 | 2.559 | 10,0 | .39 | CP..0602../CP..215... | **MS1153** | **FT7** | 0,03 | .07 |
| **2541216** | **KRDE065012M** | 65,00 | 2.559 | 100,00 | 3.937 | 12,0 | .47 | CP..0602../CP..215... | **MS1153** | **FT7** | 0,05 | .10 |





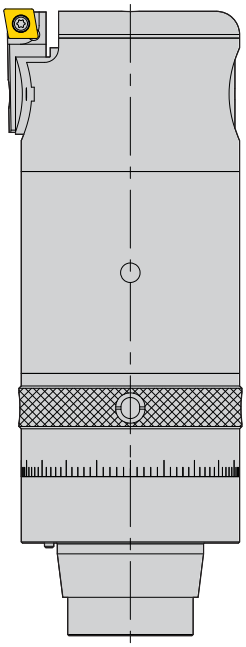
## SVU BB2 • Counterweight

| | | L | | | |
|---|---|---|---|---|---|
| order number | catalog number | mm | in | kg | lbs |
| **2541217** | **KRCW032A** | 12,0 | .47 | 0,04 | .08 |

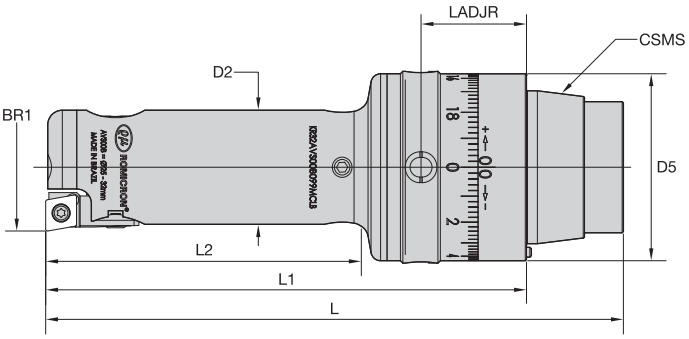
NOTE: Counterweight must be used with KRDEA012M adapter and KRDEA065012M extender.

## AVS and SVS Systems • Tooling Tree

| cartridge range | cartridge size | bore range | head size |
|---|---|---|---|
| .984–1.083" (25–27,5mm) | 1Y | .984–1.260" (25–32mm) | AVS00B |
| 1.073–1.171" (27,25–29,75mm) | 2Y | | |
| 1.161–1.260" (29,5–32mm) | 3Y | | |
| 1.240–1.398" (31,5–35,5mm) | 1X | 1.240–1.673" (31,5–42,5mm) | AVS0B |
| 1.378–1.535" (35–39mm) | 2X | | |
| 1.516–1.673" (38,5–42,5mm) | 3X | | |
| 1.654–1.811" (42–46mm) | 1X | 1.654–2.087" (42–53mm) | AVS1B |
| 1.791–1.949" (45,5–49,5mm) | 2X | | |
| 1.929–2.087" (49–53mm) | 3X | | |
| 2.047–2.244" (52–57mm) | 1W | 2.047–2.598" (52–66mm) | AVS2B |
| 2.224–2.421" (56,5–61,5mm) | 2W | | |
| 2.402–2.598" (61–66mm) | 3W | | |
| 2.559–2.756" (65–70mm) | 1W | 2.559–3.110" (65–79mm) | AVS3B |
| 2.736–2.933" (69,5–74,5mm) | 2W | | |
| 2.913–3.110" (74–79mm) | 3W | | |



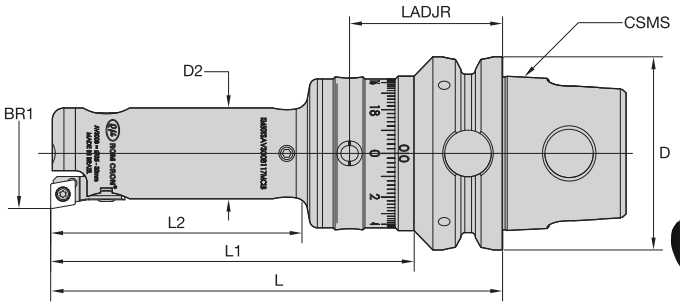
- Order cartridges separately.
- Order taper shank separately.



## AVS • KR Back End with CLB Capability

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D2 mm | D2 in | D5 mm | D5 in | L mm | L in | L1 mm | L1 in | L2 mm | L2 in | LADJR mm | LADJR in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5124812 | KR32AVS00B099MCLB | 25,000-32,000 | 0.9840-1.2600 | KR32 | 23,5 | .93 | 39,5 | 1.56 | 119,0 | 4.68 | 99,0 | 3.90 | 64,0 | 2.50 | 21,7 | .86 | 0,6 | 1.20 |
| 5124814 | KR32AVS0B116MCLB | 31,500-42,500 | 1.2400-1.6730 | KR32 | 30,0 | 1.18 | 39,5 | 1.55 | 136,0 | 5.36 | 116,0 | 4.57 | 85,0 | 3.35 | 21,7 | .86 | 0,8 | 1.81 |
| 5124816 | KR32AVS1B100MCLB | 42,000-53,000 | 1.6530-2.0860 | KR32 | 38,5 | 1.52 | 39,5 | 1.55 | 120,0 | 4.73 | 100,0 | 3.94 | 100,0 | 3.94 | 21,7 | .85 | 1,0 | 2.13 |
| 5124818 | KR32AVS2B115MCLB | 52,000-66,000 | 2.0470-2.5980 | KR32 | 47,0 | 1.85 | 48,0 | 1.89 | 135,0 | 5.32 | 115,0 | 4.53 | 115,0 | 4.53 | 29,2 | 1.15 | 1,5 | 3.27 |
| 5124820 | KR32AVS3B115MCLB | 65,000-79,000 | 2.5590-3.1100 | KR32 | 47,0 | 1.85 | 48,0 | 1.89 | 135,0 | 5.32 | 115,0 | 4.53 | 115,0 | 4.53 | 29,2 | 1.15 | 1,5 | 3.36 |

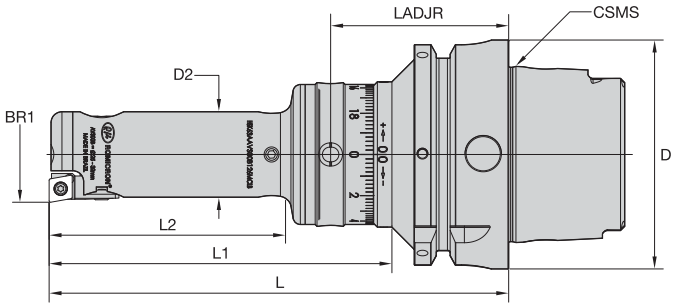
- Order cartridges separately.



## AVS • KM™ Back End with CLB Capability

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D mm | D in | D2 mm | D2 in | L mm | L in | L1 mm | L1 in | L2 mm | L2 in | LADJR mm | LADJR in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5124801 | KM40TSAVS00B111MCLB | 25.000-32.000 | 0.9840-1.2600 | KM40TS | 40,000 | 1.5730 | 23,5 | .93 | 136,0 | 5.36 | 111,0 | 4.38 | 63,5 | 2.50 | 34,0 | 1.34 | 0,6 | 1.36 |
| 5124802 | KM40TSAVS0B128MCLB | 31.500-42.500 | 1.2400-1.6730 | KM40TS | 40,000 | 1.5730 | 30,0 | 1.18 | 153,0 | 6.04 | 128,0 | 5.06 | — | — | 34,0 | 1.34 | 0,8 | 1.82 |
| 5124803 | KM40TSAVS1B112MCLB | 42.000-53.000 | 1.6530-2.0860 | KM40TS | 40,000 | 1.5730 | 38,5 | 1.52 | 137,0 | 5.40 | 112,0 | 4.42 | 112,0 | 4.42 | 34,0 | 1.34 | 1,0 | 2.18 |
| 5124804 | KM40TSAVS2B127MCLB | 52.000-66.000 | 2.0470-2.5980 | KM40TS | 40,000 | 1.5730 | 47,0 | 1.85 | 152,0 | 6.00 | 127,0 | 5.01 | 127,0 | 5.01 | 41,3 | 1.63 | 1,6 | 3.41 |
| 5124805 | KM50TSAVS00B117MCLB | 25.000-32.000 | 0.9840-1.2600 | KM50TS | 50,000 | 1.9670 | 23,5 | .93 | 149,0 | 5.86 | 117,0 | 4.60 | 63,5 | 2.50 | 39,7 | 1.56 | 0,8 | 1.79 |
| 5124807 | KM50TSAVS0B134MCLB | 31.500-42.500 | 1.2400-1.6730 | KM50TS | 50,000 | 1.9670 | 30,0 | 1.18 | 166,0 | 6.53 | 134,0 | 5.27 | 83,0 | 3.27 | 39,7 | 1.56 | 1,0 | 2.25 |
| 5124808 | KM50TSAVS1B118MCLB | 42.000-53.000 | 1.6530-2.0860 | KM50TS | 50,000 | 1.9670 | 38,5 | 1.52 | 150,0 | 5.90 | 118,0 | 4.65 | — | — | 39,6 | 1.56 | 1,2 | 2.57 |
| 5124809 | KM50TSAVS2B128MCLB | 52.000-66.000 | 2.0470-2.5980 | KM50TS | 50,000 | 1.9670 | 47,0 | 1.85 | 160,0 | 6.31 | 128,0 | 5.05 | 128,0 | 5.05 | 42,3 | 1.67 | 1,7 | 3.67 |
| 5124810 | KM50TSAVS3B128MCLB | 65.000-79.000 | 2.5590-3.1100 | KM50TS | 50,000 | 1.9670 | 47,0 | 1.85 | 160,0 | 6.31 | 128,0 | 5.05 | 128,0 | 5.05 | 42,3 | 1.67 | 1,7 | 3.82 |
| 5124811 | KM63TSAVS3B130MCLB | 65.000-79.000 | 2.5590-3.1100 | KM63TS | 63,000 | 2.4780 | 47,0 | 1.85 | 170,0 | 6.70 | 130,0 | 5.13 | 130,0 | 5.13 | 44,3 | 1.74 | 2,0 | 4.46 |

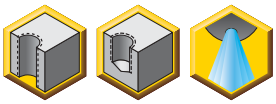
- Order cartridges separately.

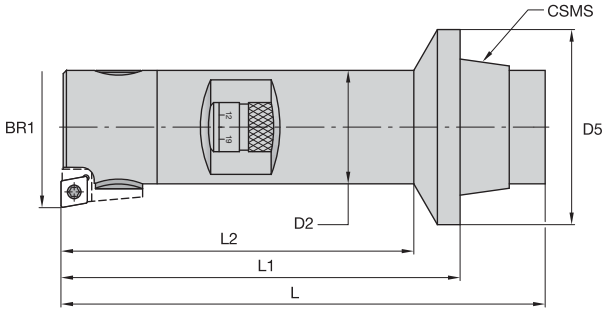


## AVS • HSK Back End with CLB Capability

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D mm | D in | D2 mm | D2 in | L mm | L in | L1 mm | L1 in | L2 mm | L2 in | LADJR mm | LADJR in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5124576** | **HSK63AAVS00B126MCLB** | 25.000-32.000 | 0.9840-1.2600 | HSK63A | 63,000 | .2478 | 23,5 | .93 | 158,0 | 6.23 | 126,0 | 4.97 | 63,5 | 2.50 | 49,0 | 1.93 | 1,2 | 2.71 |
| **5124577** | **HSK63AAVS0B143MCLB** | 31.500-42.500 | 1.2400-1.6730 | HSK63A | 63,000 | .2478 | 30,0 | 1.18 | 175,0 | 6.89 | 143,0 | 5.64 | 83,0 | 3.27 | 49,0 | 1.93 | 1,4 | 3.17 |
| **5124578** | **HSK63AAVS1B127MCLB** | 42.000-53.000 | 1.6530-2.0860 | HSK63A | 63,000 | .2478 | 38,5 | 1.52 | 159,0 | 6.27 | 127,0 | 5.02 | 95,0 | 3.75 | 49,0 | 1.93 | 1,6 | 3.53 |
| **5124579** | **HSK63AAVS2B139MCLB** | 52.000-66.000 | 2.0400-2.5900 | HSK63A | 63,000 | .2478 | 47,0 | 1.85 | 171,0 | 6.75 | 139,0 | 5.47 | 109,0 | 4.31 | 53,5 | 2.11 | 2,2 | 4.73 |
| **5124800** | **HSK63AAVS3B139MCLB** | 65.000-79.000 | 2.5500-3.1100 | HSK63A | 63,000 | .2478 | 47,0 | 1.85 | 171,0 | 6.75 | 139,0 | 5.47 | 109,0 | 4.30 | 53,5 | 2.11 | 2,2 | 4.85 |

- Order cartridges separately; see page K86.
- Order taper shank separately; see page K91.

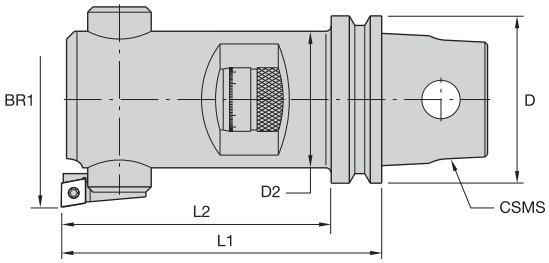




## SVS • KR Back End

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D2 mm | D2 in | L mm | L in | L1 mm | L1 in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1192281** | **KR50SVS4B094M** | 78,000-98,000 | 3.0709-3.8583 | KR50 | 65,0 | 2.56 | 119,0 | 4.69 | 94,0 | 3.70 | 2,4 | 5.21 |
| **1279787** | **KR50SVS5B094M** | 97,000-117,000 | 3.8189-4.6063 | KR50 | 65,0 | 2.56 | 119,0 | 4.69 | 94,0 | 3.70 | 3,0 | 6.49 |
| **1279793** | **KR63SVS6B126M** | 116,000-139,000 | 4.5669-5.4724 | KR63 | 85,0 | 3.35 | 162,0 | 6.38 | 126,0 | 4.96 | 5,7 | 12.63 |

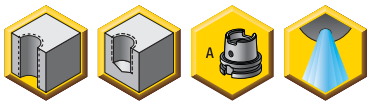
- Order cartridges separately; see page K86.

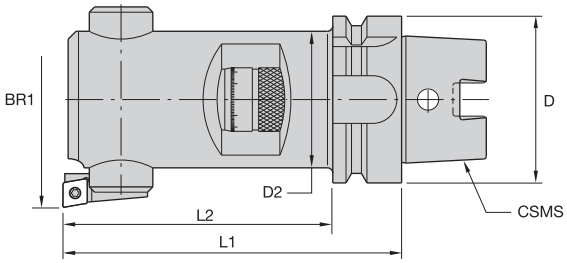


## SVS • KM™ Back End

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D mm | D in | D2 mm | D2 in | L1 mm | L1 in | L2 mm | L2 in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1763375 | KM50SVS4B125M | 78,000-98,000 | 3.0710-3.8580 | KM50 | 50,000 | 1.9685 | 65,0 | 2.56 | 125,0 | 4.92 | 110,0 | 4.33 | 2,2 | 4.90 |
| 1763378 | KM50SVS5B125M | 97,000-117,000 | 3.8190-4.6060 | KM50 | 50,000 | 1.9685 | 65,0 | 2.56 | 125,0 | 4.92 | 110,0 | 4.33 | 3,2 | 7.10 |
| 1763376 | KM63SVS4B110M | 78,000-98,000 | 3.0710-3.8580 | KM63 | 63,000 | 2.4803 | 65,0 | 2.56 | 110,0 | 4.33 | 92,0 | 3.62 | 2,4 | 5.30 |
| 1763379 | KM63SVS5B110M | 97,000-117,000 | 3.8190-4.6060 | KM63 | 63,000 | 2.4803 | 65,0 | 2.56 | 110,0 | 4.33 | 92,0 | 3.62 | 3,2 | 7.10 |
| 1763382 | KM80SVS6B150M | 116,000-139,000 | 4.5670-5.4720 | KM80 | 80,000 | 3.1496 | 85,0 | 3.35 | 150,0 | 5.91 | 128,0 | 5.04 | 7,8 | 17.20 |

- Order cartridges separately.

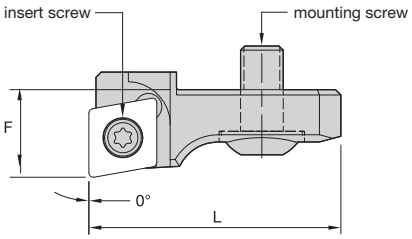




## SVS • HSK Back End

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D mm | D in | D2 mm | D2 in | L1 mm | L1 in | L2 mm | L2 in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1763116 | HSK63ASVS4B139M | 78,000-98,000 | 3.0710-3.8580 | HSK63A | 63,000 | 2.4803 | 65,0 | 2.56 | 139,0 | 5.47 | 113,0 | 4.45 | 3,6 | 8.00 |
| 1763118 | HSK63ASVS5B139M | 97,000-117,000 | 3.8190-4.6060 | HSK63A | 63,000 | 2.4803 | 65,0 | 2.56 | 139,0 | 5.47 | 113,0 | 4.45 | 5,9 | 13.00 |

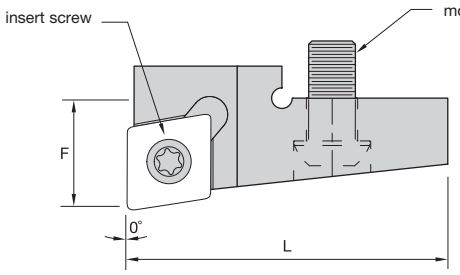
- Order inserts separately.



## AVS • Cartridges SCF

| order number | catalog number | L mm | L in | F mm | F in | gage insert | reference head | cartridge size | mounting screw | Torx wrench | insert screw | Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5124822** | **KRCSCFPR061Y** | 19,20 | .76 | 4,76 | .19 | CP..0602../CP..215... | AVS00B | 1Y | **MS2006** | **FT8** | **MS2005** | **FT7** | 0,00 | .010 |
| **5124823** | **KRCSCFPR062Y** | 19,20 | .76 | 5,88 | .23 | CP..0602../CP..215... | AVS00B | 2Y | **MS2006** | **FT8** | **MS2005** | **FT7** | 0,00 | .010 |
| **5124824** | **KRCSCFPR063Y** | 19,20 | .76 | 7,01 | .28 | CP..0602../CP..215... | AVS00B | 3Y | **MS2006** | **FT8** | **MS2005** | **FT7** | 0,00 | .010 |
| **5124825** | **KRCSCFPR061X** | 23,75 | .94 | 6,46 | .25 | CP..0602../CP..215... | AVS1B,AVS0B | 1X | **MS-1896** | **FT15** | **MS1153** | **FT7** | 0,01 | .020 |
| **5124826** | **KRCSCFPR062X** | 23,60 | .93 | 8,21 | .32 | CP..0602../CP..215... | AVS1B,AVS0B | 2X | **MS-1896** | **FT15** | **MS1153** | **FT7** | 0,01 | .020 |
| **5124827** | **KRCSCFPR063X** | 23,60 | .93 | 9,96 | .39 | CP..0602../CP..215... | AVS1B,AVS0B | 3X | **MS-1896** | **FT15** | **MS1153** | **FT7** | 0,01 | .020 |
| **5124828** | **KRCSCFPR061W** | 26,60 | 1.05 | 6,45 | .25 | CP..0602../CP..215... | AVS3B1,AVS2B1 | 1W | **MS-1896** | **FT15** | **MS1153** | **FT7** | 0,01 | .030 |
| **5124829** | **KRCSCFPR062W** | 26,75 | 1.05 | 8,70 | .34 | CP..0602../CP..215... | AVS2B1,AVS3B1 | 2W | **MS-1896** | **FT15** | **MS1153** | **FT7** | 0,01 | .030 |
| **5124850** | **KRCSCFPR063W** | 26,60 | 1.05 | 10,95 | .43 | CP..0602../CP..215... | AVS3B1,AVS2B1 | 3W | **MS-1896** | **FT15** | **MS1153** | **FT7** | 0,01 | .020 |

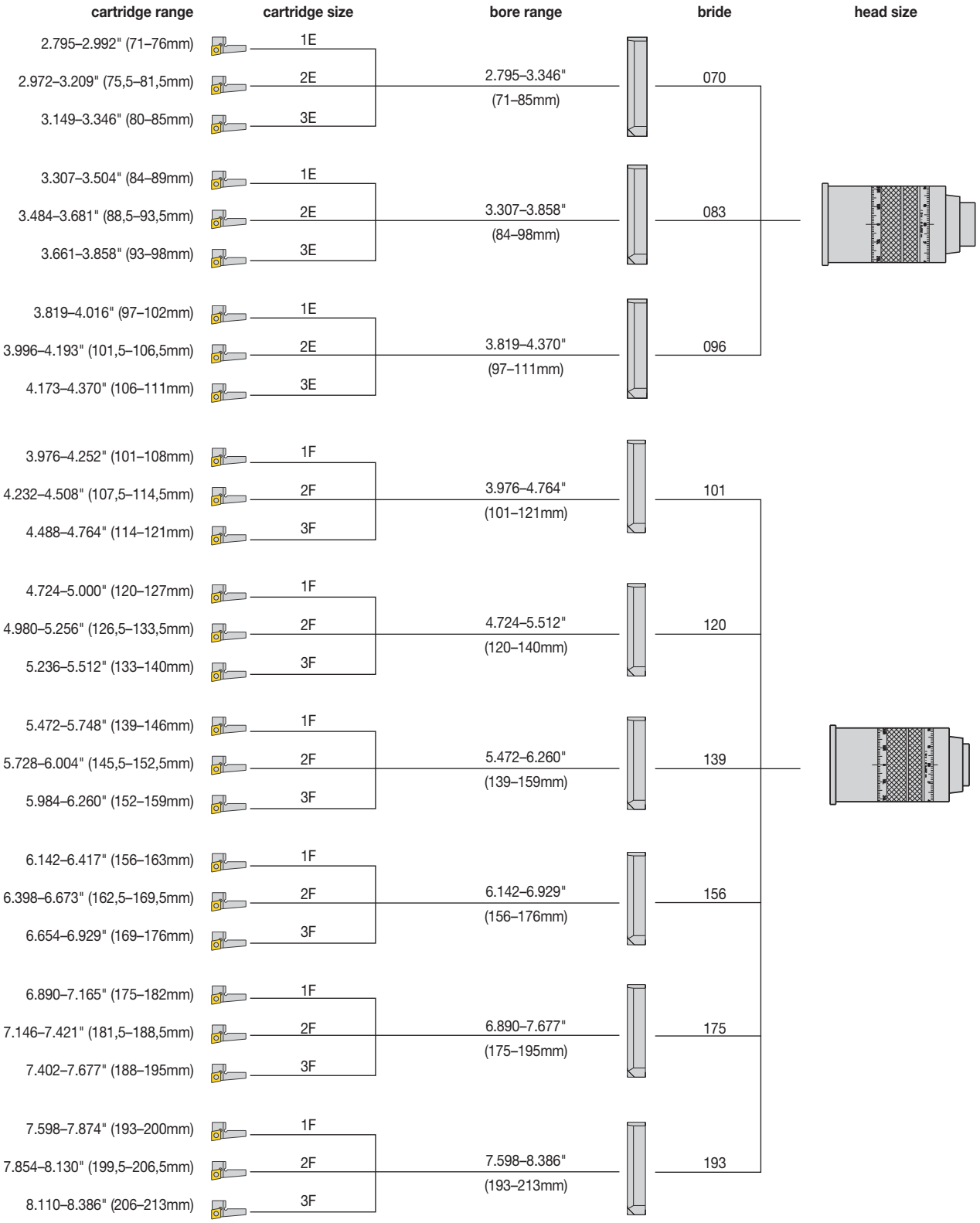
- Order inserts separately.



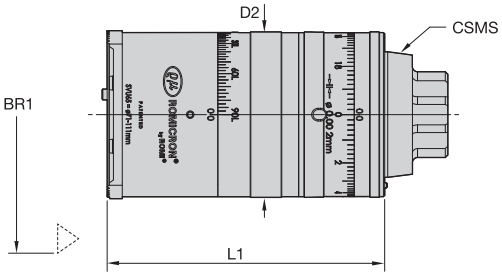
## SVS • Cartridges SCF

| order number | catalog number | L mm | L in | F mm | F in | gage insert | reference head | cartridge size | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|
| **1501356** | **KRCSCFPR061L** | 19,15 | .75 | 4,76 | .19 | CP..0602../CP..215... | AVS00B | 1L. | 0,01 | .02 |
| **1500650** | **KRCSCFPR062L** | 19,15 | .75 | 5,89 | .23 | CP..0602../CP..215... | KRMSVS00M50049M,AVS00B | 2L. | 0,01 | .02 |
| **1501357** | **KRCSCFPR063L** | 19,15 | .75 | 7,01 | .28 | CP..0602../CP..215... | AVS00B | 3L. | 0,01 | .03 |
| **1099162** | **KRCSCFPR061A** | 23,65 | .93 | 6,45 | .25 | CP..0602../CP..215... | AVS0B,AVS1B,AVS1B | 1A. | 0,01 | .02 |
| **1099163** | **KRCSCFPR062A** | 23,70 | .93 | 8,20 | .32 | CP..0602../CP..215... | AVS0B,AVS1B,AVS1B | 2A. | 0,01 | .02 |
| **1099164** | **KRCSCFPR063A** | 23,70 | .93 | 9,95 | .39 | CP..0602../CP..215... | AVS0B,AVS1B,AVS1B | 3A. | 0,01 | .03 |
| **1099166** | **KRCSCFPR062B** | 24,65 | .97 | 8,70 | .34 | CP..0602../CP..215... | SVS3B,SVS2B | 2B. | 0,01 | .03 |
| **1099167** | **KRCSCFPR063B** | 24,65 | .97 | 10,95 | .43 | CP..0602../CP..215... | SVS3B,SVS2B | 3B. | 0,02 | .04 |
| **1099165** | **KRCSCFPR061B** | 24,70 | .97 | 6,45 | .25 | CP..0602../CP..215... | SVS3B,SVS2B | 1B. | 0,01 | .02 |
| **1099168** | **KRCSCFPR061C** | 30,70 | 1.21 | 8,45 | .33 | CP..0602../CP..215.. | SVS5B,SVS4B | 1C. | 0,02 | .05 |
| **1099169** | **KRCSCFPR062C** | 30,70 | 1.21 | 11,70 | .46 | CP..0602../CP..215... | SVS5B,SVS4B | 2C. | 0,03 | .06 |
| **1099170** | **KRCSCFPR063C** | 30,70 | 1.21 | 14,95 | .59 | CP..0602../CP..215... | SVS5B,SVS4B | 3C. | 0,04 | .08 |
| **1099171** | **KRCSCFPR061D** | 38,70 | 1.52 | 8,45 | .33 | CP..0602../CP..215... | SVS8B,SVS7B,SVS6B | 1D. | 0,03 | .07 |
| **1099172** | **KRCSCFPR062D** | 38,70 | 1.52 | 12,20 | .48 | CP..0602../CP..215... | SVS8B,SVS7B,SVS6B | 2D. | 0,05 | .10 |
| **1099173** | **KRCSCFPR063D** | 38,70 | 1.52 | 15,95 | .63 | CP..0602../CP..215... | SVS8B,SVS7B,SVS6B | 3D. | 0,06 | .13 |

## SVU System • Tooling Tree



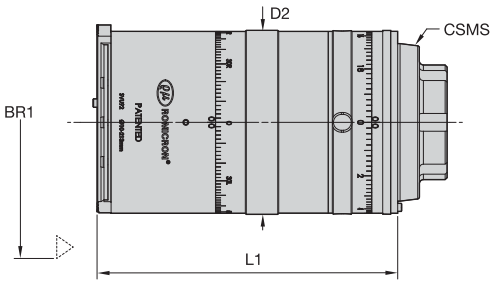
- For correct balance ring settings, see page K108–K109.
- Order diameter extenders, cartridges, and taper shanks separately.



## SVU65 • KR Boring Head with CLB Capability

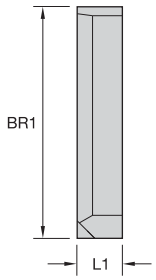
| | | BR1 bore range | | | D2 | | L1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | CSMS system size | mm | in | mm | in | Torx wrench | kg | lbs |
| **1582600** | **KR50SVU65110MCLB** | 71,000-111,000 | 2.7950-4.3700 | KR50 | 65,0 | 2.56 | 110,0 | 4.33 | **KT27** | 2,8 | 6.20 |

- For correct balance ring settings, see page K110–K114.
- Order diameter extenders, cartridges, and taper shanks separately.



## SVU92 • KR Boring Head with CLB Capability

| | | BR1 bore range | | | D2 | | L1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | CSMS system size | mm | in | mm | in | Torx wrench | kg | lbs |
| **4054740** | **KR80SVU92152MCLB** | 101,000-213,000 | 3.9764-8.3858 | KR80 | 92,0 | 3.62 | 152,0 | 5.98 | **KT27** | 7,5 | 16.54 |

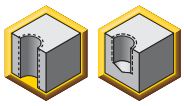


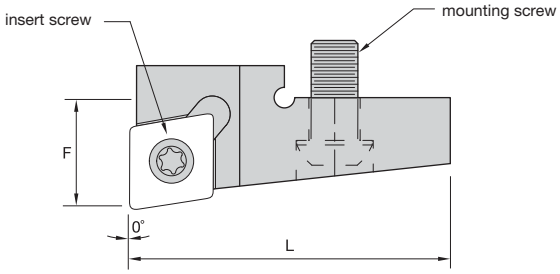
## SVU • Diameter Extenders

| order number | catalog number | BR1 bore range mm | BR1 bore range in | L1 assy mm | L1 assy in | kg | lbs |
|---|---|---|---|---|---|---|---|
| 1279736 | KRDE070019M | 70,000-85,000 | 2.7559-3.3465 | 19,2 | .76 | 0,2 | .48 |
| 1279739 | KRDE083019M | 83,000-98,000 | 3.2677-3.8583 | 19,2 | .76 | 0,3 | .62 |
| 1279740 | KRDE096019M | 96,000-111,000 | 3.7795-4.3701 | 19,2 | .76 | 0,3 | .76 |
| 1279741 | KRDE101023M | 101,000-121,000 | 3.9764-4.7638 | 23,2 | .91 | 0,6 | 1.25 |
| 1279742 | KRDE120023M | 120,000-140,000 | 4.7244-5.5118 | 23,2 | .91 | 0,7 | 1.54 |
| 1279743 | KRDE139026M | 139,000-159,000 | 5.4724-6.2598 | 26,2 | 1.03 | 1,0 | 2.15 |
| 1279745 | KRDE156026M | 156,000-176,000 | 6.1417-6.9291 | 26,2 | 1.03 | 1,1 | 2.51 |
| 1279746 | KRDE175026M | 175,000-195,000 | 3.8898-7.6772 | 26,2 | 1.03 | 1,3 | 2.83 |
| 1279748 | KRDE193026M | 193,000-213,000 | 7.5984-8.3858 | 26,2 | 1.03 | 1,4 | 3.14 |



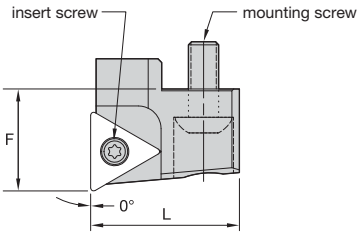
- Order inserts separately.



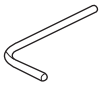


## SVU • Cartri1dges SCF

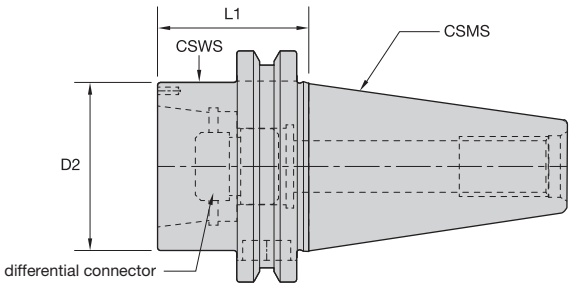
| order number | catalog number | reference head | F mm | F in | L mm | L in | gage insert | insert screw | mounting screw | insert Torx wrench | Torx wrench | cartridge size | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1099174 | KRCSCFPR061E | SVU65 | 6,75 | .27 | 19,70 | .78 | CP..0602../CP..215... | MS1375 | MS1153 | FT7 | KT15 | 1E. | 0,01 | .02 |
| 1099175 | KRCSCFPR062E | SVU65 | 9,00 | .35 | 19,70 | .78 | CP..0602../CP..215... | MS1375 | MS1153 | FT7 | KT15 | 2E. | 0,01 | .02 |
| 1099176 | KRCSCFPR063E | SVU65 | 11,25 | .44 | 19,70 | .78 | CP..0602../CP..215... | MS1375 | MS1153 | FT7 | KT15 | 3E. | 0,01 | .03 |
| 1099177 | KRCSCFPR061F | SVU92 | 6,75 | .27 | 19,70 | .78 | CP..0602../CP..215... | MS1375 | MS1153 | FT7 | KT15 | 1F. | 0,01 | .02 |
| 1099178 | KRCSCFPR062F | SVU92 | 10,00 | .39 | 19,70 | .78 | CP..0602../CP..215... | MS1375 | MS1153 | FT7 | KT15 | 2F. | 0,01 | .03 |
| 1099179 | KRCSCFPR063F | SVU92 | 13,25 | .52 | 19,70 | .78 | CP..0602../CP..215... | MS1375 | MS1153 | FT7 | KT15 | 3F. | 0,02 | .03 |

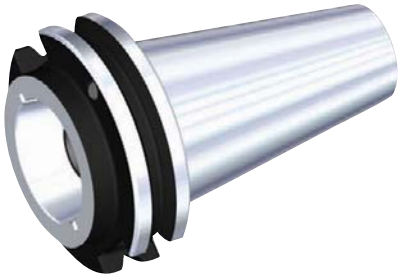


## SVU92 • Cartridges STF 0° Lead Angle

| order number | catalog number | reference head | F mm | F in | L mm | L in | gage insert | insert screw | mounting screw | insert Torx wrench |  Torx wrench | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1279732** | **KRCSTFPR113F** | SVU92 | 13,25 | .52 | 19,70 | .78 | TP..1102../TP..215... | **MS1375** | **MS1153** | **FT7** | **KT15** | 0,02 | .03 |

- Differential connector included.




## CV to KR Adapters AD/B

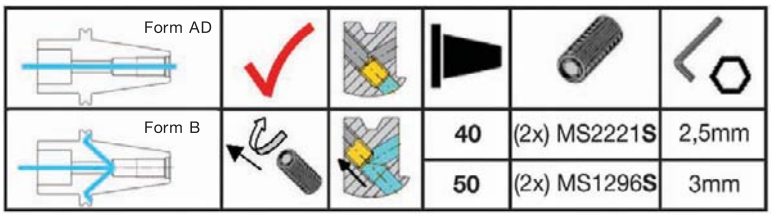
| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | L1 mm | L1 in | differential connector | kg | lbs | reference head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3554366 | CV40BKR32157 | CV40 | KR32 | 47 | 1.85 | 40 | 1.58 | KRDCKR32M | 1,08 | 2.40 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 3554367 | CV40BKR50236 | CV40 | KR50 | 65 | 2.56 | 60 | 2.37 | KRDCKR50M | 1,23 | 2.70 | SVS4B,5B,SVU65,SVUBB2 |
| 3554368 | CV50BKR32157 | CV50 | KR32 | 50 | 1.97 | 40 | 1.57 | KRDCKR32M | 3,25 | 7.20 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 3554369 | CV50BKR50157 | CV50 | KR50 | 65 | 2.56 | 40 | 1.57 | KRDCKR50M | 3,05 | 6.70 | SVS4B,5B,SVU65,SVUBB2 |
| 3554370 | CV50BKR63236 | CV50 | KR63 | 85 | 3.35 | 60 | 2.36 | KRDCKR63M | 3,50 | 7.70 | SVS6B,7B,8B |
| 3554371 | CV50BKR80275 | CV50 | KR80 | 95 | 3.74 | 70 | 2.75 | KRDCKR80M | 4,28 | 9.40 | SVU92,120 |

## DV to KR DIN 69871 AD/B

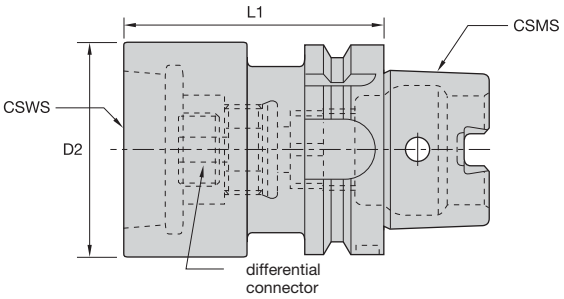
| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | L1 mm | L1 in | differential connector | kg | lbs | reference head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1539005 | DV40BKR32041M | DV40 | KR32 | 44 | 1.75 | 41 | 1.61 | KRDCKR32M | 1,00 | 2.20 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 1263816 | DV40BKR50060M | DV40 | KR50 | 65 | 2.56 | 60 | 2.36 | KRDCKR50M | 1,40 | 3.08 | SVS4B,5B,SVU65,SVUBB2 |
| 1528328 | DV50BKR32041M | DV50 | KR32 | 50 | 1.96 | 41 | 1.61 | KRDCKR32M | 2,80 | 6.16 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 1191970 | DV50BKR32040M | DV50 | KR32 | 50 | 1.96 | 40 | 1.57 | KRDCKR32M | 2,80 | 6.16 | AVS0B, AVS2B, AVS3B |
| 1191971 | DV50BKR50040M | DV50 | KR50 | 65 | 2.56 | 40 | 1.57 | KRDCKR50M | 2,80 | 6.16 | SVS4B,5B,SVU65,SVUBB2 |
| 1264135 | DV50BKR63060M | DV50 | KR63 | 85 | 3.34 | 60 | 2.36 | KRDCKR63M | 3,30 | 7.26 | SVS6B,7B,8B |
| 1264136 | DV50BKR80070M | DV50 | KR80 | 95 | 3.73 | 70 | 2.76 | KRDCKR80M | 4,10 | 9.02 | SVU92,120 |

## BT to KR JIS B6339 Adapters AD/B

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | L1 mm | L1 in | differential connector | kg | lbs | reference head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3554372 | BT40BKR32030M | BT40 | KR32 | 50 | 1.97 | 30 | 1.18 | KRDCKR32M | 1,20 | 2.63 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 3554373 | BT40BKR50050M | BT40 | KR50 | 63 | 2.48 | 50 | 1.97 | KRDCKR50M | 1,26 | 2.80 | SVS4B,5B,SVU65,SVUBB2 |
| 3554374 | BT50BKR32040M | BT50 | KR32 | 50 | 1.97 | 40 | 1.57 | KRDCKR32M | 3,90 | 8.60 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 3554375 | BT50BKR50040M | BT50 | KR50 | 65 | 2.56 | 40 | 1.57 | KRDCKR50M | 3,17 | 7.00 | SVS4B,5B,SVU65,SVUBB2 |
| 3554376 | BT50BKR63060M | BT50 | KR63 | 85 | 3.35 | 60 | 2.36 | KRDCKR63M | 4,31 | 9.50 | SVS6B,7B,8B |
| 3554377 | BT50BKR80060M | BT50 | KR80 | 95 | 3.74 | 60 | 2.36 | KRDCKR80M | 4,53 | 9.98 | SVU92,120 |



- Differential connector included.



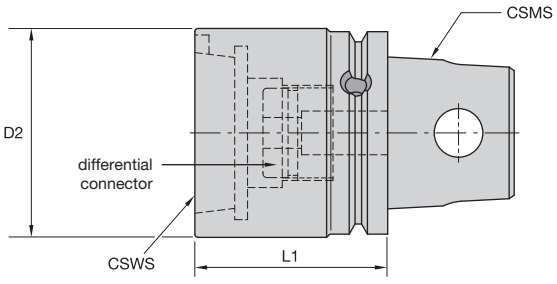
## ERICKSON

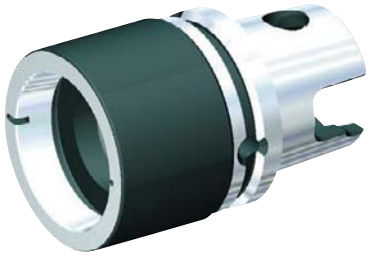
### HSK Form A to KR Adapters

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | L1 mm | L1 in | differential connector | kg | lbs | reference head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1153403 | HSK63AKR32075M | HSK63A | KR32 | 50 | 1.96 | 75 | 2.95 | KRDCKR32M | 1,20 | 2.64 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 1153604 | HSK63AKR50080M | HSK63A | KR50 | 65 | 2.56 | 80 | 3.15 | KRDCKR50M | 1,60 | 3.52 | SVS4B,5B,SVU65,SVUBB2 |
| 1153606 | HSK100AKR32075M | HSK100A | KR32 | 50 | 1.96 | 75 | 2.95 | KRDCKR32M | 2,56 | 5.64 | AVS00B,0B,1B,2B,3B,SVUBB1,BB2 |
| 1107188 | HSK100AKR50085M | HSK100A | KR50 | 65 | 2.56 | 85 | 3.35 | KRDCKR50M | 3,12 | 6.87 | SVS4B,5B,SVU65,SVUBB2 |
| 1173988 | HSK100AKR63100M | HSK100A | KR63 | 85 | 3.34 | 100 | 3.94 | KRDCKR63M | 4,26 | 9.40 | SVS6B,7B,8B |
| 1153612 | HSK100AKR80090M | HSK100A | KR80 | 95 | 3.73 | 90 | 3.54 | KRDCKR80M | 4,36 | 9.62 | SVU92,120 |

NOTE: Plug may need to be removed to access the differential screw drive through the HSK taper.

- Differential connector included.



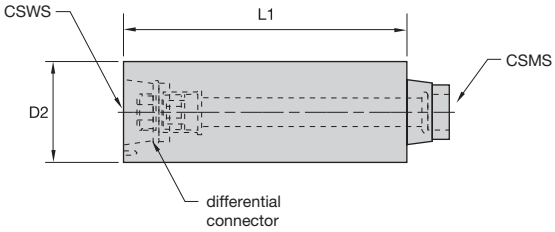
KM QUICK CHANGE

### KM63XMZ to KR Adapters

| order number | catalog number | CSMS system size | CSWS system size | D2 mm | D2 in | L1 mm | L1 in | differential connector | kg | lbs | reference head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1831590 | KM63XMZKR5060Y | KM63XMZ | KR50 | 65 | 2.56 | 60 | 2.36 | KRDCKR50M | 1,37 | 3.02 | SVS4B,5B,SVU65,SVUBB2 |

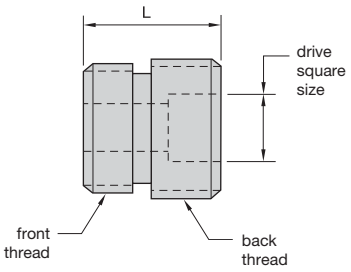
NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.

- Differential connector included.



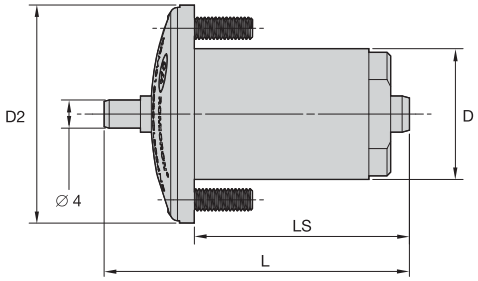
## Length Extenders and Spare Differential Connectors

| order number | catalog number | CSWS system size | CSMS system size | D2 mm | D2 in | L1 mm | L1 in | differential connector | kg | lbs | reference head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1279772** | **KR32KR32038050M** | KR32 | KR32 | 38 | 1.50 | 50 | 1.97 | **KRDCKR32M** | 0,45 | .99 | AVS00B,1B |
| **1192275** | **KR32KR32038100M** | KR32 | KR32 | 38 | 1.50 | 100 | 3.94 | **KRDCKR32M** | 0,82 | 1.81 | AVS00B,1B |
| **1279775** | **KR32KR32047050M** | KR32 | KR32 | 47 | 1.85 | 50 | 1.97 | **KRDCKR32M** | 0,69 | 1.52 | AVS0B,2B,3B,SVUBB1 |
| **1192276** | **KR32KR32047100M** | KR32 | KR32 | 47 | 1.85 | 100 | 3.94 | **KRDCKR32M** | 1,28 | 2.82 | AVS0B,2B,3B,SVUBB1 |
| **1279785** | **KR50KR50065050M** | KR50 | KR50 | 65 | 2.56 | 50 | 1.97 | **KRDCKR50M** | 1,16 | 2.56 | SVS4B,5B,SVU65,SVUBB2 |
| **1192280** | **KR50KR50065100M** | KR50 | KR50 | 65 | 2.56 | 100 | 3.94 | **KRDCKR50M** | 2,25 | 4.96 | SVS4B,5B,SVU65,SVUBB2 |
| **1279791** | **KR63KR63085050M** | KR63 | KR63 | 85 | 3.35 | 50 | 1.97 | **KRDCKR63M** | 2,00 | 4.41 | SVS6B,7B,8B |
| **1279792** | **KR63KR63085100M** | KR63 | KR63 | 85 | 3.35 | 100 | 3.94 | **KRDCKR63M** | 4,02 | 8.86 | SVS6B,7B,8B |
| **1279797** | **KR80KR80095050M** | KR80 | KR80 | 95 | 3.74 | 50 | 1.97 | **KRDCKR80M** | 2,50 | 5.51 | SVU92,120 |
| **1279798** | **KR80KR80095100M** | KR80 | KR80 | 95 | 3.74 | 100 | 3.94 | **KRDCKR80M** | 5,00 | 11.02 | SVU92,120 |



## Spare Differential Connectors

| order number | catalog number | L mm | L in | back thread | front thread | drive square size |
|---|---|---|---|---|---|---|
| **1192295** | **KRDCKR32M** | 22 | .87 | M20 X 2 | M18 X 1 | 3/8 SQ |
| **1192296** | **KRDCKR50M** | 22 | .87 | M28 X 2 | M26 X 1 | 3/8 SQ |
| **1279733** | **KRDCKR63M** | 25 | .98 | M36 X 2 | M32 X 1 | 1/2 SQ |
| **1279734** | **KRDCKR80M** | 28 | 1.10 | M42 X 2 | M38 X 1 | 1/2 SQ |

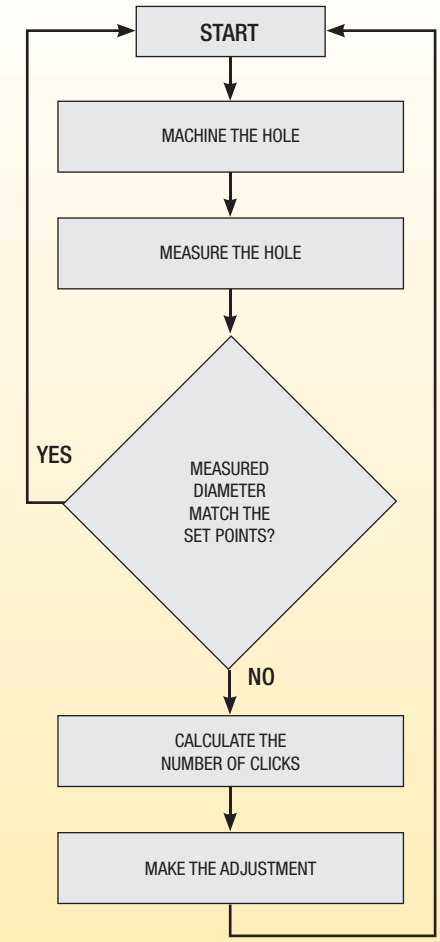


## KRM • CLB Pin

| | | D | | D2 | | LS | | L | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in | kg | lbs |
| 4052592 | KRM018030CLB004NE | 18,0 | .71 | 30,0 | 1.18 | 29,6 | 1.17 | 42,0 | 1.65 | 0,1 | .15 |

## The Romicron Closed Loop Boring Process

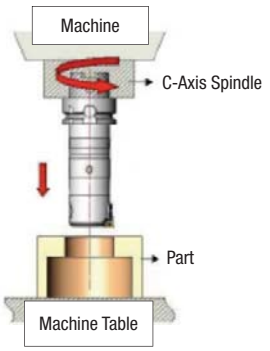
Closed Loop Boring (CLB) provides the unique possibility to automate the insert wear compensation with minimal investment due to the precise 2 µm adjustment in diameter of these tools per increment. Retrofit existing machines to automated wear compensation using the standard CLB pin without any electronic equipment needed besides a measuring device of holes produced.



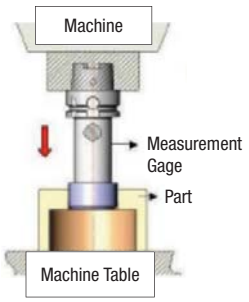

NOTE: This process is only possible with the Romicron system because it does not require tools to make the adjustment.

1. A precision system measures the holes after the machine process. The data is sent to the CNC.
2. The values are compared to the set points.
3. If the diameter is in the range of the specified set points, the machine goes to the next hole. Otherwise, the software calculates the necessary increment and automatically adjusts the Romicron using the CLB pin.

### Step 1




### Step 2

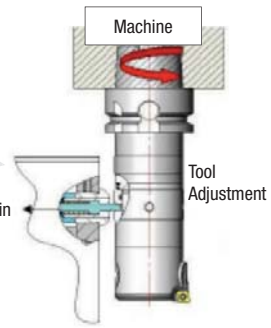



### CNC Machine Command

CNC calculates the correction and commands the tool.

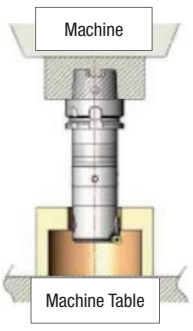
### Step 3

CLB retractable pin to lock the dial ring during diameter adjustment.




### Step 4

Four CLB holes positioned at diameter dial ring.




Finishing Hole

## Romicron™ • Cutting Data

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| P | 1 | | KCP05 | | | – | 180 | **435** | 495 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 180 | **435** | 495 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 180 | **400** | 495 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 180 | **395** | 465 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 180 | **395** | 495 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 140 | **280** | 360 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 140 | **280** | 360 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 2 | | KCP05 | | | – | 180 | **265** | 400 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 180 | **265** | 400 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 190 | **270** | 390 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 180 | **240** | 330 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 180 | **240** | 330 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 145 | **195** | 320 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 145 | **195** | 320 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 3 | | KCP05 | | | – | 180 | **205** | 275 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 180 | **205** | 275 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 180 | **210** | 275 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 160 | **190** | 250 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 155 | **190** | 240 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 135 | **155** | 225 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 135 | **155** | 225 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 4 | | KCP05 | | | – | 90 | **160** | 220 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 90 | **160** | 220 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 90 | **180** | 220 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 90 | **145** | 195 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 90 | **145** | 195 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 75 | **105** | 180 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 75 | **105** | 180 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 5 | | KCP05 | | | – | 150 | **240** | 315 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 150 | **240** | 315 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 150 | **250** | 315 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 150 | **215** | 300 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 150 | **215** | 300 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 120 | **195** | 255 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 120 | **195** | 255 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 6 | | KCP05 | | | – | 140 | **200** | 300 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 140 | **200** | 300 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **200** | 300 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 120 | **180** | 275 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 120 | **180** | 225 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 105 | **150** | 225 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 105 | **150** | 225 | 0,06–0,10 | 0,04–0,08 | – | – |

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| M | 1 | | – | – | KTP10 | – | 140 | **230** | 315 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **230** | 315 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | – | – | KC5010 | 130 | **215** | 245 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCM15 | – | KCM15 | – | 105 | **180** | 240 | 0,06–0,12 | – | 0,06–0,12 | – |
| | | | KC9225 | – | – | KC9225 | 105 | **180** | 240 | 0,06–0,12 | – | – | 0,08–0,16 |
| | 2 | | – | – | KTP10 | – | 140 | **215** | 295 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **215** | 295 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | – | – | KC5010 | 130 | **200** | 245 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCM15 | – | KCM15 | – | 105 | **165** | 250 | 0,06–0,12 | – | 0,06–0,12 | – |
| | | | KC9225 | – | – | KC9225 | 100 | **160** | 230 | 0,06–0,12 | – | – | 0,08–0,16 |
| | 3 | | – | – | KTP10 | – | 140 | **200** | 300 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **200** | 300 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | – | – | KC5010 | 130 | **185** | 230 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCM15 | – | KCM15 | – | 115 | **150** | 255 | 0,06–0,12 | – | 0,06–0,12 | – |
| | | | KC9225 | – | – | KC9225 | 110 | **150** | 230 | 0,06–0,12 | – | – | 0,08–0,16 |

## Romicron™ • Cutting Data

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| K | 1 | | KCK20 | – | KCK20 | | 200 | **300** | 540 | 0,06–0,25 | – | 0,06–0,25 | 0,08–0,30 |
| | | | KT315 | – | – | KT315 | 165 | **275** | 490 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC9315 | – | – | – | 110 | **275** | 450 | 0,06–0,25 | – | – | – |
| | | | KC9320 | – | – | – | 100 | **240** | 400 | 0,06–0,12 | – | – | – |
| | 2 | | KCK20 | – | KCK20 | | 150 | **240** | 420 | 0,06–0,25 | – | 0,06–0,25 | 0,08–0,30 |
| | | | KT315 | – | – | KT315 | 180 | **275** | 360 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | | – | KC5010 | 100 | **200** | 265 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | KC9315 | – | – | – | 145 | **260** | 360 | 0,06–0,25 | – | – | – |
| | | | KC9320 | – | – | – | 140 | **240** | 330 | 0,06–0,12 | – | – | – |
| | 3 | | KCK20 | – | KCK20 | | 140 | **210** | 350 | 0,06–0,25 | – | 0,06–0,25 | 0,08–0,30 |
| | | | KT315 | – | – | KT315 | 180 | **230** | 320 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | | – | KC5010 | 120 | **150** | 225 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | KC9315 | – | – | – | 145 | **215** | 275 | 0,06–0,25 | – | – | – |
| | | | KC9320 | – | – | – | 140 | **210** | 260 | 0,06–0,12 | – | – | – |

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -FWL20 | – | – | min | Starting Value | max | -LF | -FWL20 | – | – |
| N | 1 | | KC5410 | | – | – | 200 | **550** | 1000 | 0,10–0,40 | 0,20–0,50 | – | – |
| | | | KC5410 | – | – | – | 200 | **550** | 1000 | 0,10–0,20 | – | – | – |
| | | | – | – | KD1400 | – | 450 | **765** | 3000 | – | – | 0,06–0,15 | – |
| | 2 | | – | – | KD1425 | – | 375 | **580** | 1150 | – | – | 0,06–0,25 | – |
| | | | – | – | KD1400 | – | 400 | **650** | 1250 | – | – | 0,06–0,15 | – |
| | 3 | | KC5410 | | – | – | 125 | **275** | 525 | 0,10–0,40 | 0,20–0,50 | – | – |
| | | | – | – | KD1425 | – | 250 | **500** | 875 | – | – | 0,06–0,25 | – |
| | | | KC5410 | – | – | – | 125 | **275** | 525 | 0,10–0,20 | – | – | – |
| | | | – | – | KD1400 | – | 375 | **520** | 1000 | – | – | 0,06–0,12 | – |
| | 5 | | KC5410 | – | – | – | 125 | **200** | 375 | 0,10–0,40 | – | – | – |
| | | | KC5410 | – | – | – | 125 | **200** | 375 | 0,10–0,20 | – | – | – |

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| S | 1 | | – | – | KCU10 | – | 30 | **55** | 125 | – | – | 0,06-0,25 | – |
| | | | K313 | – | – | – | 10 | **30** | 60 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 30 | **55** | 120 | 0,06-0,25 | 0,04-0,16 | – | 0,08-0,30 |
| | | | – | – | KCU10 | – | 30 | **55** | 125 | – | – | 0,06–0,25 | – |
| | | | KC5010 | | – | KC5010 | 30 | **55** | 120 | 0,06-0,25 | 0,04-0,16 | – | 0,08-0,30 |
| | | | – | – | KCU25 | – | 10 | **40** | 50 | – | – | 0,06–0,12 | – |
| | | | KC5025 | – | – | – | 10 | **40** | 50 | 0,06-0,10 | – | – | – |
| | 2 | | – | – | KCU10 | – | 30 | **35** | 125 | – | – | 0,06–0,25 | – |
| | | | K313 | – | – | – | 10 | **35** | 60 | 0,06-0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 30 | **60** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU10 | – | 30 | **35** | 125 | – | – | 0,06-0,25 | – |
| | | | KC5010 | | – | KC5010 | 30 | **60** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 10 | **30** | 50 | – | – | 0,06-0,12 | – |
| | | | KC5025 | – | – | – | 10 | **30** | 50 | 0,06–0,10 | – | – | – |
| | 3 | | – | – | KCU10 | – | 30 | **70** | 125 | – | – | 0,06-0,25 | – |
| | | | K313 | – | – | – | 10 | **40** | 60 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 30 | **70** | 120 | 0,06-0,25 | 0,04-0,16 | – | 0,08-0,30 |
| | | | – | – | KCU10 | – | 30 | **35** | 125 | – | – | 0,06–0,25 | – |
| | | | KC5010 | | – | KC5010 | 30 | **70** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 25 | **40** | 60 | – | – | 0,06–0,12 | – |
| | | | KC5025 | – | – | – | 25 | **40** | 60 | 0,06-0,10 | – | – | – |
| | 4 | | – | – | KCU10 | – | 45 | **70** | 140 | – | – | 0,06–0,25 | – |
| | | | K313 | – | – | – | 15 | **45** | 65 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 45 | **70** | 140 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU10 | – | 45 | **70** | 140 | – | – | 0,06-0,25 | – |
| | | | KC5010 | | – | KC5010 | 45 | **70** | 140 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 25 | **55** | 90 | – | – | 0,06-0,12 | – |
| | | | KC5025 | – | – | – | 15 | **55** | 90 | 0,06–0,10 | – | – | – |

# Romicron Assembly Instructions

The required parts for the adapter assembly are identified on Figures 1 and 2. The SVS model is shown. The instructions are also valid to the SVU and SVUBB models.

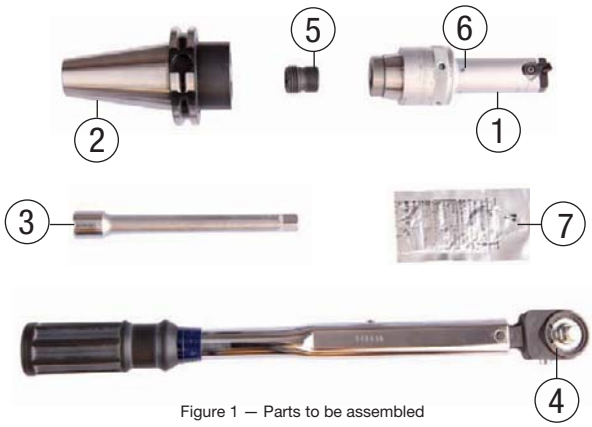



Figure 1 — Parts to be assembled

| | |
|---|---|
| 1 | Boring head |
| 2 | Taper shank |
| 3 | Square extension (3/8" or 1/2") |
| 4 | Torque wrench |
| 5 | Differential connector |
| 6 | Positioning pin |
| 7 | Lubricant ASL-3G |

**WARNING:**
Before starting the assembly procedure, ensure that all surfaces to be assembled together are free of dirt and completely clean.

Figure 2 — Assembled Tool

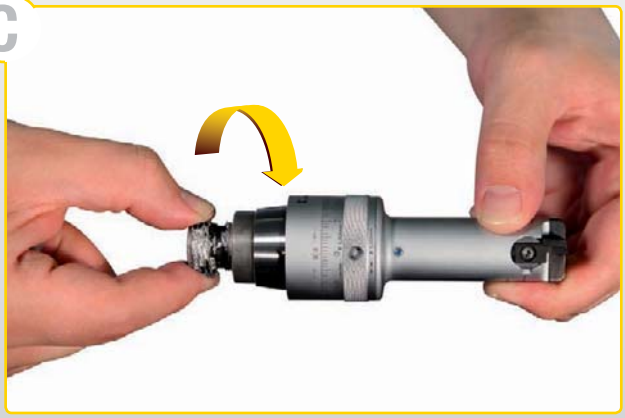
A

A. Remove the Differential Connector (5) from the Taper Shank (2).

B

B. Lubricate the thread on the Differential Connector (5) with Lubricant ASK-3G (7), supplied with the Taper Shank (2).

C



C. Screw the Differential Connector (5) into the rear thread on the Boring Head (1) until the end of the thread. At this time it is not necessary to tighten the Differential Connector (5). Remember that the Differential Connector (5) has two different screws, so there is no way to assemble the wrong side.

# Romicron Assembly Instructions

D

D. Screw the front end of the Taper Shank (2) onto the Differential Connector (5), now located at the back on the Boring Head (1). Screw carefully until the Positioning Pin (6) gently touches the Taper (2) face. Stop!

F

F. Insert the square end of the Extension (3) through the Taper Shank (2) and into the Differential Connector (5). Keeping the Positioning Pin (6) and the positioning slot aligned, turn the Extensions (3) counter-clockwise until you see that two Romicron faces are meshing. Ensure that the Positioning Pin (6) is inserted into the slot on the Taper Shank (2).

E

E. Unscrew the Taper Shank (2) a little bit until the Positioning Pin (6) is aligned with the positioning slot mark in the Taper Shank (2) face.

G

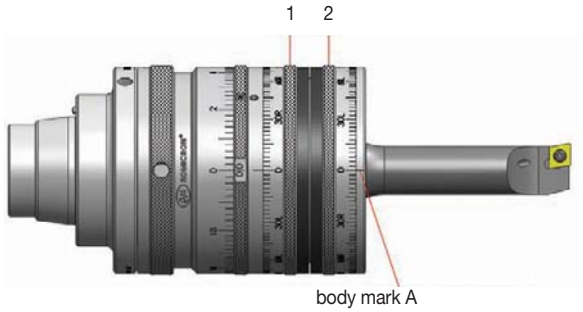
G. Tighten the Differential Connector (5) with the specified required torque, as shown on the table below. Use the Torque Wrench (4) to do this.

**Tightening Torque Specifications**

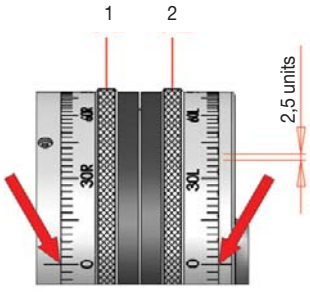
| joint size | Torque Nm | drive square |
|---|---|---|
| KR32 | 30 | 3/8" |
| KR50 | 40 | 3/8" |
| KR63 | 55 | 1/2" |
| KR80 | 65 | 1/2" |

**Following these procedures will result in a rigid surface contact between the taper and the boring head face.**

1. There are 2 balancing dials on the SVUBB system. Align ring 2 “zero” with body mark A. Align “zero” mark of ring 1 with the “zero” mark of ring 2.




2. Look up your diameter in the table below and read the setting values for ring 1 and ring 2.





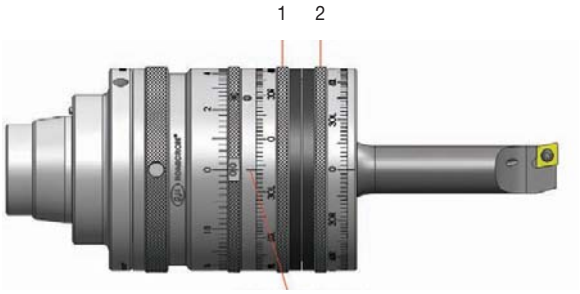

## Balancing Table • SVU-BB1 Boring Head

| KRBB10FABDRS204C 4–6,4mm | | | | | | KRBB10SCLDR4060C 6–9mm | | | | | | KRBB10SCFPR06085C 8,5–11,5mm | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | |
| mm | in | | | | | mm | in | | | | | mm | in | | | | |
| 4 | 0.1575 | 40 | L | 58 | L | 6 | 0.2362 | 34 | L | 66 | L | 8,5 | 0.3346 | 34 | L | 66 | L |
| 4,1 | 0.1614 | 42 | L | 58 | L | 6,1 | 0.2402 | 36 | L | 66 | L | 8,6 | 0.3386 | 36 | L | 68 | L |
| 4,2 | 0.1654 | 42 | L | 54 | L | 6,2 | 0.2441 | 36 | L | 64 | L | 8,7 | 0.3425 | 36 | L | 64 | L |
| 4,3 | 0.1693 | 44 | L | 54 | L | 6,3 | 0.2480 | 38 | L | 62 | L | 8,8 | 0.3465 | 38 | L | 62 | L |
| 4,4 | 0.1732 | 44 | L | 50 | L | 6,4 | 0.2520 | 38 | L | 62 | L | 8,9 | 0.3504 | 36 | L | 60 | L |
| 4,5 | 0.1772 | 46 | L | 50 | L | 6,5 | 0.2559 | 40 | L | 60 | L | 9 | 0.3543 | 40 | L | 60 | L |
| 4,6 | 0.1811 | 46 | L | 48 | L | 6,6 | 0.2598 | 40 | L | 58 | L | 9,1 | 0.3583 | 40 | L | 58 | L |
| 4,7 | 0.1850 | 46 | L | 46 | L | 6,7 | 0.2638 | 40 | L | 56 | L | 9,2 | 0.3622 | 42 | L | 56 | L |
| 4,8 | 0.1890 | 46 | L | 42 | L | 6,8 | 0.2677 | 40 | L | 54 | L | 9,3 | 0.3661 | 40 | L | 54 | L |
| 4,9 | 0.1929 | 46 | L | 40 | L | 6,9 | 0.2717 | 42 | L | 52 | L | 9,4 | 0.3701 | 42 | L | 52 | L |
| 5 | 0.1969 | 22 | R | 20 | R | 7 | 0.2756 | 42 | L | 54 | L | 9,5 | 0.3740 | 42 | L | 50 | L |
| 5,1 | 0.2008 | 32 | R | 26 | R | 7,1 | 0.2795 | 54 | R | 60 | R | 9,6 | 0.3780 | 40 | L | 46 | L |
| 5,2 | 0.2047 | 40 | R | 32 | R | 7,2 | 0.2835 | 54 | R | 60 | R | 9,7 | 0.3819 | 38 | L | 42 | L |
| 5,3 | 0.2087 | 44 | R | 34 | R | 7,3 | 0.2874 | 60 | R | 60 | R | 9,8 | 0.3858 | 30 | L | 32 | L |
| 5,4 | 0.2126 | 48 | R | 36 | R | 7,4 | 0.2913 | 70 | R | 72 | R | 9,9 | 0.3898 | 24 | R | 22 | R |
| 5,5 | 0.2165 | 50 | R | 36 | R | 7,5 | 0.2953 | 42 | R | 40 | R | 10 | 0.3937 | 24 | R | 22 | R |
| 5,6 | 0.2205 | 52 | R | 34 | R | 7,6 | 0.2992 | 48 | R | 44 | R | 10,1 | 0.3976 | 26 | R | 22 | R |
| 5,7 | 0.2244 | 54 | R | 34 | R | 7,7 | 0.3031 | 50 | R | 42 | R | 10,2 | 0.4016 | 44 | R | 38 | R |
| 5,8 | 0.2283 | 56 | R | 32 | R | 7,8 | 0.3071 | 50 | R | 42 | R | 10,3 | 0.4055 | 48 | R | 38 | R |
| 5,9 | 0.2323 | 58 | R | 32 | R | 7,9 | 0.3110 | 52 | R | 40 | R | 10,4 | 0.4094 | 52 | R | 38 | R |
| 6 | 0.2362 | 60 | R | 30 | R | 8 | 0.3150 | 54 | R | 40 | R | 10,5 | 0.4134 | 52 | R | 38 | R |
| 6,1 | 0.2402 | 62 | R | 30 | R | 8,1 | 0.3189 | 54 | R | 38 | R | 10,6 | 0.4173 | 56 | R | 36 | R |
| 6,2 | 0.2441 | 64 | R | 28 | R | 8,2 | 0.3228 | 56 | R | 38 | R | 10,7 | 0.4213 | 56 | R | 36 | R |
| 6,3 | 0.2480 | 66 | R | 28 | R | 8,3 | 0.3268 | 58 | R | 36 | R | 10,8 | 0.4252 | 58 | R | 34 | R |
| 6,4 | 0.2520 | 68 | R | 24 | R | 8,4 | 0.3307 | 58 | R | 34 | R | 10,9 | 0.4291 | 58 | R | 32 | R |
| – | – | – | – | – | – | 8,5 | 0.3346 | 60 | R | 36 | R | 11 | 0.4331 | 62 | R | 32 | R |
| – | – | – | – | – | – | 8,6 | 0.3386 | 62 | R | 34 | R | 11,1 | 0.4370 | 60 | R | 30 | R |
| – | – | – | – | – | – | 8,7 | 0.3425 | 62 | R | 32 | R | 11,2 | 0.4409 | 62 | R | 28 | R |
| – | – | – | – | – | – | 8,8 | 0.3465 | 62 | R | 32 | R | 11,3 | 0.4449 | 62 | R | 28 | R |
| – | – | – | – | – | – | 8,9 | 0.3504 | 66 | R | 28 | R | 11,4 | 0.4488 | 68 | R | 26 | R |
| – | – | – | – | – | – | 9 | 0.3543 | 66 | R | 28 | R | 11,5 | 0.4528 | 68 | R | 26 | R |

*(continued)*

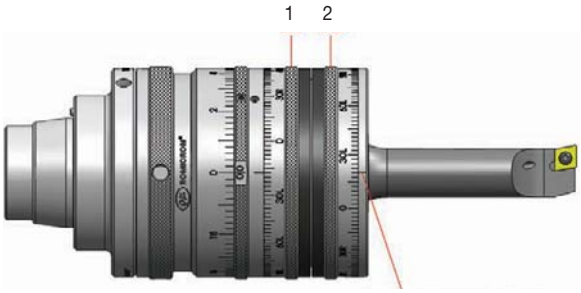
*(Balancing Table • SVU-BB1 Boring Head — continued)*

3. Set ring 1 first, referencing to body mark B (one dial mark equals 2.5 units).



body mark B

4. Set ring 2, referencing to body mark A (one dial mark equals 2.5 units).

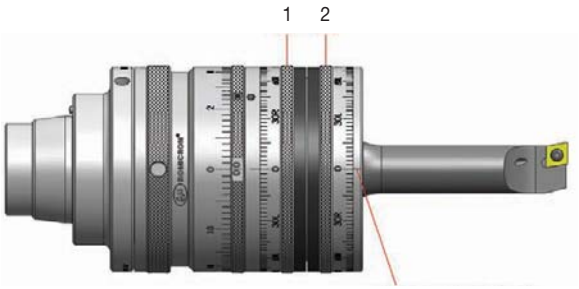


body mark A



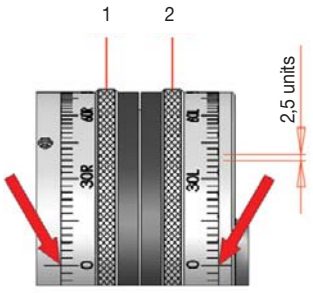
| KRBB10SCFPR06110C 11–14mm | | | | | | KRBB10SCFPR06135C 13,5–16,5mm | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | |
| mm | in | | | | | mm | in | | | | |
| 11 | 0.4331 | 32 | L | 66 | L | 13,5 | 0.5315 | 34 | L | 62 | L |
| 11,1 | 0.4370 | 34 | L | 64 | L | 13,6 | 0.5354 | 36 | L | 60 | L |
| 11,2 | 0.4409 | 34 | L | 62 | L | 13,7 | 0.5394 | 38 | L | 58 | L |
| 11,3 | 0.4449 | 36 | L | 60 | L | 13,8 | 0.5433 | 38 | L | 56 | L |
| 11,4 | 0.4488 | 36 | L | 58 | L | 13,9 | 0.5472 | 40 | L | 56 | L |
| 11,5 | 0.4528 | 38 | L | 58 | L | 14 | 0.5512 | 42 | L | 44 | L |
| 11,6 | 0.4567 | 38 | L | 56 | L | 14,1 | 0.5551 | 42 | L | 52 | L |
| 11,7 | 0.4606 | 40 | L | 54 | L | 14,2 | 0.5591 | 44 | L | 50 | L |
| 11,8 | 0.4646 | 40 | L | 52 | L | 14,3 | 0.5630 | 42 | L | 46 | L |
| 11,9 | 0.4685 | 40 | L | 52 | L | 14,4 | 0.5669 | 34 | L | 36 | L |
| 12 | 0.4724 | 38 | L | 46 | L | 14,5 | 0.5709 | 18 | L | 20 | L |
| 12,1 | 0.4764 | 34 | L | 42 | L | 14,6 | 0.5748 | 10 | R | 6 | R |
| 12,2 | 0.4803 | 26 | L | 30 | L | 14,7 | 0.5787 | 18 | R | 10 | R |
| 12,3 | 0.4843 | 24 | R | 22 | R | 14,8 | 0.5827 | 40 | R | 30 | R |
| 12,4 | 0.4882 | 28 | L | 26 | L | 14,9 | 0.5866 | 44 | R | 32 | R |
| 12,5 | 0.4921 | 44 | L | 38 | R | 15 | 0.5906 | 48 | R | 34 | R |
| 12,6 | 0.4961 | 44 | R | 36 | R | 15,1 | 0.5945 | 48 | R | 32 | R |
| 12,7 | 0.5000 | 50 | R | 40 | R | 15,2 | 0.5984 | 50 | R | 30 | R |
| 12,8 | 0.5039 | 50 | R | 38 | R | 15,3 | 0.6024 | 52 | R | 30 | R |
| 12,9 | 0.5079 | 52 | R | 36 | R | 15,4 | 0.6063 | 56 | R | 32 | R |
| 13 | 0.5118 | 52 | R | 36 | R | 15,5 | 0.6102 | 54 | R | 28 | R |
| 13,1 | 0.5157 | 54 | R | 34 | R | 15,6 | 0.6142 | 58 | R | 28 | R |
| 13,2 | 0.5197 | 54 | R | 32 | R | 15,7 | 0.6181 | 60 | R | 26 | R |
| 13,3 | 0.5236 | 56 | R | 32 | R | 15,8 | 0.6220 | 64 | R | 26 | R |
| 13,4 | 0.5276 | 56 | R | 30 | R | 15,9 | 0.6260 | 64 | R | 26 | R |
| 13,5 | 0.5315 | 60 | R | 28 | R | 16 | 0.6299 | 66 | R | 24 | R |
| 13,6 | 0.5354 | 60 | R | 28 | R | 16,1 | 0.6339 | 66 | R | 22 | R |
| 13,7 | 0.5394 | 62 | R | 26 | R | 16,2 | 0.6378 | 70 | R | 20 | R |
| 13,8 | 0.5433 | 64 | R | 26 | R | 16,3 | 0.6417 | 74 | R | 18 | R |
| 13,9 | 0.5472 | 68 | R | 24 | R | 16,4 | 0.6457 | 76 | R | 16 | R |
| 14 | 0.5512 | 68 | R | 24 | R | 16,5 | 0.6496 | 78 | R | 14 | R |

1. There are 2 balancing dials on the SVUBB system. Align ring 2 "zero" with body mark A. Align "zero" mark of ring 1 with the "zero" mark of ring 2.



body mark A

2. Look up your diameter in the table below and read the setting values for ring 1 and ring 2.





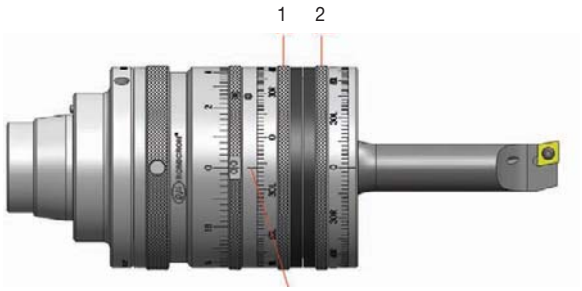

## Balancing Table • SVU-BB2 Boring Head

| KRBB16SCLDRS406A 6–9,5mm | | | | | | KRBB16SCFPR06085A 8,5–12mm | | | | | | KRBB16SCFPR0611A 11–14,5mm | | | | | | KRBB16SCFPR06135A 13,5–17mm | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | |
| mm | in | | | | | mm | in | | | | | mm | in | | | | | mm | in | | | | |
| 6 | 0.2362 | 67.5 | L | 67.5 | L | 8,5 | 0.3346 | 67.5 | L | 67.5 | L | 11 | 0.4331 | 67.5 | L | 70 | L | 13,5 | 0.5315 | 65 | L | 70 | L |
| 6,1 | 0.2402 | 62.5 | L | 62.5 | L | 8,6 | 0.3386 | 62.5 | L | 62.5 | L | 11,1 | 0.4370 | 60 | L | 62.5 | L | 13,6 | 0.5354 | 60 | L | 65 | L |
| 6,2 | 0.2441 | 57.5 | L | 57.5 | L | 8,7 | 0.3425 | 57.5 | L | 57.5 | L | 11,2 | 0.4409 | 57.5 | L | 60 | L | 13,7 | 0.5394 | 55 | L | 60 | L |
| 6,3 | 0.2480 | 55 | L | 55 | L | 8,8 | 0.3465 | 52.5 | L | 55 | L | 11,3 | 0.4449 | 52.5 | L | 55 | L | 13,8 | 0.5433 | 50 | L | 55 | L |
| 6,4 | 0.2520 | 50 | L | 50 | L | 8,9 | 0.3504 | 50 | L | 50 | L | 11,4 | 0.4488 | 47.5 | L | 50 | L | 13,9 | 0.5472 | 47.5 | L | 52.5 | L |
| 6,5 | 0.2559 | 47.5 | L | 47.5 | L | 9 | 0.3543 | 47.5 | L | 47.5 | L | 11,5 | 0.4528 | 45 | L | 47.5 | L | 14 | 0.5512 | 42.5 | L | 47.5 | L |
| 6,6 | 0.2598 | 45 | L | 45 | L | 9,1 | 0.3583 | 42.5 | L | 45 | L | 11,6 | 0.4567 | 42.5 | L | 45 | L | 14,1 | 0.5551 | 40 | L | 45 | L |
| 6,7 | 0.2638 | 40 | L | 40 | L | 9,2 | 0.3622 | 40 | L | 40 | L | 11,7 | 0.4606 | 37.5 | L | 42.5 | L | 14,2 | 0.5591 | 35 | L | 42.5 | L |
| 6,8 | 0.2677 | 37.5 | L | 37.5 | L | 9,3 | 0.3661 | 37.5 | L | 37.5 | L | 11,8 | 0.4646 | 35 | L | 37.5 | L | 14,3 | 0.5630 | 32.5 | L | 40 | L |
| 6,9 | 0.2717 | 35 | L | 35 | L | 9,4 | 0.3701 | 35 | L | 35 | L | 11,9 | 0.4685 | 32.5 | L | 35 | L | 14,4 | 0.5669 | 30 | L | 37.5 | L |
| 7 | 0.2756 | 32.5 | L | 32.5 | L | 9,5 | 0.3740 | 30 | L | 32.5 | L | 12 | 0.4724 | 30 | L | 32.5 | L | 14,5 | 0.5709 | 25 | L | 35 | L |
| 7,1 | 0.2795 | 30 | L | 30 | L | 9,6 | 0.3780 | 27.5 | L | 30 | L | 12,1 | 0.4764 | 27.5 | L | 30 | L | 14,6 | 0.5748 | 22.5 | L | 32.5 | L |
| 7,2 | 0.2835 | 27.5 | L | 27.5 | L | 9,7 | 0.3819 | 25 | L | 27.5 | L | 12,2 | 0.4803 | 25 | L | 27.5 | L | 14,7 | 0.5787 | 20 | L | 30 | L |
| 7,3 | 0.2874 | 25 | L | 25 | L | 9,8 | 0.3858 | 22.5 | L | 25 | L | 12,3 | 0.4843 | 22.5 | L | 25 | L | 14,8 | 0.5827 | 17.5 | L | 27.5 | L |
| 7,4 | 0.2913 | 22.5 | L | 22.5 | L | 9,9 | 0.3898 | 20 | L | 22.5 | L | 12,4 | 0.4882 | 17.5 | L | 25 | L | 14,9 | 0.5866 | 15 | L | 25 | L |
| 7,5 | 0.2953 | 20 | L | 20 | L | 10 | 0.3937 | 17.5 | L | 20 | L | 12,5 | 0.4921 | 15 | L | 22.5 | L | 15 | 0.5906 | 10 | L | 25 | L |
| 7,6 | 0.2992 | 17.5 | L | 17.5 | L | 10,1 | 0.3976 | 15 | L | 17.5 | L | 12,6 | 0.4961 | 12.5 | L | 20 | L | 15,1 | 0.5945 | 7.5 | L | 22.5 | L |
| 7,7 | 0.3031 | 15 | L | 15 | L | 10,2 | 0.4016 | 12.5 | L | 15 | L | 12,7 | 0.5000 | 10 | L | 17.5 | L | 15,2 | 0.5984 | 2.5 | L | 22.5 | L |
| 7,8 | 0.3071 | 12.5 | L | 12.5 | L | 10,3 | 0.4055 | 10 | L | 15 | L | 12,8 | 0.5039 | 5 | L | 17.5 | L | 15,3 | 0.6024 | 2.5 | R | 22.5 | L |
| 7,9 | 0.3110 | 10 | L | 12.5 | L | 10,4 | 0.4094 | 7.5 | L | 12.5 | L | 12,9 | 0.5079 | 2.5 | L | 15 | L | 15,4 | 0.6063 | 7.5 | R | 22.5 | L |
| 8 | 0.3150 | 7.5 | L | 10 | L | 10,5 | 0.4134 | 5 | L | 10 | L | 13 | 0.5118 | 2.5 | R | 15 | L | 15,5 | 0.6102 | 17.5 | R | 27.5 | L |
| 8,1 | 0.3189 | 5 | L | 7.5 | L | 10,6 | 0.4173 | 0 | L | 10 | L | 13,1 | 0.5157 | 10 | R | 17.5 | L | 15,6 | 0.6142 | 37.5 | R | 42.5 | L |
| 8,2 | 0.3228 | 2.5 | L | 5 | L | 10,7 | 0.4213 | 5 | R | 10 | L | 13,2 | 0.5197 | 25 | R | 30 | L | 15,7 | 0.6181 | 85 | L | 90 | R |
| 8,3 | 0.3268 | 2.5 | R | 5 | L | 10,8 | 0.4252 | 45 | R | 45 | L | 13,3 | 0.5236 | 62.5 | L | 65 | R | 15,8 | 0.6220 | 35 | L | 42.5 | R |
| 8,4 | 0.3307 | 10 | L | 12.5 | R | 10,9 | 0.4291 | 10 | L | 15 | R | 13,4 | 0.5276 | 17.5 | L | 22.5 | R | 15,9 | 0.6260 | 17.5 | L | 27.5 | R |
| 8,5 | 0.3346 | 0 | R | 5 | R | 11 | 0.4331 | 2.5 | L | 10 | R | 13,5 | 0.5315 | 5 | L | 15 | R | 16 | 0.6299 | 7.5 | L | 22.5 | R |
| 8,6 | 0.3386 | 2.5 | R | 7.5 | R | 11,1 | 0.4370 | 2.5 | R | 10 | R | 13,6 | 0.5354 | 0 | R | 15 | R | 16,1 | 0.6339 | 2.5 | L | 22.5 | R |
| 8,7 | 0.3425 | 7.5 | R | 7.5 | R | 11,2 | 0.4409 | 5 | R | 12.5 | R | 13,7 | 0.5394 | 5 | R | 15 | R | 16,2 | 0.6378 | 2.5 | R | 22.5 | R |
| 8,8 | 0.3465 | 10 | R | 10 | R | 11,3 | 0.4449 | 10 | R | 12.5 | R | 13,8 | 0.5433 | 7.5 | R | 17.5 | R | 16,3 | 0.6417 | 7.5 | R | 22.5 | R |
| 8,9 | 0.3504 | 12.5 | R | 12.5 | R | 11,4 | 0.4488 | 12.5 | R | 15 | R | 13,9 | 0.5472 | 10 | R | 20 | R | 16,4 | 0.6457 | 10 | R | 25 | R |
| 9 | 0.3543 | 12.5 | R | 15 | R | 11,5 | 0.4528 | 15 | R | 17.5 | R | 14 | 0.5512 | 15 | R | 20 | R | 16,5 | 0.6496 | 15 | R | 25 | R |
| 9,1 | 0.3583 | 15 | R | 17.5 | R | 11,6 | 0.4567 | 17.5 | R | 20 | R | 14,1 | 0.5551 | 17.5 | R | 22.5 | R | 16,6 | 0.6535 | 17.5 | R | 27.5 | R |
| 9,2 | 0.3622 | 17.5 | R | 20 | R | 11,7 | 0.4606 | 20 | R | 22.5 | R | 14,2 | 0.5591 | 20 | R | 25 | R | 16,7 | 0.6575 | 20 | R | 30 | R |
| 9,3 | 0.3661 | 20 | R | 22.5 | R | 11,8 | 0.4646 | 22.5 | R | 25 | R | 14,3 | 0.5630 | 22.5 | R | 27.5 | R | 16,8 | 0.6614 | 22.5 | R | 32.5 | R |
| 9,4 | 0.3701 | 22.5 | R | 25 | R | 11,9 | 0.4685 | 25 | R | 27.5 | R | 14,4 | 0.5669 | 25 | R | 30 | R | 16,9 | 0.6654 | 27.5 | R | 35 | R |
| 9,5 | 0.3740 | 25 | R | 27.5 | R | 12 | 0.4724 | 27.5 | R | 30 | R | 14,5 | 0.5709 | 27.5 | R | 32.5 | R | 17 | 0.6693 | 30 | R | 37.5 | R |

*(continued)*

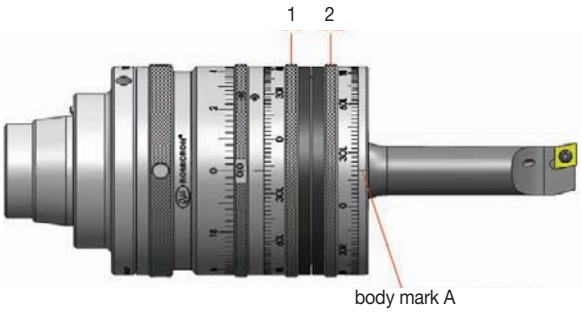
*(Balancing Table • SVU-BB2 Boring Head — continued)*

3. Set ring 1 first, referencing to body mark B (one dial mark equals 2.5 units).



body mark B

4. Set ring 2, referencing to body mark A (one dial mark equals 2.5 units).



body mark A



| KRBB16SCFPR0616A 16–19,5mm diameter | | | | | | KRBB16SCFPR0619A 19–22,5mm diameter | | | | | | KRBB16SCFPR0622A 22–25,5mm diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | |
| 16 | 0.6299 | 65 | L | 72.5 | L | 19 | 0.7480 | 60 | L | 75 | L | 22 | 0.8661 | 57.5 | L | 80 | L |
| 16,1 | 0.6339 | 57.5 | L | 65 | L | 19,1 | 0.7520 | 55 | L | 70 | L | 22,1 | 0.8701 | 50 | L | 72.5 | L |
| 16,2 | 0.6378 | 52.5 | L | 62.5 | L | 19,2 | 0.7559 | 50 | L | 65 | L | 22,2 | 0.8740 | 45 | L | 70 | L |
| 16,3 | 0.6417 | 47.5 | L | 57.5 | L | 19,3 | 0.7598 | 45 | L | 60 | L | 22,3 | 0.8780 | 37.5 | L | 65 | L |
| 16,4 | 0.6457 | 42.5 | L | 52.5 | L | 19,4 | 0.7638 | 40 | L | 57.5 | L | 22,4 | 0.8819 | 32.5 | L | 62.5 | L |
| 16,5 | 0.6496 | 40 | L | 50 | L | 19,5 | 0.7677 | 35 | L | 52.5 | L | 22,5 | 0.8858 | 27.5 | L | 60 | L |
| 16,6 | 0.6535 | 35 | L | 47.5 | L | 19,6 | 0.7717 | 30 | L | 50 | L | 22,6 | 0.8898 | 22.5 | L | 57.5 | L |
| 16,7 | 0.6575 | 32.5 | L | 45 | L | 19,7 | 0.7756 | 27.5 | L | 47.5 | L | 22,7 | 0.8937 | 20 | L | 55 | L |
| 16,8 | 0.6614 | 27.5 | L | 42.5 | L | 19,8 | 0.7795 | 22.5 | L | 45 | L | 22,8 | 0.8976 | 15 | L | 52.5 | L |
| 16,9 | 0.6654 | 25 | L | 40 | L | 19,9 | 0.7835 | 20 | L | 42.5 | L | 22,9 | 0.9016 | 10 | L | 52.5 | L |
| 17 | 0.6693 | 20 | L | 37.5 | L | 20 | 0.7874 | 15 | L | 42.5 | L | 23 | 0.9055 | 5 | L | 50 | L |
| 17,1 | 0.6732 | 17.5 | L | 35 | L | 20,1 | 0.7913 | 10 | L | 40 | L | 23,1 | 0.9094 | 0 | R | 50 | L |
| 17,2 | 0.6772 | 12.5 | L | 32.5 | L | 20,2 | 0.7953 | 5 | L | 40 | L | 23,2 | 0.9134 | 7.5 | R | 52.5 | L |
| 17,3 | 0.6811 | 10 | L | 30 | L | 20,3 | 0.7992 | 0 | L | 40 | L | 23,3 | 0.9173 | 12.5 | R | 52.5 | L |
| 17,4 | 0.6850 | 5 | L | 30 | L | 20,4 | 0.8031 | 5 | R | 40 | L | 23,4 | 0.9213 | 20 | R | 55 | L |
| 17,5 | 0.6890 | 0 | L | 30 | L | 20,5 | 0.8071 | 10 | R | 40 | L | 23,5 | 0.9252 | 30 | R | 60 | L |
| 17,6 | 0.6929 | 5 | R | 30 | L | 20,6 | 0.8110 | 17.5 | R | 42.5 | L | 23,6 | 0.9291 | 40 | R | 65 | L |
| 17,7 | 0.6969 | 12.5 | R | 32.5 | L | 20,7 | 0.8150 | 27.5 | R | 47.5 | L | 23,7 | 0.9331 | 52.5 | R | 75 | L |
| 17,8 | 0.7008 | 22.5 | R | 37.5 | L | 20,8 | 0.8189 | 40 | R | 57.5 | L | 23,8 | 0.9370 | 67.5 | R | 90 | L |
| 17,9 | 0.7047 | 35 | R | 47.5 | L | 20,9 | 0.8228 | 57.5 | R | 72.5 | L | 23,9 | 0.9409 | 77.5 | L | 97.5 | R |
| 18 | 0.7087 | 60 | R | 67.5 | L | 21 | 0.8268 | 80 | R | 92.5 | L | 24 | 0.9449 | 60 | L | 82.5 | R |
| 18,1 | 0.7126 | 75 | L | 82.5 | R | 21,1 | 0.8307 | 65 | L | 77.5 | R | 24,1 | 0.9488 | 47.5 | L | 72.5 | R |
| 18,2 | 0.7165 | 45 | L | 55 | R | 21,2 | 0.8346 | 45 | L | 60 | R | 24,2 | 0.9528 | 35 | L | 62.5 | R |
| 18,3 | 0.7205 | 25 | L | 40 | R | 21,3 | 0.8386 | 30 | L | 50 | R | 24,3 | 0.9567 | 25 | L | 57.5 | R |
| 18,4 | 0.7244 | 15 | L | 32.5 | R | 21,4 | 0.8425 | 20 | L | 45 | R | 24,4 | 0.9606 | 17.5 | L | 55 | R |
| 18,5 | 0.7283 | 7.5 | L | 30 | R | 21,5 | 0.8465 | 12.5 | L | 40 | R | 24,5 | 0.9646 | 10 | L | 52.5 | R |
| 18,6 | 0.7323 | 2.5 | L | 30 | R | 21,6 | 0.8504 | 5 | L | 40 | R | 24,6 | 0.9685 | 5 | L | 50 | R |
| 18,7 | 0.7362 | 2.5 | R | 30 | R | 21,7 | 0.8543 | 0 | L | 40 | R | 24,7 | 0.9724 | 2.5 | R | 50 | R |
| 18,8 | 0.7402 | 7.5 | R | 30 | R | 21,8 | 0.8583 | 5 | R | 40 | R | 24,8 | 0.9764 | 7.5 | R | 50 | R |
| 18,9 | 0.7441 | 12.5 | R | 32.5 | R | 21,9 | 0.8622 | 10 | R | 40 | R | 24,9 | 0.9803 | 12.5 | R | 52.5 | R |
| 19 | 0.7480 | 15 | R | 35 | R | 22 | 0.8661 | 12.5 | R | 42.5 | R | 25 | 0.9843 | 17.5 | R | 52.5 | R |
| 19,1 | 0.7520 | 20 | R | 35 | R | 22,1 | 0.8701 | 17.5 | R | 42.5 | R | 25,1 | 0.9882 | 20 | R | 55 | R |
| 19,2 | 0.7559 | 22.5 | R | 37.5 | R | 22,2 | 0.8740 | 22.5 | R | 45 | R | 25,2 | 0.9921 | 25 | R | 57.5 | R |
| 19,3 | 0.7598 | 27.5 | R | 40 | R | 22,3 | 0.8780 | 25 | R | 47.5 | R | 25,3 | 0.9961 | 30 | R | 60 | R |
| 19,4 | 0.7638 | 30 | R | 42.5 | R | 22,4 | 0.8819 | 30 | R | 50 | R | 25,4 | 1.0000 | 35 | R | 62.5 | R |
| 19,5 | 0.7677 | 35 | R | 45 | R | 22.5 | 0.8858 | 35 | R | 52.5 | R | 25,5 | 1.0039 | 40 | R | 67.5 | R |

*(continued)*

*(Balancing Table • SVU-BB2 Boring Head — continued)*

**KRDEA046AM • KRDE025010M 25,5–33,5mm**

| diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | | | | | mm | in | | | | | mm | in | | | | |
| 25,5 | 1.0039 | 62.5 | L | 65 | L | 28,5 | 1.1220 | 57.5 | L | 60 | L | 31,5 | 1.2402 | 52.5 | L | 55 | L |
| 25,6 | 1.0079 | 57.5 | L | 60 | L | 28,6 | 1.1260 | 52.5 | L | 55 | L | 31,6 | 1.2441 | 47.5 | L | 50 | L |
| 25,7 | 1.0118 | 50 | L | 52.5 | L | 28,7 | 1.1299 | 45 | L | 50 | L | 31,7 | 1.2480 | 42.5 | L | 45 | L |
| 25,8 | 1.0157 | 45 | L | 47.5 | L | 28,8 | 1.1339 | 40 | L | 45 | L | 31,8 | 1.2520 | 37.5 | L | 42.5 | L |
| 25,9 | 1.0197 | 40 | L | 45 | L | 28,9 | 1.1378 | 37.5 | L | 40 | L | 31,9 | 1.2559 | 32.5 | L | 37.5 | L |
| 26,0 | 1.0236 | 35 | L | 40 | L | 29,0 | 1.1417 | 32.5 | L | 37.5 | L | 32,0 | 1.2598 | 27.5 | L | 35 | L |
| 26,1 | 1.0276 | 32.5 | L | 35 | L | 29,1 | 1.1457 | 27.5 | L | 32.5 | L | 32,1 | 1.2638 | 25 | L | 30 | L |
| 26,2 | 1.0315 | 27.5 | L | 32.5 | L | 29,2 | 1.1496 | 25 | L | 30 | L | 32,2 | 1.2677 | 20 | L | 27.5 | L |
| 26,3 | 1.0354 | 22.5 | L | 30 | L | 29,3 | 1.1535 | 20 | L | 27.5 | L | 32,3 | 1.2717 | 17.5 | L | 22.5 | L |
| 26,4 | 1.0394 | 20 | L | 25 | L | 29,4 | 1.1575 | 15 | L | 25 | L | 32,4 | 1.2756 | 12.5 | L | 22.5 | L |
| 26,5 | 1.0433 | 62.5 | L | 65 | L | 29,5 | 1.1614 | 55 | L | 57.5 | L | 32,5 | 1.2795 | 50 | L | 55 | L |
| 26,6 | 1.0472 | 55 | L | 57.5 | L | 29,6 | 1.1654 | 50 | L | 52.5 | L | 32,6 | 1.2835 | 45 | L | 50 | L |
| 26,7 | 1.0512 | 50 | L | 52.5 | L | 29,7 | 1.1693 | 45 | L | 47.5 | L | 32,7 | 1.2874 | 40 | L | 45 | L |
| 26,8 | 1.0551 | 45 | L | 47.5 | L | 29,8 | 1.1732 | 40 | L | 45 | L | 32,8 | 1.2913 | 37.5 | L | 40 | L |
| 26,9 | 1.0591 | 40 | L | 42.5 | L | 29,9 | 1.1772 | 35 | L | 40 | L | 32,9 | 1.2953 | 32.5 | L | 37.5 | L |
| 27,0 | 1.0630 | 35 | L | 40 | L | 30,0 | 1.1811 | 32.5 | L | 35 | L | 33,0 | 1.2992 | 27.5 | L | 32.5 | L |
| 27,1 | 1.0669 | 30 | L | 35 | L | 30,1 | 1.1850 | 27.5 | L | 32.5 | L | 33,1 | 1.3031 | 22.5 | L | 30 | L |
| 27,2 | 1.0709 | 25 | L | 32.5 | L | 30,2 | 1.1890 | 22.5 | L | 30 | L | 33,2 | 1.3071 | 20 | L | 25 | L |
| 27,3 | 1.0748 | 22.5 | L | 27.5 | L | 30,3 | 1.1929 | 20 | L | 25 | L | 33,3 | 1.3110 | 15 | L | 22.5 | L |
| 27,4 | 1.0787 | 17.5 | L | 25 | L | 30,4 | 1.1969 | 15 | L | 22.5 | L | 33,4 | 1.3150 | 12.5 | L | 20 | L |
| 27,5 | 1.0827 | 60 | L | 62.5 | L | 30,5 | 1.2008 | 55 | L | 57.5 | L | 33,5 | 1.3189 | 50 | L | 52.5 | L |
| 27,6 | 1.0866 | 52.5 | L | 55 | L | 30,6 | 1.2047 | 47.5 | L | 52.5 | L | 33,6 | 1.3228 | 45 | L | 47.5 | L |
| 27,7 | 1.0906 | 47.5 | L | 50 | L | 30,7 | 1.2087 | 42.5 | L | 47.5 | L | 33,7 | 1.3268 | 40 | L | 42.5 | L |
| 27,8 | 1.0945 | 42.5 | L | 45 | L | 30,8 | 1.2126 | 37.5 | L | 42.5 | L | 33,8 | 1.3307 | 35 | L | 40 | L |
| 27,9 | 1.0984 | 37.5 | L | 42.5 | L | 30,9 | 1.2165 | 35 | L | 37.5 | L | 33,9 | 1.3346 | 30 | L | 35 | L |
| 28,0 | 1.1024 | 32.5 | L | 37.5 | L | 31,0 | 1.2205 | 30 | L | 35 | L | 34,0 | 1.3386 | 27.5 | L | 32.5 | L |
| 28,1 | 1.1063 | 30 | L | 35 | L | 31,1 | 1.2244 | 25 | L | 32.5 | L | 34,1 | 1.3425 | 22.5 | L | 27.5 | L |
| 28,2 | 1.1102 | 25 | L | 30 | L | 31,2 | 1.2283 | 22.5 | L | 27.5 | L | 34,2 | 1.3465 | 20 | L | 25 | L |
| 28,3 | 1.1142 | 20 | L | 27.5 | L | 31,3 | 1.2323 | 17.5 | L | 25 | L | 34,3 | 1.3504 | 15 | L | 22.5 | L |
| 28,4 | 1.1181 | 17.5 | L | 25 | L | 31,4 | 1.2362 | 12.5 | L | 22.5 | L | 34,4 | 1.3543 | 10 | L | 20 | L |

**KRDEA046AM • KRDE033010M 33,5–44,4mm**

| diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | | diameter | | ring 1 | | ring 2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | | | | | mm | in | | | | | mm | in | | | | | mm | in | | | | |
| 33,5 | 1.3189 | 55 | L | 57.5 | L | 36,5 | 1.4370 | 47.5 | L | 52.5 | L | 39,5 | 1.5551 | 42.5 | L | 47.5 | L | 42,5 | 1.6732 | 37.5 | L | 40 | L |
| 33,6 | 1.3228 | 50 | L | 52.5 | L | 36,6 | 1.4409 | 42.5 | L | 47.5 | L | 39,6 | 1.5591 | 37.5 | L | 42.5 | L | 42,6 | 1.6772 | 32.5 | L | 37.5 | L |
| 33,7 | 1.3268 | 45 | L | 47.5 | L | 36,7 | 1.4449 | 37.5 | L | 42.5 | L | 39,7 | 1.5630 | 32.5 | L | 37.5 | L | 42,7 | 1.6811 | 27.5 | L | 35 | L |
| 33,8 | 1.3307 | 40 | L | 42.5 | L | 36,8 | 1.4488 | 35 | L | 37.5 | L | 39,8 | 1.5669 | 27.5 | L | 35 | L | 42,8 | 1.6850 | 25 | L | 30 | L |
| 33,9 | 1.3346 | 35 | L | 40 | L | 36,9 | 1.4528 | 30 | L | 35 | L | 39,9 | 1.5709 | 25 | L | 30 | L | 42,9 | 1.6890 | 20 | L | 27.5 | L |
| 34,0 | 1.3386 | 30 | L | 35 | L | 37,0 | 1.4567 | 25 | L | 32.5 | L | 40,0 | 1.5748 | 20 | L | 27.5 | L | 43,0 | 1.6929 | 15 | L | 25 | L |
| 34,1 | 1.3425 | 25 | L | 32.5 | L | 37,1 | 1.4606 | 22.5 | L | 27.5 | L | 40,1 | 1.5787 | 15 | L | 25 | L | 43,1 | 1.6969 | 10 | L | 22.5 | L |
| 34,2 | 1.3465 | 22.5 | L | 27.5 | L | 37,2 | 1.4646 | 17.5 | L | 25 | L | 40,2 | 1.5827 | 10 | L | 22.5 | L | 43,2 | 1.7008 | 5 | L | 20 | L |
| 34,3 | 1.3504 | 17.5 | L | 25 | L | 37,3 | 1.4685 | 12.5 | L | 22.5 | L | 40,3 | 1.5866 | 7.5 | L | 20 | L | 43,3 | 1.7047 | 0 | L | 17.5 | L |
| 34,4 | 1.3543 | 12.5 | L | 22.5 | L | 37,4 | 1.4724 | 7.5 | L | 20 | L | 40,4 | 1.5906 | 2.5 | L | 17.5 | L | 43,4 | 1.7087 | 7.5 | R | 20 | L |
| 34,5 | 1.3583 | 52.5 | L | 57.5 | L | 37,5 | 1.4764 | 47.5 | L | 50 | L | 40,5 | 1.5945 | 40 | L | 45 | L | 43,5 | 1.7126 | 35 | L | 40 | L |
| 34,6 | 1.3622 | 47.5 | L | 50 | L | 37,6 | 1.4803 | 42.5 | L | 45 | L | 40,6 | 1.5984 | 35 | L | 40 | L | 43,6 | 1.7165 | 30 | L | 35 | L |
| 34,7 | 1.3661 | 42.5 | L | 47.5 | L | 37,7 | 1.4843 | 37.5 | L | 40 | L | 40,7 | 1.6024 | 30 | L | 37.5 | L | 43,7 | 1.7205 | 25 | L | 32.5 | L |
| 34,8 | 1.3701 | 37.5 | L | 42.5 | L | 37,8 | 1.4882 | 32.5 | L | 37.5 | L | 40,8 | 1.6063 | 27.5 | L | 32.5 | L | 43,8 | 1.7244 | 22.5 | L | 27.5 | L |
| 34,9 | 1.3740 | 32.5 | L | 37.5 | L | 37,9 | 1.4921 | 27.5 | L | 35 | L | 40,9 | 1.6102 | 22.5 | L | 30 | L | 43,9 | 1.7283 | 17.5 | L | 25 | L |
| 35,0 | 1.3780 | 27.5 | L | 35 | L | 38,0 | 1.4961 | 25 | L | 30 | L | 41,0 | 1.6142 | 17.5 | L | 27.5 | L | 44,0 | 1.7323 | 15 | L | 22.5 | L |
| 35,1 | 1.3819 | 25 | L | 30 | L | 38,1 | 1.5000 | 20 | L | 27.5 | L | 41,1 | 1.6181 | 15 | L | 22.5 | L | 44,1 | 1.7362 | 10 | L | 20 | L |
| 35,2 | 1.3858 | 20 | L | 27.5 | L | 38,2 | 1.5039 | 15 | L | 25 | L | 41,2 | 1.6220 | 10 | L | 20 | L | 44,2 | 1.7402 | 5 | L | 17.5 | L |
| 35,3 | 1.3898 | 15 | L | 25 | L | 38,3 | 1.5079 | 10 | L | 22.5 | L | 41,3 | 1.6260 | 5 | L | 20 | L | 44,3 | 1.7441 | 2.5 | R | 17.5 | L |
| 35,4 | 1.3937 | 10 | L | 22.5 | L | 38,4 | 1.5118 | 5 | L | 20 | L | 41,4 | 1.6299 | 0 | R | 17.5 | L | 44,4 | 1.7480 | 12.5 | R | 22.5 | L |
| 35,5 | 1.3976 | 50 | L | 55 | L | 38,5 | 1.5157 | 45 | L | 47.5 | L | 41,5 | 1.6339 | 37.5 | L | 42.5 | L | – | – | – | – | – | – |
| 35,6 | 1.4016 | 45 | L | 50 | L | 38,6 | 1.5197 | 40 | L | 42.5 | L | 41,6 | 1.6378 | 35 | L | 37.5 | L | – | – | – | – | – | – |
| 35,7 | 1.4055 | 40 | L | 45 | L | 38,7 | 1.5236 | 35 | L | 40 | L | 41,7 | 1.6417 | 30 | L | 35 | L | – | – | – | – | – | – |
| 35,8 | 1.4094 | 35 | L | 40 | L | 38,8 | 1.5276 | 30 | L | 35 | L | 41,8 | 1.6457 | 25 | L | 32.5 | L | – | – | – | – | – | – |
| 35,9 | 1.4134 | 30 | L | 37.5 | L | 38,9 | 1.5315 | 25 | L | 32.5 | L | 41,9 | 1.6496 | 22.5 | L | 27.5 | L | – | – | – | – | – | – |
| 36,0 | 1.4173 | 27.5 | L | 32.5 | L | 39,0 | 1.5354 | 22.5 | L | 27.5 | L | 42,0 | 1.6535 | 17.5 | L | 25 | L | – | – | – | – | – | – |
| 36,1 | 1.4213 | 22.5 | L | 30 | L | 39,1 | 1.5394 | 17.5 | L | 25 | L | 42,1 | 1.6575 | 12.5 | L | 22.5 | L | – | – | – | – | – | – |
| 36,2 | 1.4252 | 17.5 | L | 27.5 | L | 39,2 | 1.5433 | 15 | L | 22.5 | L | 42,2 | 1.6614 | 7.5 | L | 20 | L | – | – | – | – | – | – |
| 36,3 | 1.4291 | 15 | L | 22.5 | L | 39,3 | 1.5472 | 10 | L | 20 | L | 42,3 | 1.6654 | 2.5 | L | 17.5 | L | – | – | – | – | – | – |
| 36,4 | 1.4331 | 10 | L | 20 | L | 39,4 | 1.5512 | 5 | L | 17.5 | L | 42,4 | 1.6693 | 5 | R | 20 | L | – | – | – | – | – | – |

*(continued)*

*(Balancing Table • SVU-BB2 Boring Head — continued)*

**KRDEA051AM • KRDE043010M 43–65,9mm**

| diameter | | | | | | diameter | | | | | | diameter | | | | | | diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | |
| 43,0 | 1.6929 | 55 | L | 65 | L | 46,0 | 1.8110 | 42.5 | L | 55 | L | 49,0 | 1.9291 | 32.5 | L | 47.5 | L | 52,0 | 2.0472 | 25 | L | 40 | L |
| 43,1 | 1.6969 | 47.5 | L | 57.5 | L | 46,1 | 1.8150 | 37.5 | L | 50 | L | 49,1 | 1.9331 | 27.5 | L | 42.5 | L | 52,1 | 2.0512 | 20 | L | 37.5 | L |
| 43,2 | 1.7008 | 40 | L | 52.5 | L | 46,2 | 1.8189 | 30 | L | 45 | L | 49,2 | 1.9370 | 22.5 | L | 40 | L | 52,2 | 2.0551 | 12.5 | L | 35 | L |
| 43,3 | 1.7047 | 35 | L | 47.5 | L | 46,3 | 1.8228 | 25 | L | 42.5 | L | 49,3 | 1.9409 | 17.5 | L | 35 | L | 52,3 | 2.0591 | 7.5 | L | 32.5 | L |
| 43,4 | 1.7087 | 30 | L | 42.5 | L | 46,4 | 1.8268 | 20 | L | 37.5 | L | 49,4 | 1.9449 | 12.5 | L | 32.5 | L | 52,4 | 2.0630 | 0 | L | 32.5 | L |
| 43,5 | 1.7126 | 22.5 | L | 40 | L | 46,5 | 1.8307 | 15 | L | 35 | L | 49,5 | 1.9488 | 5 | L | 32.5 | L | 52,5 | 2.0669 | 7.5 | R | 32.5 | L |
| 43,6 | 1.7165 | 17.5 | L | 37.5 | L | 46,6 | 1.8346 | 7.5 | L | 32.5 | L | 49,6 | 1.9528 | 2.5 | R | 32.5 | L | 52,6 | 2.0709 | 20 | R | 37.5 | L |
| 43,7 | 1.7205 | 12.5 | L | 32.5 | L | 46,7 | 1.8386 | 2.5 | L | 30 | L | 49,7 | 1.9567 | 12.5 | R | 35 | L | 52,7 | 2.0748 | 42.5 | R | 52.5 | L |
| 43,8 | 1.7244 | 5 | L | 32.5 | L | 46,8 | 1.8425 | 7.5 | R | 32.5 | L | 49,8 | 1.9606 | 27.5 | R | 42.5 | L | 52,8 | 2.0787 | 85 | L | 92.5 | R |
| 43,9 | 1.7283 | 2.5 | R | 32.5 | L | 46,9 | 1.8465 | 17.5 | R | 35 | L | 49,9 | 1.9646 | 60 | R | 70 | L | 52,9 | 2.0827 | 40 | L | 52.5 | R |
| 44,0 | 1.7323 | 50 | L | 60 | L | 47,0 | 1.8504 | 40 | L | 52.5 | L | 50,0 | 1.9685 | 30 | L | 45 | L | 53,0 | 2.0866 | 22.5 | L | 37.5 | L |
| 44,1 | 1.7362 | 42.5 | L | 55 | L | 47,1 | 1.8543 | 35 | L | 47.5 | L | 50,1 | 1.9724 | 25 | L | 40 | L | 53,1 | 2.0906 | 17.5 | L | 35 | L |
| 44,2 | 1.7402 | 37.5 | L | 50 | L | 47,2 | 1.8583 | 27.5 | L | 42.5 | L | 50,2 | 1.9764 | 20 | L | 37.5 | L | 53,2 | 2.0945 | 10 | L | 32.5 | L |
| 44,3 | 1.7441 | 32.5 | L | 45 | L | 47.3 | 1.8622 | 22.5 | L | 40 | L | 50,3 | 1.9803 | 12.5 | L | 35 | L | 53,3 | 2.0984 | 2.5 | L | 32.5 | L |
| 44,4 | 1.7480 | 25 | L | 42.5 | L | 47,4 | 1.8661 | 17.5 | L | 35 | L | 50,4 | 1.9843 | 7.5 | L | 32.5 | L | 53,4 | 2.1024 | 5 | R | 32.5 | L |
| 44,5 | 1.7520 | 20 | L | 37.5 | L | 47,5 | 1.8701 | 12.5 | L | 32.5 | L | 50,5 | 1.9882 | 0 | L | 32.5 | L | 53,5 | 2.1063 | 15 | R | 35 | L |
| 44,6 | 1.7559 | 15 | L | 35 | L | 47,6 | 1.8740 | 5 | L | 32.5 | L | 50,6 | 1.9921 | 7.5 | R | 32.5 | L | 53,6 | 2.1102 | 30 | R | 45 | L |
| 44,7 | 1.7598 | 10 | L | 32.5 | L | 47,7 | 1.8780 | 2.5 | R | 32.5 | L | 50,7 | 1.9961 | 20 | R | 37.5 | L | 53,7 | 2.1142 | 62.5 | R | 72.5 | L |
| 44,8 | 1.7638 | 2.5 | L | 30 | L | 47,8 | 1.8819 | 12.5 | R | 35 | L | 50,8 | 2.0000 | 40 | R | 52.5 | L | 53,8 | 2.1181 | 57.5 | L | 67.5 | R |
| 44,9 | 1.7677 | 7.5 | R | 32.5 | L | 47,9 | 1.8858 | 27.5 | R | 42.5 | L | 50,9 | 2.0039 | 87.5 | R | 95 | L | 53,9 | 2.1220 | 27.5 | L | 42.5 | R |
| 45,0 | 1.7717 | 47.5 | L | 57.5 | L | 48,0 | 1.8898 | 37.5 | L | 50 | L | 51,0 | 2.0079 | 27.5 | L | 42.5 | L | 54,0 | 2.1260 | 20 | L | 37.5 | L |
| 45,1 | 1.7756 | 40 | L | 52.5 | L | 48,1 | 1.8937 | 30 | L | 45 | L | 51,1 | 2.0118 | 22.5 | L | 40 | L | 54,1 | 2.1299 | 12.5 | L | 35 | L |
| 45,2 | 1.7795 | 35 | L | 47.5 | L | 48,2 | 1.8976 | 25 | L | 40 | L | 51,2 | 2.0157 | 17.5 | L | 35 | L | 54,2 | 2.1339 | 7.5 | L | 32.5 | L |
| 45,3 | 1.7835 | 30 | L | 42.5 | L | 48,3 | 1.9016 | 20 | L | 37.5 | L | 51,3 | 2.0197 | 10 | L | 35 | L | 54,3 | 2.1378 | 0 | L | 32.5 | L |
| 45,4 | 1.7874 | 22.5 | L | 40 | L | 48,4 | 1.9055 | 15 | L | 35 | L | 51,4 | 2.0236 | 5 | L | 32.5 | L | 54,4 | 2.1417 | 7.5 | R | 32.5 | L |
| 45,5 | 1.7913 | 17.5 | L | 35 | L | 48,5 | 1.9094 | 7.5 | L | 32.5 | L | 51,5 | 2.0276 | 2.5 | R | 30 | L | 54,5 | 2.1457 | 20 | R | 37.5 | L |
| 45,6 | 1.7953 | 12.5 | L | 32.5 | L | 48,6 | 1.9134 | 0 | L | 32.5 | L | 51,6 | 2.0315 | 12.5 | R | 32.5 | L | 54,6 | 2.1496 | 45 | R | 55 | L |
| 45,7 | 1.7992 | 5 | L | 32.5 | L | 48,7 | 1.9173 | 7.5 | R | 32.5 | L | 51,7 | 2.0354 | 30 | R | 45 | L | 54,7 | 2.1535 | 82.5 | L | 90 | R |
| 45,8 | 1.8031 | 2.5 | R | 32.5 | L | 48,8 | 1.9213 | 20 | R | 37.5 | L | 51,8 | 2.0394 | 60 | R | 70 | L | 54,8 | 2.1575 | 40 | L | 52.5 | R |
| 45,9 | 1.8071 | 12.5 | R | 35 | L | 48,9 | 1.9252 | 40 | R | 52.5 | L | 51,9 | 2.0433 | 60 | L | 70 | R | 54,9 | 2.1614 | 20 | L | 37.5 | R |
| 55,0 | 2.1654 | 17.5 | L | 35 | L | 58,0 | 2.2835 | 7.5 | L | 32.5 | L | 61,0 | 2.4016 | 5 | R | 32.5 | L | 64,0 | 2.5197 | 25 | R | 40 | L |
| 55,1 | 2.1693 | 10 | L | 32.5 | L | 58,1 | 2.2874 | 0 | R | 30 | L | 61,1 | 2.4055 | 15 | R | 35 | L | 64,1 | 2.5236 | 55 | R | 65 | L |
| 55,2 | 2.1732 | 2.5 | L | 32.5 | L | 58,2 | 2.2913 | 10 | R | 32.5 | L | 61,2 | 2.4094 | 35 | R | 47.5 | L | 64,2 | 2.5276 | 67.5 | L | 77.5 | R |
| 55,3 | 2.1772 | 5 | R | 32.5 | L | 58,3 | 2.2953 | 22.5 | R | 40 | L | 61,3 | 2.4134 | 75 | R | 82.5 | L | 64,3 | 2.5315 | 32.5 | L | 45 | R |
| 55,4 | 2.1811 | 15 | R | 35 | L | 58,4 | 2.2992 | 47.5 | R | 57.5 | L | 61,4 | 2.4173 | 50 | L | 60 | R | 64,4 | 2.5354 | 15 | L | 35 | R |
| 55,5 | 2.1850 | 32.5 | R | 45 | L | 58,5 | 2.3031 | 75 | L | 82.5 | R | 61,5 | 2.4213 | 25 | L | 40 | R | 64,5 | 2.5394 | 5 | L | 32.5 | R |
| 55,6 | 2.1890 | 65 | R | 75 | L | 58,6 | 2.3071 | 35 | L | 47.5 | R | 61,6 | 2.4252 | 10 | L | 32.5 | R | 64,6 | 2.5433 | 2.5 | R | 32.5 | R |
| 55,7 | 2.1929 | 55 | L | 65 | R | 58,7 | 2.3110 | 17.5 | L | 37.5 | R | 61,7 | 2.4291 | 0 | L | 30 | R | 64,7 | 2.5472 | 10 | R | 32.5 | R |
| 55,8 | 2.1969 | 27.5 | L | 42.5 | R | 58,8 | 2.3150 | 5 | L | 32.5 | R | 61,8 | 2.4331 | 5 | R | 32.5 | R | 64,8 | 2.5512 | 15 | R | 35 | R |
| 55,9 | 2.2008 | 12.5 | L | 35 | R | 58,9 | 2.3189 | 2.5 | R | 32.5 | R | 61,9 | 2.4370 | 12.5 | R | 35 | R | 64,9 | 2.5551 | 22.5 | R | 37.5 | R |
| 56,0 | 2.2047 | 12.5 | L | 35 | L | 59,0 | 2.3228 | 2.5 | L | 32.5 | L | 62,0 | 2.4409 | 10 | R | 32.5 | L | 65,0 | 2.5591 | 37.5 | R | 50 | L |
| 56,1 | 2.2087 | 7.5 | L | 32.5 | L | 59,1 | 2.3268 | 5 | R | 32.5 | L | 62,1 | 2.4449 | 25 | R | 40 | L | 65,1 | 2.5630 | 80 | R | 87.5 | L |
| 56,2 | 2.2126 | 0 | R | 32.5 | L | 59,2 | 2.3307 | 15 | R | 35 | L | 62,2 | 2.4488 | 52.5 | R | 62.5 | L | 65,2 | 2.5669 | 47.5 | L | 57.5 | R |
| 56,3 | 2.2165 | 10 | R | 32.5 | L | 59,3 | 2.3346 | 35 | R | 47.5 | L | 62,3 | 2.4528 | 70 | L | 77.5 | R | 65,3 | 2.5709 | 22.5 | L | 40 | R |
| 56,4 | 2.2205 | 22.5 | R | 40 | L | 59,4 | 2.3386 | 72.5 | R | 80 | L | 62,4 | 2.4567 | 35 | L | 47.5 | R | 65,4 | 2.5748 | 7.5 | L | 32.5 | R |
| 56,5 | 2.2244 | 47.5 | R | 57.5 | L | 59,5 | 2.3425 | 52.5 | L | 62.5 | R | 62,5 | 2.4606 | 15 | L | 35 | R | 65,5 | 2.5787 | 0 | L | 32.5 | R |
| 56,6 | 2.2283 | 80 | L | 87.5 | R | 59,6 | 2.3465 | 25 | L | 40 | R | 62,6 | 2.4646 | 5 | L | 32.5 | R | 65,6 | 2.5827 | 7.5 | R | 32.5 | R |
| 56,7 | 2.2323 | 37.5 | L | 50 | R | 59,7 | 2.3504 | 10 | L | 32.5 | R | 62,7 | 2.4685 | 2.5 | R | 32.5 | R | 65,7 | 2.5866 | 12.5 | R | 35 | R |
| 56,8 | 2.2362 | 17.5 | L | 35 | R | 59,8 | 2.3543 | 2.5 | L | 32.5 | R | 62,8 | 2.4724 | 10 | R | 32.5 | R | 65,8 | 2.5906 | 17.5 | R | 37.5 | R |
| 56,9 | 2.2402 | 7.5 | L | 32.5 | R | 59,9 | 2.3583 | 5 | R | 32.5 | R | 62,9 | 2.4764 | 15 | R | 35 | R | 65,9 | 2.5945 | 25 | R | 40 | R |
| 57,0 | 2.2441 | 10 | L | 32.5 | L | 60,0 | 2.3622 | 0 | R | 30 | L | 63,0 | 2.4803 | 17.5 | R | 37.5 | L | – | – | – | – | – | – |
| 57,1 | 2.2480 | 2.5 | L | 32.5 | L | 60,1 | 2.3661 | 10 | R | 32.5 | L | 63,1 | 2.4843 | 37.5 | R | 50 | L | – | – | – | – | – | – |
| 57,2 | 2.2520 | 5 | R | 32.5 | L | 60,2 | 2.3701 | 25 | R | 40 | L | 63,2 | 2.4882 | 77.5 | R | 85 | L | – | – | – | – | – | – |
| 57,3 | 2.2559 | 15 | R | 35 | L | 60,3 | 2.3740 | 50 | R | 60 | L | 63,3 | 2.4921 | 47.5 | L | 57.5 | R | – | – | – | – | – | – |
| 57,4 | 2.2598 | 32.5 | R | 45 | L | 60,4 | 2.3780 | 72.5 | L | 80 | R | 63,4 | 2.4961 | 22.5 | L | 40 | R | – | – | – | – | – | – |
| 57,5 | 2.2638 | 67.5 | R | 77.5 | L | 60,5 | 2.3819 | 35 | L | 47.5 | R | 63,5 | 2.5000 | 10 | L | 32.5 | R | – | – | – | – | – | – |
| 57,6 | 2.2677 | 52.5 | L | 62.5 | R | 60,6 | 2.3858 | 15 | L | 35 | R | 63,6 | 2.5039 | 0 | L | 30 | R | – | – | – | – | – | – |
| 57,7 | 2.2717 | 25 | L | 40 | R | 60,7 | 2.3898 | 5 | L | 32.5 | R | 63,7 | 2.5079 | 7.5 | R | 32.5 | R | – | – | – | – | – | – |
| 57,8 | 2.2756 | 10 | L | 32.5 | R | 60,8 | 2.3937 | 2.5 | R | 32.5 | R | 63,8 | 2.5118 | 12.5 | R | 35 | R | – | – | – | – | – | – |
| 57,9 | 2.2795 | 2.5 | L | 32.5 | R | 60,9 | 2.3976 | 10 | R | 32.5 | R | 63,9 | 2.5157 | 17.5 | R | 37.5 | R | – | – | – | – | – | – |

*(continued)*

*(Balancing Table • SVU-BB2 Boring Head — continued)*

**KRDEA012AM • KRDE065012M 65–82,9mm**

| diameter | | | | | | diameter | | | | | | diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | |
| 65,0 | 2.5591 | 5 | L | 37.5 | R | 68,0 | 2.6772 | 12.5 | R | 37.5 | R | 71,0 | 2.7953 | 25 | R | 45 | R |
| 65,1 | 2.5630 | 2.5 | R | 37.5 | R | 68,1 | 2.6811 | 17.5 | R | 40 | R | 71,1 | 2.7992 | 32.5 | R | 47.5 | R |
| 65,2 | 2.5669 | 10 | R | 37.5 | R | 68,2 | 2.6850 | 22.5 | R | 42.5 | R | 71,2 | 2.8031 | 37.5 | R | 52.5 | R |
| 65,3 | 2.5709 | 15 | R | 40 | R | 68,3 | 2.6890 | 27.5 | R | 47.5 | R | 71,3 | 2.8071 | 42.5 | R | 57.5 | R |
| 65,4 | 2.5748 | 20 | R | 42.5 | R | 68,4 | 2.6929 | 32.5 | R | 50 | R | 71,4 | 2.8110 | 47.5 | R | 62.5 | R |
| 65,5 | 2.5787 | 25 | R | 45 | R | 68,5 | 2.6969 | 40 | R | 55 | R | 71,5 | 2.8150 | 55 | R | 67.5 | R |
| 65,6 | 2.5827 | 30 | R | 47.5 | R | 68,6 | 2.7008 | 45 | R | 60 | R | 71,6 | 2.8189 | 65 | R | 77.5 | R |
| 65,7 | 2.5866 | 35 | R | 52.5 | R | 68,7 | 2.7047 | 52.5 | R | 65 | R | 71,7 | 2.8228 | 65 | R | 77.5 | R |
| 65,8 | 2.5906 | 42.5 | R | 57.5 | R | 68,8 | 2.7087 | 60 | R | 72.5 | R | 71,8 | 2.8268 | 65 | R | 77.5 | R |
| 65,9 | 2.5945 | 47.5 | R | 62.5 | R | 68,9 | 2.7126 | 70 | R | 82.5 | R | 71,9 | 2.8307 | 65 | R | 77.5 | R |
| 66,0 | 2.5984 | 2.5 | R | 35 | R | 69,0 | 2.7165 | 17.5 | R | 40 | R | 72,0 | 2.8346 | 30 | R | 47.5 | R |
| 66,1 | 2.6024 | 7.5 | R | 37.5 | R | 69,1 | 2.7205 | 22.5 | R | 42.5 | R | 72,1 | 2.8386 | 35 | R | 52.5 | R |
| 66,2 | 2.6063 | 12.5 | R | 40 | R | 69,2 | 2.7244 | 27.5 | R | 45 | R | 72,2 | 2.8425 | 40 | R | 55 | R |
| 66,3 | 2.6102 | 20 | R | 40 | R | 69,3 | 2.7283 | 32.5 | R | 50 | R | 72,3 | 2.8465 | 47.5 | R | 60 | R |
| 66,4 | 2.6142 | 25 | R | 45 | R | 69,4 | 2.7323 | 37.5 | R | 52.5 | R | 72,4 | 2.8504 | 55 | R | 67.5 | R |
| 66,5 | 2.6181 | 30 | R | 47.5 | R | 69,5 | 2.7362 | 45 | R | 57.5 | R | 72,5 | 2.8543 | 62.5 | R | 75 | R |
| 66,6 | 2.6220 | 35 | R | 52.5 | R | 69,6 | 2.7402 | 50 | R | 62.5 | R | 72,6 | 2.8583 | 80 | R | 90 | R |
| 66,7 | 2.6260 | 40 | R | 55 | R | 69,7 | 2.7441 | 57.5 | R | 70 | R | 72,7 | 2.8622 | 80 | R | 90 | R |
| 66,8 | 2.6299 | 47.5 | R | 60 | R | 69,8 | 2.7480 | 67.5 | R | 80 | R | 72,8 | 2.8661 | 80 | R | 90 | R |
| 66,9 | 2.6339 | 55 | R | 67.5 | R | 69,9 | 2.7520 | 67.5 | R | 80 | R | 72,9 | 2.8701 | 80 | R | 90 | R |
| 67,0 | 2.6378 | 7.5 | R | 37.5 | R | 70,0 | 2.7559 | 22.5 | R | 42.5 | R | 73,0 | 2.8740 | 40 | R | 55 | R |
| 67,1 | 2.6417 | 12.5 | R | 40 | R | 70,1 | 2.7598 | 27.5 | R | 45 | R | 73,1 | 2.8780 | 47.5 | R | 60 | R |
| 67,2 | 2.6457 | 17.5 | R | 42.5 | R | 70,2 | 2.7638 | 32.5 | R | 50 | R | 73,2 | 2.8819 | 52.5 | R | 65 | R |
| 67,3 | 2.6496 | 22.5 | R | 45 | R | 70,3 | 2.7677 | 37.5 | R | 52.5 | R | 73,3 | 2.8858 | 62.5 | R | 75 | R |
| 67,4 | 2.6535 | 30 | R | 47.5 | R | 70,4 | 2.7717 | 42.5 | R | 57.5 | R | 73,4 | 2.8898 | 75 | R | 87.5 | R |
| 67,5 | 2.6575 | 35 | R | 50 | R | 70,5 | 2.7756 | 50 | R | 62.5 | R | 73,5 | 2.8937 | 75 | R | 87.5 | R |
| 67,6 | 2.6614 | 40 | R | 55 | R | 70,6 | 2.7795 | 57.5 | R | 70 | R | 73,6 | 2.8976 | 75 | R | 87.5 | R |
| 67,7 | 2.6654 | 45 | R | 60 | R | 70,7 | 2.7835 | 65 | R | 77.5 | R | 73,7 | 2.9016 | 75 | R | 87.5 | R |
| 67,8 | 2.6693 | 52.5 | R | 65 | R | 70,8 | 2.7874 | 65 | R | 77.5 | R | 73,8 | 2.9055 | 75 | R | 87.5 | R |
| 67,9 | 2.6732 | 60 | R | 72.5 | R | 70,9 | 2.7913 | 65 | R | 77.5 | R | 73,9 | 2.9094 | 75 | R | 87.5 | R |
| 74,0 | 2.9134 | 40 | R | 55 | R | 77,0 | 3.0315 | 55 | R | 67.5 | R | 80,0 | 3.1496 | 22.5 | L | 45 | L |
| 74,1 | 2.9173 | 45 | R | 60 | R | 77,1 | 3.0354 | 65 | R | 77.5 | R | 80,1 | 3.1535 | 17.5 | L | 42.5 | L |
| 74,2 | 2.9213 | 52.5 | R | 65 | R | 77,2 | 3.0394 | 65 | R | 77.5 | R | 80,2 | 3.1575 | 12.5 | L | 40 | L |
| 74,3 | 2.9252 | 60 | R | 72.5 | R | 77,3 | 3.0433 | 65 | R | 77.5 | R | 80,3 | 3.1614 | 5 | L | 40 | L |
| 74,4 | 2.9291 | 70 | R | 82.5 | R | 77,4 | 3.0472 | 65 | R | 77.5 | R | 80,4 | 3.1654 | 2.5 | R | 40 | L |
| 74,5 | 2.9331 | 70 | R | 82.5 | R | 77,5 | 3.0512 | 65 | R | 77.5 | R | 80,5 | 3.1693 | 10 | R | 40 | L |
| 74,6 | 2.9370 | 70 | R | 82.5 | R | 77,6 | 3.0551 | 65 | R | 77.5 | R | 80,6 | 3.1732 | 22.5 | R | 45 | L |
| 74,7 | 2.9409 | 70 | R | 82.5 | R | 77,7 | 3.0591 | 65 | R | 77.5 | R | 80,7 | 3.1772 | 37.5 | R | 55 | L |
| 74,8 | 2.9449 | 70 | R | 82.5 | R | 77,8 | 3.0630 | 65 | R | 77.5 | R | 80,8 | 3.1811 | 65 | R | 77.5 | L |
| 74,9 | 2.9488 | 70 | R | 82.5 | R | 77,9 | 3.0669 | 65 | R | 77.5 | R | 80,9 | 3.1850 | 70 | L | 82.5 | R |
| 75,0 | 2.9528 | 52.5 | R | 65 | R | 78,0 | 3.0709 | 62.5 | R | 75 | R | 81,0 | 3.1890 | 20 | L | 42.5 | L |
| 75,1 | 2.9567 | 57.5 | R | 70 | R | 78,1 | 3.0748 | 82.5 | R | 92.5 | R | 81,1 | 3.1929 | 12.5 | L | 40 | L |
| 75,2 | 2.9606 | 70 | R | 82.5 | R | 78,2 | 3.0787 | 82.5 | R | 92.5 | R | 81,2 | 3.1969 | 5 | L | 40 | L |
| 75,3 | 2.9646 | 70 | R | 82.5 | R | 78,3 | 3.0827 | 82.5 | R | 92.5 | R | 81,3 | 3.2008 | 0 | R | 37.5 | L |
| 75,4 | 2.9685 | 70 | R | 82.5 | R | 78,4 | 3.0866 | 82.5 | R | 92.5 | R | 81,4 | 3.2047 | 10 | R | 40 | L |
| 75,5 | 2.9724 | 70 | R | 82.5 | R | 78,5 | 3.0906 | 82.5 | R | 92.5 | R | 81,5 | 3.2087 | 20 | R | 45 | L |
| 75,6 | 2.9764 | 70 | R | 82.5 | R | 78,6 | 3.0945 | 82.5 | R | 92.5 | R | 81,6 | 3.2126 | 35 | R | 52.5 | L |
| 75,7 | 2.9803 | 70 | R | 82.5 | R | 78,7 | 3.0984 | 82.5 | R | 92.5 | R | 81,7 | 3.2165 | 57.5 | R | 72.5 | L |
| 75,8 | 2.9843 | 70 | R | 82.5 | R | 78,8 | 3.1024 | 82.5 | R | 92.5 | R | 81,8 | 3.2205 | 75 | L | 87.5 | R |
| 75,9 | 2.9882 | 70 | R | 82.5 | R | 78,9 | 3.1063 | 82.5 | R | 92.5 | R | 81,9 | 3.2244 | 45 | L | 60 | R |
| 76,0 | 2.9921 | 50 | R | 62.5 | R | 79,0 | 3.1102 | 75 | R | 87.5 | R | 82,0 | 3.2283 | 15 | L | 40 | L |
| 76,1 | 2.9961 | 57.5 | R | 70 | R | 79,1 | 3.1142 | 75 | R | 87.5 | R | 82,1 | 3.2323 | 7.5 | L | 40 | L |
| 76,2 | 3.0000 | 67.5 | R | 80 | R | 79,2 | 3.1181 | 75 | R | 87.5 | R | 82,2 | 3.2362 | 0 | L | 40 | L |
| 76,3 | 3.0039 | 67.5 | R | 80 | R | 79,3 | 3.1220 | 75 | R | 87.5 | R | 82,3 | 3.2402 | 7.5 | R | 40 | L |
| 76,4 | 3.0079 | 67.5 | R | 80 | R | 79,4 | 3.1260 | 75 | R | 87.5 | R | 82,4 | 3.2441 | 17.5 | R | 42.5 | L |
| 76,5 | 3.0118 | 67.5 | R | 80 | R | 79,5 | 3.1299 | 75 | R | 87.5 | R | 82,5 | 3.2480 | 30 | R | 50 | L |
| 76,6 | 3.0157 | 67.5 | R | 80 | R | 79,6 | 3.1339 | 75 | R | 87.5 | R | 82,6 | 3.2520 | 52.5 | R | 67.5 | L |
| 76,7 | 3.0197 | 67.5 | R | 80 | R | 79,7 | 3.1378 | 75 | R | 87.5 | R | 82,7 | 3.2559 | 82.5 | L | 95 | R |
| 76,8 | 3.0236 | 67.5 | R | 80 | R | 79,8 | 3.1417 | 75 | R | 87.5 | R | 82,8 | 3.2598 | 50 | L | 65 | R |
| 76,9 | 3.0276 | 67.5 | R | 80 | R | 79,9 | 3.1457 | 75 | R | 87.5 | R | 82,9 | 3.2638 | 30 | L | 50 | R |

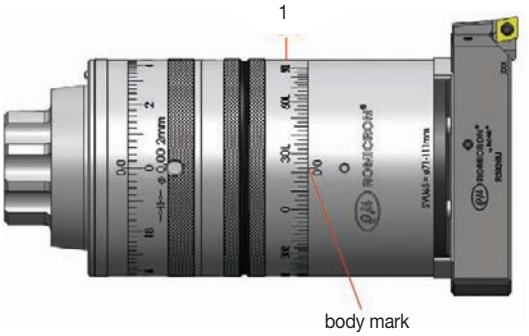
*(continued)*

*(Balancing Table • SVU-BB2 Boring Head — continued)*

**KRDEA012AM • KRDE065012M 65–100mm**

| diameter | | | | | | diameter | | | | | | diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | | mm | in | ring 1 | | ring 2 | |
| 83,0 | 3.2677 | 10 | L | 40 | L | 86,0 | 3.3858 | 10 | R | 40 | L | 89,0 | 3.5039 | 42.5 | R | 57.5 | L |
| 83,1 | 3.2717 | 2.5 | L | 37.5 | L | 86,1 | 3.3898 | 20 | R | 45 | L | 89,1 | 3.5079 | 72.5 | R | 85 | L |
| 83,2 | 3.2756 | 5 | R | 40 | L | 86,2 | 3.3937 | 35 | R | 52.5 | L | 89,2 | 3.5118 | 62.5 | L | 75 | R |
| 83,3 | 3.2795 | 15 | R | 42.5 | L | 86,3 | 3.3976 | 57.5 | R | 72.5 | L | 89,3 | 3.5157 | 37.5 | L | 55 | R |
| 83,4 | 3.2835 | 27.5 | R | 47.5 | L | 86,4 | 3.4016 | 75 | L | 87.5 | R | 89,4 | 3.5197 | 22.5 | L | 45 | R |
| 83,5 | 3.2874 | 47.5 | R | 62.5 | L | 86,5 | 3.4055 | 45 | L | 60 | R | 89,5 | 3.5236 | 10 | L | 40 | R |
| 83,6 | 3.2913 | 77.5 | R | 90 | L | 86,6 | 3.4094 | 27.5 | L | 47.5 | R | 89,6 | 3.5276 | 0 | L | 37.5 | R |
| 83,7 | 3.2953 | 55 | L | 70 | R | 86,7 | 3.4134 | 15 | L | 42.5 | R | 89,7 | 3.5315 | 5 | R | 40 | R |
| 83,8 | 3.2992 | 32.5 | L | 50 | R | 86,8 | 3.4173 | 5 | L | 40 | R | 89,8 | 3.5354 | 12.5 | R | 40 | R |
| 83,9 | 3.3031 | 17.5 | L | 42.5 | R | 86,9 | 3.4213 | 2.5 | R | 40 | R | 89,9 | 3.5394 | 17.5 | R | 42.5 | R |
| 84,0 | 3.3071 | 5 | L | 37.5 | L | 87,0 | 3.4252 | 17.5 | R | 42.5 | L | 90,0 | 3.5433 | 65 | R | 77.5 | L |
| 84,1 | 3.3110 | 2.5 | R | 37.5 | L | 87,1 | 3.4291 | 30 | R | 50 | L | 90,1 | 3.5472 | 70 | L | 82.5 | R |
| 84,2 | 3.3150 | 12.5 | R | 40 | L | 87,2 | 3.4331 | 52.5 | R | 67.5 | L | 90,2 | 3.5512 | 40 | L | 57.5 | R |
| 84,3 | 3.3189 | 25 | R | 47.5 | L | 87,3 | 3.4370 | 82.5 | L | 95 | R | 90,3 | 3.5551 | 22.5 | L | 45 | R |
| 84,4 | 3.3228 | 42.5 | R | 57.5 | L | 87,4 | 3.4409 | 50 | L | 65 | R | 90,4 | 3.5591 | 12.5 | L | 40 | R |
| 84,5 | 3.3268 | 72.5 | R | 85 | L | 87,5 | 3.4449 | 30 | L | 50 | R | 90,5 | 3.5630 | 2.5 | L | 37.5 | R |
| 84,6 | 3.3307 | 62.5 | L | 75 | R | 87,6 | 3.4488 | 17.5 | L | 42.5 | R | 90,6 | 3.5669 | 5 | R | 37.5 | R |
| 84,7 | 3.3346 | 37.5 | L | 55 | R | 87,7 | 3.4528 | 7.5 | L | 40 | R | 90,7 | 3.5709 | 10 | R | 40 | R |
| 84,8 | 3.3386 | 22.5 | L | 45 | R | 87,8 | 3.4567 | 2.5 | R | 37.5 | R | 90,8 | 3.5748 | 17.5 | R | 42.5 | R |
| 84,9 | 3.3425 | 10 | L | 40 | R | 87,9 | 3.4606 | 7.5 | R | 40 | R | 90,9 | 3.5787 | 22.5 | R | 45 | R |
| 85,0 | 3.3465 | 2.5 | R | 40 | L | 88,0 | 3.4646 | 27.5 | R | 47.5 | L | 91,0 | 3.5827 | 75 | L | 87.5 | R |
| 85,1 | 3.3504 | 10 | R | 40 | L | 88,1 | 3.4685 | 47.5 | R | 62.5 | L | 91,1 | 3.5866 | 47.5 | L | 62.5 | R |
| 85,2 | 3.3543 | 22.5 | R | 45 | L | 88,2 | 3.4724 | 77.5 | R | 90 | L | 91,2 | 3.5906 | 27.5 | L | 47.5 | R |
| 85,3 | 3.3583 | 37.5 | R | 55 | L | 88,3 | 3.4764 | 55 | L | 70 | R | 91,3 | 3.5945 | 15 | L | 42.5 | R |
| 85,4 | 3.3622 | 65 | R | 77.5 | L | 88,4 | 3.4803 | 35 | L | 52.5 | R | 91,4 | 3.5984 | 5 | L | 40 | R |
| 85,5 | 3.3661 | 70 | L | 82.5 | R | 88,5 | 3.4843 | 17.5 | L | 42.5 | R | 91,5 | 3.6024 | 2.5 | R | 40 | R |
| 85,6 | 3.3701 | 40 | L | 57.5 | R | 88,6 | 3.4882 | 7.5 | L | 40 | R | 91,6 | 3.6063 | 10 | R | 40 | R |
| 85,7 | 3.3740 | 22.5 | L | 45 | R | 88,7 | 3.4921 | 0 | R | 40 | R | 91,7 | 3.6102 | 15 | R | 42.5 | R |
| 85,8 | 3.3780 | 12.5 | L | 40 | R | 88,8 | 3.4961 | 7.5 | R | 40 | R | 91,8 | 3.6142 | 22.5 | R | 45 | R |
| 85,9 | 3.3819 | 2.5 | L | 37.5 | R | 88,9 | 3.5000 | 12.5 | R | 42.5 | R | 91,9 | 3.6181 | 27.5 | R | 47.5 | R |
| 92,0 | 3.6220 | 50 | L | 65 | R | 95,0 | 3.7402 | 12.5 | L | 40 | R | 98,0 | 3.8583 | 7.5 | R | 40 | R |
| 92,1 | 3.6260 | 30 | L | 50 | R | 95,1 | 3.7441 | 2.5 | L | 37.5 | R | 98,1 | 3.8622 | 12.5 | R | 42.5 | R |
| 92,2 | 3.6299 | 17.5 | L | 42.5 | R | 95,2 | 3.7480 | 5 | R | 37.5 | R | 98,2 | 3.8661 | 20 | R | 42.5 | R |
| 92,3 | 3.6339 | 7.5 | L | 40 | R | 95,3 | 3.7520 | 10 | R | 40 | R | 98,3 | 3.8701 | 25 | R | 47.5 | R |
| 92,4 | 3.6378 | 2.5 | R | 37.5 | R | 95,4 | 3.7559 | 17.5 | R | 42.5 | R | 98,4 | 3.8740 | 30 | R | 50 | R |
| 92,5 | 3.6417 | 7.5 | R | 40 | R | 95,5 | 3.7598 | 22.5 | R | 45 | R | 98,5 | 3.8780 | 37.5 | R | 55 | R |
| 92,6 | 3.6457 | 15 | R | 40 | R | 95,6 | 3.7638 | 27.5 | R | 47.5 | R | 98,6 | 3.8819 | 42.5 | R | 60 | R |
| 92,7 | 3.6496 | 20 | R | 45 | R | 95,7 | 3.7677 | 35 | R | 52.5 | R | 98,7 | 3.8858 | 50 | R | 65 | R |
| 92,8 | 3.6535 | 25 | R | 47.5 | R | 95,8 | 3.7717 | 40 | R | 57.5 | R | 98,8 | 3.8898 | 57.5 | R | 72.5 | R |
| 92,9 | 3.6575 | 32.5 | R | 50 | R | 95,9 | 3.7756 | 47.5 | R | 62.5 | R | 98,9 | 3.8937 | 70 | R | 82.5 | R |
| 93,0 | 3.6614 | 35 | L | 52.5 | R | 96,0 | 3.7795 | 5 | L | 40 | R | 99,0 | 3.8976 | 12.5 | R | 40 | R |
| 93,1 | 3.6654 | 17.5 | L | 42.5 | R | 96,1 | 3.7835 | 2.5 | R | 40 | R | 99,1 | 3.9016 | 17.5 | R | 42.5 | R |
| 93,2 | 3.6693 | 7.5 | L | 40 | R | 96,2 | 3.7874 | 10 | R | 40 | R | 99,2 | 3.9055 | 25 | R | 45 | R |
| 93,3 | 3.6732 | 0 | R | 37.5 | R | 96,3 | 3.7913 | 15 | R | 42.5 | R | 99,3 | 3.9094 | 30 | R | 50 | R |
| 93,4 | 3.6772 | 7.5 | R | 40 | R | 96,4 | 3.7953 | 22.5 | R | 45 | R | 99,4 | 3.9134 | 35 | R | 52.5 | R |
| 93,5 | 3.6811 | 12.5 | R | 42.5 | R | 96,5 | 3.7992 | 27.5 | R | 47.5 | R | 99,5 | 3.9173 | 42.5 | R | 57.5 | R |
| 93,6 | 3.6850 | 20 | R | 42.5 | R | 96,6 | 3.8031 | 32.5 | R | 52.5 | R | 99,6 | 3.9213 | 47.5 | R | 62.5 | R |
| 93,7 | 3.6890 | 25 | R | 47.5 | R | 96,7 | 3.8071 | 40 | R | 55 | R | 99,7 | 3.9252 | 55 | R | 70 | R |
| 93,8 | 3.6929 | 30 | R | 50 | R | 96,8 | 3.8110 | 45 | R | 60 | R | 99,8 | 3.9291 | 67.5 | R | 80 | R |
| 93,9 | 3.6969 | 37.5 | R | 55 | R | 96,9 | 3.8150 | 52.5 | R | 67.5 | R | 99,9 | 3.9331 | 67.5 | R | 80 | R |
| 94,0 | 3.7008 | 22.5 | L | 45 | R | 97,0 | 3.8189 | 2.5 | R | 37.5 | R | 100,0 | 3.9370 | 17.5 | R | 42.5 | R |
| 94,1 | 3.7047 | 10 | L | 40 | R | 97,1 | 3.8228 | 7.5 | R | 40 | R | 100,1 | 3.9409 | 22.5 | R | 45 | R |
| 94,2 | 3.7087 | 2.5 | L | 40 | R | 97,2 | 3.8268 | 15 | R | 40 | R | 100,2 | 3.9449 | 27.5 | R | 47.5 | R |
| 94,3 | 3.7126 | 5 | R | 40 | R | 97,3 | 3.8307 | 20 | R | 45 | R | 100,3 | 3.9488 | 35 | R | 52.5 | R |
| 94,4 | 3.7165 | 12.5 | R | 40 | R | 97,4 | 3.8346 | 25 | R | 47.5 | R | 100,4 | 3.9528 | 40 | R | 57.5 | R |
| 94,5 | 3.7205 | 17.5 | R | 42.5 | R | 97,5 | 3.8386 | 32.5 | R | 50 | R | 100,5 | 3.9567 | 47.5 | R | 62.5 | R |
| 94,6 | 3.7244 | 25 | R | 45 | R | 97,6 | 3.8425 | 37.5 | R | 55 | R | 100,6 | 3.9606 | 55 | R | 70 | R |
| 94,7 | 3.7283 | 30 | R | 50 | R | 97,7 | 3.8465 | 45 | R | 60 | R | 100,7 | 3.9646 | 65 | R | 77.5 | R |
| 94,8 | 3.7323 | 35 | R | 52.5 | R | 97,8 | 3.8504 | 50 | R | 65 | R | 100,8 | 3.9685 | 65 | R | 77.5 | R |
| 94,9 | 3.7362 | 42.5 | R | 57.5 | R | 97,9 | 3.8543 | 60 | R | 72.5 | R | 100,9 | 3.9724 | 65 | R | 77.5 | R |

## Balancing Table • SVU-65 Boring Head



1. There is one balancing dial on the SVU system.
2. Look up your diameter in the table below and read the setting values for ring 1.
3. Set ring 1, referencing to the body mark (one dial mark equals 2.5 units).



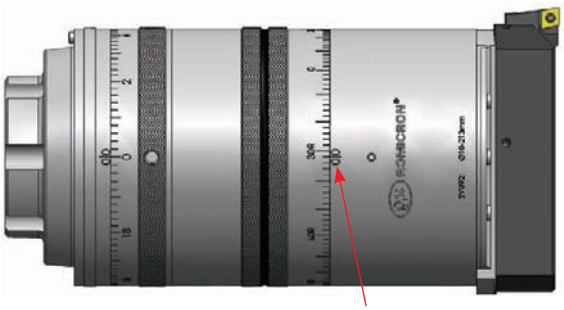
| KRDE070019M | | | | | | | | | | | | KRDE083019M | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KRCSCFPR061E 71–76mm | | | | KRCSCFPR062E 75,5–81,5mm | | | | KRCSCFPR063E 80–85mm | | | | KRCSCFPR061E 84–89mm | | | | KRCSCFPR062E 88,5–93,5mm | | | |
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | | mm | in | | | mm | in | | |
| 70,99 | 2.795 | 40 | L | 75,49 | 2.972 | 35 | L | 80,01 | 3.150 | 30 | L | 84,00 | 3.307 | 47.5 | L | 88,49 | 3.484 | 40 | L |
| 71,12 | 2.800 | 37.5 | L | 75,59 | 2.976 | 32.5 | L | 80,16 | 3.156 | 27.5 | L | 84,12 | 3.312 | 45 | L | 88,65 | 3.490 | 37.5 | L |
| 71,27 | 2.806 | 35 | L | 75,77 | 2.983 | 30 | L | 80,34 | 3.163 | 25 | L | 84,25 | 3.317 | 42.5 | L | 88,80 | 3.496 | 35 | L |
| 71,42 | 2.812 | 32.5 | L | 75,95 | 2.990 | 27.5 | L | 80,52 | 3.170 | 22.5 | L | 84,38 | 3.322 | 40 | L | 88,95 | 3.502 | 32.5 | L |
| 71,60 | 2.819 | 30 | L | 76,10 | 2.996 | 25 | L | 80,70 | 3.177 | 20 | L | 84,51 | 3.327 | 37.5 | L | 89,08 | 3.507 | 30 | L |
| 71,78 | 2.826 | 27.5 | L | 76,28 | 3.003 | 22.5 | L | 80,87 | 3.184 | 17.5 | L | 84,66 | 3.333 | 35 | L | 89,26 | 3.514 | 27.5 | L |
| 71,96 | 2.833 | 25 | L | 76,48 | 3.011 | 20 | L | 81,08 | 3.192 | 15 | L | 84,81 | 3.339 | 32.5 | L | 89,41 | 3.520 | 25 | L |
| 72,14 | 2.840 | 22.5 | L | 76,66 | 3.018 | 17.5 | L | 81,25 | 3.199 | 12.5 | L | 84,96 | 3.345 | 30 | L | 89,56 | 3.526 | 22.5 | L |
| 72,31 | 2.847 | 20 | L | 76,84 | 3.025 | 15 | L | 81,46 | 3.207 | 10 | L | 85,12 | 3.351 | 27.5 | L | 89,74 | 3.533 | 20 | L |
| 72,49 | 2.854 | 17.5 | L | 77,04 | 3.033 | 12.5 | L | 81,64 | 3.214 | 7.5 | L | 85,27 | 3.357 | 25 | L | 89,89 | 3.539 | 17.5 | L |
| 72,69 | 2.862 | 15 | L | 77,22 | 3.040 | 10 | L | 81,84 | 3.222 | 5 | L | 85,42 | 3.363 | 22.5 | L | 90,07 | 3.546 | 15 | L |
| 72,87 | 2.869 | 12.5 | L | 77,42 | 3.048 | 7.5 | L | 82,02 | 3.229 | 2.5 | L | 85,60 | 3.370 | 20 | L | 90,22 | 3.552 | 12.5 | L |
| 73,08 | 2.877 | 10 | L | 77,62 | 3.056 | 5 | L | 82,22 | 3.237 | 0 | – | 85,78 | 3.377 | 17.5 | L | 90,40 | 3.559 | 10 | L |
| 73,25 | 2.884 | 7.5 | L | 77,80 | 3.063 | 2.5 | L | 82,42 | 3.245 | 2.5 | R | 85,93 | 3.383 | 15 | L | 90,58 | 3.566 | 7.5 | L |
| 73,46 | 2.892 | 5 | L | 78,00 | 3.071 | 0 | – | 82,60 | 3.252 | 5 | R | 86,11 | 3.390 | 12.5 | L | 90,75 | 3.573 | 5 | L |
| 73,66 | 2.900 | 2.5 | L | 78,21 | 3.079 | 2.5 | R | 82,80 | 3.260 | 7.5 | R | 86,28 | 3.397 | 10 | L | 90,93 | 3.580 | 2.5 | L |
| 73,86 | 2.908 | 0 | – | 78,38 | 3.086 | 5 | R | 82,98 | 3.267 | 10 | R | 86,46 | 3.404 | 7.5 | L | 91,11 | 3.587 | 0 | – |
| 74,04 | 2.915 | 2.5 | R | 78,59 | 3.094 | 7.5 | R | 83,19 | 3.275 | 12.5 | R | 86,64 | 3.411 | 5 | L | 91,29 | 3.594 | 2.5 | R |
| 74,24 | 2.923 | 5 | R | 78,77 | 3.101 | 10 | R | 83,36 | 3.282 | 15 | R | 86,82 | 3.418 | 2.5 | L | 91,47 | 3.601 | 5 | R |
| 74,45 | 2.931 | 7.5 | R | 78,97 | 3.109 | 12.5 | R | 83,57 | 3.290 | 17.5 | R | 87,00 | 3.425 | 0 | – | 91,64 | 3.608 | 7.5 | R |
| 74,63 | 2.938 | 10 | R | 79,15 | 3.116 | 15 | R | 83,74 | 3.297 | 20 | R | 87,17 | 3.432 | 2.5 | R | 91,80 | 3.614 | 10 | R |
| 74,83 | 2.946 | 12.5 | R | 79,35 | 3.124 | 17.5 | R | 83,92 | 3.304 | 22.5 | R | 87,33 | 3.438 | 5 | R | 91,97 | 3.621 | 12.5 | R |
| 75,01 | 2.953 | 15 | R | 79,53 | 3.131 | 20 | R | 84,10 | 3.311 | 25 | R | 87,50 | 3.445 | 7.5 | R | 92,15 | 3.628 | 15 | R |
| 75,21 | 2.961 | 17.5 | R | 79,71 | 3.138 | 22.5 | R | 84,28 | 3.318 | 27.5 | R | 87,68 | 3.452 | 10 | R | 92,33 | 3.635 | 17.5 | R |
| 75,39 | 2.968 | 20 | R | 79,88 | 3.145 | 25 | R | 84,46 | 3.325 | 30 | R | 87,86 | 3.459 | 12.5 | R | 92,48 | 3.641 | 20 | R |
| 75,57 | 2.975 | 22.5 | R | 80,06 | 3.152 | 27.5 | R | 84,61 | 3.331 | 32.5 | R | 88,04 | 3.466 | 15 | R | 92,66 | 3.648 | 22.5 | R |
| 75,74 | 2.982 | 25 | R | 80,24 | 3.159 | 30 | R | 84,79 | 3.338 | 35 | R | 88,21 | 3.473 | 17.5 | R | 92,81 | 3.654 | 25 | R |
| 75,92 | 2.989 | 27.5 | R | 80,42 | 3.166 | 32.5 | R | 84,94 | 3.344 | 37.5 | R | 88,37 | 3.479 | 20 | R | 92,96 | 3.660 | 27.5 | R |
| 76,00 | 2.992 | 30 | R | 80,49 | 3.169 | 35 | R | 84,99 | 3.346 | 40 | R | 88,54 | 3.486 | 22.5 | R | 93,12 | 3.666 | 30 | R |
| – | – | – | – | – | – | – | – | – | – | – | – | 88,70 | 3.492 | 25 | R | 93,27 | 3.672 | 32.5 | R |
| – | – | – | – | – | – | – | – | – | – | – | – | 88,85 | 3.498 | 27.5 | R | 93,42 | 3.678 | 35 | R |
| – | – | – | – | – | – | – | – | – | – | – | – | 89,00 | 3.504 | 30 | R | 93,50 | 3.681 | 37.5 | R |

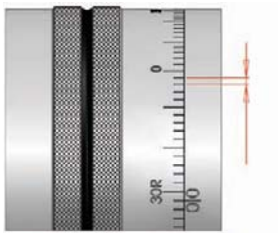
*(continued)*

*(Balancing Table • SVU-65 Boring Head — continued)*

| KRDE083019M | | | | KRDE096019M | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KRCSCFPR063E 93–98mm | | | | KRCSCFPR061E 97–102mm | | | | KRCSCFPR062E 101,5–106,5mm | | | | KRCSCFPR063E 106–111mm | | | |
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | | mm | in | | |
| 92,99 | 3.661 | 35 | L | 97,00 | 3.819 | 55 | L | 101,50 | 3.996 | 45 | L | 105,99 | 4.173 | 37.5 | L |
| 93,14 | 3.667 | 32.5 | L | 97,05 | 3.821 | 52.5 | L | 101,60 | 4.000 | 42.5 | L | 106,17 | 4.180 | 35 | L |
| 93,29 | 3.673 | 30 | L | 97,16 | 3.825 | 50 | L | 101,73 | 4.005 | 40 | L | 106,32 | 4.186 | 32.5 | L |
| 93,45 | 3.679 | 27.5 | L | 97,28 | 3.830 | 47.5 | L | 101,85 | 4.010 | 37.5 | L | 106,45 | 4.191 | 30 | L |
| 93,60 | 3.685 | 25 | L | 97,38 | 3.834 | 45 | L | 101,98 | 4.015 | 35 | L | 106,58 | 4.196 | 27.5 | L |
| 93,78 | 3.692 | 22.5 | L | 97,51 | 3.839 | 42.5 | L | 102,13 | 4.021 | 32.5 | L | 106,73 | 4.202 | 25 | L |
| 93,93 | 3.698 | 20 | L | 97,61 | 3.843 | 40 | L | 102,26 | 4.026 | 30 | L | 106,88 | 4.208 | 22.5 | L |
| 94,11 | 3.705 | 17.5 | L | 97,74 | 3.848 | 37.5 | L | 102,41 | 4.032 | 27.5 | L | 107,04 | 4.214 | 20 | L |
| 94,26 | 3.711 | 15 | L | 97,87 | 3.853 | 35 | L | 102,54 | 4.037 | 25 | L | 107,19 | 4.220 | 17.5 | L |
| 94,44 | 3.718 | 12.5 | L | 98,02 | 3.859 | 32.5 | L | 102,69 | 4.043 | 22.5 | L | 107,34 | 4.226 | 15 | L |
| 94,62 | 3.725 | 10 | L | 98,15 | 3.864 | 30 | L | 102,84 | 4.049 | 20 | L | 107,49 | 4.232 | 12.5 | L |
| 94,79 | 3.732 | 7.5 | L | 98,30 | 3.870 | 27.5 | L | 103,00 | 4.055 | 17.5 | L | 107,65 | 4.238 | 10 | L |
| 94,95 | 3.738 | 5 | L | 98,45 | 3.876 | 25 | L | 103,15 | 4.061 | 15 | L | 107,82 | 4.245 | 7.5 | L |
| 95,12 | 3.745 | 2.5 | L | 98,58 | 3.881 | 22.5 | L | 103,30 | 4.067 | 12.5 | L | 107,98 | 4.251 | 5 | L |
| 95,30 | 3.752 | 0 | – | 98,73 | 3.887 | 20 | L | 103,48 | 4.074 | 10 | L | 108,13 | 4.257 | 2.5 | L |
| 95,48 | 3.759 | 2.5 | R | 98,88 | 3.893 | 17.5 | L | 103,63 | 4.080 | 7.5 | L | 108,31 | 4.264 | 0 | – |
| 95,66 | 3.766 | 5 | R | 99,06 | 3.900 | 15 | L | 103,78 | 4.086 | 5 | L | 108,46 | 4.270 | 2.5 | R |
| 95,83 | 3.773 | 7.5 | R | 99,21 | 3.906 | 12.5 | L | 103,96 | 4.093 | 2.5 | L | 108,61 | 4.276 | 5 | R |
| 96,01 | 3.780 | 10 | R | 99,36 | 3.912 | 10 | L | 104,11 | 4.099 | 0 | – | 108,79 | 4.283 | 7.5 | R |
| 96,19 | 3.787 | 12.5 | R | 99,52 | 3.918 | 7.5 | L | 104,27 | 4.105 | 2.5 | R | 108,94 | 4.289 | 10 | R |
| 96,34 | 3.793 | 15 | R | 99,70 | 3.925 | 5 | L | 104,44 | 4.112 | 5 | R | 109,09 | 4.295 | 12.5 | R |
| 96,52 | 3.800 | 17.5 | R | 99,85 | 3.931 | 2.5 | L | 104,60 | 4.118 | 7.5 | R | 109,25 | 4.301 | 15 | R |
| 96,67 | 3.806 | 20 | R | 100,03 | 3.938 | 0 | – | 104,75 | 4.124 | 10 | R | 109,40 | 4.307 | 17.5 | R |
| 96,85 | 3.813 | 22.5 | R | 100,18 | 3.944 | 2.5 | R | 104,90 | 4.130 | 12.5 | R | 109,55 | 4.313 | 20 | R |
| 97,00 | 3.819 | 25 | R | 100,33 | 3.950 | 5 | R | 105,08 | 4.137 | 15 | R | 109,70 | 4.319 | 22.5 | R |
| 97,16 | 3.825 | 27.5 | R | 100,51 | 3.957 | 7.5 | R | 105,23 | 4.143 | 17.5 | R | 109,86 | 4.325 | 25 | R |
| 97,31 | 3.831 | 30 | R | 100,66 | 3.963 | 10 | R | 105,38 | 4.149 | 20 | R | 110,01 | 4.331 | 27.5 | R |
| 97,46 | 3.837 | 32.5 | R | 100,81 | 3.969 | 12.5 | R | 105,54 | 4.155 | 22.5 | R | 110,13 | 4.336 | 30 | R |
| 97,61 | 3.843 | 35 | R | 100,97 | 3.975 | 15 | R | 105,69 | 4.161 | 25 | R | 110,29 | 4.342 | 32.5 | R |
| 97,76 | 3.849 | 37.5 | R | 101,14 | 3.982 | 17.5 | R | 105,82 | 4.166 | 27.5 | R | 110,41 | 4.347 | 35 | R |
| 97,89 | 3.854 | 40 | R | 101,30 | 3.988 | 20 | R | 105,97 | 4.172 | 30 | R | 110,54 | 4.352 | 37.5 | R |
| 97,99 | 3.858 | 42.5 | R | 101,45 | 3.994 | 22.5 | R | 106,10 | 4.177 | 32.5 | R | 110,67 | 4.357 | 40 | R |
| – | – | – | – | 101,57 | 3.999 | 25 | R | 106,25 | 4.183 | 35 | R | 110,79 | 4.362 | 42.5 | R |
| – | – | – | – | 101,73 | 4.005 | 27.5 | R | 106,38 | 4.188 | 37.5 | R | 110,90 | 4.366 | 45 | R |
| – | – | – | – | 104,39 | 4.110 | 30 | R | 106,43 | 4.190 | 40 | R | 111,00 | 4.370 | 47.5 | R |
| – | – | – | – | 102,01 | 4.016 | 32.5 | R | 106,53 | 4.194 | 42.5 | R | – | – | – | – |

## Balancing Table • SVU-92 Boring Head




1. There is one balancing dial on the SVU system.
2. Look up your diameter in the table below and read the setting values for ring 1.
3. Set ring 1, referencing to the body mark (one dial mark equals 2.5 units).



| KRDE101023M | | | | | | | | | | | | KRDE120023M | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KRCSCFPR061F 101–108mm | | | | KRCSCFPR062F 107,5–114,5mm | | | | KRCSCFPR063F 114–121mm | | | | KRCSCFPR061F 120–127mm | | | | KRCSCFPR062F 126,5–133,5mm | | | |
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | | mm | in | | | mm | in | | |
| 100,99 | 3.976 | 36 | L | 107,49 | 4.232 | 34 | L | 114,00 | 4.488 | 30 | L | 119,99 | 4.724 | 40 | L | 126,49 | 4.980 | 36 | L |
| 101,19 | 3.984 | 34 | L | 107,62 | 4.237 | 32 | L | 114,22 | 4.497 | 28 | L | 120,19 | 4.732 | 38 | L | 126,72 | 4.989 | 34 | L |
| 101,40 | 3.992 | 32 | L | 107,80 | 4.244 | 30 | L | 114,40 | 4.504 | 26 | L | 120,35 | 4.738 | 36 | L | 126,90 | 4.996 | 32 | L |
| 101,57 | 3.999 | 30 | L | 108,00 | 4.252 | 28 | L | 114,60 | 4.512 | 24 | L | 120,52 | 4.745 | 34 | L | 127,08 | 5.003 | 30 | L |
| 101,78 | 4.007 | 28 | L | 108,20 | 4.260 | 26 | L | 114,81 | 4.520 | 22 | L | 120,70 | 4.752 | 32 | L | 127,25 | 5.010 | 28 | L |
| 101,98 | 4.015 | 26 | L | 108,41 | 4.268 | 24 | L | 115,01 | 4.528 | 20 | L | 120,88 | 4.759 | 30 | L | 127,43 | 5.017 | 26 | L |
| 102,18 | 4.023 | 24 | L | 108,61 | 4.276 | 22 | L | 115,24 | 4.537 | 18 | L | 121,06 | 4.766 | 28 | L | 127,61 | 5.024 | 24 | L |
| 102,39 | 4.031 | 22 | L | 108,81 | 4.284 | 20 | L | 115,44 | 4.545 | 16 | L | 121,23 | 4.773 | 26 | L | 127,81 | 5.032 | 22 | L |
| 102,59 | 4.039 | 20 | L | 109,02 | 4.292 | 18 | L | 115,67 | 4.554 | 14 | L | 121,41 | 4.780 | 24 | L | 127,99 | 5.039 | 20 | L |
| 102,79 | 4.047 | 18 | L | 109,25 | 4.301 | 16 | L | 115,87 | 4.562 | 12 | L | 121,62 | 4.788 | 22 | L | 128,19 | 5.047 | 18 | L |
| 103,02 | 4.056 | 16 | L | 109,45 | 4.309 | 14 | L | 116,10 | 4.571 | 10 | L | 121,79 | 4.795 | 20 | L | 128,40 | 5.055 | 16 | L |
| 103,23 | 4.064 | 14 | L | 109,68 | 4.318 | 12 | L | 116,31 | 4.579 | 8 | L | 122,00 | 4.803 | 18 | L | 128,57 | 5.062 | 14 | L |
| 103,45 | 4.073 | 12 | L | 109,88 | 4.326 | 10 | L | 116,54 | 4.588 | 6 | L | 122,20 | 4.811 | 16 | L | 128,78 | 5.070 | 12 | L |
| 103,66 | 4.081 | 10 | L | 110,11 | 4.335 | 8 | L | 116,76 | 4.597 | 4 | L | 122,38 | 4.818 | 14 | L | 128,98 | 5.078 | 10 | L |
| 103,89 | 4.090 | 8 | L | 110,34 | 4.344 | 6 | L | 116,97 | 4.605 | 2 | L | 122,58 | 4.826 | 12 | L | 129,18 | 5.086 | 8 | L |
| 104,11 | 4.099 | 6 | L | 110,57 | 4.353 | 4 | L | 117,20 | 4.614 | 0 | – | 122,78 | 4.834 | 10 | L | 129,39 | 5.094 | 6 | L |
| 104,32 | 4.107 | 4 | L | 110,77 | 4.361 | 2 | L | 117,42 | 4.623 | 2 | R | 122,99 | 4.842 | 8 | L | 129,59 | 5.102 | 4 | L |
| 104,55 | 4.116 | 2 | L | 111,00 | 4.370 | 0 | – | 117,65 | 4.632 | 4 | R | 123,19 | 4.850 | 6 | L | 129,79 | 5.110 | 2 | L |
| 104,78 | 4.125 | 0 | – | 111,23 | 4.379 | 2 | R | 117,86 | 4.640 | 6 | R | 123,39 | 4.858 | 4 | L | 130,00 | 5.118 | 0 | – |
| 105,00 | 4.134 | 2 | R | 111,46 | 4.388 | 4 | R | 118,08 | 4.649 | 8 | R | 123,60 | 4.866 | 2 | L | 130,20 | 5.126 | 2 | R |
| 105,23 | 4.143 | 4 | R | 111,66 | 4.396 | 6 | R | 118,31 | 4.658 | 10 | R | 123,80 | 4.874 | 0 | – | 130,40 | 5.134 | 4 | R |
| 105,44 | 4.151 | 6 | R | 111,89 | 4.405 | 8 | R | 118,52 | 4.666 | 12 | R | 124,00 | 4.882 | 2 | R | 130,61 | 5.142 | 6 | R |
| 105,66 | 4.160 | 8 | R | 112,12 | 4.414 | 10 | R | 118,75 | 4.675 | 14 | R | 124,21 | 4.890 | 4 | R | 130,81 | 5.150 | 8 | R |
| 105,89 | 4.169 | 10 | R | 107,19 | 4.220 | 12 | R | 118,95 | 4.683 | 16 | R | 124,41 | 4.898 | 6 | R | 131,01 | 5.158 | 10 | R |
| 106,10 | 4.177 | 12 | R | 112,55 | 4.431 | 14 | R | 119,18 | 4.692 | 18 | R | 124,61 | 4.906 | 8 | R | 131,22 | 5.166 | 12 | R |
| 106,32 | 4.186 | 14 | R | 112,75 | 4.439 | 16 | R | 119,38 | 4.700 | 20 | R | 124,82 | 4.914 | 10 | R | 131,42 | 5.174 | 14 | R |
| 106,53 | 4.194 | 16 | R | 112,98 | 4.448 | 18 | R | 119,58 | 4.708 | 22 | R | 125,02 | 4.922 | 12 | R | 131,62 | 5.182 | 16 | R |
| 106,76 | 4.203 | 18 | R | 113,18 | 4.456 | 20 | R | 119,79 | 4.716 | 24 | R | 125,22 | 4.930 | 14 | R | 131,80 | 5.189 | 18 | R |
| 106,96 | 4.211 | 20 | R | 113,39 | 4.464 | 22 | R | 119,99 | 4.724 | 26 | R | 125,43 | 4.938 | 16 | R | 132,00 | 5.197 | 20 | R |
| 107,16 | 4.219 | 22 | R | 113,59 | 4.472 | 24 | R | 120,19 | 4.732 | 28 | R | 125,63 | 4.946 | 18 | R | 132,18 | 5.204 | 22 | R |
| 107,37 | 4.227 | 24 | R | 113,79 | 4.480 | 26 | R | 120,37 | 4.739 | 30 | R | 125,81 | 4.953 | 20 | R | 132,38 | 5.212 | 24 | R |
| 107,57 | 4.235 | 26 | R | 114,00 | 4.488 | 28 | R | 120,57 | 4.747 | 32 | R | 126,01 | 4.961 | 22 | R | 132,56 | 5.219 | 26 | R |
| 107,77 | 4.243 | 28 | R | 114,20 | 4.496 | 30 | R | 120,75 | 4.754 | 34 | R | 126,19 | 4.968 | 24 | R | 132,74 | 5.226 | 28 | R |
| 107,98 | 4.251 | 30 | R | 114,38 | 4.503 | 32 | R | 120,93 | 4.761 | 36 | R | 126,37 | 4.975 | 26 | R | 132,92 | 5.233 | 30 | R |
| 108,00 | 4.252 | 32 | R | 114,50 | 4.508 | 34 | R | 121,01 | 4.764 | 38 | R | 126,57 | 4.983 | 28 | R | 133,10 | 5.240 | 32 | R |
| – | – | – | – | – | – | – | – | – | – | – | – | 126,75 | 4.990 | 30 | R | 133,27 | 5.247 | 34 | R |
| – | – | – | – | – | – | – | – | – | – | – | – | 126,92 | 4.997 | 32 | R | 133,45 | 5.254 | 36 | R |
| – | – | – | – | – | – | – | – | – | – | – | – | 127,00 | 5.000 | 34 | R | 133,50 | 5.256 | 38 | R |

*(continued)*

*(Balancing Table • SVU-92 Boring Head — continued)*

| KRDE120023M | | | | KRDE139026M | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KRCSCFPR063F | | | | KRCSCFPR061F | | | | KRCSCFPR062F | | | | KRCSCFPR063F | | | |
| 133–140mm | | | | 139–146mm | | | | 145,5–152,5mm | | | | 152–159mm | | | |
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | | mm | in | | |
| 132,99 | 5.236 | 34 | L | 138,99 | 5.472 | 50 | L | 145,49 | 5.728 | 44 | L | 151,99 | 5.984 | 40 | L |
| 133,10 | 5.240 | 32 | L | 139,09 | 5.476 | 48 | L | 145,67 | 5.735 | 42 | L | 152,12 | 5.989 | 38 | L |
| 133,27 | 5.247 | 30 | L | 139,22 | 5.481 | 46 | L | 145,80 | 5.740 | 40 | L | 152,27 | 5.995 | 36 | L |
| 133,45 | 5.254 | 28 | L | 139,34 | 5.486 | 44 | L | 145,95 | 5.746 | 38 | L | 152,40 | 6.000 | 34 | L |
| 133,63 | 5.261 | 26 | L | 139,47 | 5.491 | 42 | L | 146,08 | 5.751 | 36 | L | 152,55 | 6.006 | 32 | L |
| 133,81 | 5.268 | 24 | L | 139,60 | 5.496 | 40 | L | 146,23 | 5.757 | 34 | L | 152,70 | 6.012 | 30 | L |
| 133,99 | 5.275 | 22 | L | 139,73 | 5.501 | 38 | L | 146,35 | 5.762 | 32 | L | 152,86 | 6.018 | 28 | L |
| 134,19 | 5.283 | 20 | L | 139,88 | 5.507 | 36 | L | 146,51 | 5.768 | 30 | L | 153,01 | 6.024 | 26 | L |
| 134,37 | 5.290 | 18 | L | 140,00 | 5.512 | 34 | L | 146,66 | 5.774 | 28 | L | 153,16 | 6.030 | 24 | L |
| 134,57 | 5.298 | 16 | L | 140,16 | 5.518 | 32 | L | 146,81 | 5.780 | 26 | L | 153,31 | 6.036 | 22 | L |
| 134,77 | 5.306 | 14 | L | 140,31 | 5.524 | 30 | L | 146,99 | 5.787 | 24 | L | 153,49 | 6.043 | 20 | L |
| 134,98 | 5.314 | 12 | L | 140,46 | 5.530 | 28 | L | 147,14 | 5.793 | 22 | L | 153,64 | 6.049 | 18 | L |
| 135,18 | 5.322 | 10 | L | 140,61 | 5.536 | 26 | L | 147,29 | 5.799 | 20 | L | 153,82 | 6.056 | 16 | L |
| 135,36 | 5.329 | 8 | L | 140,77 | 5.542 | 24 | L | 147,47 | 5.806 | 18 | L | 153,97 | 6.062 | 14 | L |
| 135,56 | 5.337 | 6 | L | 140,92 | 5.548 | 22 | L | 147,62 | 5.812 | 16 | L | 154,15 | 6.069 | 12 | L |
| 135,76 | 5.345 | 4 | L | 141,10 | 5.555 | 20 | L | 147,80 | 5.819 | 14 | L | 154,33 | 6.076 | 10 | L |
| 135,97 | 5.353 | 2 | L | 141,25 | 5.561 | 18 | L | 147,96 | 5.825 | 12 | L | 154,48 | 6.082 | 8 | L |
| 136,17 | 5.361 | 0 | – | 141,43 | 5.568 | 16 | L | 148,13 | 5.832 | 10 | L | 154,66 | 6.089 | 6 | L |
| 136,37 | 5.369 | 2 | R | 141,58 | 5.574 | 14 | L | 148,31 | 5.839 | 8 | L | 154,84 | 6.096 | 4 | L |
| 136,58 | 5.377 | 4 | R | 141,76 | 5.581 | 12 | L | 148,49 | 5.846 | 6 | L | 155,02 | 6.103 | 2 | L |
| 162,18 | 6.385 | 6 | R | 141,94 | 5.588 | 10 | L | 148,64 | 5.852 | 4 | L | 155,19 | 6.110 | 0 | – |
| 136,98 | 5.393 | 8 | R | 142,11 | 5.595 | 8 | L | 148,82 | 5.859 | 2 | L | 155,35 | 6.116 | 2 | R |
| 137,19 | 5.401 | 10 | R | 142,27 | 5.601 | 6 | L | 149,00 | 5.866 | 0 | – | 155,52 | 6.123 | 4 | R |
| 137,39 | 5.409 | 12 | R | 142,44 | 5.608 | 4 | L | 149,17 | 5.873 | 2 | R | 155,70 | 6.130 | 6 | R |
| 137,59 | 5.417 | 14 | R | 142,62 | 5.615 | 2 | L | 149,35 | 5.880 | 4 | R | 155,88 | 6.137 | 8 | R |
| 137,80 | 5.425 | 16 | R | 142,80 | 5.622 | 0 | – | 149,53 | 5.887 | 6 | R | 156,03 | 6.143 | 10 | R |
| 137,97 | 5.432 | 18 | R | 142,98 | 5.629 | 2 | R | 149,68 | 5.893 | 8 | R | 156,21 | 6.150 | 12 | R |
| 138,18 | 5.440 | 20 | R | 143,15 | 5.636 | 4 | R | 149,86 | 5.900 | 10 | R | 156,39 | 6.157 | 14 | R |
| 138,38 | 5.448 | 22 | R | 143,31 | 5.642 | 6 | R | 150,04 | 5.907 | 12 | R | 156,54 | 6.163 | 16 | R |
| 138,56 | 5.455 | 24 | R | 143,48 | 5.649 | 8 | R | 150,19 | 5.913 | 14 | R | 156,72 | 6.170 | 18 | R |
| 138,73 | 5.462 | 26 | R | 143,66 | 5.656 | 10 | R | 150,37 | 5.920 | 16 | R | 156,87 | 6.176 | 20 | R |
| 138,91 | 5.469 | 28 | R | 143,84 | 5.663 | 12 | R | 150,55 | 5.927 | 18 | R | 157,05 | 6.183 | 22 | R |
| 139,09 | 5.476 | 30 | R | 143,99 | 5.669 | 14 | R | 150,70 | 5.933 | 20 | R | 157,20 | 6.189 | 24 | R |
| 139,27 | 5.483 | 32 | R | 144,17 | 5.676 | 16 | R | 150,85 | 5.939 | 22 | R | 157,35 | 6.195 | 26 | R |
| 139,45 | 5.490 | 34 | R | 144,32 | 5.682 | 18 | R | 151,03 | 5.946 | 24 | R | 157,51 | 6.201 | 28 | R |
| 139,60 | 5.496 | 36 | R | 144,50 | 5.689 | 20 | R | 151,18 | 5.952 | 26 | R | 157,66 | 6.207 | 30 | R |
| 139,78 | 5.503 | 38 | R | 144,65 | 5.695 | 22 | R | 151,33 | 5.958 | 28 | R | 157,81 | 6.213 | 32 | R |
| 139,93 | 5.509 | 40 | R | 144,83 | 5.702 | 24 | R | 151,49 | 5.964 | 30 | R | 157,96 | 6.219 | 34 | R |
| 140,00 | 5.512 | 42 | R | 144,98 | 5.708 | 26 | R | 151,64 | 5.970 | 32 | R | 158,09 | 6.224 | 36 | R |
| – | – | – | – | 145,14 | 5.714 | 28 | R | 151,79 | 5.976 | 34 | R | 158,24 | 6.23 | 38 | R |
| – | – | – | – | 145,29 | 5.720 | 30 | R | 151,92 | 5.981 | 36 | R | 158,37 | 6.235 | 40 | R |
| – | – | – | – | 145,44 | 5.726 | 32 | R | 152,07 | 5.987 | 38 | R | 158,50 | 6.24 | 42 | R |
| – | – | – | – | 145,57 | 5.731 | 34 | R | 152,20 | 5.992 | 40 | R | 158,62 | 6.245 | 44 | R |
| – | – | – | – | 145,72 | 5.737 | 36 | R | 152,32 | 5.997 | 42 | R | 158,75 | 6.25 | 46 | R |
| – | – | – | – | 145,87 | 5.743 | 38 | R | 152,45 | 6.002 | 44 | R | 158,88 | 6.255 | 48 | R |
| – | – | – | – | 145,97 | 5.747 | 40 | R | 152,50 | 6.004 | 46 | R | 158,98 | 6.259 | 50 | R |
| – | – | – | – | 146,00 | 5.748 | 42 | R | – | – | – | – | 159,00 | 6.26 | 52 | R |

*(continued)*

*(Balancing Table • SVU-92 Boring Head — continued)*

**KRDE156026M**

| KRCSCFPR061F 156–163mm | | | | KRCSCFPR062F 162,5–169,5mm | | | | KRCSCFPR063F 169–176mm | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | |
| 156,01 | 6.142 | 56 | L | 162,51 | 6.398 | 50 | L | 169,01 | 6.654 | 44 | L |
| 156,11 | 6.146 | 54 | L | 162,61 | 6.402 | 48 | L | 169,11 | 6.658 | 42 | L |
| 156,21 | 6.150 | 52 | L | 162,71 | 6.406 | 46 | L | 169,24 | 6.663 | 40 | L |
| 156,31 | 6.154 | 50 | L | 162,81 | 6.410 | 44 | L | 169,37 | 6.668 | 38 | L |
| 156,41 | 6.158 | 48 | L | 162,94 | 6.415 | 42 | L | 169,49 | 6.673 | 36 | L |
| 156,51 | 6.162 | 46 | L | 163,07 | 6.420 | 40 | L | 169,62 | 6.678 | 34 | L |
| 156,62 | 6.166 | 44 | L | 163,20 | 6.425 | 38 | L | 169,75 | 6.683 | 32 | L |
| 156,74 | 6.171 | 42 | L | 163,32 | 6.430 | 36 | L | 169,90 | 6.689 | 30 | L |
| 156,87 | 6.176 | 40 | L | 163,45 | 6.435 | 34 | L | 170,03 | 6.694 | 28 | L |
| 157,00 | 6.181 | 38 | L | 163,58 | 6.440 | 32 | L | 170,18 | 6.700 | 26 | L |
| 157,12 | 6.186 | 36 | L | 163,70 | 6.445 | 30 | L | 170,33 | 6.706 | 24 | L |
| 157,25 | 6.191 | 34 | L | 163,86 | 6.451 | 28 | L | 170,46 | 6.711 | 22 | L |
| 157,38 | 6.196 | 32 | L | 164,01 | 6.457 | 26 | L | 170,61 | 6.717 | 20 | L |
| 157,53 | 6.202 | 30 | L | 164,13 | 6.462 | 24 | L | 170,76 | 6.723 | 18 | L |
| 157,66 | 6.207 | 28 | L | 164,29 | 6.468 | 22 | L | 170,92 | 6.729 | 16 | L |
| 157,81 | 6.213 | 26 | L | 164,44 | 6.474 | 20 | L | 171,07 | 6.735 | 14 | L |
| 157,94 | 6.218 | 24 | L | 164,59 | 6.480 | 18 | L | 171,22 | 6.741 | 12 | L |
| 158,09 | 6.224 | 22 | L | 164,74 | 6.486 | 16 | L | 171,37 | 6.747 | 10 | L |
| 158,24 | 6.230 | 20 | L | 164,90 | 6.492 | 14 | L | 171,55 | 6.754 | 8 | L |
| 158,39 | 6.236 | 18 | L | 165,05 | 6.498 | 12 | L | 171,70 | 6.760 | 6 | L |
| 158,55 | 6.242 | 16 | L | 165,20 | 6.504 | 10 | L | 171,86 | 6.766 | 4 | L |
| 158,70 | 6.248 | 14 | L | 165,35 | 6.510 | 8 | L | 172,01 | 6.772 | 2 | L |
| 158,85 | 6.254 | 12 | L | 165,53 | 6.517 | 6 | L | 172,19 | 6.779 | 0 | – |
| 159,00 | 6.260 | 10 | L | 165,68 | 6.523 | 4 | L | 172,34 | 6.785 | 2 | R |
| 159,18 | 6.267 | 8 | L | 165,84 | 6.529 | 2 | L | 172,49 | 6.791 | 4 | R |
| 159,33 | 6.273 | 6 | L | 165,99 | 6.535 | 0 | – | 172,64 | 6.797 | 6 | R |
| 159,49 | 6.279 | 4 | L | 166,17 | 6.542 | 2 | R | 172,82 | 6.804 | 8 | R |
| 159,64 | 6.285 | 2 | L | 166,32 | 6.548 | 4 | R | 172,97 | 6.810 | 10 | R |
| 159,82 | 6.292 | 0 | – | 166,47 | 6.554 | 6 | R | 173,13 | 6.816 | 12 | R |
| 159,97 | 6.298 | 2 | R | 166,62 | 6.560 | 8 | R | 173,28 | 6.822 | 14 | R |
| 160,12 | 6.304 | 4 | R | 166,80 | 6.567 | 10 | R | 173,43 | 6.828 | 16 | R |
| 160,27 | 6.310 | 6 | R | 166,95 | 6.573 | 12 | R | 173,58 | 6.834 | 18 | R |
| 160,45 | 6.317 | 8 | R | 167,11 | 6.579 | 14 | R | 173,74 | 6.840 | 20 | R |
| 160,60 | 6.323 | 10 | R | 167,26 | 6.585 | 16 | R | 173,89 | 6.846 | 22 | R |
| 160,76 | 6.329 | 12 | R | 167,41 | 6.591 | 18 | R | 174,04 | 6.852 | 24 | R |
| 160,91 | 6.335 | 14 | R | 167,56 | 6.597 | 20 | R | 174,17 | 6.857 | 26 | R |
| 161,06 | 6.341 | 16 | R | 167,72 | 6.603 | 22 | R | 174,32 | 6.863 | 28 | R |
| 161,21 | 6.347 | 18 | R | 167,87 | 6.609 | 24 | R | 174,45 | 6.868 | 30 | R |
| 161,37 | 6.353 | 20 | R | 168,00 | 6.614 | 26 | R | 174,60 | 6.874 | 32 | R |
| 161,52 | 6.359 | 22 | R | 168,15 | 6.620 | 28 | R | 174,73 | 6.879 | 34 | R |
| 161,67 | 6.365 | 24 | R | 168,28 | 6.625 | 30 | R | 174,85 | 6.884 | 36 | R |
| 161,82 | 6.371 | 26 | R | 168,43 | 6.631 | 32 | R | 174,98 | 6.889 | 38 | R |
| 161,95 | 6.376 | 28 | R | 168,55 | 6.636 | 34 | R | 175,11 | 6.894 | 40 | R |
| 162,10 | 6.382 | 30 | R | 168,68 | 6.641 | 36 | R | 175,23 | 6.899 | 42 | R |
| 162,23 | 6.387 | 32 | R | 168,81 | 6.646 | 38 | R | 175,34 | 6.903 | 44 | R |
| 162,36 | 6.392 | 34 | R | 168,94 | 6.651 | 40 | R | 175,46 | 6.908 | 46 | R |
| 162,51 | 6.398 | 36 | R | 169,06 | 6.656 | 42 | R | 175,56 | 6.912 | 48 | R |
| 162,64 | 6.403 | 38 | R | 169,16 | 6.660 | 44 | R | 175,67 | 6.916 | 50 | R |
| 162,74 | 6.407 | 40 | R | 169,29 | 6.665 | 46 | R | 175,77 | 6.920 | 52 | R |
| 162,86 | 6.412 | 42 | R | 169,39 | 6.669 | 48 | R | 175,87 | 6.924 | 54 | R |
| 162,99 | 6.417 | 44 | R | 169,49 | 6.673 | 50 | R | 175,95 | 6.927 | 56 | R |
| 162,99 | 6.417 | 46 | R | 169,49 | 6.673 | 52 | R | 176,00 | 6.929 | 58 | R |

*(continued)*

*(Balancing Table • SVU-92 Boring Head — continued)*

**KRDE175026M**

| KRCSCFPR061F 175–182mm | | | | KRCSCFPR062F 181,5–188,5mm | | | | KRCSCFPR063F 188–195mm | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | |
| 175,01 | 6.890 | 64 | L | 181,51 | 7.146 | 56 | L | 188,0108 | 7.402 | 48 | L |
| 175,06 | 6.892 | 62 | L | 181,56 | 7.148 | 54 | L | 188,1124 | 7.406 | 46 | L |
| 175,13 | 6.895 | 60 | L | 181,64 | 7.151 | 52 | L | 188,214 | 7.410 | 44 | L |
| 175,21 | 6.898 | 58 | L | 181,74 | 7.155 | 50 | L | 188,3156 | 7.414 | 42 | L |
| 175,29 | 6.901 | 56 | L | 181,84 | 7.159 | 48 | L | 188,4426 | 7.419 | 40 | L |
| 175,36 | 6.904 | 54 | L | 181,94 | 7.163 | 46 | L | 188,5442 | 7.423 | 38 | L |
| 175,46 | 6.908 | 52 | L | 182,04 | 7.167 | 44 | L | 188,6712 | 7.428 | 36 | L |
| 175,56 | 6.912 | 50 | L | 182,14 | 7.171 | 42 | L | 188,7982 | 7.433 | 34 | L |
| 175,64 | 6.915 | 48 | L | 182,27 | 7.176 | 40 | L | 188,8998 | 7.437 | 32 | L |
| 175,74 | 6.919 | 46 | L | 182,37 | 7.180 | 38 | L | 189,0268 | 7.442 | 30 | L |
| 175,87 | 6.924 | 44 | L | 182,50 | 7.185 | 36 | L | 189,1792 | 7.448 | 28 | L |
| 175,97 | 6.928 | 42 | L | 182,63 | 7.190 | 34 | L | 189,3062 | 7.453 | 26 | L |
| 176,07 | 6.932 | 40 | L | 182,75 | 7.195 | 32 | L | 189,4332 | 7.458 | 24 | L |
| 176,20 | 6.937 | 38 | L | 182,88 | 7.200 | 30 | L | 189,5602 | 7.463 | 22 | L |
| 176,30 | 6.941 | 36 | L | 183,01 | 7.205 | 28 | L | 189,7126 | 7.469 | 20 | L |
| 176,43 | 6.946 | 34 | L | 183,13 | 7.210 | 26 | L | 189,8396 | 7.474 | 18 | L |
| 176,56 | 6.951 | 32 | L | 183,26 | 7.215 | 24 | L | 189,992 | 7.480 | 16 | L |
| 176,68 | 6.956 | 30 | L | 183,41 | 7.221 | 22 | L | 190,1444 | 7.486 | 14 | L |
| 176,81 | 6.961 | 28 | L | 183,54 | 7.226 | 20 | L | 190,2714 | 7.491 | 12 | L |
| 176,96 | 6.967 | 26 | L | 183,69 | 7.232 | 18 | L | 190,4238 | 7.497 | 10 | L |
| 177,09 | 6.972 | 24 | L | 183,82 | 7.237 | 16 | L | 114,3762 | 4.503 | 8 | L |
| 177,22 | 6.977 | 22 | L | 183,97 | 7.243 | 14 | L | 190,7286 | 7.509 | 6 | L |
| 177,37 | 6.983 | 20 | L | 184,12 | 7.249 | 12 | L | 190,8556 | 7.514 | 4 | L |
| 177,50 | 6.988 | 18 | L | 184,25 | 7.254 | 10 | L | 191,008 | 7.520 | 2 | L |
| 177,65 | 6.994 | 16 | L | 184,40 | 7.260 | 8 | L | 191,1604 | 7.526 | 0 | – |
| 177,80 | 7.000 | 14 | L | 184,56 | 7.266 | 6 | L | 191,3128 | 7.532 | 2 | R |
| 177,93 | 7.005 | 12 | L | 184,71 | 7.272 | 4 | L | 191,4652 | 7.538 | 4 | R |
| 178,08 | 7.011 | 10 | L | 184,86 | 7.278 | 2 | L | 191,6176 | 7.544 | 6 | R |
| 178,23 | 7.017 | 8 | L | 184,99 | 7.283 | 0 | – | 191,7446 | 7.549 | 8 | R |
| 178,38 | 7.023 | 6 | L | 185,14 | 7.289 | 2 | R | 191,897 | 7.555 | 10 | R |
| 178,54 | 7.029 | 4 | L | 185,29 | 7.295 | 4 | R | 192,0494 | 7.561 | 12 | R |
| 178,66 | 7.034 | 2 | L | 185,45 | 7.301 | 6 | R | 192,2018 | 7.567 | 14 | R |
| 178,82 | 7.040 | 0 | – | 185,60 | 7.307 | 8 | R | 192,3288 | 7.572 | 16 | R |
| 178,97 | 7.046 | 2 | R | 185,75 | 7.313 | 10 | R | 192,4812 | 7.578 | 18 | R |
| 179,12 | 7.052 | 4 | R | 185,88 | 7.318 | 12 | R | 192,6082 | 7.583 | 20 | R |
| 179,27 | 7.058 | 6 | R | 186,03 | 7.324 | 14 | R | 192,7606 | 7.589 | 22 | R |
| 179,43 | 7.064 | 8 | R | 186,18 | 7.330 | 16 | R | 192,8876 | 7.594 | 24 | R |
| 179,55 | 7.069 | 10 | R | 186,31 | 7.335 | 18 | R | 193,04 | 7.600 | 26 | R |
| 179,71 | 7.075 | 12 | R | 186,46 | 7.341 | 20 | R | 193,167 | 7.605 | 28 | R |
| 179,86 | 7.081 | 14 | R | 186,59 | 7.346 | 22 | R | 193,294 | 7.610 | 30 | R |
| 180,01 | 7.087 | 16 | R | 186,74 | 7.352 | 24 | R | 193,421 | 7.615 | 32 | R |
| 180,14 | 7.092 | 18 | R | 186,87 | 7.357 | 26 | R | 193,548 | 7.620 | 34 | R |
| 180,29 | 7.098 | 20 | R | 186,99 | 7.362 | 28 | R | 193,675 | 7.625 | 36 | R |
| 180,42 | 7.103 | 22 | R | 187,12 | 7.367 | 30 | R | 193,7766 | 7.629 | 38 | R |
| 180,57 | 7.109 | 24 | R | 187,25 | 7.372 | 32 | R | 193,9036 | 7.634 | 40 | R |
| 180,70 | 7.114 | 26 | R | 187,38 | 7.377 | 34 | R | 194,0052 | 7.638 | 42 | R |
| 180,82 | 7.119 | 28 | R | 187,50 | 7.382 | 36 | R | 194,1068 | 7.642 | 44 | R |
| 180,95 | 7.124 | 30 | R | 187,63 | 7.387 | 38 | R | 194,2338 | 7.647 | 46 | R |
| 181,08 | 7.129 | 32 | R | 187,73 | 7.391 | 40 | R | 194,3354 | 7.651 | 48 | R |
| 181,20 | 7.134 | 34 | R | 187,86 | 7.396 | 42 | R | 194,4116 | 7.654 | 50 | R |
| 181,33 | 7.139 | 36 | R | 187,96 | 7.400 | 44 | R | 194,5132 | 7.658 | 52 | R |
| 181,46 | 7.144 | 38 | R | 188,06 | 7.404 | 46 | R | 194,6148 | 7.662 | 54 | R |
| 181,56 | 7.148 | 40 | R | 188,16 | 7.408 | 48 | R | 194,691 | 7.665 | 56 | R |
| 181,69 | 7.153 | 42 | R | 188,26 | 7.412 | 50 | R | 194,7672 | 7.668 | 58 | R |
| 181,79 | 7.157 | 44 | R | 188,37 | 7.416 | 52 | R | 194,8434 | 7.671 | 60 | R |
| 181,89 | 7.161 | 46 | R | 188,44 | 7.419 | 54 | R | 194,9196 | 7.674 | 62 | R |
| 181,99 | 7.165 | 48 | R | 188,49 | 7.421 | 56 | R | 194,9958 | 7.677 | 64 | R |
| 181,99 | 7.165 | 50 | R | – | – | – | – | 194,9958 | 7.677 | 66 | R |

*(continued)*

*(Balancing Table • SVU-92 Boring Head — continued)*

**KRDE193026M**

| KRCSCFPR061F 193–200mm | | | | KRCSCFPR062F 199,5–206,5mm | | | | KRCSCFPR063F 206–213mm | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| diameter | | balancing ring setting | | diameter | | balancing ring setting | | diameter | | balancing ring setting | |
| mm | in | | | mm | in | | | mm | in | | |
| 192,99 | 7.598 | 64 | L | 199,49 | 7.854 | 54 | L | 205,994 | 8.11 | 46 | L |
| 193,07 | 7.601 | 62 | L | 199,62 | 7.859 | 52 | L | 206,1464 | 8.116 | 44 | L |
| 193,14 | 7.604 | 60 | L | 199,72 | 7.863 | 50 | L | 206,248 | 8.12 | 42 | L |
| 193,22 | 7.607 | 58 | L | 199,80 | 7.866 | 48 | L | 206,375 | 8.125 | 40 | L |
| 193,29 | 7.610 | 56 | L | 199,90 | 7.870 | 46 | L | 206,4766 | 8.129 | 38 | L |
| 193,37 | 7.613 | 54 | L | 200,03 | 7.875 | 44 | L | 206,6036 | 8.134 | 36 | L |
| 193,47 | 7.617 | 52 | L | 200,13 | 7.879 | 42 | L | 206,7306 | 8.139 | 34 | L |
| 193,57 | 7.621 | 50 | L | 200,23 | 7.883 | 40 | L | 206,8576 | 8.144 | 32 | L |
| 193,65 | 7.624 | 48 | L | 200,36 | 7.888 | 38 | L | 206,9846 | 8.149 | 30 | L |
| 193,75 | 7.628 | 46 | L | 200,48 | 7.893 | 36 | L | 207,1116 | 8.154 | 28 | L |
| 193,88 | 7.633 | 44 | L | 200,61 | 7.898 | 34 | L | 207,2386 | 8.159 | 26 | L |
| 193,98 | 7.637 | 42 | L | 200,71 | 7.902 | 32 | L | 207,391 | 8.165 | 24 | L |
| 194,08 | 7.641 | 40 | L | 200,86 | 7.908 | 30 | L | 207,518 | 8.17 | 22 | L |
| 194,21 | 7.646 | 38 | L | 200,99 | 7.913 | 28 | L | 207,6704 | 8.176 | 20 | L |
| 194,34 | 7.651 | 36 | L | 201,12 | 7.918 | 26 | L | 207,7974 | 8.181 | 18 | L |
| 194,46 | 7.656 | 34 | L | 201,24 | 7.923 | 24 | L | 207,9498 | 8.187 | 16 | L |
| 194,59 | 7.661 | 32 | L | 201,40 | 7.929 | 22 | L | 208,1022 | 8.193 | 14 | L |
| 194,72 | 7.666 | 30 | L | 201,52 | 7.934 | 20 | L | 208,2292 | 8.198 | 12 | L |
| 194,84 | 7.671 | 28 | L | 201,68 | 7.940 | 18 | L | 208,3816 | 8.204 | 10 | L |
| 194,97 | 7.676 | 26 | L | 201,80 | 7.945 | 16 | L | 208,534 | 8.21 | 8 | L |
| 195,10 | 7.681 | 24 | L | 201,96 | 7.951 | 14 | L | 208,6864 | 8.216 | 6 | L |
| 195,25 | 7.687 | 22 | L | 202,11 | 7.957 | 12 | L | 208,8388 | 8.222 | 4 | L |
| 195,38 | 7.692 | 20 | L | 202,26 | 7.963 | 10 | L | 208,9912 | 8.228 | 2 | L |
| 195,53 | 7.698 | 18 | L | 202,41 | 7.969 | 8 | L | 209,1182 | 8.233 | 0 | – |
| 195,68 | 7.704 | 16 | L | 202,54 | 7.974 | 6 | L | 209,2706 | 8.239 | 2 | R |
| 195,81 | 7.709 | 14 | L | 202,69 | 7.980 | 4 | L | 209,423 | 8.245 | 4 | R |
| 195,96 | 7.715 | 12 | L | 202,84 | 7.986 | 2 | L | 209,5754 | 8.251 | 6 | R |
| 196,11 | 7.721 | 10 | L | 203,00 | 7.992 | 0 | – | 209,7278 | 8.257 | 8 | R |
| 196,27 | 7.727 | 8 | L | 203,15 | 7.998 | 2 | R | 209,8802 | 8.263 | 10 | R |
| 196,42 | 7.733 | 6 | L | 203,30 | 8.004 | 4 | R | 210,0326 | 8.269 | 12 | R |
| 196,57 | 7.739 | 4 | L | 203,45 | 8.010 | 6 | R | 210,1596 | 8.274 | 14 | R |
| 196,70 | 7.744 | 2 | L | 203,61 | 8.016 | 8 | R | 210,312 | 8.28 | 16 | R |
| 196,85 | 7.750 | 0 | – | 203,76 | 8.022 | 10 | R | 210,4644 | 8.286 | 18 | R |
| 197,00 | 7.756 | 2 | R | 203,89 | 8.027 | 12 | R | 210,5914 | 8.291 | 20 | R |
| 197,15 | 7.762 | 4 | R | 204,04 | 8.033 | 14 | R | 210,7438 | 8.297 | 22 | R |
| 197,31 | 7.768 | 6 | R | 204,19 | 8.039 | 16 | R | 210,8708 | 8.302 | 24 | R |
| 197,46 | 7.774 | 8 | R | 204,32 | 8.044 | 18 | R | 210,9978 | 8.307 | 26 | R |
| 197,61 | 7.780 | 10 | R | 204,47 | 8.050 | 20 | R | 211,1502 | 8.313 | 28 | R |
| 197,76 | 7.786 | 12 | R | 204,60 | 8.055 | 22 | R | 211,2772 | 8.318 | 30 | R |
| 197,89 | 7.791 | 14 | R | 204,75 | 8.061 | 24 | R | 211,4042 | 8.323 | 32 | R |
| 198,04 | 7.797 | 16 | R | 204,88 | 8.066 | 26 | R | 211,5312 | 8.328 | 34 | R |
| 198,20 | 7.803 | 18 | R | 205,03 | 8.072 | 28 | R | 211,6582 | 8.333 | 36 | R |
| 198,32 | 7.808 | 20 | R | 205,16 | 8.077 | 30 | R | 211,7598 | 8.337 | 38 | R |
| 198,48 | 7.814 | 22 | R | 205,28 | 8.082 | 32 | R | 84,8868 | 3.342 | 40 | R |
| 198,60 | 7.819 | 24 | R | 205,41 | 8.087 | 34 | R | 211,9884 | 8.346 | 42 | R |
| 198,76 | 7.825 | 26 | R | 205,54 | 8.092 | 36 | R | 212,1154 | 8.351 | 44 | R |
| 198,88 | 7.830 | 28 | R | 205,64 | 8.096 | 38 | R | 212,217 | 8.355 | 46 | R |
| 199,01 | 7.835 | 30 | R | 205,77 | 8.101 | 40 | R | 212,3186 | 8.359 | 48 | R |
| 199,14 | 7.840 | 32 | R | 205,87 | 8.105 | 42 | R | 212,4202 | 8.363 | 50 | R |
| 199,26 | 7.845 | 34 | R | 205,99 | 8.110 | 44 | R | 212,4964 | 8.366 | 52 | R |
| 199,39 | 7.850 | 36 | R | 206,10 | 8.114 | 46 | R | 212,598 | 8.37 | 54 | R |
| 199,52 | 7.855 | 38 | R | 206,20 | 8.118 | 48 | R | 212,6742 | 8.373 | 56 | R |
| 199,62 | 7.859 | 40 | R | 206,30 | 8.122 | 50 | R | 212,7758 | 8.377 | 58 | R |
| 199,75 | 7.864 | 42 | R | 206,38 | 8.125 | 52 | R | 212,852 | 8.38 | 60 | R |
| 199,85 | 7.868 | 44 | R | 206,48 | 8.129 | 54 | R | 212,9028 | 8.382 | 62 | R |
| 199,95 | 7.872 | 46 | R | 206,50 | 8.130 | 56 | R | 212,979 | 8.385 | 64 | R |
| 200,00 | 7.874 | 48 | R | – | – | – | – | 213,0044 | 8.386 | 66 | R |

# **Ready** for **Takeoff**

Machining carbon-fiber reinforced polymers (CFRP) is a common challenge in the aerospace industry, and these solid carbide drills address the challenge head on. Our SPF drills feature a material-specific design and grade to machine CFRP composite materials by minimizing delamination and increasing tool life. These drills feature a combination of point design, substrate, and coating for longer tool life and substantially less cutting force.

The new PCD-tipped PDC251_ drill provides outstanding wear resistance and tool life, and withstands the most abrasive CFRP materials with high-fiber content. Multiple regrinds are possible with these drills, making them extremely economical to use.

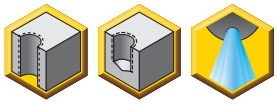
**SPF DRILL**
For composite exits

**FULL PCD-TIP DRILL**
For composite/
metal stacks

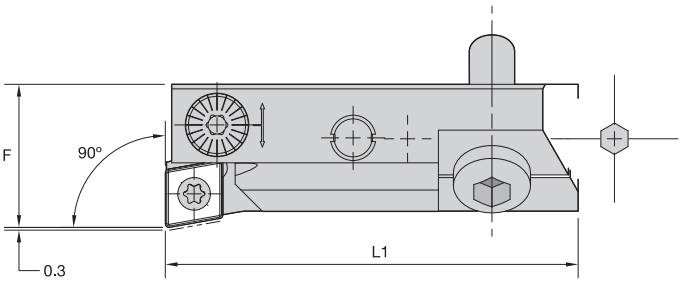
Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

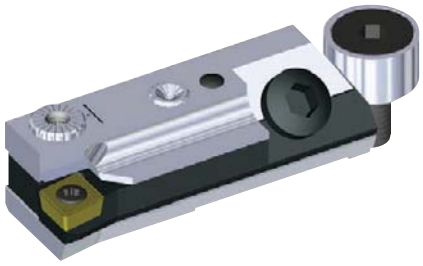
KENNAMETAL®

**kennametal.com**



- All cartridges have internal coolant supply directed to the cutting edge.
- .0004" (0,01mm) diameter adjustment respective 0.00008" (2 µm) with vernier scale within a range of .0118" (0,3mm).
- Radial adjustment without influence on axial position.
- Axial adjustment range of .039" (1mm).
- Smallest diameters can be machined starting from 1.102" (28,0mm).



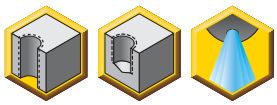





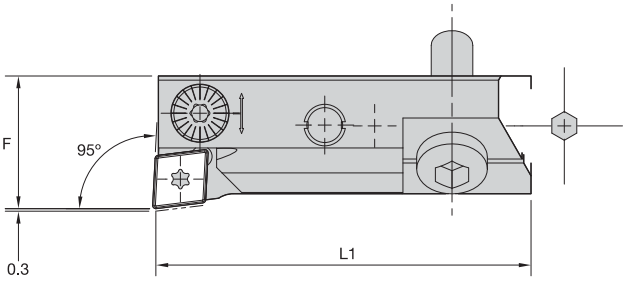
## 90° Lead • Micro-Adjustable Cartridge • C-Style

| order number | catalog number | F mm | F in | L1 mm | L1 in | gage insert | insert screw | set screw |
|---|---|---|---|---|---|---|---|---|
| right hand 3784474 | FBSCFCR09CA06F | 16,15 | .636 | 45,50 | 1.791 | CCMT060204 | 12148068700 | 12147629800 |
| left hand 3784475 | FBSCFCL09CA06F | 16,15 | .636 | 45,50 | 1.791 | CCMT060204 | 12148068700 | 12147629800 |

NOTE: For use with custom solution fine-boring and countersinking tools.



- All cartridges have internal coolant supply directed to the cutting edge.
- .0004" (0,01mm) diameter adjustment respective 0.00008" (2 µm) with vernier scale within a range of .0118" (0,3mm).
- Radial adjustment without influence on axial position.
- Axial adjustment range of .039" (1mm).
- Smallest diameters can be machined starting from 1.102" (28,0mm).

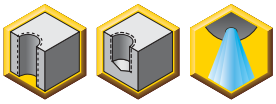


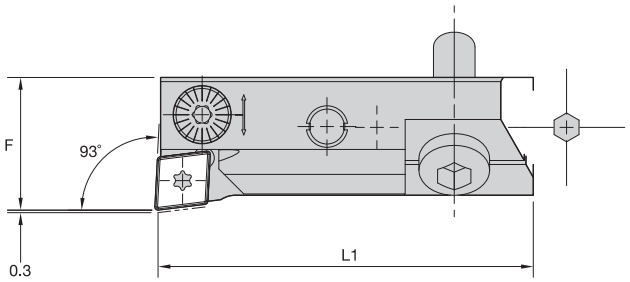
## 95° Lead • Micro-Adjustable Cartridge • C-Style

| order number | catalog number | F mm | F in | L1 mm | L1 in | gage insert | insert screw | set screw |
|---|---|---|---|---|---|---|---|---|
| right hand 3784476 | FBSCLCR09CA06F | 16,15 | .636 | 45,50 | 1.791 | CCMT060204 | 12148068700 | 12147629800 |
| left hand 3784477 | FBSCLCL09CA06F | 16,15 | .636 | 45,50 | 1.791 | CCMT060204 | 12148068700 | 12147629800 |

NOTE: For use with custom solution fine-boring and countersinking tools.

- All cartridges have internal coolant supply directed to the cutting edge.
- .0004" (0,01mm) diameter adjustment respective 0.00008" (2 µm) with vernier scale within a range of .0118" (0,3mm).
- Radial adjustment without influence on axial position.
- Axial adjustment range of .039" (1mm).
- Smallest diameters can be machined starting from 1.102" (28,0mm).



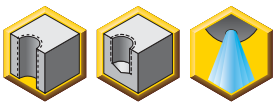


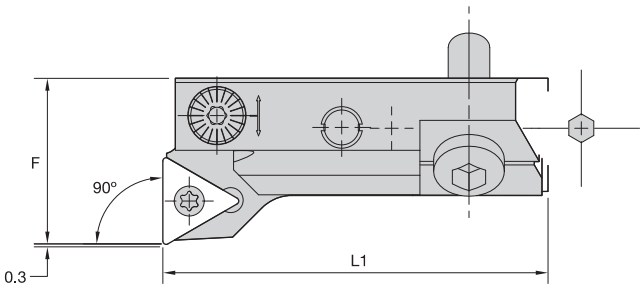
## 93° Lead • Micro-Adjustable Cartridge • C-Style

| order number | catalog number | F mm | F in | L1 mm | L1 in | gage insert | insert screw | set screw |
|---|---|---|---|---|---|---|---|---|
| right hand | | | | | | | | |
| **2907289** | **FBSCUCR09CA06F** | 16,15 | .636 | 45,50 | 1.791 | CCMT060204 | **12148068700** | **12147629800** |

NOTE: For use with custom solution fine-boring and countersinking tools.

- All cartridges have internal coolant supply directed to the cutting edge.
- .0004" (0,01mm) diameter adjustment respective 0.00008" (2 µm) with vernier scale within a range of .0118" (0,3mm).
- Radial adjustment without influence on axial position.
- Axial adjustment range of .039" (1mm).
- Smallest diameters can be machined starting from 1.102" (28,0mm).





## 90° Lead • Micro-Adjustable Cartridge • T-Style

| order number | catalog number | F mm | F in | L1 mm | L1 in | gage insert | insert screw | set screw |
|---|---|---|---|---|---|---|---|---|
| right hand | | | | | | | | |
| **2907291** | **FBSTFCR09CA11F** | 20,15 | .793 | 45,50 | 1.791 | TCMT110204 | **12148068700** | **12147629800** |

NOTE: For use with custom solution fine-boring and countersinking tools.

# ModBORE™

One system includes highly flexible roughing and fine-boring heads to large bridge tooling with optimum amount of tooling components.

### Primary Application

This premium boring line enables roughing to fine-boring operations using one system with a large diameter range from 9,75–2,205mm (.384–86.8"). The ModBORE system can be used in most workpiece materials in metalcutting applications along with the latest Kennametal standard ISO turning inserts.

## Features and Benefits

### Complete System

- Twin blade heads for roughing to semi-finishing operations starting from diameter 23,5mm (.925").
- Fine-boring heads for finishing in diameters 9,75–2,205mm (.384–86.8").
- Bridge tooling for large diameters up to 2,205mm (86.8") standard with both roughing and fine-finishing heads.
- Through-coolant capability in all styles.

### Resolution

- Fine adjustable roughing heads.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with easy-to-read large vernier scale with fine-boring heads.

# Highest versatility possible on the shop floor with the ModBORE™ roughing and fine boring systems.

## Product Variety

- KM™ shanks for use in all spindles with compatible adapters.
- HSK shanks for use without adapters.
- Inch shanks are most economical to use with compatible adapters.

## Customization

- Engineered solutions available.
- Anti-chatter devices available.
- Cartridges can be designed into standard boring heads for added versatility.

# ModBORE™ Fine-Boring System

Based on KM™, HSK, and inch SSF couplings, match all spindle specifications direct or indirect via adapters. The ModBORE fine-boring system uses standard ISO/ANSI turning inserts for maximum performance and flexibility.

## RBHT • Twin Cutters for Rough and Semi-Finish Boring

- Diameters 23,5–153mm (.925–6.024").
- KM, HSK, and inch straight shank back end versions available.
- Preloaded serration and ground support face for stable connection, minimal vibration, and maximum accuracy, with easy diameter adjustment.
- Large selection of blades sets:
  — Staggered — efficient machining of large depths of cut.
  — 70° — for challenging applications requiring stable corner radii and full use of inserts.
  — 90° — most precise machining results.
- Generous clearance and through coolant enable free chip flow and improved tool life.
- All toolholders accept positive standard inserts. Toolholders in diameter 65,5mm (2.58") and greater for negative standard inserts.

## FBHM • Offset Boring Bar and Cartridge Heads for Fine Finishing

- Diameters 9,75–320mm (.384–12.59").
- KM-TS™, HSK, CV, DV, and BT steep taper back end styles available.
- Precision-ground micrometric screw enables fine adjustment of 2 µm (.00008"). Large TiN-coated dial is easy to adjust and read.
- Standard steel and carbide boring bars adjust in length for maximum stability.
- Aluminum diameter extender with insert cartridges and counterweight used for diameters starting at 3.38" (86mm) for maximum flexibility.
- Through coolant at the cutting edge improves tool life, surface finish, and chip evacuation.

## FBHO • Offset Boring Bar Heads for Fine Finishing

- Diameters 9,75–88,1mm (.384–3.46").
- KM™, HSK, and inch straight shank back end styles available.
- Precision-ground micrometric screw enables fine adjustment of 2 µm (.00008") via easy-to-read vernier scale.
- Standard steel and carbide boring bars can be adjusted in length for maximum stability.
- Through coolant at the cutting edge improves tool life, surface finish, and chip evacuation.

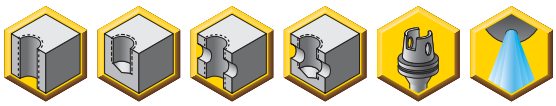
## FBHS • Cartridge Boring Heads for Fine Finishing

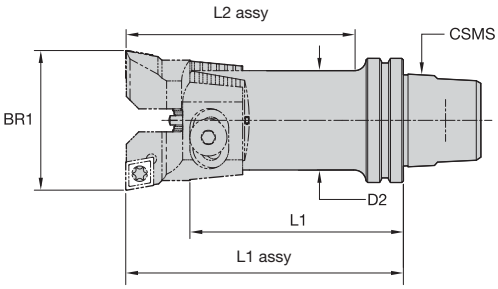
- Diameters 23,5–153mm (.925–6.024").
- KM, HSK, and inch straight shank back end styles available.
- Precision-ground micrometric screw enables fine adjustment of 2 µm (.00008") via easy-to-read vernier scale.
- Large selection of insert holders:
  — 95° — for use with wiper turning inserts.
  — 90° regular diameter — for efficient machining in large depths of cut.
  — 90° oversized diameter — for enhanced boring head diameter capabilities.
- Generous clearance and through coolant at the cutting edge improve tool life, surface finish, and chip evacuation.

## BT • Bridge Tools for Rough and Finish Boring

- Diameters 150–2,205mm (5.91–86.81").
- Sophisticated ground serration and T-style bolt clamping provide high cutting forces, and prevent diameter changes when heads are clamped.
- Only 10 bridge consoles are needed for diameters up to 655mm (25.7").
- KM, HSK, and some steep taper adapters with ground serration available as standard. Through coolant at the cutting edge improves tool life and surface finish.
- Diameters 650–2,205mm (25.5–86.81") covered by three aluminum-based consoles and two sets of steel slides for mounting rough and finish boring heads.
- 90° roughing head sets ensure precise height alignment, and negative standard inserts enable high metal removal rates.
- Counterweight for better balancing and fine-boring head with precision-ground micrometric screw for adjustments of 2 µm (.00008").

- Order blade sets separately; see page K124–K126.





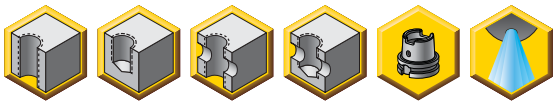
KM QUICK CHANGE

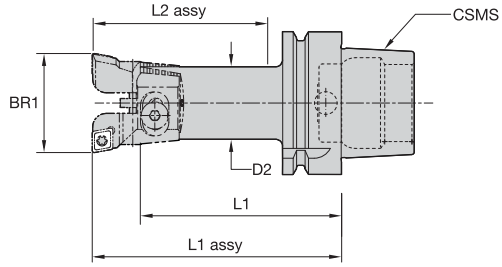
## RBHT • KM™ Rough-Boring Twin Cutters



| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D2 mm | D2 in | L1 mm | L1 in | L1 assy mm | L1 assy in | L2 assy mm | L2 assy in | blade screw | washer | pin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3586519 | KM32RBHT24 | 23.500-30.500 | 0.9252-1.2008 | KM32 | 20,0 | .79 | 75,4 | 2.97 | 90,0 | 3.54 | 76,0 | 2.99 | 840.142.200 | 841.142.200 | 841.342.200 |
| 3586520 | KM32RBHT30 | 29.500-40.000 | 1.1614-1.5748 | KM32 | 25,0 | .98 | 83,8 | 3.30 | 100,0 | 3.94 | 86,0 | 3.39 | 840.142.250 | 841.142.250 | 841.342.200 |
| 3586521 | KM40RBHT40 | 39.500-50.500 | 1.5551-1.9882 | KM40 | 32,0 | 1.26 | 68,8 | 2.71 | 90,0 | 3.54 | 74,0 | 2.91 | 840.142.320 | 841.142.320 | 841.342.200 |
| 3586522 | KM50RBHT50 | 49.500-66.500 | 1.9488-2.6181 | KM50 | 42,0 | 1.65 | 62,2 | 2.45 | 90,0 | 3.54 | 70,0 | 2.76 | 840.142.420 | 841.142.200 | 841.342.420 |
| 3586543 | KM50RBHT66 | 65.500-87.500 | 2.5787-3.4449 | KM50 | 55,0 | 2.17 | 63,0 | 2.48 | 100,0 | 3.94 | 100,0 | 3.94 | 840.142.550 | 841.142.550 | 841.342.420 |
| 3586544 | KM50RBHT87 | 86.500-115.500 | 3.4055-4.5472 | KM50 | 72,0 | 2.83 | 70,5 | 2.78 | 120,0 | 4.72 | 120,0 | 4.72 | 840.142.720 | 841.142.720 | 841.342.420 |
| 3586545 | KM63UTRBHT87 | 86.500-115.500 | 3.4055-4.5472 | KM63UT | 72,0 | 2.83 | 70,5 | 2.78 | 120,0 | 4.72 | 120,0 | 4.72 | 840.142.720 | 841.142.720 | 841.342.420 |
| 3586546 | KM63UTRBHT115 | 114.500-153.000 | 4.5079-6.0236 | KM63UT | 94,0 | 3.70 | 83,2 | 3.28 | 150,0 | 5.91 | 150,0 | 5.91 | 840.142.940 | 841.142.940 | 841.342.420 |

- Order blade sets separately; see page K124–K126.

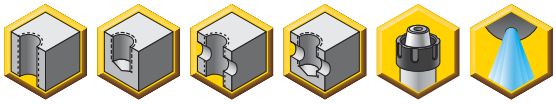


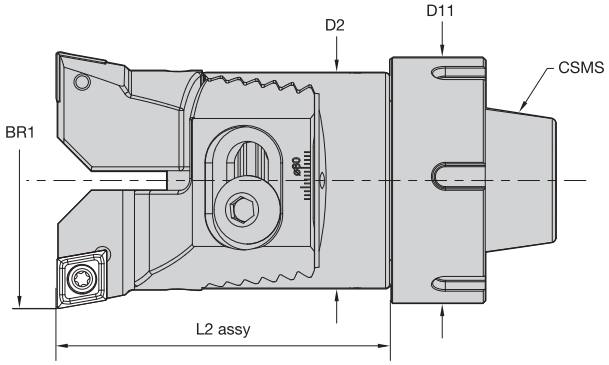


## RBHT • HSK Rough-Boring Twin Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D2 mm | D2 in | L1 mm | L1 in | L1 assy mm | L1 assy in | L2 assy mm | L2 assy in | blade screw | washer | pin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3586547 | HSK63RBHT24 | 23.500-30.500 | 0.9252-1.2008 | HSK63A | 20,0 | .79 | 75,4 | 2.97 | 90,0 | 3.54 | 64,1 | 2.52 | 840.142.200 | 841.142.200 | 841.342.200 |
| 3586548 | HSK63RBHT30 | 29.500-40.000 | 1.1614-1.5748 | HSK63A | 25,0 | .98 | 88,8 | 3.50 | 105,0 | 4.13 | 79,1 | 3.11 | 840.142.250 | 841.142.250 | 841.342.200 |
| 3586549 | HSK63RBHT40 | 39.500-50.500 | 1.5551-1.9882 | HSK63A | 32,0 | 1.26 | 92,2 | 3.63 | 110,0 | 4.33 | 84,1 | 3.31 | 840.142.320 | 841.142.320 | 841.342.200 |
| 3586550 | HSK63RBHT50 | 49.500-66.500 | 1.9488-2.6181 | HSK63A | 42,0 | 1.65 | 92,2 | 3.63 | 120,0 | 4.72 | 94,1 | 3.70 | 840.142.420 | 841.142.420 | 841.342.200 |
| 3586551 | HSK63RBHT66 | 65.500-87.500 | 2.5787-3.4449 | HSK63A | 55,0 | 2.17 | 95,5 | 3.76 | 125,0 | 4.92 | 125,0 | 4.92 | 840.142.550 | 841.142.720 | 841.342.420 |
| 3586563 | HSK63RBHT87 | 86.500-115.500 | 3.4055-4.5472 | HSK63A | 72,0 | 2.83 | 95,5 | 3.76 | 145,0 | 5.71 | 145,0 | 5.71 | 840.142.720 | 841.142.720 | 841.342.420 |

• Order blade sets separately; see page K124–K126.

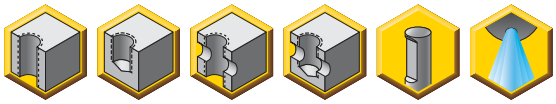


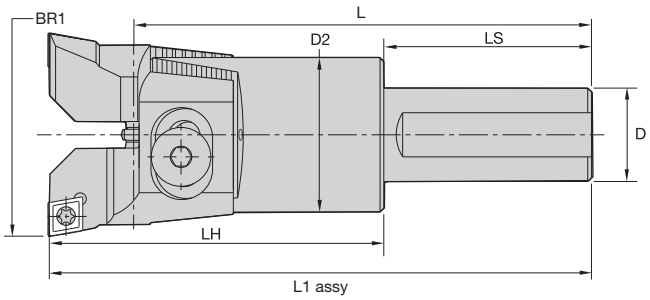


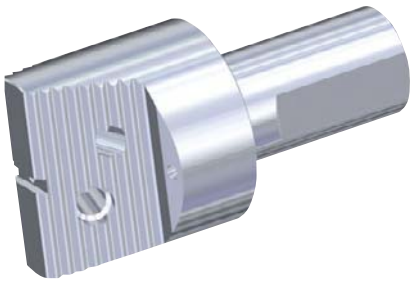
## RBHT • ER Rough-Boring Twin Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D11 mm | D11 in | D2 mm | D2 in | L2 assy mm | L2 assy in | blade screw | washer | pin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5544148 | ER25RBHT40 | 39,500-50,500 | 1.5550-1.9880 | ER25 | 39,0 | 1.5 | 32,0 | 1.26 | 65,5 | 2.58 | 840.142.320 | 841.142.320 | 841.342.200 |
| 5544190 | ER32RBHT50 | 49,500-66,500 | 1.9480-2.6180 | ER32 | 49,5 | 1.9 | 42,0 | 1.65 | 75,5 | 2.97 | 840.142.420 | 841.142.200 | 841.342.420 |
| 5544192 | ER40RBHT66 | 65,500-87,500 | 2.5780-3.4440 | ER40 | 62,7 | 2.5 | 55,0 | 2.17 | 85,5 | 3.37 | 840.142.550 | 841.142.550 | 841.342.420 |

• Order blade sets separately; see page K124–K126.



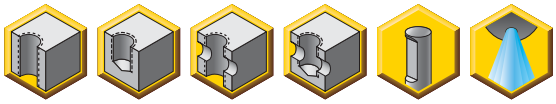


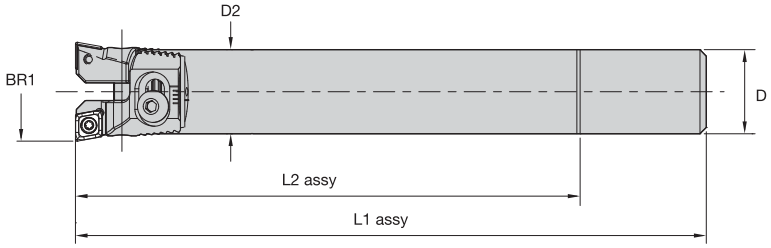



## RBHT • Steel Straight Shank Rough Boring Twin Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | D mm | D in | D2 mm | D2 in | L mm | L in | LH mm | LH in | L1 assy mm | L1 assy in | LS mm | LS in | blade screw | washer | pin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3586564 | SF075RBHT24 | 23,500-30,500 | 0.9252-1.2008 | 19,1 | .75 | 20,0 | .79 | 135,4 | 5.33 | 27,8 | 1.09 | 150,0 | 5.91 | 107,6 | 4.24 | 840.142.200 | 841.142.200 | 841.342.200 |
| 3586565 | SF100RBHT30 | 29,500-40,000 | 1.1614-1.5748 | 25,4 | 1.00 | 25,0 | .98 | 153,8 | 6.06 | 30,6 | 1.20 | 170,0 | 6.69 | 123,2 | 1.85 | 840.142.250 | 841.142.250 | 841.342.200 |
| 3586566 | SF125RBHT40 | 39,500-50,500 | 1.5551-1.9882 | 31,8 | 1.25 | 32,0 | 1.26 | 168,8 | 6.65 | 31,3 | 1.23 | 190,0 | 7.48 | 137,5 | 5.41 | 840.142.320 | 841.142.320 | 841.342.200 |
| 3586567 | SF100RBHT50 | 49,500-66,500 | 1.9488-2.6181 | 25,4 | 1.00 | 42,0 | 1.65 | 118,1 | 4.65 | 62,2 | 2.45 | 145,9 | 5.74 | 55,9 | 2.20 | 840.142.420 | 841.142.420 | 841.342.420 |
| 3586569 | SF125RBHT66 | 65,500-87,500 | 2.5787-3.4449 | 31,8 | 1.25 | 55,0 | 2.17 | 123,7 | 4.87 | 63,0 | 2.48 | 160,7 | 6.33 | 60,7 | 2.39 | 840.142.550 | 841.142.720 | 841.342.420 |
| 3586570 | SF150RBHT87 | 86,500-115,500 | 3.4055-4.5472 | 38,1 | 1.50 | 72,0 | 2.83 | 142,1 | 5.59 | 70,5 | 2.78 | 191,6 | 7.54 | 71,6 | 2.82 | 840.142.720 | 841.142.720 | 841.342.420 |
| 3586571 | SF200RBHT115 | 114,500-153,000 | 4.5079-6.0236 | 50,8 | 2.00 | 94,0 | 3.70 | 169,1 | 6.66 | 82,6 | 3.25 | 235,9 | 9.29 | 86,5 | 3.41 | 840.142.940 | 841.142.940 | 841.342.420 |

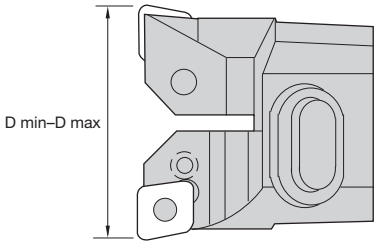
- Order blade sets separately; see page K124–K126.

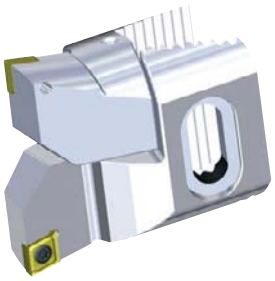




## RBHT • Straight Shank Rough-Boring Twin Cutters • Metric

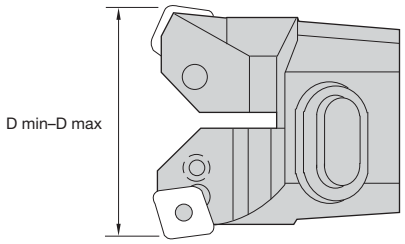
| order number | catalog number | BR1 bore range mm | BR1 bore range in | D mm | D in | D2 mm | D2 in | L1 assy mm | L1 assy in | L2 assy mm | L2 assy in | blade screw | washer | pin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5544143 | SS20RBHT24 | 23,500-30,500 | 0.9250-1.2000 | 20,0 | .79 | 20,0 | .79 | 150,0 | 5.10 | 120,0 | 4.72 | 840.142.200 | 841.142.200 | 841.342.200 |
| 5544145 | SS25RBHT30 | 29,500-40,000 | 1.1610-1.5740 | 25,0 | .98 | 25,0 | .98 | 170,0 | 6.69 | 140,0 | 5.51 | 840.142.250 | 841.142.250 | 841.342.200 |

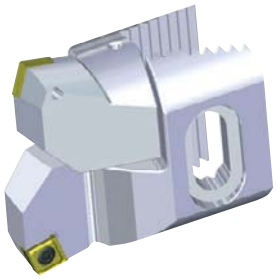


## 90° Lead Blade Sets

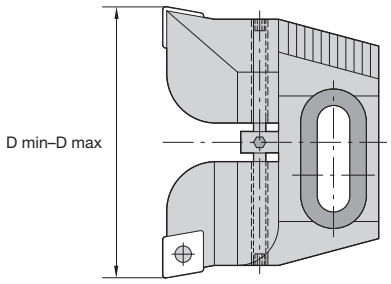
| order number | catalog number | D min mm | D min in | D max mm | D max in | gage insert | adjusting screw | insert screw | shim | shim pin | toggle lever | Torx wrench | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3556346 | MB24RBHT06F | 23,50 | .925 | 30,50 | 1.201 | CC..0602../CC..215.. | 848.200.407 | 843.006.000 | – | – | – | FT7 | T7 |
| 3556347 | MB30RBHT06F | 29,50 | 1.161 | 40,10 | 1.579 | CC..0602../CC..215.. | 848.250.409 | 843.006.000 | – | – | – | FT7 | T7 |
| 3556348 | MB40RBHT09F | 39,50 | 1.555 | 50,50 | 1.988 | CC..09T3../CC..325.. | 848.320.413 | 843.009.000 | – | – | – | FT15 | T15 |
| 3556349 | MB50RBHT09F | 49,50 | 1.949 | 66,50 | 2.618 | CC..09T3../CC..325.. | 848.420.614 | 843.009.000 | – | – | – | FT15 | T15 |
| 3556350 | MB66RBHT12F | 65,50 | 2.579 | 87,50 | 3.445 | CC..1204../CC..43.. | 848.550.620 | 843.012.000 | – | – | – | FT20 | T20 |
| 3556352 | MB66RBHT12LF | 65,50 | 2.579 | 87,50 | 3.445 | CN..1204../CN..43.. | 847.012.000 | – | 845.012.000 | 844.012.000 | 846.012.000 | – | – |
| 3556393 | MB87RBHT12F | 86,50 | 3.406 | 115,50 | 4.547 | CC..1204../CC..43.. | 848.720.000 | 843.012.000 | – | – | – | FT20 | T20 |
| 3556394 | MB87RBHT16LF | 86,50 | 3.406 | 115,50 | 4.547 | CN..1606../CN..54.. | 847.016.000 | – | 845.016.000 | 844.016.000 | 846.016.000 | – | – |
| 3556395 | MB115RBHT12F | 114,50 | 4.508 | 153,00 | 6.024 | CC..1204../CC..43.. | 848.940.640 | 843.012.000 | – | – | – | FT20 | T20 |
| 3556396 | MB115RBHT16LF | 114,50 | 4.508 | 153,00 | 6.024 | CN..1606../CN..54.. | 847.016.000 | – | 845.016.000 | 844.016.000 | 846.016.000 | – | – |

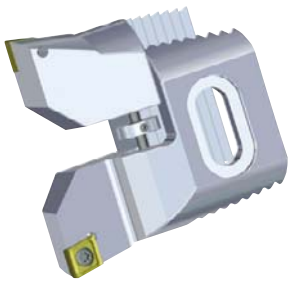


## 70° Lead Blade Sets

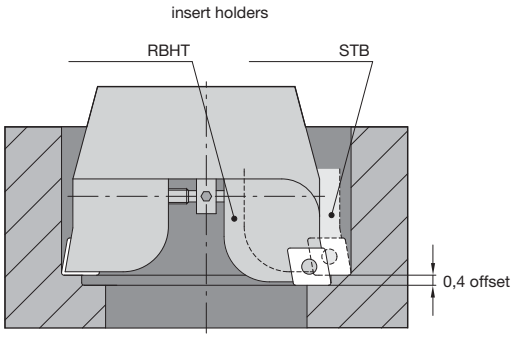
| order number | catalog number | D min mm | D min in | D max mm | D max in | gage insert | adjusting screw | insert screw | shim | shim pin | toggle lever | Torx wrench | Torx size | hex size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3556397 | MB24RBHT06K | 23,50 | .925 | 30,50 | 1.201 | CC..0602../CC..215.. | 848.200.407 | 843.006.000 | – | – | – | FT7 | T7 | – |
| 3556398 | MB30RBHT06K | 29,50 | 1.161 | 40,10 | 1.579 | CC..0602../CC..215.. | 848.250.409 | 843.006.000 | – | – | – | FT7 | T7 | – |
| 3556399 | MB40RBHT09K | 39,50 | 1.555 | 50,50 | 1.988 | CC..09T3../CC..325.. | 848.320.413 | 843.009.000 | – | – | – | FT15 | T15 | – |
| 3556400 | MB50RBHT09K | 49,50 | 1.949 | 66,50 | 2.618 | CC..09T3../CC..325.. | 848.420.614 | 843.009.000 | – | – | – | FT15 | T15 | – |
| 3556401 | MB66RBHT12K | 65,50 | 2.579 | 87,50 | 3.445 | CC..1204../CC..43.. | 848.550.620 | 843.012.000 | – | – | – | FT20 | T20 | – |
| 3556402 | MB66RBHT12LK | 65,50 | 2.579 | 87,50 | 3.445 | CN..1204../CN..43.. | 847.012.000 | – | 845.012.000 | 844.012.000 | 846.012.000 | – | – | 3 mm |
| 3556403 | MB87RBHT12K | 86,50 | 3.406 | 115,50 | 4.547 | CC..1204../CC..43.. | 848.720.000 | 843.012.000 | – | – | – | FT20 | T20 | – |
| 3556404 | MB87RBHT16LK | 86,50 | 3.406 | 115,50 | 4.547 | CN..1606../CN..54.. | 847.016.000 | – | 845.016.000 | 844.016.000 | 846.016.000 | – | – | 3 mm |
| 3556405 | MB115RBHT16LK | 114,50 | 4.508 | 153,00 | 6.024 | CN..1606../CN..54.. | 847.016.000 | – | 845.016.000 | 844.016.000 | 846.016.000 | – | – | 3 mm |

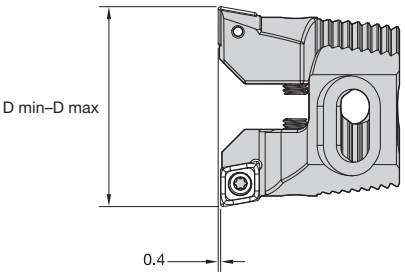


## 90° Lead Simultaneous Adjusting Blade Sets

| order number | catalog number | D min mm | D min in | D max mm | D max in | gage insert | adjusting screw | insert screw | simultaneous adj spindle | shim | shim pin | toggle lever |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2652965 | SYB24RBHT06F | 23,50 | .925 | 30,50 | 1.201 | CC..0602../CC..215.. | 848.200.407 | 843.006.000 | 848.200.005 | – | – | – |
| 2652967 | SYB30RBHT06F | 29,50 | 1.161 | 40,10 | 1.579 | CC..0602../CC..215.. | 848.250.409 | 843.006.000 | 848.250.005 | – | – | – |
| 2652968 | SYB40RBHT09F | 39,50 | 1.555 | 50,50 | 1.988 | CC..09T3../ | 848.320.413 | 843.009.000 | 848.320.005 | – | – | – |
| 2652969 | SYB50RBHT09F | 49,50 | 1.949 | 66,50 | 2.618 | CC..09T3../ | 848.420.614 | 843.009.000 | 848.420.005 | – | – | – |
| 2652970 | SYB66RBHT12F | 65,50 | 2.579 | 87,50 | 3.445 | CC..1204../CC..43.. | – | 843.012.000 | 848.550.005 | – | – | – |
| 2652971 | SYB66RBHT12LF | 65,50 | 2.579 | 87,50 | 3.445 | CN..1204../CN..43.. | – | 848.550.620 | 848.550.005 | 845.012.000 | 844.012.000 | 846.012.000 |
| 2652972 | SYB87RBHT12F | 86,50 | 3.406 | 115,50 | 4.547 | CC..1204../CC..43.. | – | 843.012.000 | 848.720.005 | – | – | – |
| 2652983 | SYB87RBHT16LF | 86,50 | 3.406 | 115,50 | 4.547 | CNMG543 | 847.016.000 | – | 848.720.005 | 845.016.000 | 844.016.000 | 846.016.000 |
| 2652984 | SYB115RBHT16LF | 114,50 | 4.508 | 153,00 | 6.024 | CNMG543 | 847.016.000 | – | 848.720.005 | 845.016.000 | 844.016.000 | 846.016.000 |



## 90° Lead Split Depth of Cut Blades

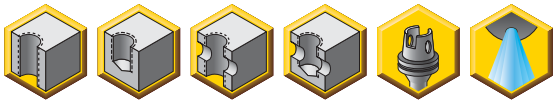
| order number | catalog number | D min mm | D min in | D max mm | D max in | gage insert | adjusting screw | insert screw | shim | shim pin | toggle lever |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4063996 | SDB24RBHT06F | 23,50 | .925 | 30,50 | 1.201 | CC..0602../CC..215.. | 848.200.407 | 843.006.000 | – | – | – |
| 4063997 | SDB30RBHT06F | 29,50 | 1.161 | 40,10 | 1.579 | CC..0602../CC..215.. | 848.250.409 | 843.006.000 | – | – | – |
| 4063998 | SDB40RBHT09F | 39,50 | 1.555 | 50,50 | 1.988 | CC..09T3../CC..325.. | 848.320.413 | 843.009.000 | – | – | – |
| 4063999 | SDB50RBHT09F | 49,50 | 1.949 | 66,50 | 2.618 | CC..09T3../CC..325.. | 848.420.614 | 843.009.000 | – | – | – |
| 4064000 | SDB66RBHT12F | 65,50 | 2.579 | 87,50 | 3.445 | CC..1204../CC..43.. | 848.550.620 | 843.012.000 | – | – | – |
| 4064001 | SDB66RBHT12LF | 65,50 | 2.579 | 87,50 | 3.445 | CN..1204../CN..43.. | 847.012.000 | – | 845.012.000 | 844.012.000 | 846.012.000 |
| 4064002 | SDB87RBHT12F | 86,50 | 3.406 | 115,50 | 4.547 | CC..1204../CC..43.. | 848.720.000 | 843.012.000 | – | – | – |
| 4064203 | SDB87RBHT16LF | 86,50 | 3.406 | 115,50 | 4.547 | CN..1606../CN..54.. | 847.016.000 | – | 845.016.000 | 844.016.000 | 846.016.000 |
| 4064204 | SDB115RBHT16LF | 114,50 | 4.508 | 153,00 | 6.024 | CN..1606../CN..54.. | 847.016.000 | – | 845.016.000 | 844.016.000 | 846.016.000 |
| 4064205 | SDB115RBHT12F | 114,50 | 4.508 | 153,00 | 6.024 | CC..1204../CC..43.. | 848.940.640 | 843.012.000 | – | – | – |

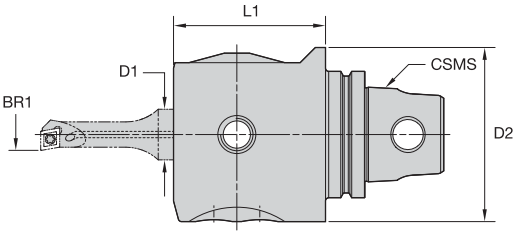
## FBHM • Fine-Boring Kits

| order number | catalog number | range mm | range in | contents | |
|---|---|---|---|---|---|
| 4057101 | KM50TSFBHMKIT164M | 9,75-164,0 | .383-6.456 | KM50TSFBHM1677<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4057098 | HSK63FBHMKIT164M | 9,75-164,0 | .383-6.456 | HSK63FBHM1696<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4057099 | DV40FBHMKIT164M | 9,75-164,0 | .383-6.456 | DV40FBHM1691<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4057100 | BT40FBHMKIT164M | 9,75-164,0 | .383-6.456 | BT40FBHM1691<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4167882 | CV40FBHMKIT645 | 9,75-164,0 | .383-6.456 | CV40FBHM1691<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |

NOTE: Counterweight 886038045 is not part of the kits and needs to be ordered separately.

- Order boring bars separately for required diameter; see page K134–K135.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.





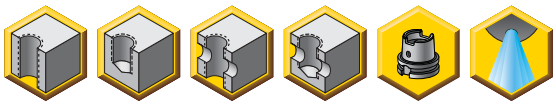
KM QUICK CHANGE

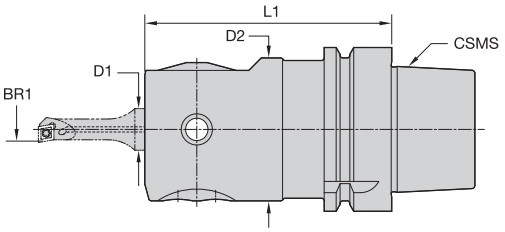


## FBHO • KM™ Offset Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHO parts package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1131111** | **KM40FBHO1660** | 9.750-53.100 | 0.3840-2.0910 | KM40 | 16 | .63 | 55,0 | 2.17 | 60,0 | 2.36 | **PKG7001** |
| **1132036** | **KM50FBHO1670** | 9.750-53.100 | 0.3840-2.0910 | KM50 | 16 | .63 | 55,0 | 2.17 | 70,0 | 2.76 | **PKG7001** |

- Order boring bars separately for required diameter; see page K134–K135.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.

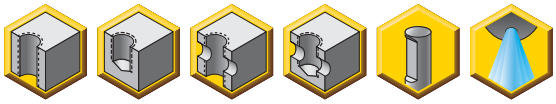


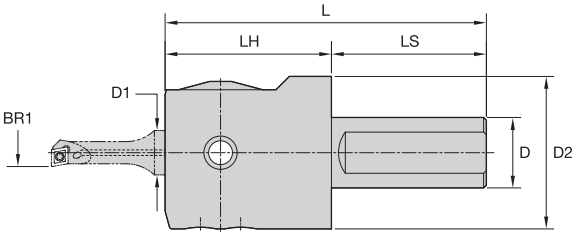


## FBHO • HSK Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHO parts package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2651037** | **HSK63FBHO1695** | 9.750-53.100 | 0.3840-2.0910 | HSK63A | 16 | .63 | 55,0 | 2.17 | 95,0 | 3.74 | **PKG7001** |

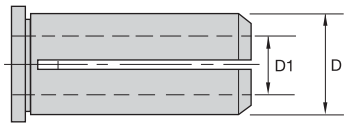
- Order boring bars separately for required diameter; see page K134–K135.





## FBHO • Straight Shank Boring Head

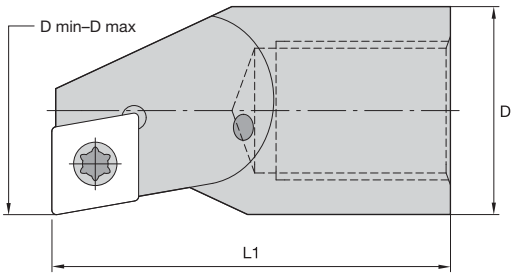
| | | BR1 bore range | | D | | D1 | | D2 | | L | | LH | | LS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in |
| 3077141 | SF100FBHO1660 | 3.000-88.100 | 0.1810-3.4685 | 25 | 1.000 | 16 | .63 | 55,0 | 2.17 | 115,9 | 4.56 | 60,0 | 2.36 | 55,9 | 2.20 |
| 3077140 | SF150FBHO1660 | 3.000-88.100 | 0.1811-3.4685 | 38 | 1.500 | 16 | .63 | 55,0 | 2.17 | 131,6 | 5.18 | 60,0 | 2.36 | 71,6 | 2.82 |



## RS Series Sleeves • Metric I.D.

| order number | catalog number | D | D1 |
|---|---|---|---|
| 2651042 | RS1605 | 16 | 5 |
| 1125092 | RS1606 | 16 | 6 |
| 1133914 | RS1608 | 16 | 8 |
| 1135642 | RS1610 | 16 | 10 |
| 1135662 | RS1612 | 16 | 12 |

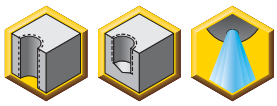
- Match boring head diameter to carbide bar diameter.
- Order inserts separately.

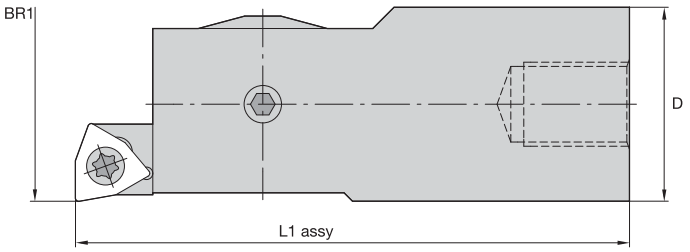


## Fixed Pocket Boring Head

| | | D min | | D max | | D | | L1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in | gage insert | insert screw | Torx size |
| **2651168** | **HFB1023SCFPR06** | 10,75 | .423 | 16,10 | .634 | 10 | .39 | 23 | 0.91 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651169** | **HFB1223SCFPR06** | 12,75 | .502 | 18,10 | .713 | 12 | .47 | 23 | 0.91 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651170** | **HFB1627SCFPR06** | 16,75 | .659 | 22,10 | .870 | 16 | .63 | 27 | 1.06 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651171** | **HFB2127SCFPR06** | 21,75 | .856 | 27,10 | 1.067 | 16 | .63 | 27 | 1.06 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651172** | **HFB2427SCFPR06** | 24,75 | .974 | 30,10 | 1.185 | 16 | .63 | 27 | 1.06 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651173** | **HFB2727SCFPR06** | 27,75 | 1.093 | 33,10 | 1.303 | 16 | .63 | 27 | 1.06 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651174** | **HFB3127SCFPR06** | 31,75 | 1.250 | 37,10 | 1.461 | 16 | .63 | 27 | 1.06 | CC..0602../CC..215.. | **PKG0011** | **T7** |
| **2651175** | **HFB3427SCFPR06** | 34,75 | 1.368 | 40,10 | 1.579 | 16 | .63 | 27 | 1.06 | CC..0602../CC..215.. | **PKG0011** | **T7** |

- Match boring head diameter to carbide bar diameter.
- Order insert cartridge separately.





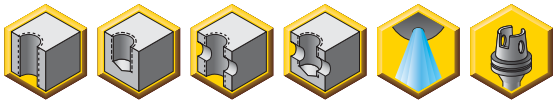
## Fine Adjustable Screw On Boring Head for Carbide Bars

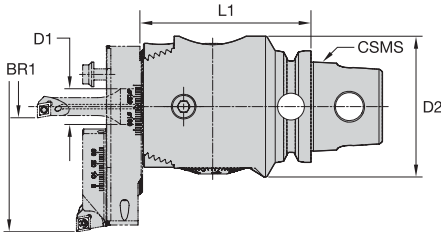
| | | BR1 bore range | | L1 assy | | D | | |
|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | cartridge mounting screw |
| **2651176** | **HFB14FBHS1440** | 14.700-17.100 | 0.5787-0.6732 | 40,0 | 1.57 | 14 | 0.55 | **PKG1402** |
| **2651177** | **HFB16FBHS1640** | 16.700-20.100 | 0.6575-0.7913 | 40,0 | 1.57 | 16 | 0.63 | **PKG1602** |
| **2651178** | **HFB19FBHS1840** | 19.700-24.100 | 0.7756-0.9488 | 40,0 | 1.57 | 18 | 0.71 | **PKG1802** |

## FBHM Fine-Boring Kits

| order number | catalog number | range mm | range in | contents | |
|---|---|---|---|---|---|
| 4057101 | KM50TSFBHMKIT164M | 9,75-164,0 | .383-6.456 | KM50TSFBHM1677<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4057098 | HSK63FBHMKIT164M | 9,75-164,0 | .383-6.456 | HSK63FBHM1696<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4057099 | DV40FBHMKIT164M | 9,75-164,0 | .383-6.456 | DV40FBHM1691<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4057100 | BT40FBHMKIT164M | 9,75-164,0 | .383-6.456 | BT40FBHM1691<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |
| 4167882 | CV40FBHMKIT645 | 9,75-164,0 | .383-6.456 | CV40FBHM1691<br>AFB09075SCFCR06<br>AFB13085SCFCR06<br>AFB17100SCFCR06<br>AFB21110SCFCR09<br>AFB24115SCFCR09 | AFM29115<br>AFM47115<br>EBM8015086<br>AFM29SCFPR06<br>AFM47SCFPR09 |

- Order boring bars, diameter extension bridge, and cartridges separately.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.

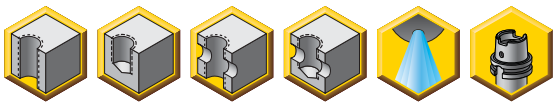


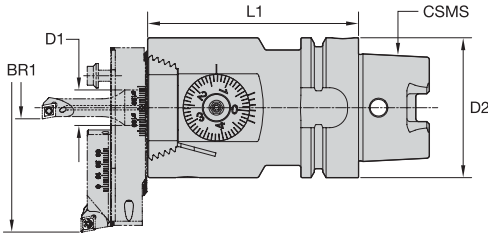


## FBHM • KM™ Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHS parts package | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4057060** | **KM50TSFBHM1677** | 9,750-164,000 | .3838-6.4566 | KM50TS | 16,0 | .63 | 63,0 | 2.48 | 76,6 | 3.02 | **PKG-8001** | 1,5 | 3.31 |

- Order boring bars, diameter extension bridge, and cartridges separately.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.

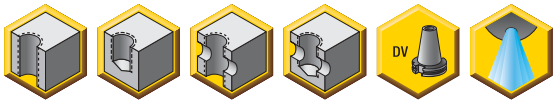


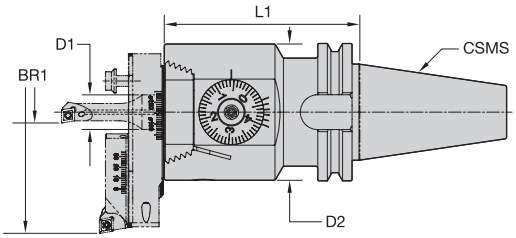


## FBHM • HSK Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHS parts package | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4057057** | **HSK63FBHM1696** | 9,750-164,000 | .3838-6.4566 | HSK63A | 16,0 | .63 | 63,0 | 2.48 | 95,0 | 3.74 | **PKG-8001** | 2,0 | 4.30 |

- Order boring bars, diameter extension bridge, and cartridges separately.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.

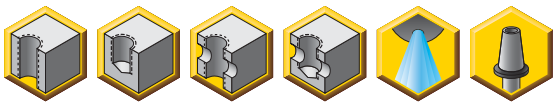


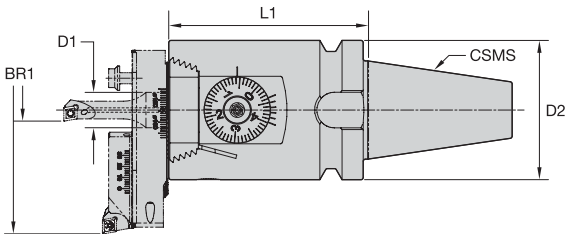



## FBHM • DV40 Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHS parts package | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4057058** | **DV40FBHM1691** | 9,750-154,000 | .3838-6.0630 | DV40 | 16,0 | 63.00 | 63,0 | 2.48 | 90,0 | 3.54 | **PKG-8001** | 2,1 | 4.64 |

- Order boring bars, diameter extension bridge, and cartridges separately.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.

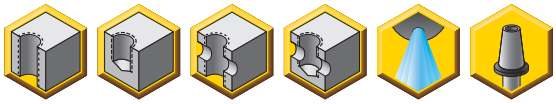


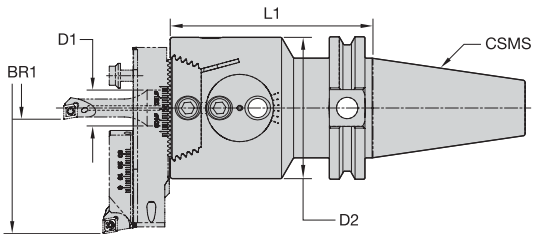


## FBHM • BT40 Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHS parts package | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4057059** | **BT40FBHM1691** | 9,750-164,000 | .3838-6.4566 | BT40 | 16,0 | .63 | 63,0 | 2.48 | 90,0 | 3.54 | **PKG-8001** | 2,2 | 4.94 |

- Order boring bars, diameter extension bridge, and cartridges separately.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.

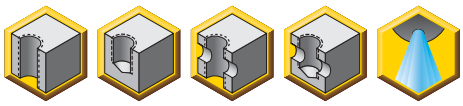


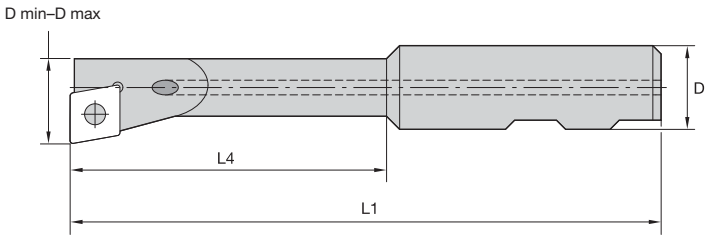


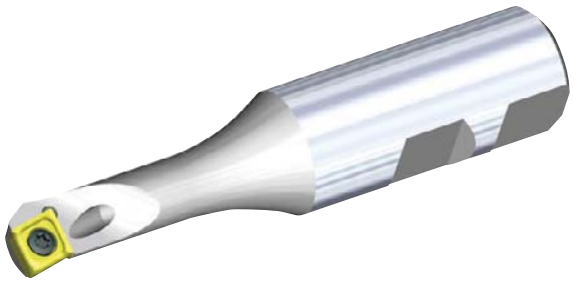
## FBHM • CV40 Boring Head

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D1 mm | D1 in | D2 mm | D2 in | L1 mm | L1 in | ModBORE FBHS parts package | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4167881** | **CV40FBHM1691** | 9,750-164,000 | .3838-6.4566 | CV40 | 16,0 | .63 | 63,0 | 2.48 | 91,2 | 3.59 | **PKG-8001** | 2,1 | 4.52 |

- Order inserts separately.



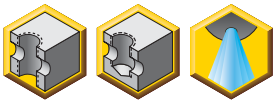


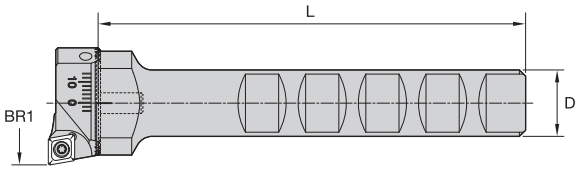



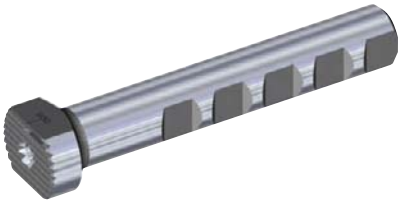
## FBHO/FBHM • Universal Boring Bars

| order number | catalog number | D min mm | D min in | D max mm | D max in | D mm | D in | L1 mm | L1 in | L4 mm | L4 in | gage insert | insert screw | Torx size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1125110** | **AFB09075SCFCR06** | 9,75 | .384 | 14,75 | .581 | 16 | .63 | 75,0 | 2.95 | 30,0 | 1.18 | CC..0602../CC..215.. | **PKG2025** | T7 |
| **1133883** | **AFB13085SCFCR06** | 13,75 | .541 | 18,75 | .738 | 16 | .63 | 85,0 | 3.35 | 40,0 | 1.57 | CC..0602../CC..215.. | **PKG2025** | T7 |
| **1133894** | **AFB17100SCFCR06** | 17,75 | .699 | 22,75 | .896 | 16 | .63 | 100,0 | 3.94 | 55,0 | 2.17 | CC..0602../CC..215.. | **PKG2025** | T7 |
| **1137835** | **AFB21110SCFCR09** | 21,75 | .856 | 26,75 | 1.053 | 16 | .63 | 110,0 | 4.33 | 60,0 | 2.36 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **1128324** | **AFB24115SCFCR09** | 24,75 | .974 | 29,75 | 1.171 | 16 | .63 | 115,0 | 4.53 | 65,0 | 2.56 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **1126838** | **AFB27115SCFCR09** | 27,75 | 1.093 | 32,75 | 1.289 | 16 | .63 | 115,0 | 4.53 | 70,0 | 2.76 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **1120731** | **AFB31115SCFCR09** | 31,75 | 1.250 | 36,75 | 1.447 | 16 | .63 | 115,0 | 4.53 | 70,0 | 2.76 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **1127271** | **AFB34115SCFCR09** | 34,75 | 1.368 | 39,75 | 1.565 | 16 | .63 | 115,0 | 4.53 | 70,0 | 2.76 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **2651038** | **AFB38115SCFPR09** | 38,75 | 1.526 | 44,10 | 1.736 | 16 | .63 | 115,0 | 4.53 | 85,0 | 3.35 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **2651039** | **AFB42115SCFPR09** | 42,75 | 1.683 | 48,10 | 1.894 | 16 | .63 | 115,0 | 4.53 | 85,0 | 3.35 | CC..09T3../CC..325.. | **PKG3242** | T15 |
| **2651040** | **AFB47115SCFPR09** | 47,75 | 1.880 | 53,10 | 2.091 | 16 | .63 | 115,0 | 4.53 | 85,0 | 3.35 | CC..09T3../CC..325.. | **PKG3242** | T15 |

- Order AFM insert cartridge separately.

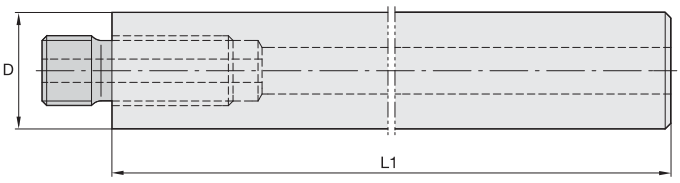




## FBHO/FBHM • AFM Boring Bars

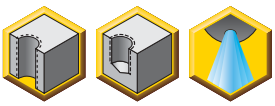
| | | BR1 bore range | | D | | D2 | | L | |
|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in |
| 4057061 | AFM29115 | 29.750-48.100 | 1.1712-1.8940 | 16,0 | .63 | 25,0 | .98 | 103,000 | 4.06 |
| 4057062 | AFM47115 | 47.750-88.100 | 1.8800-3.4680 | 16,0 | .63 | 44,0 | 1.73 | 101,580 | 4.00 |

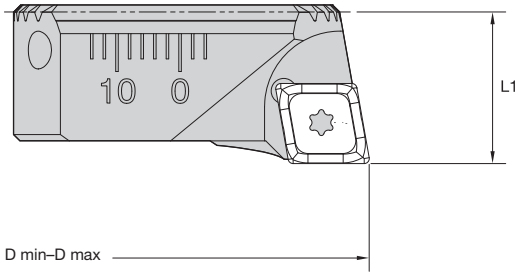


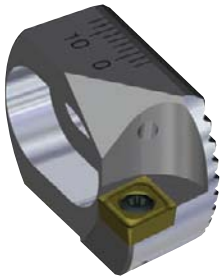
## Carbide Shanks for Screw-On Boring Heads

| | | D | | L1 | |
|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in |
| 2651163 | CFB10082 | 10 | .39 | 82 | 3.23 |
| 2651164 | CFB12096 | 12 | .47 | 96 | 3.78 |
| 2651165 | CFB14110 | 14 | .55 | 110 | 4.33 |
| 2651166 | CFB16120 | 16 | .63 | 120 | 4.72 |
| 2651167 | CFB18140 | 18 | .71 | 140 | 5.51 |

- For use with AFM boring bars.
- Order inserts separately.



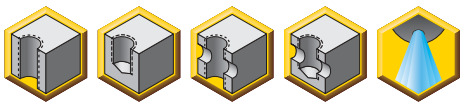


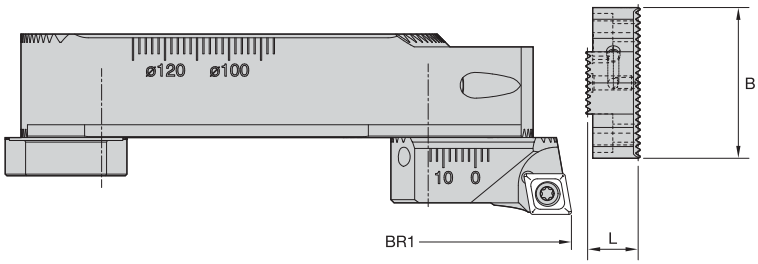



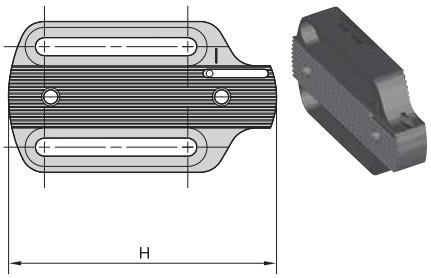
## AFM • Insert Cartridges

| order number | catalog number | D min mm | D min in | D max mm | D max in | L1 mm | L1 in | gage insert | ModBORE parts package | insert screw ID drive size |
|---|---|---|---|---|---|---|---|---|---|---|
| **4057093** | **AFM29SCFPR06** | 29,75 | 1.171 | 48,10 | 1.894 | 12,0 | .472 | CC..0602../CC..2151.. | **PKG2025** | T7 |
| **4057094** | **AFM47SCFPR09** | 47,75 | 1.880 | 88,10 | 3.469 | 14,0 | .551 | CC..09T3../CC..3252.. | **PKG3242** | T15 |

- For use with FBHM insert holders and FBHM counterweight.
- Order AFM47SCFPR09 insert cartridge separately to achieve diameter range.



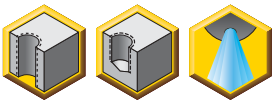


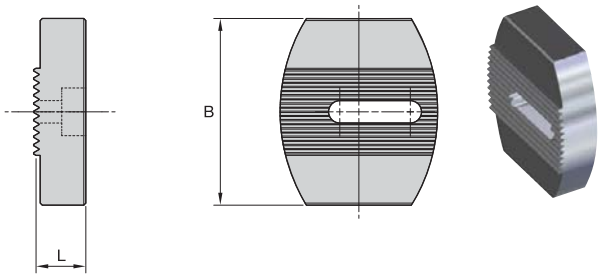




## FBHM • Extension Bridge

| order number | catalog number | BR1 bore range mm | BR1 bore range in | B mm | B in | H mm | H in | L mm | L in |
|---|---|---|---|---|---|---|---|---|---|
| **4057095** | **EBM8015086** | 86.000-164.000 | 3.3900-6.4600 | 45,0 | 1.77 | 80,0 | 3.15 | 15,0 | .59 |
| **4168063** | **EBM1580160162** | 162.000-320.000 | 6.3778-12.5984 | 45,0 | 1.77 | 158,0 | 6.22 | 16,2 | .64 |

- For use with FBHM extension bridge.

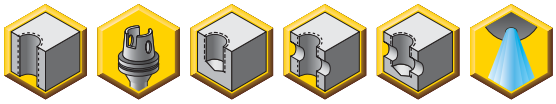


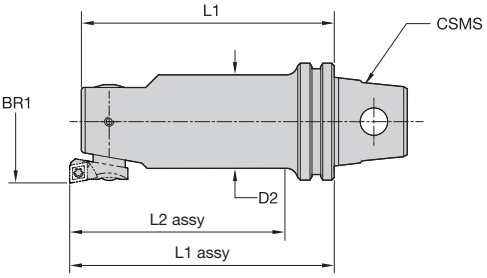



## FBHM • Counterweight

| order number | catalog number | B mm | B in | L mm | L in |
|---|---|---|---|---|---|
| **4057096** | **886038045** | 45 | 1.77 | 12 | .47 |

- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K140.

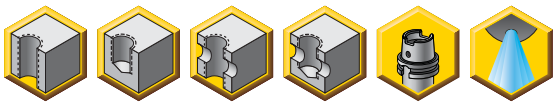


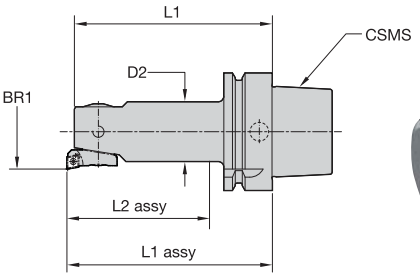


## FBHS • KM™ Fine-Boring Single Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D2 mm | D2 in | L1 mm | L1 in | L1 assy mm | L1 assy in | L2 assy mm | L2 assy in | cartridge mounting screw | lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3586572 | KM32FBHS24 | 23,900-37,100 | 0.9409-1.4606 | KM32 | 20,0 | .79 | 86,0 | 3.39 | 90,0 | 3.54 | 76,1 | 2.99 | 880.252.200 | 881.252.200 |
| 3586573 | KM32FBHS31 | 30,900-47,100 | 1.2165-1.8543 | KM32 | 25,0 | .98 | 96,0 | 3.78 | 100,0 | 3.94 | 86,1 | 3.39 | 880.252.250 | 881.252.250 |
| 3586574 | KM40FBHS40 | 39,900-59,100 | 1.5709-2.3268 | KM40 | 32,0 | 1.26 | 86,0 | 3.39 | 90,0 | 3.54 | 74,0 | 2.92 | 880.252.320 | 881.252.320 |
| 3586575 | KM50FBHS51 | 50,900-81,100 | 2.0039-3.1929 | KM50 | 42,0 | 1.65 | 86,0 | 3.39 | 90,0 | 3.54 | 70,0 | 2.76 | 880.252.420 | 881.252.420 |
| 3586576 | KM50FBHS67 | 66,900-105,100 | 2.6339-4.1378 | KM50 | 55,0 | 2.17 | 96,0 | 3.78 | 100,0 | 3.94 | 100,0 | 3.94 | 880.252.550 | 881.252.550 |
| 3586577 | KM50FBHS87 | 86,900-134,100 | 3.4213-5.2795 | KM50 | 72,0 | 2.84 | 116,0 | 4.57 | 120,0 | 4.72 | 120,0 | 4.72 | 880.252.550 | 881.252.720 |
| 3586578 | KM63UTFBHS87 | 86,900-134,100 | 3.4213-5.2795 | KM63UT | 72,0 | 2.84 | 116,0 | 4.57 | 120,0 | 4.72 | 120,0 | 4.72 | 880.252.550 | 881.252.720 |
| 3586579 | KM63UTFBHS116 | 115,900-191,100 | 4.5630-7.5236 | KM63UT | 94,0 | 3.70 | 146,0 | 5.75 | 150,0 | 5.91 | 150,0 | 5.91 | 880.252.550 | 881.252.940 |

- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K140.

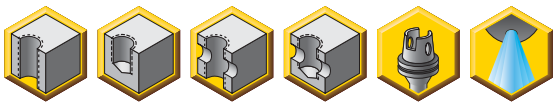


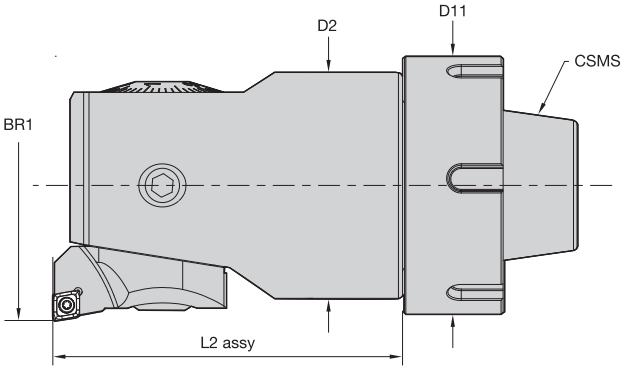


## FBHS • HSK Fine-Boring Single Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D2 mm | D2 in | L1 mm | L1 in | L1 assy mm | L1 assy in | L2 assy mm | L2 assy in | cartridge mounting screw | lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3586580 | HSK63FBHS24 | 23,900-37,100 | 0.9409-1.4606 | HSK63A | 20,0 | .79 | 86,0 | 3.39 | 90,0 | 3.54 | 61,1 | 2.40 | 880.252.200 | 881.252.200 |
| 3586581 | HSK63FBHS31 | 30,900-47,100 | 1.2165-1.8543 | HSK63A | 25,0 | .98 | 101,0 | 3.98 | 105,0 | 4.13 | 76,1 | 2.99 | 880.252.250 | 881.252.250 |
| 3586582 | HSK63FBHS40 | 39,900-59,100 | 1.5709-2.3268 | HSK63A | 32,0 | 1.26 | 106,0 | 4.17 | 110,0 | 4.33 | 81,1 | 3.19 | 880.252.320 | 881.252.320 |
| 3586583 | HSK63FBHS51 | 50,900-81,100 | 2.0039-3.1929 | HSK63A | 42,0 | 1.65 | 116,0 | 4.57 | 120,0 | 4.72 | 91,1 | 3.58 | 880.252.420 | 881.252.420 |
| 3586584 | HSK63FBHS67 | 66,900-105,100 | 2.6339-4.1378 | HSK63A | 55,0 | 2.17 | 121,0 | 4.76 | 125,0 | 4.92 | 99,1 | 3.90 | 880.252.550 | 881.252.550 |
| 3586585 | HSK63FBHS87 | 86,900-134,100 | 3.4213-5.2795 | HSK63A | 72,0 | 2.84 | 141,0 | 5.55 | 145,0 | 5.71 | 145,0 | 5.71 | 880.252.550 | 881.252.720 |

- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K140.

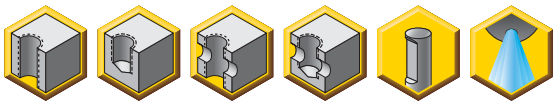


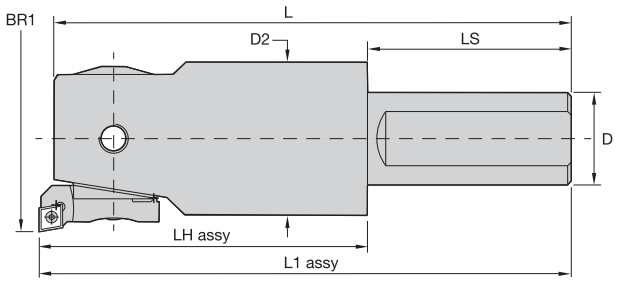


## FBHS • ER Fine-Boring Single Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | CSMS system size | D11 mm | D11 in | D2 mm | D2 in | L2 assy mm | L2 assy in | cartridge mounting screw | lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5544149 | ER25FBHS40 | 39,900-59,100 | 1.5700-2.3260 | ER25 | 39,0 | 1.54 | 32,0 | 1.26 | 65,5 | 2.58 | 880.252.320 | 881.252.320 |
| 5544191 | ER32FBHS51 | 50,900-81,100 | 2.0030-3.1920 | ER32 | 49,5 | 1.95 | 42,0 | 1.65 | 75,5 | 2.97 | 880.252.420 | 881.252.420 |
| 5544193 | ER40FBHS67 | 66,900-105,100 | 2.6330-4.1370 | ER40 | 62,7 | 2.47 | 55,0 | 2.17 | 85,5 | 3.37 | 880.252.550 | 881.252.550 |

- .0004" (0.01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K140.

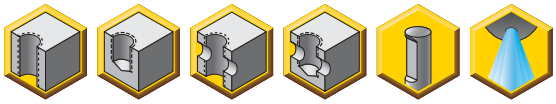


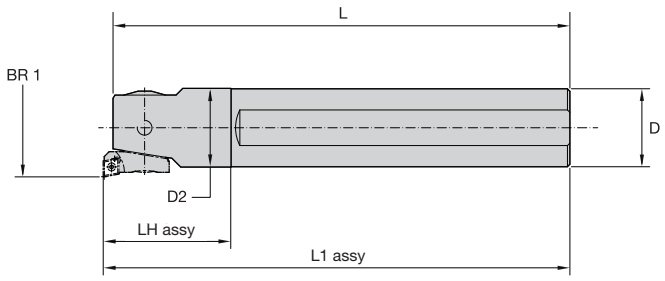


## FBHS • Straight Shank Fine-Boring Single Cutters

| order number | catalog number | BR1 bore range mm | BR1 bore range in | D | D2 | L | LH assy | L1 assy | LS | cartridge mounting screw | lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3586586 | SF075FBHS24 | 23,900-37,100 | 0.9409-1.4606 | .75 | .79 | 5.75 | 1.65 | 5.91 | 4.2370 | 880.252.200 | 881.252.200 |
| 3586587 | SF100FBHS31 | 30,900-47,100 | 1.2165-1.8543 | 1.00 | .98 | 6.54 | 1.85 | 6.69 | .8940 | 880.252.250 | 881.252.250 |
| 3586588 | SF125FBHS40 | 39,900-59,100 | 1.5709-2.3268 | 1.25 | 1.26 | 7.32 | 2.05 | 7.48 | 5.4130 | 880.252.320 | 881.252.320 |
| 3586589 | SF100FBHS51 | 50,900-81,100 | 2.0039-3.1929 | 1.00 | 1.65 | 5.59 | 3.54 | 5.74 | 2.2008 | 880.252.420 | 881.252.420 |
| 3586590 | SF125FBHS67 | 66,900-105,100 | 2.6339-4.1378 | 1.25 | 2.17 | 6.17 | 3.94 | 6.33 | 2.3898 | 880.252.550 | 881.252.550 |
| 3586591 | SF150FBHS87 | 86,900-134,100 | 3.4213-5.2795 | 1.50 | 2.84 | 7.39 | 4.72 | 7.54 | 2.8189 | 880.252.550 | 881.252.720 |
| 3586592 | SF200FBHS116 | 115,900-191,100 | 4.5630-7.5236 | 2.00 | 3.70 | 9.13 | 5.91 | 9.29 | 3.3819 | 880.252.550 | 881.252.940 |

- 0.0004" (0,01mm) diameter adjustment respective 0.00008" (2 µm) with vernier scale.
- Order insert cartridges separately for required bore range, see page K140.

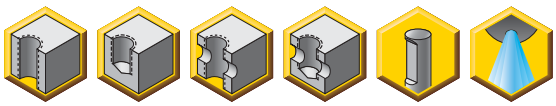


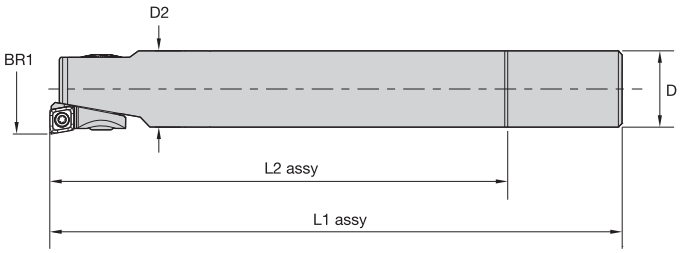


## FBHS • Fine Boring Single Cutters • Carbide Straight Shank Series

| order number | catalog number | BR1 bore range mm | BR1 bore range in | D | D2 | L | LH assy | L1 assy | cartridge mounting screw | lock screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 3586593 | SSE075FBHS24 | 23,900-37,100 | 0.9409-1.4606 | .75 | .79 | 9.69 | 3.15 | 9.84 | 880.252.200 | 881.252.200 |
| 3586594 | SSE100FBHS31 | 30,900-47,100 | 1.2165-1.8543 | 1.00 | .98 | 11.89 | 3.94 | 12.05 | 880.252.250 | 881.252.250 |
| 3586595 | SSE125FBHS40 | 39,900-59,100 | 1.5709-2.3268 | 1.25 | 1.26 | 14.80 | 5.04 | 14.96 | 880.252.320 | 881.252.320 |

- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K140.

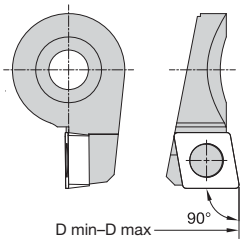


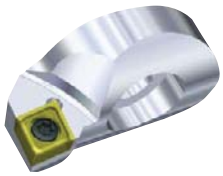


## FBHS • Straight Shank Fine-Boring Single Cutters • Metric

| order number | catalog number | BR1 bore range mm | BR1 bore range in | D mm | D in | D2 mm | D2 in | L1 assy mm | L1 assy in | L2 assy mm | L2 assy in | cartridge mounting screw | lock screw |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5544144 | SS20FBHS24 | 23,900-37,100 | 0.9400-1.4600 | 20,0 | .79 | 20,0 | .79 | 150,0 | 5.10 | 120,0 | 4.72 | 880.252.200 | 881.252.200 |
| 5544146 | SS25FBHS31 | 30,900-47,100 | 1.2160-1.8540 | 25,0 | .98 | 25,0 | .98 | 170,0 | 6.69 | 140,0 | 5.51 | 880.252.250 | 881.252.250 |

- Order inserts separately.



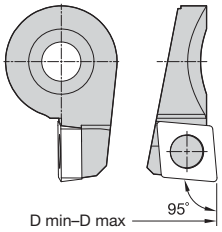



## 90° Lead • Insert Holders for FBHS Fine-Boring Heads



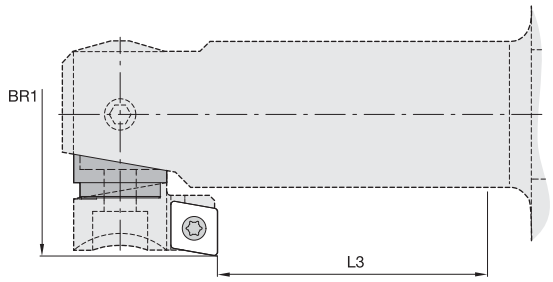
| order number | catalog number | D min | D max | gage insert | Torx size | insert screw |
|---|---|---|---|---|---|---|
| 1137487 | R24FBHS06 | 23,9 | 31,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649548 | R30FBHS06 | 29,9 | 37,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 1133669 | R31FBHS06 | 30,9 | 40,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649549 | R38FBHS06 | 37,9 | 47,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 1135369 | R40FBHS06 | 39,9 | 51,1 | CC.0602../CC..215.. | T7 | 843.006.000 |
| 2649550 | R48FBHS06 | 47,9 | 59,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 1137479 | R51FBHS06 | 50,9 | 67,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649551 | R65FBHS06 | 64,9 | 81,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 1834274 | R67FBHS06 | 66,9 | 153,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 1137505 | R67FBHS09 | 66,9 | 153,1 | CC..09T3../CC..325.. | T15 | 843.009.000 |
| 2649552 | R85FBHS06 | 84,9 | 171,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649553 | R85FBHS09 | 84,9 | 171,1 | CC..09T3../CC..325.. | T15 | 843.009.000 |
| 2649554 | R125FBHS09 | 153,9 | 191,1 | CC..09T3../CC..325.. | T15 | 843.009.000 |

- Order inserts separately.



## 95° Lead • Insert Holders for FBHS

| order number | catalog number | D min | D max | gage insert | insert screw ID drive size | insert screw |
|---|---|---|---|---|---|---|
| 2649555 | R24FBHS06LF | 23,9 | 31,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649556 | R31FBHS06LF | 30,9 | 40,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649557 | R40FBHS06LF | 39,9 | 51,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649558 | R51FBHS06LF | 50,9 | 67,1 | CC..0602../CC..215.. | T7 | 843.006.000 |
| 2649559 | R67FBHS09LF | 66,9 | 153,1 | CC..09T3../CC..325.. | T15 | 843.009.000 |




## Reversal Adapters

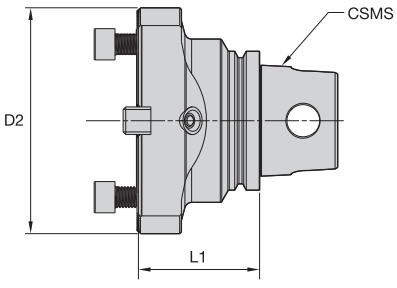
| reversal adapter | use with cartridges | | | | L3 | |
|---|---|---|---|---|---|---|
| catalog number | 90° lead | 90° lead | 95° lead | fine boring head series | mm | inch |
| **R37FBHSRB** | **R24FBHS06** | **–** | **R24FBHS06LF** | **..FBHS24** | 13,0 | 0.512 |
| **R40FBHSRB** | **R30FBHS06** | **–** | **–** | **..FBHS24** | 13,0 | 0.512 |
| **R44FBHSRB** | **R31FBHS06** | **–** | **R31FBHS06LF** | **..FBHS31** | 17,6 | 0.693 |
| **R51FBHSRB** | **R38FBHS06** | **–** | **–** | **..FBHS31** | 17,6 | 0.693 |
| **R53FBHSRB** | **R40FBHS06** | **–** | **R40FBHS06LF** | **..FBHS40** | 31,3 | 1.232 |
| **R60FBHSRB** | **R48FBHS06** | **–** | **–** | **..FBHS40** | 31,3 | 1.232 |
| **R64FBHSRB** | **R51FBHS06** | **–** | **R51FBHS06LF** | **..FBHS51** | 49,2 | 1.937 |
| **R75FBHSRB** | **R65FBHS06** | **–** | **–** | **..FBHS51** | 49,2 | 1.937 |
| **R87FBHSRB** | **R67FBHS06** | **R67FBHS09** | **R67FBHS09LF** | **..FBHS-67** | 62,0 | 2.441 |

NOTE: Use the chart above to match the insert holder to the reversal adapter.



## ModBORE™ Bridge Boring Systems

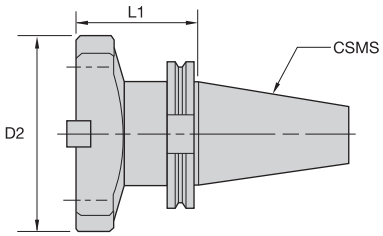
- Extension bridge required.
- Order extension bridge separately; see pages K143–K144.
- Match adapter and extension bridge series.



## KM™ Bridge Tool Adapters

| | | | | D2 | | L1 | | | |
|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | CSMS system size | extension bridge series | mm | in | mm | in | spare parts package | socket-head cap screw |
| **1135802** | **KM63BT13065** | KM63 | A | 130,0 | 5.12 | 65,0 | 2.56 | **PKG1565** | **MS1085PKG** |
| **1197315** | **KM80BT13070** | KM80 | B,A | 130,0 | 5.12 | 70,0 | 2.76 | **PKG1565** | **MS1085PKG** |

- Extension bridge required.
- Order extension bridge separately; see pages K143–K144.
- Order coolant cartridge set separately.
- Match adapter and extension bridge series.



## CV Bridge Tool Adapters

| order number | catalog number | CSMS system size | extension bridge series | D2 mm | D2 in | L1 mm | L1 in | spare parts package | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| **1122185** | **CV50BT13069** | CV50 | A,B,C | 130,0 | 5.12 | 69,1 | 2.72 | **PKG1565** | **MS1085PKG** |

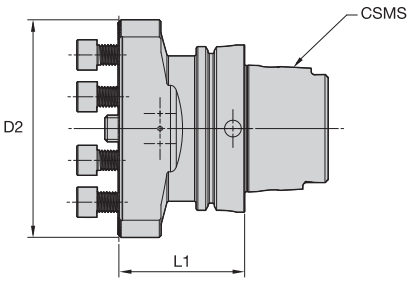
## BT Bridge Tool Adapters

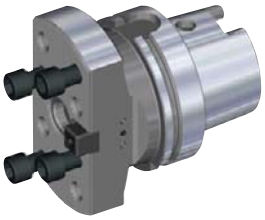
| order number | catalog number | CSMS system size | extension bridge series | D2 mm | D2 in | L1 mm | L1 in | spare parts package | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| **1121711** | **BT50BT13088** | BT50 | A,B,C | 130,0 | 5.12 | 88,0 | 3.46 | **PKG1565** | **MS1085PKG** |

## DV Bridge Tool Adapters

| order number | catalog number | CSMS system size | extension bridge series | D2 mm | D2 in | L1 mm | L1 in | spare parts package | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| **1263825** | **DV40BT13069** | DV40 | A | 130,0 | 5.12 | 69,1 | 2.72 | **PKG1565** | **MS1085PKG** |
| **1133581** | **DV50BT13069** | DV50 | A,B,C | 130,0 | 5.12 | 69,1 | 2.72 | **PKG1565** | **MS1085PKG** |

- Extension bridge required.
- Order extension bridge separately; see pages K143–K144.
- Match adapter and extension bridge series.



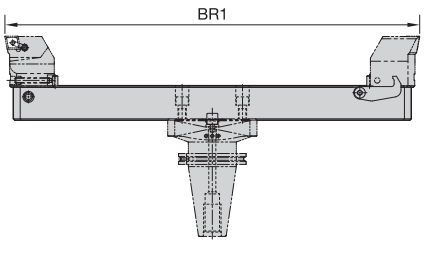



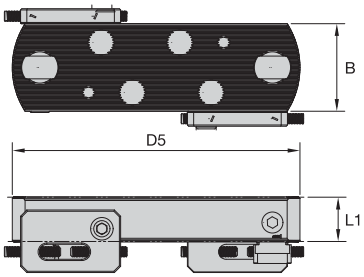
## HSK Bridge Tool Adapters

| order number | catalog number | CSMS system size | extension bridge series | D2 mm | D2 in | L1 mm | L1 in | spare parts package | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| **4062112** | **HSK100BT13075** | HSK100A | A,B,C | 130,0 | 5.12 | 75,0 | 2.95 | **PKG1565** | **MS1085PKG** |

NOTE: Tool adapters combined with small-scale extension bridges cover boring range 5.91–25.79" (150–655mm ).
Tool adapters combined with large-scale extension bridge and bridge slides cover boring range from 25.59–86.81" (650–2205mm).

- Match extension bridge series to adapter.

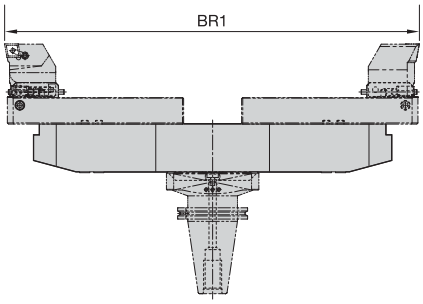


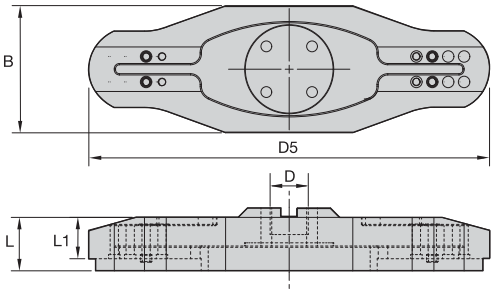



## Small-Scale Extension Bridges

| order number | catalog number | BR1 bore range mm | BR1 bore range in | max RPM | extension bridge series | B mm | B in | D5 mm | D5 in | L1 mm | L1 in | spare parts package | hex size | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1133280** | **EB13030150** | 150.000-205.000 | 5.9055-8.0709 | 1250 | A | 70,0 | 2.76 | 130,0 | 5.12 | 30,0 | 1.18 | **PKG156502** | 8 mm | 1,95 | 4.30 |
| **1125085** | **EB18030200** | 200.000-255.000 | 7.8740-10.0394 | 1000 | A | 70,0 | 2.76 | 180,0 | 7.09 | 30,0 | 1.18 | **PKG156502** | 8 mm | 2,77 | 6.10 |
| **1132857** | **EB23035250** | 250.000-305.000 | 9.8425-12.0079 | 850 | B | 70,0 | 2.76 | 230,0 | 9.06 | 35,0 | 1.38 | **PKG156502** | 8 mm | 4,00 | 8.80 |
| **1126830** | **EB28035300** | 300.000-355.000 | 11.8110-13.9764 | 700 | B | 70,0 | 2.76 | 280,0 | 11.02 | 35,0 | 1.38 | **PKG156502** | 8 mm | 5,14 | 11.30 |
| **1121703** | **EB33040350** | 350.000-405.000 | 13.7795-15.9449 | 600 | B | 70,0 | 2.76 | 330,0 | 12.99 | 40,0 | 1.57 | **PKG156502** | 8 mm | 6,86 | 15.10 |
| **1140602** | **EB38040400** | 400.000-455.000 | 15.7480-17.9134 | 530 | C | 70,0 | 2.76 | 380,0 | 14.96 | 40,0 | 1.57 | **PKG156502** | 8 mm | 7,95 | 17.50 |
| **1121036** | **EB43040450** | 450.000-505.000 | 17.7165-19.8819 | 480 | C | 70,0 | 2.76 | 430,0 | 16.93 | 40,0 | 1.57 | **PKG156502** | 8 mm | 9,23 | 20.30 |
| **1270619** | **EB48040500** | 500.000-550.000 | 19.6850-21.8504 | 440 | C | 70,0 | 2.76 | 480,0 | 18.90 | 40,0 | 1.57 | **PKG156502** | 8 mm | 10,23 | 22.50 |
| **1270620** | **EB53050550** | 550.000-605.000 | 21.6535-23.8189 | 400 | C | 70,0 | 2.76 | 530,0 | 20.87 | 50,0 | 1.97 | **PKG156502** | 8 mm | 13,91 | 30.60 |
| **1270621** | **EB58050600** | 600.000-655.000 | 23.6220-25.7874 | 370 | C | 70,0 | 2.76 | 580,0 | 22.84 | 50,0 | 1.97 | **PKG156502** | 8 mm | 15,32 | 33.70 |

- For use with shell mill adapters or direct connection to the machine spindle.
- Order bridge slides separately.



## Large Scale Extension Bridge

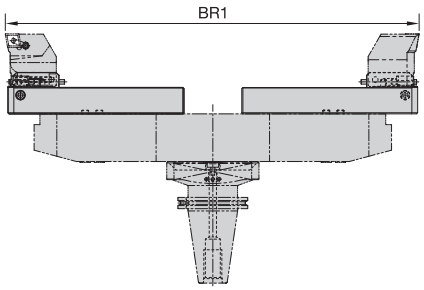
| | | BR1 bore range | | D | | D5 | | B | | L | | L1 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | kg | lbs |
| 4057204 | EB630128650 | 650.000-1105.000 | 25.5900-43.5000 | 60,0 | 2.36 | 630,0 | 24.80 | 200,0 | 7.87 | 99,0 | 3.90 | 84,0 | 3.31 | 17,20 | 37.84 |
| 4057205 | EB10801281100 | 1100.000-1655.000 | 43.3100-65.1600 | 60,0 | 2.36 | 1080,0 | 42.52 | 200,0 | 7.87 | 99,0 | 3.90 | 84,0 | 3.31 | 28,10 | 61.82 |
| 4057206 | EB16301281650 | 1650.000-2205.000 | 64.9600-86.8100 | 60,0 | 2.36 | 1630,0 | 64.17 | 200,0 | 7.87 | 99,0 | 3.90 | 84,0 | 3.31 | 43,00 | 94.60 |

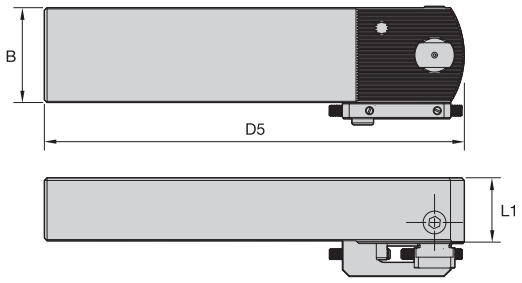
| max RPM | | |
|---|---|---|
| BR1 bore range (mm) | BR1 bore range inch | maximum RPM |
| 650–705 | 25.59–27.76 | 300 |
| 700–755 | 27.56–29.72 | 285 |
| 750–805 | 29.53–31.69 | 270 |
| 800–855 | 31.50–33.66 | 255 |
| 850–905 | 33.46–35.63 | 240 |
| 900–955 | 35.43–37.60 | 225 |
| 950–1005 | 37.40–39.57 | 210 |
| 1000–1055 | 39.37–41.54 | 195 |
| 1050–1105 | 41.34–43.50 | 180 |

| max RPM | | |
|---|---|---|
| BR1 bore range (mm) | BR1 bore range inch | maximum RPM |
| 1100–1155 | 43.31–45.47 | 170 |
| 1150–1205 | 45.28–47.44 | 163 |
| 1200–1255 | 47.24–49.41 | 156 |
| 1250–1305 | 49.21–51.38 | 149 |
| 1300–1355 | 51.18–53.35 | 142 |
| 1350–1405 | 53.15–55.31 | 135 |
| 1400–1455 | 55.12–57.28 | 128 |
| 1450–1505 | 57.09–59.25 | 121 |
| 1500–1555 | 59.06–61.22 | 114 |
| 1550–1605 | 61.02–63.19 | 107 |
| 1600–1655 | 62.99–65.16 | 100 |

| max RPM | | |
|---|---|---|
| BR1 bore range (mm) | BR1 bore range inch | maximum RPM |
| 1650–1705 | 64.96–67.13 | 95 |
| 1700–1755 | 66.93–69.09 | 90 |
| 1750–1805 | 68.90–71.06 | 85 |
| 1800–1855 | 70.87–73.03 | 80 |
| 1850–1905 | 72.83–75.00 | 75 |
| 1900–1955 | 74.80–76.97 | 70 |
| 1950–2005 | 76.77–78.94 | 65 |
| 2000–2055 | 78.74–80.91 | 60 |
| 2050–2105 | 80.71–82.87 | 55 |
| 2100–2155 | 82.68–84.84 | 50 |
| 2150–2205 | 84.65–86.81 | 45 |

- For use with large-scale bridge extensions.
- Delivered as a set of two.

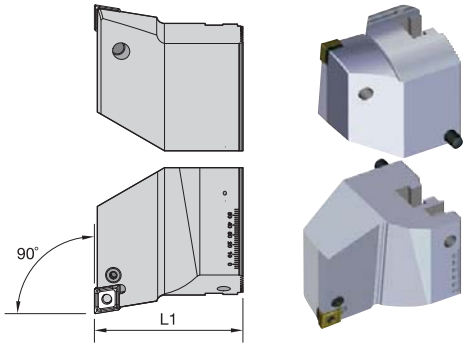


## Bridge Slides

| | | BR1 bore range | | B | | D5 | | L1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| order number | catalog number | mm | in | mm | in | mm | in | mm | in | spare parts package | kg | lbs |
| 4057207 | EBSLD1105 | 650.000-1105.000 | 25.5900-43.5000 | 70,0 | 2.76 | 310,0 | 12.20 | 48,0 | 1.89 | PKG156502 | 7,00 | 15.40 |
| 4057208 | EBSLD2205 | 1100.000-2205.000 | 43.3100-86.8100 | 70,0 | 2.76 | 360,0 | 14.17 | 48,0 | 1.89 | PKG156502 | 7,90 | 17.38 |

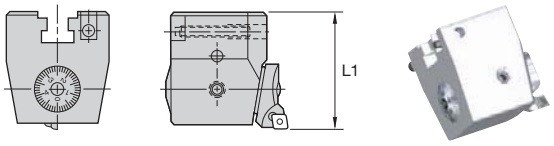
- Packaged as a matched set of two to enable twin cutting operations.




## 90° Lead • Bridge Tool Rough-Boring Head

| order number | catalog number | L1 mm | L1 in | gage insert | spare parts package | insert screw ID drive size | kg | lbs |
|---|---|---|---|---|---|---|---|---|
| **1624878** | **EBURF1975PKG** | 75,0 | 2.95 | CN..1906../CN..64.. | **PKG7994** | 4 mm | 1,64 | 3.60 |

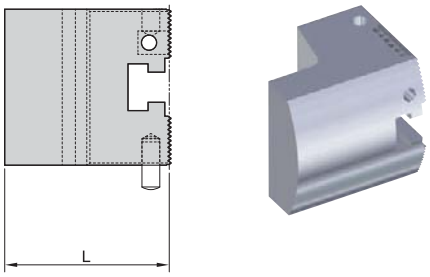
- Insert holder included.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with vernier scale.
- Use with counterweight for balance.




## 90° Lead • Bridge Tool Fine-Boring Head

| order number | catalog number | L1 mm | L1 in | cartridge | spare parts package | wrench size-adjusting screw | kg | lbs |
|---|---|---|---|---|---|---|---|---|
| **1135375** | **EBUFF0975** | 75,0 | 2.95 | R67-FBHS-09 | **PKG0002** | 5 mm | 2,14 | 4.70 |

- Use to balance the extension bridge when using an EBUFF fine-boring head.




## Bridge Tool Counterweight

| order number | catalog number | L mm | L in | kg | lbs |
|---|---|---|---|---|---|
| **4062443** | **EBUCW0074** | 74,0 | 2.91 | 2,10 | 4.63 |

## ModBORE™ • Roughing • Inch

| Material Group | | Condition | Geometry -MP | Geometry -MN | Geometry -MF | Cutting Speed SFM min | Cutting Speed SFM Starting Value | Cutting Speed SFM max | Feed Rate IPR -MP | Feed Rate IPR -MN | Feed Rate IPR -MF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | | – | KCP05 | – | 590 | **1430** | 1620 | – | .006–.025 | – |
| | | | KCP10 | | | 590 | **1300** | 1180 | .004–.016 | .006–.025 | .004–.016 |
| | | | – | KC9110 | | 590 | **1300** | 1180 | – | .006–.025 | .004–.016 |
| | | | KCP25 | | | 410 | **900** | 1180 | .004–.008 | .006–.012 | .004–.008 |
| | | | – | KC9125 | | 510 | **920** | 1180 | – | .006–.012 | .004–.008 |
| | 2 | | – | KCP05 | – | 590 | **870** | 1310 | – | .006–.025 | – |
| | | | KCP10 | | | 590 | **790** | 1540 | .004–.016 | .006–.025 | .004–.016 |
| | | | – | KC9110 | | 590 | **820** | 1120 | – | .006–.025 | .004–.016 |
| | | | KCP25 | | | 410 | **640** | 920 | .004–.008 | .006–.012 | .004–.008 |
| | | | – | KC9125 | | 460 | **660** | 970 | – | .006–.012 | .004–.008 |
| | 3 | | – | KCP05 | – | 590 | **670** | 900 | – | .006–.025 | – |
| | | | KCP10 | | | 520 | **620** | 1150 | .004–.016 | .006–.025 | .004–.016 |
| | | | – | KC9110 | | 510 | **620** | 770 | – | .006–.025 | .004–.016 |
| | | | KCP25 | | | 440 | **510** | 740 | .004–.008 | .006–.012 | .004–.008 |
| | | | – | KC9125 | | 440 | **510** | 740 | – | .006–.012 | .004–.008 |
| | 4 | | – | KCP05 | – | 300 | **520** | 720 | – | .006–.025 | – |
| | | | KCP10 | | | 300 | **480** | 770 | .004–.016 | .006–.025 | .004–.016 |
| | | | – | KC9110 | | 300 | **480** | 640 | – | .006–.025 | .004–.016 |
| | | | KCP25 | | | 250 | **340** | 590 | .004–.008 | .006–.012 | .004–.008 |
| | | | – | KC9125 | | 250 | **360** | 570 | – | .006–.012 | .004–.008 |
| | 5 | | – | KCP05 | – | 490 | **790** | 1030 | – | .006–.025 | – |
| | | | KCP10 | | | 490 | **710** | 980 | .004–.016 | .006–.025 | .004–.016 |
| | | | – | KC9110 | | 490 | **710** | 980 | – | .006–.025 | .004–.016 |
| | | | KCP25 | | | 390 | **640** | 850 | .004–.008 | .006–012 | .004–.008 |
| | | | – | KC9125 | | 390 | **640** | 850 | – | .006–.012 | .004–.008 |
| | 6 | | – | KCP05 | – | 460 | **660** | 980 | – | .006–.025 | – |
| | | | KCP10 | | | 360 | **590** | 890 | .004–.016 | .006–.025 | .004–.016 |
| | | | – | KC9110 | | 390 | **590** | 740 | – | .006–.025 | .004–.016 |
| | | | KCP25 | | | 340 | **490** | 740 | .004–.008 | .006–.012 | .004–.008 |
| | | | – | KC9125 | | 340 | **490** | 740 | – | .006–.012 | .004–.008 |

## ModBORE™ • Roughing • Inch

| Material Group | | Condition | Geometry -MP | Geometry -MF | Cutting Speed SFM min | Cutting Speed SFM Starting Value | Cutting Speed SFM max | Feed Rate IPR -MP | Feed Rate IPR -MF |
|---|---|---|---|---|---|---|---|---|---|
| M | 1 | | KCM15 | | 330 | **590** | 790 | .004–.016 | .003–.012 |
| | | | KC5010 | – | 430 | **710** | 820 | .004–.016 | – |
| | | | KC9225 | | 570 | **610** | 820 | .004–.016 | .003–.012 |
| | | | KCM25 | | 300 | **490** | 660 | .004–.008 | .003–.006 |
| | | | KC9240 | | 300 | **390** | 440 | .004–.008 | .003–.006 |
| | 2 | | KCM15 | | 360 | **540** | 820 | .004–.016 | .003–.012 |
| | | | KC5010 | – | 410 | **660** | 820 | .004–.016 | – |
| | | | KC9225 | | 360 | **560** | 750 | .004–.016 | .003–.012 |
| | | | KCM25 | | 300 | **490** | 740 | .004–.008 | .003–.006 |
| | | | KC9240 | | 260 | **340** | 440 | .004–.008 | .003–.006 |
| | 3 | | KCM15 | | 360 | **490** | 820 | .004–.016 | .003–.012 |
| | | | KC5010 | – | 360 | **490** | 750 | .004–.016 | – |
| | | | KC9225 | | 360 | **490** | 750 | .004–.016 | .003–.012 |
| | | | KCM25 | | 300 | **390** | 660 | .004– .008 | .003–.006 |
| | | | KC9240 | | 260 | **300** | 440 | .004–.008 | .003–.006 |

## ModBORE™ • Roughing • Inch

| Material Group | | Condition | Geometry -MP | Geometry -MW | Cutting Speed SFM min | Cutting Speed SFM Starting Value | Cutting Speed SFM max | Feed Rate IPR -MP | Feed Rate IPR -MW |
|---|---|---|---|---|---|---|---|---|---|
| K | 1 | | KCK20 | | 720 | **980** | 1770 | .004–.016 | .006–.039 |
| | | | – | KT315 | 520 | **900** | 1610 | – | .006–.039 |
| | | | KCK20 | | 720 | **900** | 1150 | .004–.016 | .006–.039 |
| | | | – | KC9315 | 490 | **900** | 1150 | – | .006–.039 |
| | | | KCK20 | | 460 | **690** | 1120 | .004–.008 | .006–.018 |
| | | | – | KC9325 | 230 | **690** | 1120 | – | .006–.018 |
| | 2 | | KCK20 | | 720 | **900** | 1150 | .004–.016 | .006–.039 |
| | | | – | KT315 | 590 | **900** | 1180 | – | .006–.039 |
| | | | KCK20 | | 720 | **900** | 1150 | .004–.016 | .006–.039 |
| | | | – | KC9315 | 430 | **850** | 1120 | – | .006–.039 |
| | | | KCK20 | | 720 | **900** | 1150 | .004–.008 | .006–.018 |
| | 3 | | KCK20 | | 360 | **490** | 750 | .004–.016 | .006–.039 |
| | | | – | KT315 | 560 | **750** | 1180 | – | .006–.039 |
| | | | KCK20 | | 360 | **490** | 750 | .004–.016 | .006–.039 |
| | | | – | KC9315 | 430 | **710** | 1150 | – | .006–.039 |
| | | | KCK20 | | 360 | **490** | 750 | .004–.008 | .006–.018 |

## ModBORE™ • Roughing • Inch

| Material Group | | Condition | Geometry -HP | Geometry – | Cutting Speed SFM min | Cutting Speed SFM Starting Value | Cutting Speed SFM max | Feed Rate IPR -HP | Feed Rate IPR – |
|---|---|---|---|---|---|---|---|---|---|
| N | 1 | | KC5410 | – | 660 | **1800** | 3280 | .006–.025 | – |
| | | | – | KD1400 | 1480 | **2510** | 8200 | – | .010–.025 |
| | | | KC5410 | – | 660 | **1800** | 3280 | .006–.012 | – |
| | 2 | | – | KD1425 | 980 | **1710** | 2950 | – | .010–.025 |
| | | | – | KD1425 | 980 | **1710** | 2950 | – | .010–.016 |
| | 3 | | KC5410 | – | 330 | **900** | 1640 | .006–.025 | – |
| | | | K313 | – | 390 | **850** | 1610 | .006–.025 | – |
| | | | KC5410 | – | 330 | **900** | 1640 | .006–.012 | – |
| | 5 | | KC5410 | – | 330 | **660** | 1150 | .006–.025 | – |
| | | | KC5410 | – | 330 | **660** | 1150 | .006–.012 | – |

## ModBORE™ • Roughing • Inch

| Material Group | | Condition | Geometry -MP | Geometry -FP | Geometry -UP | Cutting Speed SFM min | Cutting Speed SFM Starting Value | Cutting Speed SFM max | Feed Rate IPR -MP | Feed Rate IPR -FP | Feed Rate IPR -UP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 1 | | KCU10 | | – | 100 | **180** | 380 | .004–.016 | .002–.010 | – |
| | | | KC5010 | | | 100 | **180** | 380 | .004–.016 | .002–.010 | .006–.020 |
| | | | KCU25 | | – | 30 | **130** | 180 | .004–.008 | .002–.005 | – |
| | | | KC9240 | – | KC9240 | 30 | **130** | 200 | .004–.008 | – | .006–.011 |
| | 2 | | KCU10 | | – | 100 | **200** | 390 | .004–.016 | .002–.010 | – |
| | | | KC5010 | | | 100 | **200** | 380 | .004–.016 | .002–.010 | .006–.020 |
| | | | KCU25 | | – | 30 | **100** | 180 | .004–.008 | .002–.005 | – |
| | | | KC9240 | – | KC9240 | 30 | **100** | 180 | .004–.008 | – | .006–.011 |
| | 3 | | KCU10 | | – | 100 | **230** | 380 | .004–.016 | .002–.010 | – |
| | | | KC5010 | | | 100 | **230** | 380 | .004–.016 | .002–.010 | .006–.020 |
| | | | KCU25 | | – | 70 | **130** | 180 | .004–.008 | .002–.005 | – |
| | | | KC9240 | – | KC9240 | 70 | **130** | 200 | .004–.008 | – | .006–.011 |
| | 4 | | KCU10 | | – | 150 | **230** | 460 | .004–.016 | .002–.010 | – |
| | | | KC5010 | | | 150 | **230** | 560 | .004–.016 | .002–.010 | .006–.020 |
| | | | KCU25 | | – | 70 | **180** | 300 | .004–.008 | .002–.005 | – |
| | | | KC9240 | – | KC9240 | 50 | **180** | 300 | .004–.008 | – | .006–.011 |

## ModBORE™ • Roughing • Metric

| Material Group | | Condition | Geometry -MP | Geometry -MN | Geometry -MF | Cutting Speed — vc m/min min | Cutting Speed — vc m/min Starting Value | Cutting Speed — vc m/min max | Feed Rate mm/r -MP | Feed Rate mm/r -MN | Feed Rate mm/r -MF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | | – | KCP05 | – | 180 | **435** | 495 | – | 0,16–0,63 | – |
| | | | KCP10 | | | 180 | **395** | 360 | 0,10–0,40 | 0,16–0,63 | 0,10–0,40 |
| | | | – | KC9110 | | 180 | **395** | 360 | – | 0,16–0,63 | 0,10–0,40 |
| | | | KCP25 | | | 125 | **275** | 360 | 0,10–0,20 | 0,16–0,31 | 0,10–0,20 |
| | | | – | KC9125 | | 155 | **280** | 360 | – | 0,16–0,31 | 0,10–0,20 |
| | 2 | | – | KCP05 | – | 180 | **265** | 400 | – | 0,16–0,63 | – |
| | | | KCP10 | | | 180 | **240** | 470 | 0,10–0,40 | 0,16–0,63 | 0,10–0,40 |
| | | | – | KC9110 | | 180 | **250** | 340 | – | 0,16–0,63 | 0,10–0,40 |
| | | | KCP25 | | | 125 | **195** | 280 | 0,10–0,20 | 0,16–0,31 | 0,10–0,20 |
| | | | – | KC9125 | | 140 | **200** | 295 | – | 0,16–0,31 | 0,10–0,20 |
| | 3 | | – | KCP05 | – | 180 | **205** | 275 | – | 0,16–0,63 | – |
| | | | KCP10 | | | 160 | **190** | 350 | 0,10–0,40 | 0,16–0,63 | 0,10–0,40 |
| | | | – | KC9110 | | 155 | **190** | 235 | – | 0,16–0,63 | 0,10–0,40 |
| | | | KCP25 | | | 135 | **155** | 225 | 0,10–0,20 | 0,16–0,31 | 0,10–0,20 |
| | | | – | KC9125 | | 135 | **155** | 225 | – | 0,16–0,31 | 0,10–0,20 |
| | 4 | | – | KCP05 | – | 90 | **160** | 220 | – | 0,16–0,63 | – |
| | | | KCP10 | | | 90 | **145** | 235 | 0,10–0,40 | 0,16–0,63 | 0,10–0,40 |
| | | | – | KC9110 | | 90 | **145** | 195 | – | 0,16–0,63 | 0,10–0,40 |
| | | | KCP25 | | | 75 | **105** | 180 | 0,10–0,20 | 0,16–0,31 | 0,10–0,20 |
| | | | – | KC9125 | | 75 | **110** | 175 | – | 0,16–0,31 | 0,10–0,20 |
| | 5 | | – | KCP05 | – | 150 | **240** | 315 | – | 0,16–0,63 | – |
| | | | KCP10 | | | 150 | **215** | 300 | 0,10–0,40 | 0,16–0,63 | 0,10–0,40 |
| | | | – | KC9110 | | 150 | **215** | 300 | – | 0,16–0,63 | 0,10–0,40 |
| | | | KCP25 | | | 120 | **195** | 260 | 0,10–0,20 | 0,16–0,31 | 0,10–0,20 |
| | | | – | KC9125 | | 120 | **195** | 260 | – | 0,16–0,31 | 0,10–0,20 |
| | 6 | | – | KCP05 | – | 140 | **200** | 300 | – | 0,16–0,63 | – |
| | | | KCP10 | | | 110 | **180** | 270 | 0,10–0,40 | 0,16–0,63 | 0,10–0,40 |
| | | | – | KC9110 | | 120 | **180** | 225 | – | 0,16–0,63 | 0,10–0,40 |
| | | | KCP25 | | | 105 | **150** | 225 | 0,10–0,20 | 0,16–0,31 | 0,10–0,20 |
| | | | – | KC9125 | | 105 | **150** | 225 | – | 0,16–0,31 | 0,10–0,20 |

## ModBORE™ • Roughing • Metric

| Material Group | | Condition | Geometry -MP | Geometry -MF | Geometry — | Cutting Speed — vc m/min min | Cutting Speed — vc m/min Starting Value | Cutting Speed — vc m/min max | Feed Rate mm/r -MP | Feed Rate mm/r -MF | Feed Rate mm/r — |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 1 | | KCM15 | | – | 100 | **180** | 240 | 0,10–0,40 | 0,08–0,30 | – |
| | | | KC5010 | – | – | 130 | **215** | 250 | 0,10–0,40 | – | – |
| | | | KC9225 | | – | 175 | **185** | 250 | 0,10–0,40 | 0,08–0,30 | – |
| | | | KCM25 | | – | 90 | **150** | 200 | 0,10–0,20 | 0,08–0,15 | – |
| | | | KC9240 | | – | 90 | **120** | 135 | 0,10–0,20 | 0,08–0,15 | – |
| | 2 | | KCM15 | | – | 110 | **165** | 250 | 0,10–0,40 | 0,08–0,30 | – |
| | | | KC5010 | – | – | 125 | **200** | 250 | 0,10–0,40 | – | – |
| | | | KC9225 | | – | 110 | **170** | 230 | 0,10–0,40 | 0,08–0,30 | – |
| | | | KCM25 | | – | 90 | **150** | 225 | 0,10–0,20 | 0,08–0,15 | – |
| | | | KC9240 | | – | 80 | **105** | 135 | 0,10–0,20 | 0,08–0,15 | – |
| | 3 | | KCM15 | | – | 110 | **150** | 250 | 0,10–0,40 | 0,08–0,30 | – |
| | | | KC5010 | – | – | 110 | **150** | 230 | 0,10–0,40 | – | – |
| | | | KC9225 | | – | 110 | **150** | 230 | 0,10–0,40 | 0,08–0,30 | – |
| | | | KCM25 | | – | 90 | **120** | 200 | 0,10–0,20 | 0,08–0,15 | – |
| | | | KC9240 | | – | 80 | **90** | 135 | 0,10–0,20 | 0,08–0,15 | – |

## ModBORE™ • Roughing • Metric

| Material Group | | Condition | Geometry | | | Cutting Speed – vc m/min | | | Feed Rate mm/r | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -MP | -MW | – | min | Starting Value | max | -MP | -MW | – |
| K | 1 | | KCK20 | | – | 220 | **300** | 540 | 0,10–0,40 | 0,16–1,00 | – |
| | | | – | KT315 | – | 160 | **275** | 490 | – | 0,16–1,00 | – |
| | | | KCK20 | | – | 220 | **275** | 350 | 0,10–0,40 | 0,16–1,00 | – |
| | | | – | KC9315 | – | 150 | **275** | 350 | – | 0,16–1,00 | – |
| | | | KCK20 | | – | 140 | **210** | 340 | 0,10–0,20 | 0,16–0,45 | – |
| | | | – | KC9325 | – | 70 | **210** | 340 | – | 0,16–0,45 | – |
| | 2 | | KCK20 | | – | 220 | **275** | 350 | 0,10–0,40 | 0,16–1,00 | – |
| | | | – | KT315 | – | 180 | **275** | 360 | – | 0,16–1,00 | – |
| | | | KCK20 | | – | 220 | **275** | 350 | 0,10–0,40 | 0,16–1,00 | – |
| | | | – | KC9315 | – | 130 | **260** | 340 | – | 0,16–1,00 | – |
| | | | KCK20 | | – | 220 | **275** | 350 | 0,10–0,20 | 0,16–0,45 | – |
| | 3 | | KCK20 | | – | 110 | **150** | 230 | 0,10–0,40 | 0,16–1,00 | – |
| | | | – | KT315 | – | 170 | **230** | 360 | – | 0,16–1,00 | – |
| | | | KCK20 | | – | 110 | **150** | 230 | 0,10–0,40 | 0,16–1,00 | – |
| | | | – | KC9315 | – | 130 | **215** | 350 | – | 0,16–1,00 | – |
| | | | KCK20 | | – | 110 | **150** | 230 | 0,10–0,20 | 0,16–0,45 | – |

## ModBORE™ • Roughing • Metric

| Material Group | | Condition | Geometry | | | Cutting Speed – vc m/min | | | Feed Rate mm/r | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -HP | – | – | min | Starting Value | max | -HP | – | – |
| N | 1 | | KC5410 | – | – | 200 | **550** | 1000 | 0,16–0,63 | – | – |
| | | | – | KD1400 | – | 450 | **765** | 2500 | – | 0,25–0,63 | – |
| | | | KC5410 | – | – | 200 | **550** | 1000 | 0,16–0,31 | – | – |
| | 2 | | – | KD1425 | – | 300 | **520** | 900 | – | 0,25–0,63 | – |
| | | | – | KD1425 | – | 300 | **520** | 900 | – | 0,25–0,40 | – |
| | 3 | | KC5410 | – | – | 100 | **275** | 500 | 0,16–0,63 | – | – |
| | | | K313 | – | – | 120 | **260** | 490 | 0,16–0,63 | – | – |
| | | | KC5410 | – | – | 100 | **275** | 500 | 0,16–0,31 | – | – |
| | 5 | | KC5410 | – | – | 100 | **200** | 350 | 0,16–0,63 | – | – |
| | | | KC5410 | – | – | 100 | **200** | 350 | 0,16–0,31 | – | – |

## ModBORE™ • Roughing • Metric

| Material Group | | Condition | Geometry | | | Cutting Speed – vc m/min | | | Feed Rate mm/r | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -MP | -FP | -UP | min | Starting Value | max | -MP | -FP | -UP |
| S | 1 | | KCU10 | | – | 30 | **55** | 115 | 0,10-0,40 | 0,06-0,25 | – |
| | | | KC5010 | | | 30 | **55** | 115 | 0,10–0,40 | 0,06–0,25 | 0,16–0,50 |
| | | | KCU25 | | – | 10 | **40** | 55 | 0,10-0,20 | 0,06-0,12 | – |
| | | | KC9240 | – | KC9240 | 10 | **40** | 60 | 0,10–0,20 | – | 0,16–0,27 |
| | 2 | | KCU10 | | – | 30 | **60** | 120 | 0,10-0,40 | 0,06-0,25 | – |
| | | | KC5010 | | | 30 | **60** | 115 | 0,10–0,40 | 0,06–0,25 | 0,16–0,50 |
| | | | KCU25 | | – | 10 | **30** | 55 | 0,10-0,20 | 0,06-0,12 | – |
| | | | KC9240 | – | KC9240 | 10 | **30** | 55 | 0,10–0,20 | – | 0,16–0,27 |
| | 3 | | KCU10 | | – | 30 | **70** | 115 | 0,10-0,40 | 0,06-0,25 | – |
| | | | KC5010 | | | 30 | **70** | 115 | 0,10–0,40 | 0,06–0,25 | 0,16–0,50 |
| | | | KCU25 | | – | 20 | **40** | 55 | 0,10-0,20 | 0,06-0,12 | – |
| | | | KC9240 | – | KC9240 | 20 | **40** | 60 | 0,10–0,20 | – | 0,16–0,27 |
| | 4 | | KCU10 | | – | 45 | **70** | 140 | 0,10-0,40 | 0,06-0,25 | – |
| | | | KC5010 | | | 45 | **70** | 170 | 0,10–0,40 | 0,06–0,25 | 0,16–0,50 |
| | | | KCU25 | | – | 20 | **55** | 90 | 0,10-0,20 | 0,06-0,12 | – |
| | | | KC9240 | – | KC9240 | 15 | **55** | 90 | 0,10–0,20 | – | 0,16–0,27 |

## ModBORE™ • Finishing • Inch

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc SFM | | | Feed Rate IPR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| P | 1 | | KCP05 | | | – | 590 | **1430** | 1620 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | – | – | KTP10 | – | 590 | **1430** | 1620 | – | – | .002–.010 | – |
| | | | KT315 | – | – | – | 590 | **1310** | 1620 | .002–.010 | – | – | .003–.012 |
| | | | KCP10 | | | – | 590 | **1300** | 1530 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | KC9110 | | – | – | 590 | **1300** | 1620 | .002–.010 | .002–.006 | – | – |
| | | | KCP25 | | | | 460 | **920** | 1180 | .002–.004 | .002–.003 | .002–.005 | .003–.006 |
| | | | KC9125 | | – | – | 460 | **920** | 1180 | .002–.004 | .002–.003 | – | – |
| | 2 | | KCP05 | | | – | 590 | **870** | 1310 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | – | – | KTP10 | – | 590 | **870** | 1310 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 620 | **890** | 1280 | .002–.010 | – | – | .003–.012 |
| | | | KCP10 | | | – | 590 | **790** | 1080 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | KC9110 | | – | – | 590 | **790** | 1080 | .002–.010 | .002–.006 | – | – |
| | | | KCP25 | | | | 480 | **640** | 1050 | .002–.004 | .002–.003 | .002–.005 | .003–.006 |
| | | | KC9125 | | – | – | 480 | **640** | 1050 | .002–.004 | .002–.003 | – | – |
| | 3 | | KCP05 | | | – | 590 | **670** | 900 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | – | – | KTP10 | – | 590 | **670** | 900 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 590 | **690** | 900 | .002–.010 | – | – | .003–.012 |
| | | | KCP10 | | | – | 520 | **620** | 820 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | KC9110 | | – | – | 510 | **620** | 790 | .002–.010 | .002–.006 | – | – |
| | | | KCP25 | | | | 440 | **510** | 740 | .002–.004 | .002–.003 | .002–.005 | .003–.006 |
| | | | KC9125 | | – | – | 440 | **510** | 740 | .002–.004 | .002–.003 | – | – |
| | 4 | | KCP05 | | | – | 300 | **520** | 720 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | – | – | KTP10 | – | 300 | **520** | 720 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 300 | **590** | 720 | .002–.010 | – | – | .003–.012 |
| | | | KCP10 | | | – | 300 | **480** | 640 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | KC9110 | | – | – | 300 | **480** | 640 | .002–.010 | .002–.006 | – | – |
| | | | KCP25 | | | | 250 | **340** | 590 | .002–.004 | .002–.003 | .002–.005 | .003–.006 |
| | | | KC9125 | | – | – | 250 | **340** | 590 | .002–.004 | .002–.003 | – | – |
| | 5 | | KCP05 | | | – | 490 | **790** | 1030 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | – | – | KTP10 | – | 490 | **790** | 1030 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 490 | **820** | 1030 | .002–.010 | – | – | .003–.012 |
| | | | KCP10 | | | – | 490 | **710** | 980 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | KC9110 | | – | – | 490 | **710** | 980 | .002–.010 | .002–.006 | – | – |
| | | | KCP25 | | | | 390 | **640** | 840 | .002–.004 | .002–.003 | .002–.005 | .003–.006 |
| | | | KC9125 | | – | – | 390 | **640** | 840 | .002–.004 | .002–.003 | – | – |
| | 6 | | KCP05 | | | – | 460 | **660** | 980 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | – | – | KTP10 | – | 460 | **660** | 980 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 460 | **660** | 980 | .002–.010 | – | – | .003–.012 |
| | | | KCP10 | | | – | 390 | **590** | 900 | .002–.010 | .002–.006 | .002–.010 | – |
| | | | KC9110 | | – | – | 390 | **590** | 740 | .002–.010 | .002–.006 | – | – |
| | | | KCP25 | | | | 340 | **490** | 740 | .002–.004 | .002–.003 | .002–.005 | .003–.006 |
| | | | KC9125 | | – | – | 340 | **490** | 740 | .002–.004 | .002–.003 | – | – |

## ModBORE™ • Finishing • Inch

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc SFM | | | Feed Rate IPR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| M | 1 | | – | – | KTP10 | – | 460 | **750** | 1030 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 460 | **750** | 1030 | .002–.010 | – | – | .003–.012 |
| | | | KC5010 | – | – | KC5010 | 430 | **710** | 800 | .002–.010 | – | – | .003–.012 |
| | | | KCM15 | – | KCM15 | – | 340 | **590** | 790 | .002–.005 | – | .002–.005 | – |
| | | | KC9225 | – | – | KC9225 | 340 | **590** | 790 | .002–.005 | – | – | .003–.006 |
| | 2 | | – | – | KTP10 | – | 460 | **710** | 970 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 460 | **710** | 970 | .002–.010 | – | – | .003–.012 |
| | | | KC5010 | – | – | KC5010 | 430 | **660** | 800 | .002–.010 | – | – | .003–.012 |
| | | | KCM15 | – | KCM15 | – | 340 | **540** | 820 | .002–.005 | – | .002–.005 | – |
| | | | KC9225 | – | – | KC9225 | 330 | **520** | 750 | .002–.005 | – | – | .003–.006 |
| | 3 | | – | – | KTP10 | – | 460 | **660** | 980 | – | – | .002–.010 | – |
| | | | KT315 | – | – | KT315 | 460 | **660** | 980 | .002–.010 | – | – | .003–.012 |
| | | | KC5010 | – | – | KC5010 | 430 | **610** | 750 | .002–.010 | – | – | .003–.012 |
| | | | KCM15 | – | KCM15 | – | 380 | **490** | 840 | .002–.005 | – | .002–.005 | – |
| | | | KC9225 | – | – | KC9225 | 360 | **490** | 750 | .002–.005 | – | – | .003–.006 |

## ModBORE™ • Finishing • Inch

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc SFM | | | Feed Rate IPR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| K | 1 | | KCK20 | – | KCK20 | | 660 | 980 | 1770 | .002–.010 | – | .002–.010 | .003–.012 |
| | | | KT315 | – | – | KT315 | 540 | 900 | 1610 | .002–.010 | – | – | .003–.012 |
| | | | KC9315 | – | – | – | 360 | 900 | 1480 | .002–.010 | – | – | – |
| | | | KC9320 | – | – | – | 330 | 790 | 1310 | .002–.005 | – | – | – |
| | 2 | | KCK20 | – | KCK20 | | 490 | 790 | 1380 | .002–.010 | – | .002–.010 | .003–.012 |
| | | | KT315 | – | – | KT315 | 590 | 900 | 1180 | .002–.010 | – | – | .003–.012 |
| | | | KC5010 | | – | KC5010 | 330 | 660 | 870 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | KC9315 | – | – | – | 480 | 850 | 1180 | .002–.010 | – | – | – |
| | | | KC9320 | – | – | – | 460 | 790 | 1080 | .002–.005 | – | – | – |
| | 3 | | KCK20 | – | KCK20 | | 460 | 690 | 1150 | .002–.010 | – | .002–.010 | .003–.012 |
| | | | KT315 | – | – | KT315 | 590 | 750 | 1050 | .002–.010 | – | – | .003–.012 |
| | | | KC5010 | | – | KC5010 | 390 | 490 | 740 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | KC9315 | – | – | – | 480 | 710 | 900 | .002–.010 | – | – | – |
| | | | KC9320 | – | – | – | 460 | 690 | 850 | .002–.005 | – | – | – |

## ModBORE™ • Finishing • Inch

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc SFM | | | Feed Rate IPR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | – | – | – | min | Starting Value | max | -LF | – | – | – |
| N | 1 | | KC5410 | – | – | – | 660 | 1800 | 3280 | .004–.016 | – | – | – |
| | | | KC5410 | – | – | – | 660 | 1800 | 3280 | .004–.008 | – | – | – |
| | | | – | KD1400 | – | – | 1480 | 2510 | 9840 | – | .002–.006 | – | – |
| | 2 | | – | KD1425 | – | – | 1230 | 1900 | 3770 | – | .002–.010 | – | – |
| | | | – | KD1400 | – | – | 1310 | 2130 | 4100 | – | .002–.006 | – | – |
| | 3 | | KC5410 | – | – | – | 410 | 900 | 1720 | .004–.016 | – | – | – |
| | | | – | KD1425 | – | – | 820 | 1640 | 2870 | – | .002–.010 | – | – |
| | | | KC5410 | – | – | – | 410 | 900 | 1720 | .004–.008 | – | – | – |
| | | | – | KD1400 | – | – | 1230 | 1710 | 3280 | – | .002–.005 | – | – |
| | 5 | | KC5410 | – | – | – | 410 | 660 | 1230 | .004–.016 | – | – | – |
| | | | KC5410 | – | – | – | 410 | 660 | 1230 | .004–.008 | – | – | – |

## ModBORE™ • Finishing • Inch

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc SFM | | | Feed Rate IPR | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| S | 1 | | – | – | KCU10 | – | 100 | 180 | 410 | – | – | .002–.010 | – |
| | | | K313 | – | – | – | 30 | 100 | 200 | .002–.010 | – | – | – |
| | | | KC5010 | | – | KC5010 | 100 | 180 | 390 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU10 | – | 100 | 180 | 410 | – | – | .002–.010 | – |
| | | | KC5010 | | – | KC5010 | 100 | 180 | 390 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU25 | – | 30 | 130 | 160 | – | – | .002–.005 | – |
| | | | KC5025 | – | – | – | 30 | 130 | 160 | .002–.004 | – | – | – |
| | 2 | | – | – | KCU10 | – | 100 | 110 | 410 | – | – | .002–.010 | – |
| | | | K313 | – | – | – | 30 | 110 | 200 | .002–.010 | – | – | – |
| | | | KC5010 | | – | KC5010 | 100 | 200 | 390 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU10 | – | 100 | 110 | 410 | – | – | .002–.010 | – |
| | | | KC5010 | | – | KC5010 | 100 | 200 | 390 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU25 | – | 30 | 100 | 160 | – | – | .002–.005 | – |
| | | | KC5025 | – | – | – | 30 | 100 | 160 | .002–.004 | – | – | – |
| | 3 | | – | – | KCU10 | – | 100 | 230 | 410 | – | – | .002–.010 | – |
| | | | K313 | – | – | – | 30 | 130 | 200 | .002–.010 | – | – | – |
| | | | KC5010 | | – | KC5010 | 100 | 230 | 390 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU10 | – | 100 | 110 | 410 | – | – | .002–.010 | – |
| | | | KC5010 | | – | KC5010 | 100 | 230 | 390 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU25 | – | 80 | 130 | 200 | – | – | .002–.005 | – |
| | | | KC5025 | – | – | – | 80 | 130 | 200 | .002–.004 | – | – | – |
| | 4 | | – | – | KCU10 | – | 150 | 230 | 460 | – | – | .002–.010 | – |
| | | | K313 | – | – | – | 50 | 150 | 210 | .002–.010 | – | – | – |
| | | | KC5010 | | – | KC5010 | 150 | 230 | 460 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU10 | – | 150 | 230 | 460 | – | – | .002–.010 | – |
| | | | KC5010 | | – | KC5010 | 150 | 230 | 460 | .002–.010 | .002–.006 | – | .003–.012 |
| | | | – | – | KCU25 | – | 80 | 180 | 300 | – | – | .002–.005 | – |
| | | | KC5025 | – | – | – | 50 | 180 | 300 | .002–.004 | – | – | – |

## ModBORE™ • Finishing • Metric

| Material Group | | Condition | Geometry -LF | Geometry -UF | Geometry -FP | Geometry -FW | Cutting Speed — vc m/min min | Cutting Speed — vc m/min Starting Value | Cutting Speed — vc m/min max | Feed Rate mm/r -LF | Feed Rate mm/r -UF | Feed Rate mm/r -FP | Feed Rate mm/r -FW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | | KCP05 | | | – | 180 | **435** | 495 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 180 | **435** | 495 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 180 | **400** | 495 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 180 | **395** | 465 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 180 | **395** | 495 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 140 | **280** | 360 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 140 | **280** | 360 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 2 | | KCP05 | | | – | 180 | **265** | 400 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 180 | **265** | 400 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 190 | **270** | 390 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 180 | **240** | 330 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 180 | **240** | 330 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 145 | **195** | 320 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 145 | **195** | 320 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 3 | | KCP05 | | | – | 180 | **205** | 275 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 180 | **205** | 275 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 180 | **210** | 275 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 160 | **190** | 250 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 155 | **190** | 240 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 135 | **155** | 225 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 135 | **155** | 225 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 4 | | KCP05 | | | – | 90 | **160** | 220 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 90 | **160** | 220 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 90 | **180** | 220 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 90 | **145** | 195 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 90 | **145** | 195 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 75 | **105** | 180 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 75 | **105** | 180 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 5 | | KCP05 | | | – | 150 | **240** | 315 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 150 | **240** | 315 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 150 | **250** | 315 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 150 | **215** | 300 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 150 | **215** | 300 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 120 | **195** | 255 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 120 | **195** | 255 | 0,06–0,10 | 0,04–0,08 | – | – |
| | 6 | | KCP05 | | | – | 140 | **200** | 300 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | – | – | KTP10 | – | 140 | **200** | 300 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **200** | 300 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCP10 | | | – | 120 | **180** | 275 | 0,06–0,25 | 0,04–0,16 | 0,06–0,25 | – |
| | | | KC9110 | | – | – | 120 | **180** | 225 | 0,06–0,25 | 0,04–0,16 | – | – |
| | | | KCP25 | | | | 105 | **150** | 225 | 0,06–0,10 | 0,04–0,08 | 0,06–0,12 | 0,08–0,16 |
| | | | KC9125 | | – | – | 105 | **150** | 225 | 0,06–0,10 | 0,04–0,08 | – | – |

## ModBORE™ • Finishing • Metric

| Material Group | | Condition | Geometry -LF | Geometry -UF | Geometry -FP | Geometry -FW | Cutting Speed — vc m/min min | Cutting Speed — vc m/min Starting Value | Cutting Speed — vc m/min max | Feed Rate mm/r -LF | Feed Rate mm/r -UF | Feed Rate mm/r -FP | Feed Rate mm/r -FW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 1 | | – | – | KTP10 | – | 140 | **230** | 315 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **230** | 315 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | – | – | KC5010 | 130 | **215** | 245 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCM15 | – | KCM15 | – | 105 | **180** | 240 | 0,06–0,12 | – | 0,06–0,12 | – |
| | | | KC9225 | – | – | KC9225 | 105 | **180** | 240 | 0,06–0,12 | – | – | 0,08–0,16 |
| | 2 | | – | – | KTP10 | – | 140 | **215** | 295 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **215** | 295 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | – | – | KC5010 | 130 | **200** | 245 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCM15 | – | KCM15 | – | 105 | **165** | 250 | 0,06–0,12 | – | 0,06–0,12 | – |
| | | | KC9225 | – | – | KC9225 | 100 | **160** | 230 | 0,06–0,12 | – | – | 0,08–0,16 |
| | 3 | | – | – | KTP10 | – | 140 | **200** | 300 | – | – | 0,06–0,25 | – |
| | | | KT315 | – | – | KT315 | 140 | **200** | 300 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | – | – | KC5010 | 130 | **185** | 230 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KCM15 | – | KCM15 | – | 115 | **150** | 255 | 0,06–0,12 | – | 0,06–0,12 | – |
| | | | KC9225 | – | – | KC9225 | 110 | **150** | 230 | 0,06–0,12 | – | – | 0,08–0,16 |

## ModBORE™ • Finishing • Metric

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| K | 1 | | KCK20 | – | KCK20 | | 200 | **300** | 540 | 0,06–0,25 | – | 0,06–0,25 | 0,08–0,30 |
| | | | KT315 | – | – | KT315 | 165 | **275** | 490 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC9315 | – | – | – | 110 | **275** | 450 | 0,06–0,25 | – | – | – |
| | | | KC9320 | – | – | – | 100 | **240** | 400 | 0,06–0,12 | – | – | – |
| | 2 | | KCK20 | – | KCK20 | | 150 | **240** | 420 | 0,06–0,25 | – | 0,06–0,25 | 0,08–0,30 |
| | | | KT315 | – | – | KT315 | 180 | **275** | 360 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | | – | KC5010 | 100 | **200** | 265 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | KC9315 | – | – | – | 145 | **260** | 360 | 0,06–0,25 | – | – | – |
| | | | KC9320 | – | – | – | 140 | **240** | 330 | 0,06–0,12 | – | – | – |
| | 3 | | KCK20 | – | KCK20 | | 140 | **210** | 350 | 0,06–0,25 | – | 0,06–0,25 | 0,08–0,30 |
| | | | KT315 | – | – | KT315 | 180 | **230** | 320 | 0,06–0,25 | – | – | 0,08–0,30 |
| | | | KC5010 | | – | KC5010 | 120 | **150** | 225 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | KC9315 | – | – | – | 145 | **215** | 275 | 0,06–0,25 | – | – | – |
| | | | KC9320 | – | – | – | 140 | **210** | 260 | 0,06–0,12 | – | – | – |

## ModBORE™ • Finishing • Metric

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | — | — | — | min | Starting Value | max | -LF | — | — | — |
| N | 1 | | KC5410 | – | – | – | 200 | **550** | 1000 | 0,10–0,40 | – | – | – |
| | | | KC5410 | – | – | – | 200 | **550** | 1000 | 0,10–0,20 | – | – | – |
| | | | – | KD1400 | – | – | 450 | **765** | 3000 | – | 0,06–0,15 | – | – |
| | 2 | | – | KD1425 | – | – | 375 | **580** | 1150 | – | 0,06–0,25 | – | – |
| | | | – | KD1400 | – | – | 400 | **650** | 1250 | – | 0,06–0,15 | – | – |
| | 3 | | KC5410 | – | – | – | 125 | **275** | 525 | 0,10–0,40 | – | – | – |
| | | | – | KD1425 | – | – | 250 | **500** | 875 | – | 0,06–0,25 | – | – |
| | | | KC5410 | – | – | – | 125 | **275** | 525 | 0,10–0,20 | – | – | – |
| | | | – | KD1400 | – | – | 375 | **520** | 1000 | – | 0,06–0,12 | – | – |
| | 5 | | KC5410 | – | – | – | 125 | **200** | 375 | 0,10–0,40 | – | – | – |
| | | | KC5410 | – | – | – | 125 | **200** | 375 | 0,10–0,20 | – | – | – |

## ModBORE™ • Finishing • Metric

| Material Group | | Condition | Geometry | | | | Cutting Speed — vc m/min | | | Feed Rate mm/r | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | -LF | -UF | -FP | -FW | min | Starting Value | max | -LF | -UF | -FP | -FW |
| S | 1 | | – | – | KCU10 | – | 30 | **55** | 125 | – | – | 0,06–0,25 | – |
| | | | K313 | – | – | – | 10 | **30** | 60 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 30 | **55** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU10 | – | 30 | **55** | 125 | – | – | 0,06–0,25 | – |
| | | | KC5010 | | – | KC5010 | 30 | **55** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 10 | **40** | 50 | – | – | 0,06–0,12 | – |
| | | | KC5025 | – | – | – | 10 | **40** | 50 | 0,06–0,10 | – | – | – |
| | 2 | | – | – | KCU10 | – | 30 | **35** | 125 | – | – | 0,06–0,25 | – |
| | | | K313 | – | – | – | 10 | **35** | 60 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 30 | **60** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU10 | – | 30 | **35** | 125 | – | – | 0,06–0,25 | – |
| | | | KC5010 | | – | KC5010 | 30 | **60** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 10 | **30** | 50 | – | – | 0,06–0,12 | – |
| | | | KC5025 | – | – | – | 10 | **30** | 50 | 0,06–0,10 | – | – | – |
| | 3 | | – | – | KCU10 | – | 30 | **70** | 125 | – | – | 0,06–0,25 | – |
| | | | K313 | – | – | – | 10 | **40** | 60 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 30 | **70** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU10 | – | 30 | **35** | 125 | – | – | 0,06–0,25 | – |
| | | | KC5010 | | – | KC5010 | 30 | **70** | 120 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 25 | **40** | 60 | – | – | 0,06–0,12 | – |
| | | | KC5025 | – | – | – | 25 | **40** | 60 | 0,06–0,10 | – | – | – |
| | 4 | | – | – | KCU10 | – | 45 | **70** | 140 | – | – | 0,06–0,25 | – |
| | | | K313 | – | – | – | 15 | **45** | 65 | 0,06–0,25 | – | – | – |
| | | | KC5010 | | – | KC5010 | 45 | **70** | 140 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU10 | – | 45 | **70** | 140 | – | – | 0,06–0,25 | – |
| | | | KC5010 | | – | KC5010 | 45 | **70** | 140 | 0,06–0,25 | 0,04–0,16 | – | 0,08–0,30 |
| | | | – | – | KCU25 | – | 25 | **55** | 90 | – | – | 0,06–0,12 | – |
| | | | KC5025 | – | – | – | 15 | **55** | 90 | 0,06–0,10 | – | – | – |

# PCD Customized Tooling

PCD tooling offers the highest productivity and accuracy, reduced tooling costs due to long tool life, and secure process control due to close tolerances. All of this increases overall quality and reduces scrap rates and inspection costs.

### Primary Application

Use Kennametal PCD tooling for machining aluminum and aluminum alloys, magnesium, copper, brass, bronze, plastics (GFRP, CFRP), MMC (Metal Matrix Composite), graphite, tungsten carbide green-stages, and ceramic. Choose from various PCD products for drilling, counterboring, and reaming. Steel- and solid carbide-based tool body designs are available for direct spindle coupling with or without adjustable PCD pocket seats or with steerable SIF™ backend.

## Features and Benefits

### Higher Productivity and Profitability

- Highest chip removal rates and fewer tool changes using multistep tooling.
- Extremely long tool life while maintaining very tight tolerances.
- Reduced built-up edge and bur formation, improved hole shape with multistep tooling, and better surface finish of the workpiece.

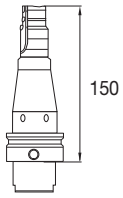
# Choose Kennametal as your trusted partner for PCD applications and benefit from our years of experience and global presence.

## Product Platform Versatility

- All PCD drilling, counterboring, and reaming tools are designed to specific needs for diameter, shape, radii, and steps.
- Various PCD grades are available to match specific material.
- Multistep drilling, profiling, countersinking, and reaming platforms available.
- Coolant channel for optimized chip evacuation in regular and MQL styles.
- Steel-based tool body designs for direct spindle coupling or adjustable pocket seat for highest accuracy even in larger sizes.
- Carbide-based tool bodies enable highest accuracy and tool life in high L/D ratio applications.
- SIF™ steerable interface optimizes runout and enables highest accuracy and tool life.
- All PCD tooling prebalanced by design. Further precision balancing available on request.

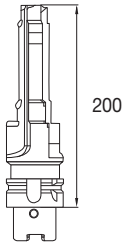
## PCD Tooling Basic Design Overview

Kennametal offers you certain PCD design platforms to optimally fulfill your machining task.
These basic designs are independent, whether you are drilling, countersinking, profiling, reaming, or milling.
All tooling designs are capable of internal coolant, MQL coolant, and are balanced by design.

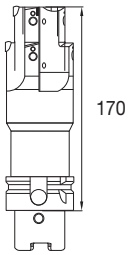



**PCD ..ST —**
Steel body

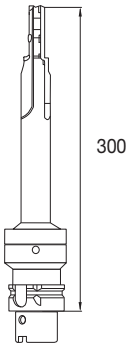
**PCD ..SC —**
Solid carbide body



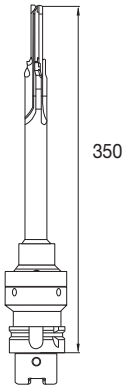

**PCD ..STM —**
Steel body monoblock




**PCD ..STMJ —**
Steel body monoblock
Ø adjustable




**PCD ..STA —**
Steel body with steerable SIF™ backend




**PCD ..SCA —**
Solid carbide shank and steerable SIF backend

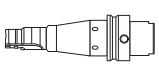
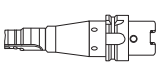
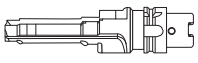
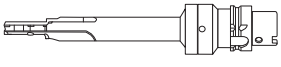
**PCDRSC02CCE**

| PCD | R | SC | 02 | CC | E |
|---|---|---|---|---|---|
| | Technology | Type | Teeth | Point Geometry | Coolant |
| **HF** = Helix Flute | **D** = Drilling | **SC** = Solid carbide body | **02** | **RL** = Reaming lead | **E** = Emulsion |
| **SF** = Straight Flute | **R** = Reaming | **ST** = Steel body | **03** | **CC** = Center cut | **M** = MQL |
| | **C** = Countersinking | **STM** = Steel monoblock | **04** | **CT** = Drill point | **A** = Air |
| | **E** = End milling | **STMJ** = Steel monoblock adjustable | **...** | **CTE** = Drill point | **D** = Dry |
| | **F** = Face milling | **STA** = Steel steerable | **12** | **SW** = Drill point | |
| | **P** = Profile milling | **SCA** = Carbide steerable | **...** | **MT** = Drill point | |
| | **M** = Multioperation tool | | **22*** | | |

*Exception for **Type** Reamer **22** = **2** teeth + **2** additional land = **4** guiding lands.

## Runout of the Spindle

Depending on spindle runout and/or higher L/D ratios

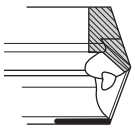
| runout ≤ 0,005mm | | runout ≥ 0,006mm | |
|---|---|---|---|
|  | **PCD-ST**<br>**PCD-SC** |  | **PCD-ST or PCD-SC with hydraulic chuck and SIF shank** |
|  | **PCD-STM** |  | **PCD-STA with SIF**<br>**PCD-SCA with SIF** |

## PCD Drill-Point Design Overview

### CT
- PCD corner tipped.
- Carbide-based body design.
- Diameter >.166" (4,2mm).

Use for general application at moderate cutting speeds up to 12 x D drilling depth.

### CTE
- PCD corner tipped, E point.
- Carbide-based body design.
- Diameter >.166" (4,2mm).

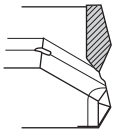


Use at precasted holes at moderate cutting speeds up to 12 x D drilling depth.

### SW
- Full-face sandwich PCD.
- Carbide-based body design.
- Diameter >.97" (5mm).

Use at high cutting speeds and abrasive materials up to 5 x D drilling depth.

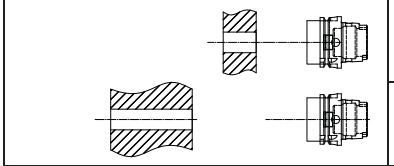
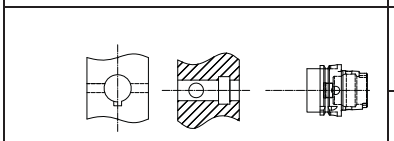
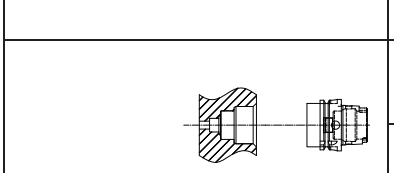
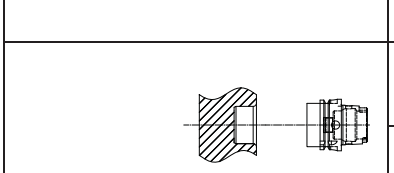
### MT
- PCD corner tipped.
- Steel- and carbide-based body design.
- Diameter >.4736" (12mm).



Use for drilling casted surfaces up to 3 x D drilling depth.

## Cutting Edge and Margin Land Requirements

Determine correlations between spindle to edge overhang, amount of cutting, and margin lands for guidance and increased precision.

| | | number of cutting edges | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | 2 flutes | 2 flutes | 3 flutes | 4 flutes | 6 flutes |
| application/shape of bore | overhang | 2 lands | 2 lands | 3 lands | 4 lands | 6 lands |
|  | short | ● | ● | ● | ● | ● |
| | long | ○ | ● | ◑ | ● | ● |
|  | short | ◑ | ● | ◑ | ● | ● |
| | long | ○ | ● | ○ | ○ | ○ |
|  | short | ◑ | ● | ◑ | ○ | ○ |
| | long | ○ | ● | ◑ | ○ | ○ |
|  | short | ● | ● | ● | ◑ | ○ |
| | long | ○ | ● | ◑ | ◑ | ○ |

● First Choice ◑ Suitable with Limitations ○ Not Recommended

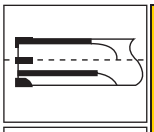
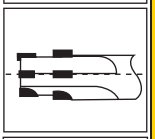
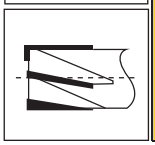
## Cutting Grade, Tooling Design

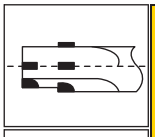
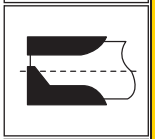
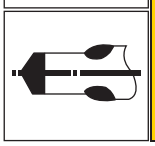
Select cutting data and tooling design based on stability and surface quality demands.

| material | coolant | drilling | counterboring | reaming | milling | grade |
|---|---|---|---|---|---|---|
| Al <7% | MQL, emulsion | vc = 350–600 m/min | vc = 650–900 m/min | vc = 400–900 m/min | vc = 1.500–5.000 m/min | KD1415 |
| | | fz = 0,004–0,016 IPR | fz = 0,004–0,031 IPR | fz = 0,004–0,016 IPR | fz = 0,004–0,010 IPR | |
| Al <12% | MQL, emulsion | vc = 200–800 m/min | vc = 650–900 m/min | vc = 400–600 m/min | vc = 1.500–4.000 m/min | KD1415 |
| | | fz = 0,004–0,016 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | |
| Al >12% | emulsion | vc = 100–700 m/min | vc = 650–900 m/min | vc = 400–600 m/min | vc = 1.500–3000 m/min | KD1415 |
| | | fz = 0,004–0,012 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | |
| mg alloys | emulsion | vc = 350–1.000 m/min | vc = 650–900 m/min | vc = 400–600 m/min | vc = 1.500–6.000 m/min | KD1415 |
| | | fz = 0,004–0,016 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | |
| CFRP, GFRP | dry, air | vc = 350–1.800 m/min | vc = 650–900 m/min | vc = 60–200 m/min | vc = 1.500–4.000 m/min | KD1425 |
| | | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | fz = 0,004–0,010 IPR | |

## Quick-Ship Delivery • Tooling Ranges

Please contact us if this special service is available in your region.

| | | PCD tool | | flutes[1] | chip flute length[2] | cutting diameter | max steps | through coolant | step difference |
|---|---|---|---|---|---|---|---|---|---|
|  | non-center cutting | | reamer, corner tipped | 2–6 | max 5 x D | – | 2 | axial and radial | max 50% |
|  | | | countersinker, corner tipped | 2–4 | max 5 x D | .236–1.26" | 3 | | max 40% |
|  | | | milling tool, corner tipped | 1–6 | max 5 x D | – | 2 | | max 50% |

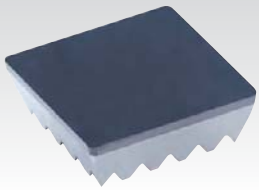
| | | PCD tool | | flutes[1] | chip flute length[2] | cutting diameter | max steps | through coolant | step difference |
|---|---|---|---|---|---|---|---|---|---|
|  | center cutting | | drilling tool, corner tipped | 2 | max 20 x D | .197–1.26" | 3 | axial and radial | max 50% |
|  | | | countersinker, center cut | 2–4 | max 10 x D | | | | |
|  | | | drilling tool, center cut | 2 | max 12 x D | .197–.472" | | | |

NOTE: 310mm max overall
[1]Depending on the diameter [2]Based on the max diameter

# **Valve Seat** and **Guide Experts**

**RMS™-BASED SOLID CARBIDE REAMER**

- Best stiffness and accuracy.



**CBN-BASED RIQ™ INSERT**

- Cross-serration technology for pre-defined guide chamfer angles.
- Same type of insert for all angles.
- 12 effective cutting edges.

**OPTIMIZED HYDRO CHUCK**

- Maximum flexural strength.
- Lowest runout error between seat and guide.

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

Cylinder Head

## RIQ™ QUATTRO CUT™ VALVE SEAT & GUIDE PARENT BORE

### CHALLENGE

- Valve seat and guide parent bore machining combined.
- Tolerance range 8 µm.
- Cast iron.
- Machining center with internal coolant.

### SOLUTION

- RIQ padded reamer with integrated hydraulic chuck.
- RIQ full face CBN KB1630™ insert.
- RMS™ reamer for guide parent bore.

### CUTTING DATA

| | | |
|---|---|---|
| • vc 425 m/min | f 0,10 mm/rev | valve seat. |
| • vc 130 m/min | f 0,60 mm/rev | valve guide. |

### RESULT

- **Four usable cutting edges per CBN insert.**
- **CBN RIQ insert with 28,000 bore tool life.**
- **1,400 bores with regrindable RMS reamer.**

### BENEFIT

- **Cost savings due to four-edged full face CBN insert.**
- **No insert back taper adjustment needed.**
- **Same RPM at both stages saving time on spindle acceleration and deceleration.**

Cylinder Head

Polished flutes
for improved
chip evacuation

**PCD SEAT & GUIDE PARENT BORE PCDRSC04RLE**

## CHALLENGE

- Valve seat and guide parent bore machining combined.
- Tolerance range H7.
- Aluminum.
- Machining center with internal coolant.

## SOLUTION

- PCD-tipped, steel-based tool (valve seat) with shrink in PCD tip, carbide based reamer (valve guide) with less than 4 µm total runout.

## CUTTING DATA

| | | |
|---|---|---|
| • vc 344 m/min | f 0,60 mm/rev | valve seat. |
| • vc 985 m/min | f 0,60 mm/rev | valve guide. |

## RESULT

- **Tool life of 456,000 bores.**

## BENEFIT

- **Productivity increases as same RPM applied to both seat and guide stages.**
- **Lowest possible runout resulting in higher tool life.**

Cylinder Head

RIQ serration defines valve seat angle

## RIQ™ QUATTRO CUT™ VALVE SEAT & GUIDE MACHINING

### CHALLENGE

- Valve guide machining combined with primary and secondary seat angles.
- Sinter metal.
- Concentricity of seat to guide less than 50 µm.
- Machining center with internal coolant.

### SOLUTION

- RIQ valve seat tooling with integrated hydraulic chuck.
- RIQ K68™ carbide inserts and solid carbide RMS™ multi-flute reamer.
- Alternative solution with KST coupling for higher stiffness.
- RIQ CBN inserts for valve seat machining available in KBHK10 and KBHK15.

### CUTTING DATA

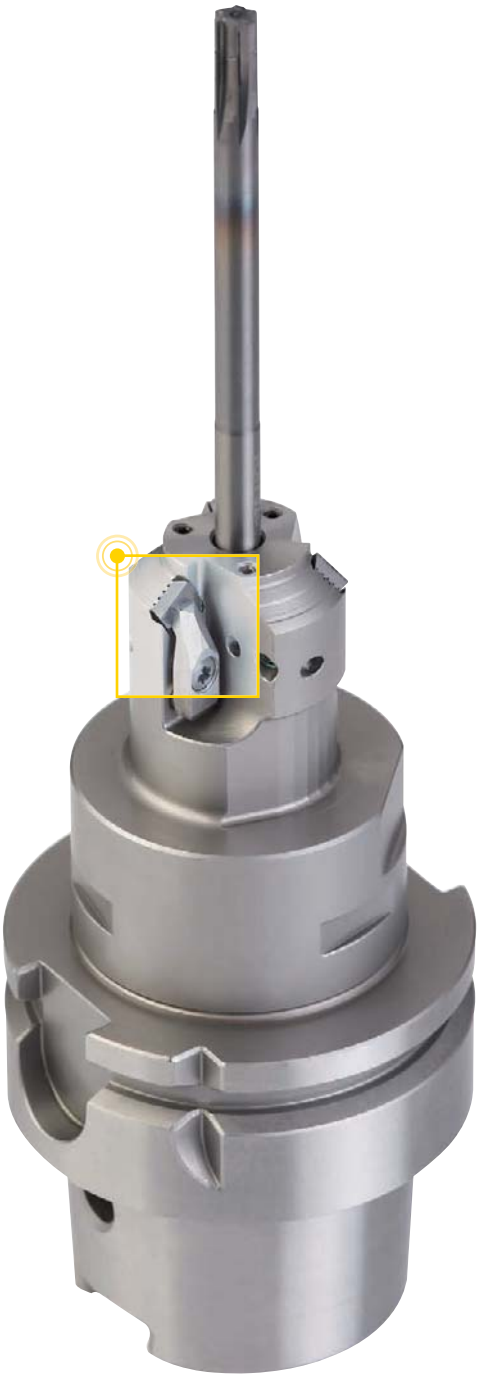
| | | |
|---|---|---|
| • vc 80 m/min | f 0,10 mm/rev | valve seat. |
| • vc 80 m/min | f 0,32 mm/rev | valve guide. |

### RESULT

- **Tool life of 12,000 valve seats per insert.**

### BENEFIT

- **Twelve usable cutting edges per carbide insert.**
- **Due to high precision RIQ pocket seat there is less setup effort as no angular adjustment of the insert is needed.**
- **Able to adapt RIR™ padded reamer machining the valve guide.**



Cylinder Head

Polished flutes for improved chip evacuation

Chipformer in carbide body

## PCD STEP REAMING

### CHALLENGE

- Valve lifter bore Ø .472" (12mm).
- Tolerance range 18 µm G7.
- Aluminum AlSi7Mg.
- Machining center with internal coolant.

### SOLUTION

- PCD-tipped, carbide-based reamer and counter sinker with internal coolant.
- Four effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 1.312 SFM (400 m/min).
- f .004 IPR (0,10 mm/rev).

### RESULT

- **Tool life of 125,000 holes.**
- **Surface finish better than Rz 1.5 µm.**

### BENEFIT

- **Secure process and very good concentricity.**

## PCD STEP REAMING

### CHALLENGE

- Injector bore Ø .305–.768" (7,75–19,5mm).
- Tolerance range 5 µm.
- Aluminum G-AlSi7Mg.
- Machining center with internal coolant.

### SOLUTION

- PCD-tipped, carbide based tool with PCD guide pads at Ø 19,5mm and internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 722 SFM (220 m/min).
- f .014 IPR (0,35 mm/rev).

### RESULT

- **Tool life of 400,000 bores.**
- **Surface finish better than Rz 3 µm.**

### BENEFIT

- **Secure process due to chipformer in carbide body improving chip formation.**

Cylinder Head

Self-aligning
padded reamer

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Oil seal bore finishing Ø 2.220" (56,4mm).
- Tolerance range 30 µm H7.
- Aluminum.
- Cambore to oil seal bore self alignment.
- Transfer line with internal coolant.

### SOLUTION

- RIQ padded reamer with two PCD KD1415™ full-face inserts floating on finish machined cam bore.
- Self-aligning reamer body to ensure cam bore to oil seal bore concentricity.

### CUTTING DATA

- vc 1.070 SFM (326 m/min).
- f .004 IPR (0,32 mm/rev).

### RESULT

- **Tool life of 80,000 cylinder heads.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **Cost savings due to four-edged full face PCD RIQ insert.**

Cylinder Head

Semi-finish and finish stage combined

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Cambore finishing Ø .984" (25mm).
- Tolerance range 21 µm H7.
- Aluminum.
- Deflection less than 20 µm over total length.
- Machining center with internal coolant.

### SOLUTION

- RIQ padded reamer with two PCD KD1415™ full-face inserts for semi-finishing and two PCD KD1415 full-face inserts for finishing.

### CUTTING DATA

- vc 1.096 SFM (334 m/min).
- f .006 IPR (0,16 mm/rev).

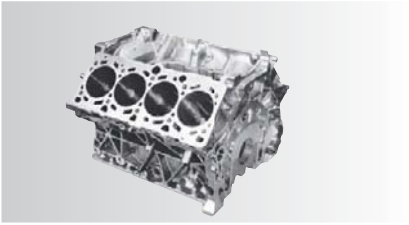
### RESULT

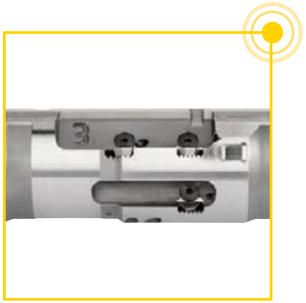
- **Tool life of 160,000 cylinder heads.**
- **Surface finish Ra 0.3 µm.**

### BENEFIT

- **No insert back taper adjustment is needed.**
- **Cost savings due to four-edged full face PCD RIQ insert.**
- **Setup time reduction from 8 hours with competitive tooling to less than 1/2 hour with RIQ.**

Cylinder Block





## ASYMMETRICAL LINE BORING BAR

### CHALLENGE

- Crank Bore finishing.
- Material: AlSi7/Sinter or AlSi7/GGG60.
- Machine: Hor. M/C.
- Roundness 0.01mm.
- Concentricity 0.025mm.

### SOLUTION

- Patented asymmetrical LBB, which supports the before finished last journal of the crank bore.
- RI8 inserts with 8 cutting edges per inserts in PCD or carbide.
- Hybrid body made of heavy-metal and steel.

### CUTTING DATA

- Speed: 100m/min
- Feed/tooth: SF = 0.2/rev. ; F = 0.16/rev.

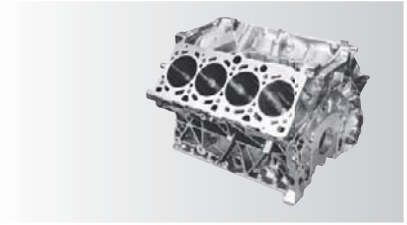
### RESULT

- **Roundness measured: 0.005mm.**
- **Concentricity measured: 0.005mm.**

### BENEFIT

- **All advantages of a line boring bar, but applicable on MC.**
- **No disadvantage of typical line boring bars.**
- **Setup possible outside the machine on standard optical presetter.**

Cylinder Block



CLB screw for automatic wear compensation

**MOTION TOOLING**

## CHALLENGE

- Cylinder bore Ø 2.953" (75mm).
- Cast iron GG25.
- Semi-finish and finish operation combined in one tool with coolant pressure activated finish stage.
- Machining center with internal coolant.

## SOLUTION

- Motion tool with feed-out cartridges.
- Two-channel coolant system with coolant supply for inserts and feed-out cartridges.
- Solid CBN inserts with eight cutting edges; KB1340™.

## CUTTING DATA

| | | |
|---|---|---|
| • vc 600 m/min | f 0,05 mm/rev | semi-finish. |
| • vc 600 m/min | f 0,11 mm/rev | finish. |

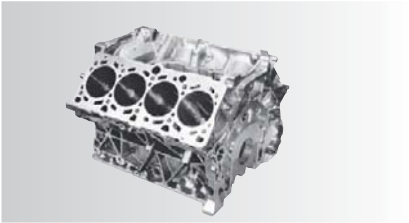
## RESULT

- **Tool life of 2,000 bores per tooling setup.**
- **Cylindricity better than 8 µm.**

## BENEFIT

- **Higher productivity as roughing at forward and finishing at backward movement — with coolant feed-out.**
- **Finish diameter adjustable with CLB process.**
- **Improved cylindricity in more than two separate operations.**

Cylinder Block



Bayonet quick-change system

## ROMICRON™ FINE BORING

### CHALLENGE

- Cylinder bore Ø 3.108" (78,933mm).
- Cast iron GG25.
- Reduce setup and adjustment effort with roughing and finishing at various cylinder blocks.
- Engineered solutions vertical mill with internal coolant.

### SOLUTION

- Romicron engineered solutions tool with quick-change interface and drawbar actuated finish cartridge.
- SNGN090308T00520 KY1615 roughing insert.
- CPMT09T308LF KT315™ finishing insert.

### CUTTING DATA

| | | |
|---|---|---|
| • vc 580 m/min | f 0,26 mm/rev | roughing. |
| • vc 580 m/min | f 0,19 mm/rev | finishing. |

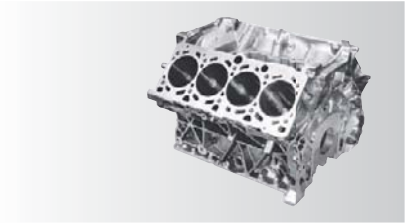
### RESULT

- **Tool life of 100 components per setup.**
- **Cylindricity 13 µm.**
- **Surface finish Ra 1.5 µm.**

### BENEFIT

- **Bore tolerance easily and consistently achieved due to 1 µm per click in radius adjustment.**
- **Weight reduction from 11 kg to 1.8 kg.**
- **Setup time reduction from 1.5 hours to 15 minutes.**
- **Secure process resulting in higher cpk value.**

Cylinder Block



Semi-finish and finish stage combined

## FINE BORING

### CHALLENGE

- Crank bore finishing Ø 1.457" (37mm).
- Tolerance range 5 µm.
- Cast iron.
- Maintain tolerance for minimum of 50 bores.
- Machining center with internal coolant.

### SOLUTION

- Line boring bar with tool bits adjusted by differential screw for more sensitivity.
- Dynamically balanced by design with axial holes ensuring highest stiffness of tool.

### CUTTING DATA

| | | |
|---|---|---|
| • vc 160 m/min | f 0,12 mm/rev | semi-finish. |
| • vc 160 m/min | f 0,08 mm/rev | finish. |

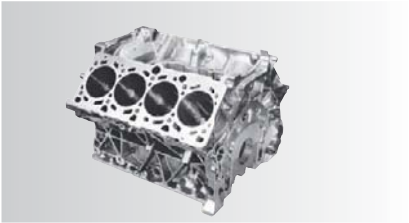
### RESULT

- **Customer proprietary information.**

### BENEFIT

- **Use of standard C-style inserts in LF reduce tooling costs in KCK15.**
- **Reduction of cycle time.**
- **Easy and fine adjustments ensure a stable process.**

Cylinder Block



RIQ chamfering, plunging, and reaming insert

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Balancing shaft bore Ø 31–39mm.
- Cast iron.
- Reaming of three diameters, machining of three chamfers, and one facing operation in one tool.
- Minimum quantity lubrication MQL.

### SOLUTION

- RIQ padded reamer with one effective cutting edge combining chamfering, countersinking, and reaming stage in one tool, using two reaming RIQ and one special RIQ insert.

### CUTTING DATA

- vc 328 SFM (100 m/min).
- f .006 IPR (0,14 mm/rev).

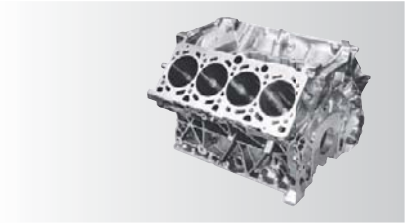
### RESULT

- **Tool life of 8,000 bores per insert.**
- **Surface finish Rz 10 µm.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **Highest angular precision without any adjustment with RIQ at chamfering stage.**

Cylinder Block



## RHM™ MODULAR REAMING

### CHALLENGE

- Position bore Ø .787" (20mm).
- Tolerance range 21 µm N7.
- Cast iron GG26Cr.
- Replace padded double-edged reamer.
- Machining center with internal coolant.

### SOLUTION

- Special RHM head with six cutting edges.
- Engineered solution KC6105 TiN coated carbide grade.

### CUTTING DATA

- vc 207 SFM (63 m/min).
- f .033 IPR (0,84 mm/rev).

### RESULT

- **Tool life of 336m.**

### BENEFIT

- **8x higher productivity due to higher feed rate.**
- **Tool life increased by 240% when compared to previous solution.**

Conrod

## ROMICRON™ FINE BORING

### CHALLENGE

- Pin bore Ø 2.285" (58,033mm).
- Brass.
- Combine finishing of crank and pin bore into one tool to increase productivity.
- Machining center with internal coolant.

### SOLUTION

- Romicron engineered-solution tool with two Romicron mechanisms in one tool body.
- KC5010™.

### CUTTING DATA

- vc 1.476 SFM (450 m/min).
- f .004 IPR (0,10 mm/rev).

### RESULT

- **Tool life of 350 pin bores per insert.**
- **Surface finish better than Ra 1.0 µm.**
- **Cylindricity 5 µm.**

### BENEFIT

- **Combination tool increases productivity.**
- **Bore tolerance range of 26 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

## ROMICRON FINE BORING

### CHALLENGE

- Crank bore Ø 3.692" (93,777mm).
- Steel C70.
- Combine finishing of crank and pin bore into one tool to increase productivity.
- Machining center with internal coolant.

### SOLUTION

- Romicron engineered solution tool with two Romicron mechanisms in one tool body.
- KT315™.

### CUTTING DATA

- vc 1.312 SFM (400 m/min).
- f .004 IPR (0,10 mm/rev).

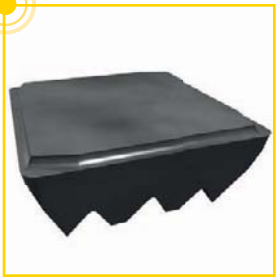
### RESULT

- **Tool life of 260 crank bores per insert.**
- **Surface finish better than Ra 1.0 µm.**
- **Cylindricity 5 µm.**

### BENEFIT

- **Combination tool increases productivity.**
- **Bore tolerance range of 26 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Conrod



RIQ cermet insert with chipformer geometry

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Pin bore Ø .748" (19mm).
- Tolerance range 33 µm H8.
- Steel C70.
- Entry/exit inclined and chip control improvement.
- Transfer line with MQL internal coolant.

### SOLUTION

- RIQ padded reamer with two axial staggered RIQ inserts in microfinishing setup.
- Coated cermet RIQ inserts with four edges and special chip former.

### CUTTING DATA

- vc 328 SFM (200 m/min).
- f .006 IPR (0,20 mm/rev).

### RESULT

- **Tool life of more than 5,000 components per insert.**
- **Surface finish Rz 12–14 µm.**
- **Cylindricity 5 µm.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **High productivity increase due to higher feed rate when compared to previous fine boring tools.**
- **Very short chips improve chip evacuation.**
- **Secure process as surface requirement of Rz 8 µm to Rz 16 µm are achieved.**

Conrod

## ROMICRON™ FINE BORING

### CHALLENGE

- Pin bore Ø .660" (16,77mm).
- Crank bore Ø .818" (20,77mm).
- Steel C70.
- Combines roughing, semi-finishing, and finishing operations into one tool.

### SOLUTION

- Romicron standard head HSK63ASVUBB2116M with engineered-solution boring bar.
- CPMT060204LF KC5010™.

### CUTTING DATA

| | | |
|---|---|---|
| • vc 120 m/min | f 0,10 mm/rev | roughing. |
| • vc 120 m/min | f 0,05 mm/rev | finishing. |

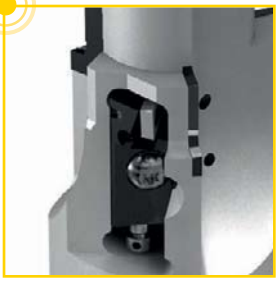
### RESULT

- **Tool life of 2,500 components per insert edge.**
- **Surface fi nish Ra 0.5 µm.**
- **Cylindricity 3 µm.**

### BENEFIT

- **Productivity increase due to combination tool.**
- **Bore tolerance range of 20 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Steering Column



Adjustable cartridge
with PCD insert

**PCD COUNTERSINKING**

## CHALLENGE

- Bore Ø 26,2; 37,6; and 44mm.
- Tolerance range 21 µm N7.
- Aluminum G-AlSi9Cu3.
- Varying depth of cut ca. 1,5mm.
- Machining center with internal coolant.

## SOLUTION

- PCD-tipped, steel-based tool with internal coolant.
- Three effective cutting teeth; KD1415™.
- Standard cartridge SCFCR08CA06 achieves required surface finish range.

## CUTTING DATA

- 1,640 SFM (vc 500 m/min).
- .012 IPR (f 0,30 mm/rev).

## RESULT

- **Surface finish Ra 1.6–2.3 µm.**

## BENEFIT

- **Secure process.**

Steering Column

## PCD COUNTERSINKING

### CHALLENGE

- Bore Ø 17,07, 39,1, and 50,9mm.
- Tolerance range 21 µm N7.
- Aluminum G-AlSi10Mg.
- Varying depth of cut ca. 2,5mm.
- Machining center with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 1,969 SFM (600 m/min).
- f .012 IPR (0,30 mm/rev).

### RESULT

- **Tool life of 2,000 meters.**

### BENEFIT

- **Productivity increased due to higher cutting data.**

Gear Housing

**PCD STEP REAMING**

## CHALLENGE

- Bearing bore Ø 13,5 and 18mm.
- Tolerance range 18 µm H7.
- Aluminum G-AlSi10Mg.
- Varying depth of cut ca. 0,5mm.
- Machining center with internal coolant.

## SOLUTION

- PCD-tipped, carbide-based tool with SIF™ steerable interface with internal coolant.
- Four effective cutting teeth.
- KD1415™.

## CUTTING DATA

- vc 755 SFM (230 m/min).
- f .010 IPR (0,25 mm/rev).

## RESULT

- **Surface finish Ra 0.2 µm.**

## BENEFIT

- **Secure process.**

Gear Housing

Adjustable PCD pocket seat

## PCD COUNTERSINKING

### CHALLENGE

- Bearing bore Ø 40, 62, 85mm.
- Tolerance range 25 µm S7.
- Aluminum AlSi9Cu3.
- Machine three different diameters with one tool.
- Machining center with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with adjustable pocket seats, SIF™ steerable interface, and internal coolant.
- Four effective cutting and chamfering teeth; KD1415™.

### CUTTING DATA

- vc 630–1,340 m/min n = 5,010 RPM.
- f .013 IPR (0,32 mm/rev).

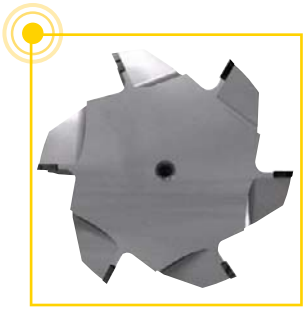
### RESULT

- **Tool life of 500 workpieces.**

### BENEFIT

- **Secure process with only 1.2 seconds cutting time per operation.**
- **Higher productivity due to combining three operations into one tool.**
- **Very stable process without chip control issues.**

Gear Housing



Highly uneven spacing

## PCD STEP REAMING

### CHALLENGE

- Bearing bore Ø 130mm.
- Tolerance range 25 µm S6.
- Aluminum AlSi8Cu3.
- Varying depth of cut ca. 0,5–5mm.
- Machining center with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with HSK interface and internal coolant.
- Six effective cutting and chamfering teeth in positive cutting position; KD1415™.

### CUTTING DATA

- vc 1,148 SFM (350 m/min).
- f .024 IPR (0,60 mm/rev).

### RESULT

- **Tool life increase versus previous solution.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process.**

Gear Housing

## PCD REAMING

### CHALLENGE

- Bearing bore Ø .984" (35mm).
- Tolerance range 21 µm H7.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 771 SFM (235 m/min).
- f .012 IPR (0,30 mm/rev).

### RESULT

- **Tool life of 100,000 holes.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process despite high L/D ratio.**
- **Very good surface quality.**

Gear Housing

## PCD REAMING

### CHALLENGE

- Index bore Ø .435" (11,5mm).
- Tolerance range 18 µm H7.
- Aluminum G-AlSi10Mg.
- Varying depth of cut ca. 3mm.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, carbide based tool with shrink in HSK63A adapter with internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 3,297 SFM (1,005 m/min).
- f .024 IPR (0,16 mm/rev).

### RESULT

- **Tool life of 200,000 holes.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process and very good surface quality.**
- **Very short overhang length resulting in very good stability.**

Gear Housing

## PCD REAMING

### CHALLENGE

- Bearing bore Ø 3.150" (80mm).
- Tolerance range 30 µm H7.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Four effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 1,312 SFM (400 m/min).
- f .013 IPR (0,32 mm/rev).

### RESULT

- **Tool life of more than 30,000 components.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process and very good surface quality.**

Gear Housing

**PCD REAMING**

## CHALLENGE

- Bearing bore Ø 28 and 90mm.
- Tolerance range 21 and 35 µm H7.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

## SOLUTION

- PCD-tipped, steel-based tool with two individual adjustable SIF™ steerable interfaces and internal coolant.
- Four effective cutting teeth.
- KD1415™.

## CUTTING DATA

- vc 400 m/min (1,312 SFM).
- f 0,32 mm/rev (.013 IPR).

## RESULT

- **Tool life of more than 95,000 holes.**
- **Surface finish Ra 0.2 µm.**

## BENEFIT

- **Secure process and very good surface quality.**

Gear Housing

## PCD STEP REAMING

### CHALLENGE

- Bearing bore Ø 80 and 120mm.
- Tolerance range 30 and 35 µm H7.
- Aluminum G-AlSi7Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

### CUTTING DATA

- vc 2,625 SFM (800 m/min).
- f .013 IPR (0,32 mm/rev).

### RESULT

- **Tool life of more than 400 minutes.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process and very good surface quality.**
- **Tool life increase versus previous solution.**

Gear Housing

## PCD COUNTERSINKING

### CHALLENGE

- Bearing bore Ø 81,25 and 90,3mm.
- Tolerance range 30 and 35 µm H7.
- Aluminum G-AlSi7Mg.
- Pre drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 1,312 SFM (400 m/min).
- f .012 IPR (0,30 mm/rev).

### RESULT

- **Tool life of 10,000 components.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process and very good surface quality.**

Gear Housing

## PCD STEP REAMING

### CHALLENGE

- Bearing bore Ø 17,984 and 66,037mm.
- Tolerance range 8 and 20 µm.
- Aluminum GD-AlSi7.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting teeth.
- KD1415™.

### CUTTING DATA

| | | |
|---|---|---|
| • vc 315 m/min | f 0,24 mm/rev | Ø 17,984mm. |
| • vc 1.156 m/min | f 0,15 mm/rev | Ø 66,037mm. |

### RESULT

- **Tool life of 35,000 components.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process and very good surface quality.**
- **Achieves high concentricity and straightness.**

Gear Housing

## PCD PROFILE MILLING

### CHALLENGE

- Retraining grooves Ø 60,4 and 90,7mm.
- Tolerance range 60 µm.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

### CUTTING DATA

- vc 4,921 SFM (1,500 m/min).
- f .002 IPR (0,06 mm/rev).

### RESULT

- **Tool life of 50,000 parts.**
- **Surface finish better than Ra 0.4 µm.**

### BENEFIT

- **Secure process.**
- **Combining two operations in one tool increases productivity.**
- **High accuracy in the distance between the two machined grooves.**

## PCD PROFILE MILLING

### CHALLENGE

- Retraining grooves Ø 60,4 and 90,7mm.
- Tolerance range 60 µm.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

### CUTTING DATA

- vc 4,921 SFM (1,500 m/min).
- f .002 IPR (0,06 mm/rev).

### RESULT

- **Tool life of 50,000 parts.**
- **Surface finish better than Ra 0.4 µm.**

### BENEFIT

- **Secure process.**
- **Combining two operations in one tool increases productivity.**
- **High accuracy in the distance between the two machined grooves.**

Differential Housing

## REAMING AND BACK BORING

### CHALLENGE

- Bearing seat finishing of gearbox.
- Material: G-AlSi9Cu3.
- Machine: M/C.
- IC 40 bar, 20 l/min.
- Ae = 0,25mm.

### SOLUTION

- PCD reaming/back boring combination tool.
- 2 step reapers with 6 PCD teeth.
- Back boring with Romicron™ and PCD insert.

### CUTTING DATA

- Speed: 350 m/min.
- Feed per tooth: 0,12mm.
- 1500 rev/min and 1080 mm/min.

### RESULT

- **Roughness of Rz < 16 µm.**
- **One tool-chance saved.**

### BENEFIT

- **Finish of 3 diameters with one tool.**
- **Perfect balanced tool, considering extreme asymmetrical shape.**
- **Easy adjustment with Romicron.**

Differential Housing

**DIFFERENTIAL HOUSING–FINISH BORING**

## CHALLENGE

- Bearing seat finishing of gearbox.
- Material: GGG40.
- Machine: M/C.
- Diameter: 60H6.
- Surface Finish: Ra 1.6.

## SOLUTION

- Fine boring tool Romicron™ AVS.
- Cartridge for SPHX inserts.
- SPHX-inserts KC7215 with 2 cutting edges.
- Special back taper grind for similar surface finishes to wiper inserts.

## CUTTING DATA

- vc = 180 m/min
- fz = 0.05mm

## RESULT

- **All geometric and dimensional tolerances including surface finish achieved.**
- **Very robust process.**
- **Tool life with standard SPHX insert 4000 pieces (within this tool life, 3 diameter adjustments with the “Romicron-Click-Mechanism” were required).**

## BENEFIT

- **Excellent surface finish similar to wiper inserts.**
- **Huge portfolio of SPHX-inserts for all kind of workpiece materials.**
- **Romicron-Click-Mechanism.**
- **No need for wrench or gage for the diameter adjustment.**

Differential Housing

Adjustable pocket seat

## DIFFERENTIAL HOUSING–FINISH BORING

### CHALLENGE

- Bore Ø 1.575 and 2.165" (40 and 55mm).
- Tolerance range 30 µm R7.
- Aluminum GD-AlSi10Mg.
- Fine boring two diameters with one tool.
- Machining center with internal coolant.

### SOLUTION

- PCD steel-based fine boring tool with four effective cutting edges, adjustable pocket seats at Ø 55mm, SIF™ steerable interface, and internal coolant.
- CCMT060202 KM™ – one uncoated carbide.

### CUTTING DATA

- vc 340 and 520 m/min n = 3,000 RPM.
- f .024 IPR (0,60 mm/rev).

### RESULT

- **Tool life of more than 15,000 components per insert.**
- **Surface finish Rz 10–12 µm.**
- **Cylindricity better than 20 µm.**

### BENEFIT

- **All requirements regarding perpendicularity, roundness, and surface quality between Rz 8 µm and Rz 16 µm continuously achieved.**
- **Higher productivity due to combining three operations in one tool.**

Water Pump Housing

## PCD COUNTERSINKING

### CHALLENGE

- Bore positions of Ø .827 and .945" (21 and 24mm).
- Tolerance range 13 and 33 µm.
- Aluminum AlSi9Cu3.
- Pre drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with adjustable pocket seats; SIF™ steerable interface and internal coolant.
- Four effective cutting teeth; KD1415™.

### CUTTING DATA

- vc 1,969 SFM (600 m/min).
- f .005 IPR (0,12 mm/rev).

### RESULT

- **Tool life of 80,000 components.**
- **Surface finish Rz 0.8 µm with Ø 21mm and Rz 12 µm with Ø 24mm.**

### BENEFIT

- **All requirements regarding perpendicularity, roundness, and surface quality between Rz 8 µm and Rz 15 µm at Ø 24mm are continuously achieved.**

Water Pump Housing

## PCD MULTI-OPERATION TOOL

### CHALLENGE

- Position bore Ø .311" (7,9mm).
- Tolerance range 22 µm H8.
- Aluminum AlSi9Cu3.
- Combine drilling, back chamfering, and facing.
- Machining center BT40 with internal coolant.

### SOLUTION

- Solid carbide, PCD-tipped, steel-based tool with back chamfering capability and internal coolant.
- Two effective cutting teeth.
- KD1415™.

### CUTTING DATA

- vc 1,148 SFM (350 m/min).
- f .008 IPR (0,20 mm/rev).

### RESULT

- **Tool life of 50,000 components.**
- **Surface finish Rz 0.8 µm.**

### BENEFIT

- **Higher productivity due to combining three operations in one tool.**

Water Pump Housing

## PCD STEP REAMING

### CHALLENGE

- Bearing bores Ø 10,14–18,45mm.
- Tolerance range 3–10 µm.
- Aluminum GD-AlSi9Cu3.
- Pre-casted hole with 0,3mm depth of cut.
- Machining center HSK32A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with adjustable pocket seats; SIF™ steerable interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

### CUTTING DATA

- n = 2800 RPM vc 89–162 m/min.
- f .015 IPR (0,4 mm/rev).

### RESULT

- **Tool life of 40,000 components.**
- **Surface finish Rz 0.8 µm.**

### BENEFIT

- **The quality criterion with an exact alignment of rightness, concentricity, and a high value of surface quality was reached.**

Water Pump Housing

## PCD END MILLING

### CHALLENGE

- Face milling of connection face Ø 32mm.
- Aluminum AlSi10Mg.
- Casted face with 2,5mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based end mill with HSK63A interface and internal coolant.
- Five effective cutting teeth.
- KD1415™.

### CUTTING DATA

- vc 3,294 SFM (1,005 m/min).
- f .002 IPR (0,06 mm/rev).

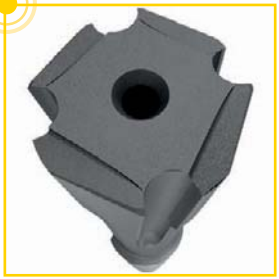
### RESULT

- **Tool life of 3,000 min.**
- **Surface finish Ra 0.3 µm.**

### BENEFIT

- **Very low bur formation.**

Planetary Gear Carrier



Chip control geometry

## RMS™ MULTI-FLUTE REAMING

### CHALLENGE

- Bearing bores Ø .346" (8,8mm).
- Tolerance range 9 µm M6.
- Steel 42CrMo4 and 31CrMoV9.
- Increase tool life with long chipping material.
- Machining center with internal coolant.

### SOLUTION

- RMS engineered-solution reamer with four effective cutting edges, internal coolant hole, and coolant channels at shank.
- KC6305™ TiAlN coated carbide.

### CUTTING DATA

- vc 230 SFM (70 m/min).
- f .012 IPR (0,30 mm/rev).

### RESULT

- **Tool life of 300 components.**
- **Surface finish Rz 1.0–2.0 µm.**

### BENEFIT

- **All requirements regarding perpendicularity, roundness, and surface quality below Rz 4 µm are continuously achieved.**

Planetary Gear Carrier

## ROMICRON™ FINE BORING

### CHALLENGE

- Bearing bores Ø 35 and 36,5mm.
- Tolerance range 20 µm.
- Steel 20MnCr5.
- Replace padded step reamer.
- Machining center with internal coolant.

### SOLUTION

- Romicron™ standard AVS heads.
- CCMT06020411 KT315™ cermet insert.

### CUTTING DATA

- vc 230 SFM (290 m/min).
- f .012 IPR (0,10 mm/rev).

### RESULT

- **Surface finish better than Ra 1.0 µm.**
- **Cylindricity better than 5 µm.**

### BENEFIT

- **More than 25% reduction in machining time.**
- **Removing setup of padded reamer outside of the machine results in increased uptime.**
- **Bore tolerance range of 20 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Padded reaming pin machining

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Bearing pin machining Ø 1.772" (45mm).
- Tolerance range 16 µm k6.
- Ductile cast iron GGG40.
- Surface quality of Rmax 10 µm to achieve.
- Special dimensional accuracy requirement.

### SOLUTION

- RIQ padded reamer with SIF™ steerable tooling interface and special gashing for external coolant supply.
- Balanced-by-design and fine balanced.

### CUTTING DATA

- vc 344 SFM (105 m/min).
- f .002 IPR (0,06 mm/rev).

### RESULT

- **Surface finish better than Rz 2.5 µm.**
- **Roundness 3 µm.**
- **Cylindricity 6 µm.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **Faster setup and less scrap.**

Brake Caliper

## BRAKE CALIPER–ROUGHING/FINISHING MAIN BORE

### CHALLENGE

- Component: Brake caliber
- Material: GGG55
- Operation: Cylinder hole
- Coolant: Yes
- Machine: Machine center
- Objective: Surface finish and roundness

### SOLUTION

- HSK100A special tool with radial adjustments and guide pad.
- Fix-Perfect™ insert.
- Internal coolant.
- Decreasing vibration by means of heavy metal shank.

### CUTTING DATA

- vc = 107 m/min
- vf = 300 mm/min
- FPT = 0,13mm

### RESULT

- **Tool life: 2.238 parts.**
- **Roundness 0,01mm.**
- **H8 — Tolerance kept, and even smaller would be feasible if requested.**

### BENEFIT

- **From cast to finish hole in one go, i.e., with one single "One-Shot-Tool".**
- **4 effective teeth.**
- **4 edges per insert.**
- **Very fine, consistent adjustment mechanism.**

Brake Caliper

**RMS™ MULTIFLUTE REAMING**

## CHALLENGE

- Pin hole Ø .472" (12mm).
- Tolerance range 30 µm.
- Cast iron.
- Machining center HSK63A with internal coolant.

## SOLUTION

- UpSharp engineered-solution solid carbide reamer with six cutting edges.
- TICN coated carbide.

## CUTTING DATA

- vc 246 SFM (75 m/min).
- f .031 IPR (0,8 mm/rev).

## RESULT

- **Tool life of 5,000 holes.**
- **Surface finish Ra 1.0 µm.**

## BENEFIT

- **Productivity increase.**
- **Longer tool life than competition.**
- **Ease of use due to shrink technology.**

Brake Caliper

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Main bore Ø 2.127" (54,02mm).
- Tolerance range 40 µm.
- Cast iron GGG.
- Reduce setup time and cost-per-part.

### SOLUTION

- RIQ padded reamer with customer specific shank.
- Coated carbide RIQ insert with four edges.
- KC6305™.

### CUTTING DATA

- vc 262 SFM (80 m/min).
- f .016 IPR (0,40 mm/rev).

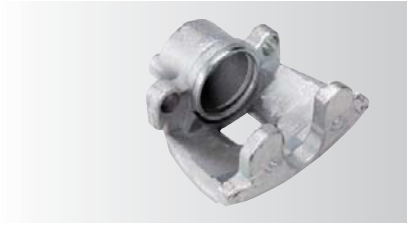
### RESULT

- **Tool life of 16,000 bores per insert.**
- **Surface finish better than Ra 1.6 µm.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **High cost savings due to more than 100% increase in tool life.**

Brake Caliper



**PCD REAMING**

## CHALLENGE

- Main bore Ø 1.654" (42mm).
- Tolerance range 8 µm.
- Aluminum.
- Varying depth of cut between 1–2mm.
- Machining center with internal coolant.

## SOLUTION

- PCD-tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

## CUTTING DATA

- vc 1,640 SFM (500 m/min).
- f .039 IPR (1 mm/rev).

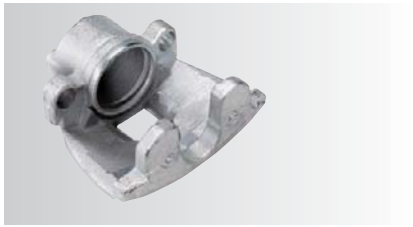
## RESULT

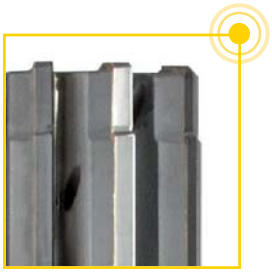
- **Tool life of 400,000–600,000 bores.**
- **Surface finish better than Ra 1.6 µm.**

## BENEFIT

- **Secure process and high tool life.**
- **Productivity increase compared to previous solution.**

Brake Caliper





Producing two different diameters

## RMB™ MULTI-FLUTE REAMING

### CHALLENGE

- Location holes Ø 39 and 40mm.
- Tolerance range 39 µm H8.
- Cast iron GGG60.
- Produces both diameters with one tool.
- Machining center with internal coolant.

### SOLUTION

- RMB engineered-solution carbide tipped reamer with 10 teeth and internal coolant supply.
- KC6305™ TiAlN coated carbide.

### CUTTING DATA

- vc 230 SFM (70 m/min).
- f .130 IPR (3,30 mm/rev).

### RESULT

- **Tool life of 5,000 holes.**
- **Surface finish Rz 20 µm better than required Rz 25 µm.**

### BENEFIT

- **Very stable and highly productive process as multiple operations are combined at very high cutting data.**

Brake Master Cylinder

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Piston bore Ø 1.001" (25,431mm).
- Tolerance range 10 µm.
- Ductile cast iron.
- Replace honing process with reaming.
- Machining center with internal coolant.

### SOLUTION

- RIQ padded reamer in angular micro-finishing setup with semi- and fine-finishing insert.
- RIQ full face PCD KD1415™ as finishing insert.

### CUTTING DATA

- vc 394 SFM (120 m/min).
- f .008 IPR (0,20 mm/rev).

### RESULT

- **Tool life of 1,600 bores per insert.**
- **Surface finish better than Ra 0.4 µm.**
- **Cylindricity 6 µm.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **Higher productivity due to combining two operations in one tool.**

Steering Knuckle

## ROMICRON™ FINE BORING

### CHALLENGE

- Main bearing bore Ø 3.228" (82mm).
- Replace setup of padded reamer and cover various diameters with one tool.
- Machining center with internal coolant.

### SOLUTION

- Romicron™ engineered solution. HSK80ASVSB156M SVS4B head.
- CPMT 060204 FW KCK20™.

### CUTTING DATA

- vc 1,312 SFM (400 m/min).
- f .008 IPR (0,20 mm/rev).

### RESULT

- **Tool life of 1,000 components.**
- **Surface finish 1.2 µm.**
- **Cylindricity better than 6 µm.**

### BENEFIT

- **Reduce setup time and cost reduction when standard inserts are used.**
- **Bore tolerance range of 30 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Suspension Sub-frame

## REAMING PIVOT BEARING

### CHALLENGE

- Location hole Ø .728–.906" (18,5–23,0mm).
- Tolerance range 0,1°.
- Steel.
- Improvement in roundness and angularity.
- Transfer line with internal coolant.

### SOLUTION

- RIR taper reamer with HSK interface.
- R904S00771 KC6005™ with two edges.

### CUTTING DATA

- vc 105 SFM (32 m/min).
- f .005 IPR (0,133 mm/rev).

### RESULT

- **Tool life of 800 bores per insert.**
- **Surface finish Ra 1.6 µm.**

### BENEFIT

- **Predictable performance and cost savings because inserts can be reconditioned.**
- **Easy to set with three clock padded reamer setting fixtures.**
- **Roundness improvement over competitive solid carbide multi-flute reamer.**

Mounting Lever

## PCD COUNTERSINKING

### CHALLENGE

- Reaming pre-casted hole Ø .787" (20mm).
- Tolerance range 21 µm H7.
- Aluminum AlSi9Cu3.
- 220mm overhang due to workpiece fixture.
- Machining center with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

### CUTTING DATA

- vc 410 SFM (125 m/min).
- f .003 IPR (0,70 mm/rev).

### RESULT

- **Tool life of 60,000 components.**
- **Surface finish Ra 0.2 µm.**

### BENEFIT

- **Secure process and less scrap than previous competitive solution.**
- **No adjustment effort due to solid solution.**

Turbocharger

**RMS™ MULTI-FLUTE REAMING**

## CHALLENGE

- Mounting holes Ø .472" (12mm).
- Tolerance range 18 µm H7.
- Ductile cast iron.
- Machining center with internal coolant

## SOLUTION

- RMS standard reamer with six effective cutting edges and internal coolant.
- KC6305™ TiAlN coated carbide.

## CUTTING DATA

- vc 20 m/min (66 SFM).
- f 0,30 mm/rev (.012 IPR).

## RESULT

- **Tool life of 1,000 components.**
- **Surface finish better than Rz 10 µm.**

## BENEFIT

- **Productivity and tool life increase compared to previous solution.**

Compressor

## ROMICRON™ FINE BORING

### CHALLENGE

- Piston bore Ø .925" (23,5mm).
- Tolerance range 18 µm.
- Aluminum 12% Si.
- Machining center BT40 with external coolant.

### SOLUTION

- Standard SVUBB2 head with KR coupling.
- Standard steel boring bar.
- CPGW060204FST KD1400™.

### CUTTING DATA

- vc 1,204 SFM (367 m/min).
- f .003 IPR (0,07 mm/rev).

### RESULT

- **Surface finish Ra 0.6 µm.**
- **Roundness better than 5 µm.**

### BENEFIT

- **2x the productivity compared to the current solution.**
- **80% less adjustment time needed.**
- **Bore tolerance range of 18 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Compressor

Polished flutes improving chip evacuation

## PCD COUNTERSINKING

### CHALLENGE

- Bearing hole Ø .472–1.220" (12–31mm).
- Tolerance range 50 µm.
- Aluminum G-AlSi12.
- Machining center HSK40 with internal coolant.

### SOLUTION

- PCD-tipped, carbide-based tool with four guiding lands, flat-bottom drilling point, and internal coolant.
- Two effective cutting and chamfering teeth; KD1415™.

### CUTTING DATA

- vc 1,444 SFM (440 m/min).
- f .008 IPR (0,20 mm/rev).

### RESULT

- **Surface finish Rz 1–2 µm.**
- **Roundness better than 5 µm.**

### BENEFIT

- **Productivity increases due to combining different tools in one.**
- **Tool life increase versus previous solution.**

Compressor

KST pre-loaded taper face contact interface

## RHM™ MODULAR REAMING

### CHALLENGE

- Piston bore Ø 1.220" (23,5mm).
- Tolerance range 10 µm.
- Cast iron GGG60.
- Machining center HSK63 with internal coolant.

### SOLUTION

- RHM modular reamer with six cutting edges.
- KT325™ uncoated cermet.
- Standard lead geometry.
- SIF™ steerable tooling.

### CUTTING DATA

- vc 410 SFM (125 m/min).
- f .030 IPR (0,75 mm/rev).

### RESULT

- **Surface finish better than Rz 4 µm.**

### BENEFIT

- **Higher productivity than single-edged padded reamer.**

Hydraulic Valve Block

**RIR™ PADDED REAMING**

## CHALLENGE

- Spool bore Ø .728" (18,5mm).
- Tolerance range 10 µm.
- Cast iron.
- Up to 4mm varying depth of cut.
- Machining center with internal coolant.

## SOLUTION

- RIR padded reamer with up to 100mm long cermet guide pads.
- Engineered solution RIR insert with modified chipformer.

## CUTTING DATA

- vc 230 SFM (70 m/min).
- f .005 IPR (0,125 mm/rev).

## RESULT

- **Tool life of 400 min per double-edged insert.**
- **Roundness and straightness within 10 µm.**

## BENEFIT

- **Very stable process control and predictable performance.**

Hydraulic Valve Block

## RMS™ MULTI-FLUTE REAMING

### CHALLENGE

- Rinse slider bore Ø .375" (9,534mm).
- Tolerance range 6 µm.
- Ductile cast iron 0.7060.
- Three interrupted cuts at a reaming depth of 100mm.
- Special dimensional accuracy requirement.

### SOLUTION

- RMS solid carbide reamer engineered solution.
- Special back taper configuration and support margins lands.
- KC6305™ TiAlN coated carbide.

### CUTTING DATA

- vc 492 SFM (150 m/min).
- f .028 IPR (0,72 mm/rev).

### RESULT

- **Tool life of 500 pieces.**

### BENEFIT

- **Speed and feed rates are almost 30x faster, resulting in higher productivity.**
- **Less scrap due to consistent accuracy.**

Hydraulic Valve Block

## PCD COUNTERSINKING

### CHALLENGE

- Thread core hole Ø .945" (24mm).
- Tolerance range 21 µm F7.
- Aluminum AlSi9Cu3.
- Pre-drilled hole.
- Machining center DV40 with internal coolant.

### SOLUTION

- PCD-tipped, carbide-based tool with internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 360–750 m/min n = 7,500 RPM.
- f .008 IPR (0,20 mm/rev).

### RESULT

- **Tool life of 100,000 holes.**
- **Surface finish Ra 0.1 µm.**

### BENEFIT

- **Productivity increase due to combining two operations into one.**
- **Carbide base increases tool life and accuracy.**

ABS Valve Block

## PCD COUNTERSINKING

### CHALLENGE

- Bearing bores Ø 20,99 and 24,275mm.
- Tolerance range 20 µm.
- Aluminum AlSi1.
- Pre-casted hole with 0,15mm depth of cut.
- Machining center HSK63A with internal coolant.

### SOLUTION

- PCD-tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

### CUTTING DATA

- vc 984 SFM (300 m/min).
- f .014 IPR (0,35 mm/rev).

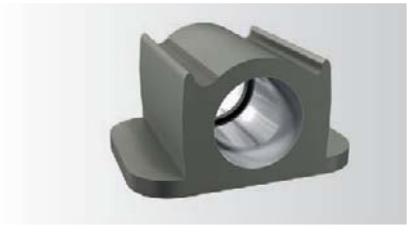
### RESULT

- **Surface finish Ra 0.4–0.6 µm.**

### BENEFIT

- **Very stable process control and predictable performance.**
- **Very favorable chip creation.**

Bearing Seat



KST pre-loaded taper face contact interface

## RHM™ MODULAR REAMING

### CHALLENGE

- Reaming Ø 1.378" (35mm).
- Tolerance range 20 µm.
- Carbon steel, annealed, long-chipping.
- Blind hole limiting chip evacuation.
- Machining center with internal coolant.

### SOLUTION

- RHM modular reamer with eight cutting edges.
- KT325™ uncoated cermet.
- Standard lead geometry.
- Short engineered-solution axial clamping tool body.

### CUTTING DATA

| | |
|---|---|
| • vc 394 SFM | (120 m/min). |
| • f .046 IPR | (1,18 mm/rev). |

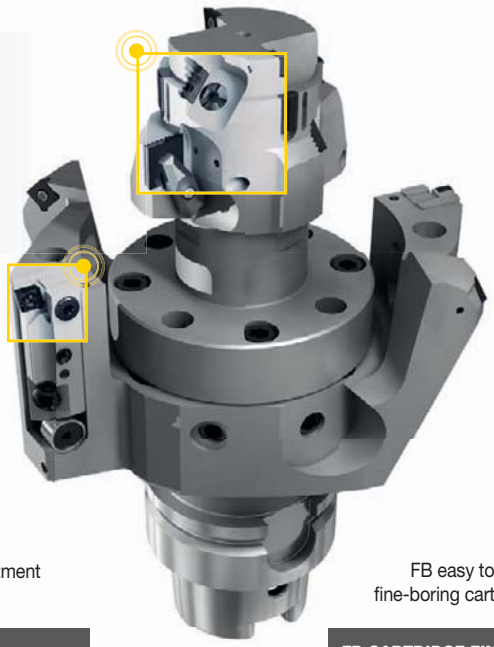
### RESULT

- **Tool life of 145,000 holes.**
- **Surface finish better than Rz 6.3 µm.**

### BENEFIT

- **Predictable tool life as only 2 µm diameter deviation after 10,000 holes.**

Bearing Seat



RIQ single adjustment screw setup

FB easy to setup fine-boring cartridges

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Reaming Ø 1.850" (47mm).
- Tolerance range 19 µm N6.
- Aluminum AlSi9Cu3.
- Machine four different diameters, two spot faces, and four different chamfers with one tool.

### SOLUTION

- RIQ padded reamer with full-face PCD KD1415™ insert having four cutting edges.
- SIF™ steerable interface between reaming and fine boring section.

### CUTTING DATA

- vc 774 SFM (236 m/min).
- f .003 IPR (R0,08 mm/rev).

### RESULT

- **Surface finish better than Rz 16 µm.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **Less operations increase productivity.**
- **Higher accuracy than multiple operations.**
- **Full-face PCD inserts reduce cost per hole.**

## FB CARTRIDGE FINE–BORING

### CHALLENGE

- Reaming Ø 5.669" (144mm).
- Tolerance range 40 µm H7.
- Aluminum AlSi9Cu3.
- Machine two different diameters.

### SOLUTION

- Standard FB fine-boring cartridges with almost backlash-free fine adjustment.
- CCGW060204 KD1415™.

### CUTTING DATA

- vc 2,372 SFM (723 m/min).
- f .003 IPR (0,08 mm/rev).

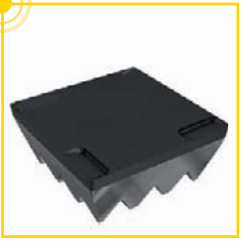
### RESULT

- **Surface finish better than Rz 16 µm.**

### BENEFIT

- **Radial adjustment does not influence axial adjustment of inserts resulting in faster setup.**
- **Productivity increase with less operations.**
- **More accurate than previous solution.**

Pump Housing



Full-face PCD insert with chipformer geometry

## RIQ™ QUATTRO CUT™ PADDED REAMING

### CHALLENGE

- Piston bore Ø .728" (18,5mm).
- Tolerance range 21 µm H7.
- Aluminum.
- Heavy interrupted cut and surface finish Rz 6.3.
- Machining center with internal coolant.

### SOLUTION

- RIQ padded reamer with helical chip flute and helical solid carbide guide pad.
- Full-face KD1415™ insert having four cutting edges.
- Positive wiper insert geometry.

### CUTTING DATA

- vc 755 SFM (230 m/min).
- f .006 IPR (0,15 mm/rev).

### RESULT

- **No chip evacuation issues.**
- **No bur, marks, or scratches at entrance or exit of interruptions.**

### BENEFIT

- **No insert back taper adjustment needed.**
- **Half cycle time compared to previous competitive tooling.**

Valve Housing

## ROMICRON™ FINE BORING

### CHALLENGE

- Various bore Ø 6.7–18.9" (170–480mm).
- Tolerance range 75 µm.
- Cast iron GG25.
- Automated wear compensation at interrupted cut.
- Machining center HSK100 with internal coolant.

### SOLUTION

- Semi-standard SVU120 CLB head with engineered-solution diameter extender and automatic wear compensation with CLB.
- CPGW09T308S01015C KB1630™.

### CUTTING DATA

- vc 2,625 SFM (800 m/min).
- f .005 IPR (0,12 mm/rev).

### RESULT

- **Tool life of 1,200 minutes per insert.**
- **Surface finish better than Rz 16 µm.**

### BENEFIT

- **More than 30% reduction in manufacturing lead time.**
- **Third shift and weekend without operators.**
- **1 µm per click in radius adjustment executed by machine.**

Wind Energy Housing

1 µm per click in
radius adjustment

## ROMICRON™ FINE BORING

### CHALLENGE

- Flange Ø 49.6–55.1" (1260–1400mm).
- Tolerance range 125 µm H7.
- Cast iron GGG40.
- One base bridge for multiple diameters.
- Machining center without coolant.

### SOLUTION

- Romicron standard modular MF40 element with engineered-solution aluminum bridge.
- CPGT060204/08HP KC5410™.

### CUTTING DATA

- vc 650 SFM (200 m/min).
- f .005 IPR (0,12 mm/rev).

### RESULT

- **Tool life of 73 min.**

### BENEFIT

- **Investment saving as only one base bridge needed.**
- **Use of standard off-the-shelf Romicron tool.**
- **Ease of use due to Romicron.**

Synchronous Joint

Balanced-by-design

## ROMICRON™ FINE BORING

### CHALLENGE

- Pin machining Ø .512" (13mm).
- Tolerance range 6 µm.
- Steel 42CrMo4 (4140).
- Machining center with internal coolant.

### SOLUTION

- Romicron standard HSK63ASVUBB1095MCLB head with engineered solution pin boring bar.
- TCMT110202FP KTP10™.

### CUTTING DATA

- vc 525 SFM (160 m/min).
- f .004 IPR (0,1 mm/rev).

### RESULT

- **Tool life of 300–450 components per insert.**
- **Surface finish Ra 0.3** µm.
- **Cpk value ≥1,33.**

### BENEFIT

- **Use of standard off-the-shelf Romicron tooling.**
- **Bore tolerance of 6 µm consistently achieved due to 1 µm per click in radius adjustment.**

Wind Energy

# ModBORE™

# For the **Big Jobs!**

The ModBore system includes tooling ranges from highly flexible roughing and fine-boring heads to large bridge tooling, with an optimum amount of tooling components. This premium boring line enables roughing to fine-boring operations using one system with a large diameter range from 9,75–2,205mm (.384–86.8"). ModBORE can be used in most workpiece materials in metalcutting applications with the latest Kennametal standard ISO turning inserts.

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

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# Tapping


Taps Introduction ..... L2–L19

Spiral-Point/Left-Hand Spiral-Flute Taps ..... M2–M41

Spiral-Flute Taps ..... M42–M104

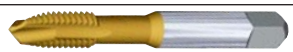
Straight-Flute Taps ..... M106–M134

Forming Taps ..... M136–M148

Pipe Taps ..... M150–M158

Solid Carbide Thread Mills ..... M160–M177

Technical Information ..... M178–M216

| Spiral-Point and Left-Hand Spiral-Flute Taps | series | grade/coating | shank/dimension | ● first choice ○ alternate choice P | M | K | N | S | H |
|---|---|---|---|---|---|---|---|---|---|
| | **T320** | KC7542 | 6535 HA | ● | | ○ | | | |
| | **T320** | KC7542 | 6535 HA | ● | | ○ | | | |
| | **T321** | KC7542 | 6535 HA | ● | | ○ | | | |
| | **T620** | KP6525, KM6515 | ANSI 302A | ● | ● | ○ | ○ | | |
| | **T620** | KP6525 | DIN 371, 376 | ● | ○ | ○ | | | |
| | **T620** | KP6525 | DIN 371, 376 | ● | ○ | ○ | | | |
| | **T621** | KP6525 | DIN 371, 376 | ● | ○ | ○ | | | |
| | **T620** | KP6525, KM6515 | ANSI 302A | ● | ● | ○ | ○ | | |
| | **T620** | KP6525, KM6515 | DIN 371, 374, 376 | ● | ● | ○ | ○ | | |
| | **T621** | KP6525, KM6515 | DIN 371, 374, 376 | ● | ● | ○ | ○ | | |
| | **T620** | KP6525 | DIN 376 | ● | | ● | | | |
| | **T620** | KP6525 | XL | ● | | ● | | | |
| | **T690** | KSP27, KSS29 | ANSI 302A | | | | | ● | |
| | **T690** | KSP27, KSS29 | ANSI 302A | | | | | ● | |
| | **T660** | KSSM24, KSS20 | ANSI 302A | | | | | ● | |
| | **T660** | KSSM24, KSS20 | ANSI 302A | | | | | ● | |
| | **T672** | KSMN34 | DIN/ANSI | | | | ● | | |
| | **T672** | KSMN34 | DIN/ANSI | | | | ● | | |
| | **T600** | KSP21 | DIN 371, 374, 376 | ● | | | | ○ | |
| | **T820** | KSP32, KSMN24, KSP39 | ANSI 302A | ● | ● | ● | ● | | |
| | **T820** | KSP39 | DIN 371, 376 | ○ | ○ | ○ | | | |
| | **T822** | KSP32, KSMN24, KSP39 | ANSI 302A | ● | ● | ● | ● | | |
| | **T820** | KSP32, KSMN24, KSP39 | ANSI 302A | ● | ● | ● | ● | | |
| | **T822** | KSP32, KSMN24, KSP39 | ANSI 302A | ● | ● | ● | ● | | |
| | **T820** | KSP32, KSP39 | DIN 371, 374, 376 | ● | ○ | ● | ○ | | |
|  | **T820** | KSU31, KSU30 | JIS | ● | ○ | ○ | ○ | | |
| | **T820** | KSP39 | Extend 4" | ○ | ○ | ○ | | | |
| | **T820** | KSP39 | Extend 6" | ○ | ○ | ○ | | | |
| | **KHSST Spiral Point** | TiCN, TiN, oxide, uncoated | ANSI 302 | ● | ● | ● | ● | ● | |
| | **KHSST Spiral Point Oversized PD** | uncoated | ANSI 302 | ● | ○ | ○ | ○ | | |
| | **KHSST Spiral Point Extended Length** | uncoated | Extend 6" | ● | ○ | ○ | ○ | | |
| | **KHSST Spiral Point Heavy Duty** | oxide/nitride | ANSI 302 | ● | ○ | ○ | ○ | | |
| | **KHSST Spiral Point Bottoming** | uncoated | ANSI 302 | ● | ○ | ○ | ○ | | |
| | **KHSST Spiral Point** | TiN, uncoated | ANSI 302 | ● | ○ | ○ | ● | | |

| | size range min-max | hole | | chamfer | | helix angle | coolant | | page(s) | recommended cutting parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| | | through | blind | type | form | | flood | through | | |
| | 3/8–1/2" | ● | | plug | D | L15° | ● | | M4 | M178 |
| | M6–M16 | ● | | plug | D | L15° | ● | | M4 | M178 |
| | M10–M16 | ● | | plug | D | L15° | | ● | M5 | M178 |
| | #2–3/4" | ● | | plug | D | L15° | ● | | M6–M7 | M179–M180 |
| | #6–1/2" | ● | | plug | D | L15° | ● | | M8 | M179–M180 |
| | #6–1/2" | ● | | plug | D | L15° | ● | | M8 | M179–M180 |
| | 1/4–1/2" | ● | | plug | D | L15° | | ● | M9 | M179–M180 |
| | M3–M12 | ● | | plug | D | L15° | ● | | M10 | M179–M180 |
| | M3–M20 | ● | | plug | D | L15° | ● | | M11 | M179–M180 |
| | M5–M18 | ● | | plug | D | L15° | | ● | M12 | M179–M180 |
| | M24–M42 | ● | | plug | D | L15° | ● | | M13 | M179–M180 |
| | M24–M42 | ● | | plug | D | L15° | | ● | M14 | M179–M180 |
| | #2–3/4" | ● | | plug | D | L15° | ● | | M15–16 | M179–M180 |
| | M2,5–M12 | ● | | plug | D | L15° | ● | | M17 | M179–M180 |
| | #2–1" | ● | | plug | D | L15° | ● | | M18 | M179–M180 |
| | M2,5–M12 | ● | | plug | D | L15° | ● | | M19 | M179–M180 |
| | #2–1/2" | ● | | plug | D | L15° | ● | | M20 | M179–M180 |
| | M3–M12 | ● | | plug | D | L15° | ● | | M21 | M179–M180 |
| | M3–M20 | ● | | plug | B | 0° | ● | | M22 | M179–M180 |
| | #2–1 1/4" | ● | | plug | B | 0° | ● | | M23–M25 | M181–M182 |
| | #4–1" | ● | | plug | B | 0° | ● | | M26–M27 | M181–M182 |
| | #5–#12 | ● | | plug | B | 0° | ● | | M28 | M181–M182 |
| | M3–M16 | ● | | plug | B | 0° | ● | | M29 | M181–M182 |
| | M3–M5 | ● | | plug | B | 0° | ● | | M30 | M181–M182 |
| | M2–M36 | ● | | plug | B | 0° | ● | | M31–M32 | M181–M182 |
| | M3–M20 | ● | | plug | B | 0° | ● | | M33 | M181–M182 |
| | #4–1/4" | ● | | plug | B | 0° | ● | | M34 | M181–M182 |
| | #4–5/8" | ● | | plug | B | 0° | ● | | M35 | M181–M182 |
| | #0–3/4" | ● | | plug | – | 0° | ● | | M36 | M183 |
| | 1/4–1/2" | ● | | plug | – | 0° | ● | | M37 | M183 |
| | #6–3/8" | ● | | plug | – | 0° | ● | | M38 | M183 |
| | #6–3/4" | ● | | plug | – | 0° | ● | | M39 | M183 |
| | #0–5/16" | | ● | bottoming | – | 0° | ● | | M40 | M183 |
| | M1,6–M20 | ● | | plug | – | 0° | ● | | M41 | M183 |

| Spiral-Flute Taps | series | grade/coating | shank/dimension | ● first choice ○ alternate choice | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | P | M | K | N | S | H |
| | T331 | KC7542 | 6535 HA | ● | | ○ | | | |
| | T331 | KC7542 | 6535 HA | ● | | ○ | | | |
| | T630 | KP6525, KM6515 | ANSI 302A | ● | ● | ○ | ○ | | |
| | T630 | KP6525 | DIN 371, 376 | ● | ○ | ○ | | | |
| | T630 | KP6525 | DIN 371, 376 | ● | ○ | ○ | | | |
| | T631 | KP6525 | DIN 371, 376 | ● | ○ | ○ | | | |
| | T630 | KP6525, KM6515 | ANSI 302A | ● | ● | ○ | ○ | | |
| | T630 | KP6525, KM6515 | DIN 371, 374, 376 | ● | ● | ○ | ○ | | |
| | T631 | KP6525, KM6515 | DIN 371, 374, 376 | ● | ● | ○ | ○ | | |
| | T632 | KP6525 | DIN 371, 374, 376 | ● | | ○ | | | |
| | T633 | KP6525 | DIN 371, 374, 376 | ● | | ○ | | | |
| | T630 | KP6525 | DIN 376 | ● | | ● | | | |
| | T631 | KP6525 | DIN 376 | ● | | ● | | | |
| | T630 | KP6525 | XL | ● | | ● | | | |
| | T631 | KP6525 | XL | ● | | ● | | | |
| | T650 | KP6525 | DIN 376 | ● | | ● | | | |
| | T651 | KP6525 | DIN 376 | ● | | ● | | | |
| | T650 | KP6525 | XL | ● | | ● | | | |
| | T651 | KP6525 | XL | ● | | ● | | | |
| | T692 | KSP27, KSS29 | ANSI 302A | | | | | ● | |
| | T692 | KSP27, KSS29 | ANSI 302A | | | | | ● | |
| | T694 | KSP27, KSS29 | ANSI 302A | | | | | ● | |
| | T662 | KSSM24, KSS20 | ANSI 302A | | | | | ● | |
| | T662 | KSSM24, KSS20 | ANSI 302A | | | | | ● | |
| | T682 | KSMN34 | DIN/ANSI | | | | ● | | |
| | T682 | KSMN34 | DIN/ANSI | | | | ● | | |
| | T686 | KSMN34 | DIN/ANSI | | | | ● | | |
| | T686 | KSMN34 | DIN/ANSI | | | | ● | | |
| | T604 | KSH26 | DIN 371, 374, 376 | ● | | | | ○ | |

| | size range min-max | hole | | chamfer | | helix angle | coolant | | page(s) | recommended cutting parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| | | through | blind | type | form | | flood | through | | |
| | 1/4–1/2” | | ● | semi-bottoming | C | 45° | | ● | M44 | M178 |
| | M6–M16 | | ● | semi-bottoming | C | 45° | | ● | M45 | M178 |
| | #2–1” | | ● | semi-bottoming | C | 45° | ● | | M46 | M179–M180 |
| | #6–1/2” | | ● | semi-bottoming | C | 45° | ● | | M47 | M179–M180 |
| | #6–1/2” | | ● | semi-bottoming | C | 45° | ● | | M47 | M179–M180 |
| | 1/4–1/2” | | ● | semi-bottoming | C | 45° | | ● | M48 | M179–M180 |
| | M3–M16 | | ● | semi-bottoming | C | 45° | ● | | M49 | M179–M180 |
| | M3–M20 | | ● | semi-bottoming | C | 45° | ● | | M50 | M179–M180 |
| | M5–M18 | | ● | semi-bottoming | C | 45° | | ● | M51 | M179–M180 |
| | M5–M16 | | ● | bottoming | E | 45° | ● | | M52 | M179–M180 |
| | M5–M16 | | ● | bottoming | E | 45° | | ● | M53 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 45° | ● | | M54 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 45° | | ● | M55 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 45° | ● | | M56 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 45° | | ● | M57 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 15° | ● | | M58 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 15° | | ● | M59 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 15° | ● | | M60 | M179–M180 |
| | M24–M42 | | ● | semi-bottoming | C | 15° | | ● | M61 | M179–M180 |
| | #2–3/4” | | ● | 3-4 pitches | – | 10° | ● | | M62–M63 | M179–M180 |
| | M2,5–M12 | | ● | 3-4 pitches | – | 10° | ● | | M64 | M179–M180 |
| | #4–5/8” | | ● | bottoming | E | 10° | ● | | M65 | M179–M180 |
| | #2–1” | | ● | semi-bottoming | C | 10° | ● | | M66–M67 | M179–M180 |
| | M2,5–M12 | | ● | semi-bottoming | C | 10° | ● | | M68 | M179–M180 |
| | #2–1/2” | | ● | semi-bottoming | C | 45° | ● | | M69 | M179–M180 |
| | M3–M12 | | ● | semi-bottoming | C | 45° | ● | | M70 | M179–M180 |
| | #2–1/2” | | ● | semi-bottoming | C | 25° | ● | | M71 | M179–M180 |
| | M3–M12 | | ● | semi-bottoming | C | 25° | ● | | M72 | M179–M180 |
| | M3–M20 | | ● | semi-bottoming | C | 42° | ● | | M73 | M179–M180 |

*(continued)*

*(Spiral-Flute Taps Selection Guide — continued)*

| Spiral-Flute Taps | series | grade/coating | shank/dimension | ● first choice ○ alternate choice P | M | K | N | S | H |
|---|---|---|---|---|---|---|---|---|---|
| | **T830** | KSP32, KSMN24, KSP39 | ANSI 302A | ● | ● | ● | ● | | |
| | **T832** | KSP39 | ANSI 302A | ○ | ○ | ○ | | | |
| | **T838** | KSP32, KSP39 | ANSI 302A | ● | ○ | ● | ○ | | |
| | **T839** | KSP39 | ANSI 302A | ○ | ○ | ○ | | | |
| | **T830** | KSP39 | DIN 371, 376 | ○ | ○ | ○ | | | |
| | **T838** | KSU31, KSP39 | DIN 371, 374, 376 | ● | ○ | ○ | ○ | | |
| | **T830** | KSP32, KSMN24, KSP39 | ANSI 302A | ● | ● | ● | ● | | |
| | **T832** | KSP39 | ANSI 302A | ○ | ○ | ○ | | | |
| | **T838** | KSP32, KSP39 | ANSI 302A | ● | ○ | ● | ○ | | |
| | **T839** | KSP39 | ANSI 302A | ○ | ○ | ○ | | | |
| | **T830** | KSP32, KSP39 | DIN 371, 374, 376 | ● | ○ | ● | ○ | | |
| | **T832** | KSP32, KSP39 | DIN 371, 374, 376 | ● | ○ | ● | ○ | | |
| | **T838** | KSU31, KSP39 | DIN 371, 374, 376 | ● | ○ | ○ | ○ | | |
| | **T839** | KSU31, KSP39 | DIN 371, 376 | ● | ○ | ○ | ○ | | |
| | **T830** | KSU31, KSU30 | JIS | ● | ○ | ○ | ○ | | |
| | **T830** | KSP39 | Extend 4" | ○ | ○ | ○ | | | |
| | **T830** | KSP39 | Extend 6" | ○ | ○ | ○ | | | |
| | **T832** | KSP39 | Extend 6" | ○ | ○ | ○ | | | |
| | **KHSST Spiral Flute** | TiN, uncoated | ANSI 302A | ● | ○ | ○ | ● | | |
| | **KHSST Spiral Flute** | TiCN, TiN, uncoated | ANSI 302A | ● | ○ | ○ | ● | | |
| | **KHSST Spiral Flute Heavy Duty** | Oxide | ANSI 302A | ● | ○ | ○ | | | |

| | size range min-max | hole | | chamfer | | helix angle | coolant | | page(s) | recommended cutting parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| | | through | blind | type | form | | flood | through | | |
| | #2–1 1/8" | | ● | semi-bottoming | C | 45° | ● | | M74–M76 | M181–M182 |
| | #4–3/4" | | ● | bottoming | E | 45° | ● | | M77–M78 | M181–M182 |
| | #2–1 1/8" | | ● | semi-bottoming | C | 45° | ● | | M79–M81 | M181–M182 |
| | #4–3/4" | | ● | bottoming | E | 45° | ● | | M82–M83 | M181–M182 |
| | #4–1" | | ● | semi-bottoming | C | 45° | ● | | M84, M87 | M181–M182 |
| | #6–2" | | ● | semi-bottoming | C | 45° | ● | | M85–M86 | M181–M182 |
| | M3–M18 | | ● | semi-bottoming | C | 45° | ● | | M88 | M181–M182 |
| | M3–M18 | | ● | bottoming | E | 45° | ● | | M89 | M181–M182 |
| | M3–M18 | | ● | semi-bottoming | C | 45° | ● | | M90 | M181–M182 |
| | M3–M18 | | ● | bottoming | E | 45° | ● | | M91 | M181–M182 |
| | M2–M36 | | ● | semi-bottoming | C | 45° | ● | | M92–M93 | M181–M182 |
| | M3–M20 | | ● | bottoming | E | 45° | ● | | M94 | M181–M182 |
| | M2–M52 | | ● | semi-bottoming | C | 45° | ● | | M95–M96 | M181–M182 |
| | M3–M20 | | ● | bottoming | E | 45° | ● | | M97 | M181–M182 |
| | M3–M20 | | ● | semi-bottoming | C | 45° | ● | | M98 | M181–M182 |
| | #4–1/4" | | ● | semi-bottoming | C | 45° | ● | | M99 | M181–M182 |
| | #4–5/8" | | ● | semi-bottoming | C | 45° | ● | | M100 | M181–M182 |
| | #4–7/16" | | ● | bottoming | E | 45° | ● | | M101 | M181–M182 |
| | #4–3/4" | | ● | bottoming | – | 45° | ● | | M102 | M183 |
| | M3–M10 | | ● | bottoming | – | 45° | ● | | M103 | M183 |
| | #6–3/4" | | ● | plug | – | 45° | ● | | M104 | M183 |

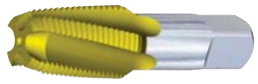
| Straight-Flute Taps | series | grade/coating | shank/dimension | ● first choice ○ alternate choice P | M | K | N | S | H |
|---|---|---|---|---|---|---|---|---|---|
| | **T340** | KCK17 | 6535 HA | ○ | | ● | | | |
| | **T340** | KCK17 | 6535 HA | ○ | | ● | | | |
| | **T351** | KCK17 | 6535 HA | ○ | | ● | | | |
| | **T351** | KCK17 | 6535 HA | ○ | | ● | | | |
| | **T351** | KCK17 | DIN 371, 374, 376 | ○ | | ● | | | |
| | **T353** | KCK17 | DIN 371, 376 | ○ | | ● | | | |
| | **T471** | KCN14 | 6535 HA | | | | ● | | |
| | **T471** | KCN14 | DIN 371 | | | | ● | | |
| | **T410** | KCU36 | DIN 371, 374, 376 | | | | | | ● |
| | **T640** | KP6525 | ANSI 302A | | | ● | ● | | |
| | **T640** | KP6525 | DIN 371, 376 | | | ● | ● | | |
| | **T640** | KP6525 | DIN 371, 376 | | | ● | ● | | |
| | **T641** | KP6525 | DIN 371, 376 | | | ● | ● | | |
| | **T640** | KP6525 | DIN 371, 376 | | | ● | ● | | |
| | **T641** | KP6525 | DIN 371, 376 | | | ● | ● | | |
| | **T642** | KP6525 | DIN 371, 374, 376 | | | ● | ● | | |
| | **T643** | KP6525 | DIN 371, 374, 376 | | | ● | ● | | |
| | **KHSST Hand Plug** | TiCN, TiN, oxide, uncoated | ANSI 302 | ● | ● | ● | ● | ● | |
| | **KHSST Hand Bottoming** | TiCN, TiN, oxide, uncoated | ANSI 302 | ● | ● | ● | ● | ● | |
| | **KHSST Hand Plug** | TiN, uncoated | ANSI 302 | ● | ○ | ○ | ● | | |
| | **KHSST Hand Bottoming** | uncoated | ANSI 302 | ● | ○ | ○ | ● | | |
| | **KHSST Hand Left Hand Plug** | uncoated | ANSI 302 | ● | ○ | ○ | ○ | | |
| | **KHSST Hand Ext. Length Plug** | uncoated | Extend 6" | ● | ○ | ○ | ○ | | |
| | **KHSST Hand Ext. Length Bottoming** | uncoated | Extend 6" | ● | ○ | ○ | ○ | | |

* Through coolant 1/4", M6 and larger.

| | size range min-max | hole | | chamfer | | helix angle | coolant | | page(s) | recommended cutting parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| | | through | blind | type | form | | flood | through | | |
| | #6–9/16" | ● | | plug | D | 0° | ● | | M108 | M178 |
| | M4–M20 | ● | | plug | D | 0° | ● | | M109 | M178 |
| | #6*–3/4" | | ● | bottoming | E | 0° | | ● | M110 | M178 |
| | M4*–M16 | | ● | bottoming | E | 0° | | ● | M111 | M178 |
| | M6–M14 | | ● | bottoming | E | 0° | | ● | M112 | M178 |
| | M4*–M14 | | ● | semi-bottoming | C | 0° | | ● | M113 | M178 |
| | M6–M14 | | ● | bottoming | E | 0° | | ● | M114 | M178 |
| | M6–M10 | | ● | bottoming | E | 0° | | ● | M115 | M178 |
| | M3–M16 | | ● | semi-bottoming | C | 0° | ● | | M116 | M178 |
| | #10–3/4" | ● | ● | semi-bottoming | C | 0° | ● | | M117 | M179–M180 |
| | #6–1/2" | ● | ● | semi-bottoming | C | 0° | ● | | M118 | M179–M180 |
| | #6–1/2" | ● | ● | semi-bottoming | C | 0° | ● | | M118 | M179–M180 |
| | 1/4–1/2" | | ● | semi-bottoming | C | 0° | | ● | M119 | M179–M180 |
| | M4–M22 | ● | ● | semi-bottoming | C | 0° | ● | | M120 | M179–M180 |
| | M5–M20 | | ● | semi-bottoming | C | 0° | | ● | M121 | M179–M180 |
| | M5–M16 | ● | ● | bottoming | E | 0° | ● | | M122 | M179–M180 |
| | M5–M16 | | ● | bottoming | E | 0° | | ● | M123 | M179–M180 |
| | #0–1 1/2" | ● | | plug | – | 0° | ● | | M124–M126 | M183 |
| | #0–1 1/2" | | ● | bottoming | – | 0° | ● | | M127–M129 | M183 |
| | M1,6–M36 | ● | | plug | – | 0° | ● | | M130 | M183 |
| | M2–M24 | | ● | bottoming | – | 0° | ● | | M131 | M183 |
| | 1/4–3/4" | ● | | plug | – | 0° | ● | | M132 | M183 |
| | #6–3/8" | ● | | plug | – | 0° | ● | | M133 | M183 |
| | #10–3/8" | | ● | bottoming | – | 0° | ● | | M134 | M183 |

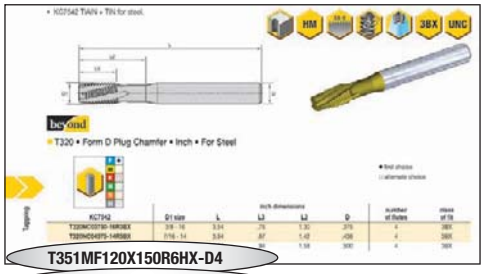
| Forming Taps | series | grade/coating | shank/dimension | ● first choice ○ alternate choice | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | P | M | K | N | S | H | |
| | **T491** | KCN14 | 6535 HA | | | | ● | | | |
| | **T491** | KCN14 | DIN 2174 | | | | ● | | | |
| | **T622** | KSP21, KSN28 | DIN 2174 | ● | | | ● | | | |
| | **T623** | KSP21, KSN28 | DIN 2174 | ● | | | ● | | | |
| | **T624** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T625** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T626** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T627** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T624** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T625** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T626** | KSP27 | DIN/ANSI | ● | ○ | | | | | |
| | **T627** | KSP27 | DIN/ANSI | ● | ○ | | | | | |

| | size range min-max | hole | | chamfer | | helix angle | coolant | | page(s) | recommended cutting parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| | | through | blind | type | form | | flood | through | | |
| | M5–M12 | | ● | bottoming | E | – | | ● | M138 | M178 |
| | M6–M10 | | ● | bottoming | E | – | | ● | M138 | M178 |
| | M3–M16 | ● | ● | semi-bottoming | C | – | ● | | M139 | M179–M180 |
| | M5–M16 | | ● | semi-bottoming | C | – | | ● | M140 | M179–M180 |
| | #6–3/4" | ● | ● | semi-bottoming | C | – | ● | | M141 | M179–M180 |
| | 1/4–3/4" | | ● | semi-bottoming | C | – | | ● | M142 | M179–M180 |
| | #2–3/4" | | ● | bottoming | E | – | ● | | M143 | M179–M180 |
| | 1/4–3/4" | | ● | bottoming | E | – | | ● | M144 | M179–M180 |
| | M3–M16 | ● | ● | semi-bottoming | C | – | ● | | M145 | M179–M180 |
| | M6–M16 | | ● | semi-bottoming | C | – | | ● | M146 | M179–M180 |
| | M3–M16 | | ● | bottoming | E | – | ● | | M147 | M179–M180 |
| | M6–M16 | | ● | bottoming | E | – | | ● | M148 | M179–M180 |

| Pipe Taps | series | grade/coating | shank/dimension | ● first choice ○ alternate choice P | M | K | N | S | H | |
|---|---|---|---|---|---|---|---|---|---|---|
|  | **T854** | KSU31, KSP39 | ANSI | ● | ○ | ○ | ○ | | | |
| | **T846** | KSU30 | ANSI | ○ | | ○ | | | | |
| | **T877** | KSU31, KSP39 | DIN 5156 | ● | ○ | ○ | ○ | | | |
| | **T857** | KSU31, KSP39 | DIN 5156 | ● | ○ | ○ | ○ | | | |
| | **T848** | KSU30 | DIN 5156 | ○ | | ○ | | | | |
| | **KHSST Taper Pipe** | TiN, uncoated | ANSI | ● | ○ | ○ | ● | | | |
| | **KHSST Straight Pipe** | uncoated | ANSI | ● | ○ | ○ | ○ | | | |

| | size range min-max | hole | | chamfer | | helix angle | coolant | | page(s) | recommended cutting parameters |
|---|---|---|---|---|---|---|---|---|---|---|
| | | through | blind | type | form | | flood | through | | |
| | 1/16–1" | ● | ● | standard | – | 15° | ● | | M152 | M181–M182 |
| | 1/8–3/4" | ● | ● | standard | – | 0° | ● | | M153 | M181–M182 |
| | 1/8–1" | ● | | plug | B | 0° | ● | | M154 | M181–M182 |
| | 1/8–1" | | ● | semi-bottoming | C | 42° | ● | | M155 | M181–M182 |
| | 1/16–1" | ● | ● | semi-bottoming | C | 0° | ● | | M156 | M181–M182 |
| | 1/16–2" | ● | ● | standard | – | 0° | ● | | M157 | M183 |
| | 1/8–1" | ● | ● | standard | – | 0° | ● | | M158 | M183 |

## Solid Carbide Tap Identification System




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Metric** | **T351** | **MF** | **120** | **X** | **150** | **R** | **6HX** | **-D4** |
| **Inch** | **T320** | **NC** | **05000** | **–** | **13** | **R** | **3BX** | |
| | Tap Design | Type of Thread | Nominal Diameter of Thread | | Pitch | Cutting Direction | Tolerance Class | Taps Dimension |
| | | | mm or inch (depending on type) | | mm or TPI (depending on type) | | | |

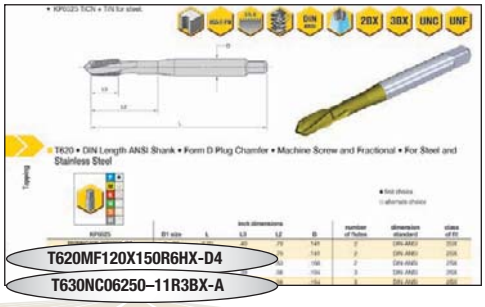
**M** = Metric coarse-pitch thread (ISO form)
**MF** = Metric fine-pitch thread (ISO form)
**NC** = Unified coarse series thread
**NF** = Unified fine series thread

**D1** = DIN 371
**D4** = DIN 374
**D6** = DIN 376
**D74** = DIN 2174
**blank** = 6535 HA

**Tap design**

**T320** = Steel, through holes, LH spiral flute, solid
**T321** = Steel, through holes, LH spiral flute, through coolant
**T331** = Steel, blind holes, RH spiral flute, through coolant
**T340** = Cast iron and cast aluminum, through holes, straight flute, solid
**T351** = Cast iron and cast aluminum, blind holes, straight flute, through coolant
**T353** = Cast iron and cast aluminum, blind holes, straight flute, through coolant
**T410** = Hard steel 55–63 HRC, through and blind holes, straight flute, solid
**T471** = Aluminum, blind holes, straight flute, through coolant
**T491** = Aluminum, blind holes, forming tap, through coolant

## HSS-E-PM Tap Identification System




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Metric** | **T620** | **MF** | **120** | **X** | **150** | **R** | **6HX** | **-D4** |
| **Inch** | **T630** | **NC** | **06250** | **–** | **11** | **R** | **3BX** | **-A** |
| | Tap Design | Type of Thread | Nominal Diameter of Thread | | Pitch | Cutting Direction | Tolerance Class | Taps Dimension |
| | | | mm or inch (depending on type) | | mm or TPI (depending on type) | | | |

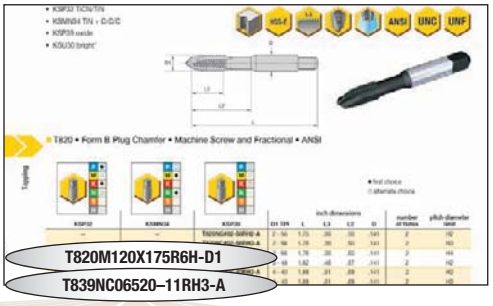
**M** = Metric coarse-pitch thread (ISO form)
**MF** = Metric fine-pitch thread (ISO form)
**NC** = Unified coarse series thread
**NF** = Unified fine series thread

**A** = ANSI
**DA** = DIN length and ANSI shank
**D1** = DIN 371
**D4** = DIN 374
**D6** = DIN 376
**D74** = DIN 2174
**XL** = DIN extra length

**Tap design**

**T620** = Steel and stainless steel, through holes, LH spiral flute, solid
**T621** = Steel and stainless steel, through holes, LH spiral flute, through coolant
**T624** = Steel and stainless steel, blind and through holes, forming tap, solid
**T625** = Steel and stainless steel, blind holes, forming tap, through coolant
**T626** = Steel and stainless steel, blind holes, forming tap, solid
**T627** = Steel and stainless steel, blind holes, forming tap, through coolant
**T630** = Steel and stainless steel, blind holes, RH spiral flute, solid
**T631** = Steel and stainless steel, blind holes, RH spiral flute, through coolant
**T632** = Steel and stainless steel, blind holes, RH spiral flute, solid
**T633** = Steel and stainless steel, blind holes, RH spiral flute, through coolant
**T640** = Cast iron and cast aluminum, through and blind holes, straight flute, solid
**T641** = Cast iron and cast aluminum, blind holes, straight flute, through coolant
**T642** = Cast iron and cast aluminum, blind holes, straight flute, solid
**T643** = Cast iron and cast aluminum, blind holes, straight flute, through coolant
**T650** = Steel and cast iron, blind holes, RH spiral flute, large sizes, solid
**T651** = Steel and cast iron, blind holes, RH spiral flute, large sizes, through coolant
**T660** = Titanium and titanium alloys, through holes, LH spiral flute, solid
**T662** = Titanium and titanium alloys, blind holes, RH spiral flute, solid
**T672** = Wrought and cast aluminum, through holes, LH spiral flutes, solid
**T682** = Wrought aluminum, blind holes, RH 45° spiral flutes, solid
**T686** = Cast aluminum, blind holes, RH 25° spiral flutes, solid
**T690** = Nickel and cobalt based alloys, through holes, LH spiral flute, solid
**T692** = Nickel and cobalt based alloys, blind holes, RH spiral flute, 3–4 pitches chamfer, solid
**T694** = Nickel and cobalt based alloys, blind holes, RH spiral flute, bottoming, solid

## GOtap HSS-E Tap Identification System




**Metric**

| T820 | M | 120 | X | 175 | R | 6H | -D1 |
|---|---|---|---|---|---|---|---|

**Inch**

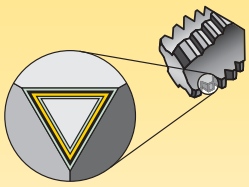
| T839 | NC | 06520 | – | 11 | R | H3 | -A |
|---|---|---|---|---|---|---|---|
| Tap Design | Type of Thread | Nominal Diameter of Thread | | Pitch | Cutting Direction | Tolerance Class | Taps Dimension |
| | | mm or inch (depending on type) | | mm or TPI (depending on type) | | | |

**M** = Metric coarse-pitch thread (ISO form)
**MF** = Metric fine-pitch thread (ISO form)
**NC** = Unified coarse series thread
**NF** = Unified fine series thread
**NPT** = American standard taper pipe thread
**NPTF** = Dryseal American standard taper pipe thread
**G** = DIN EN ISO 228

**A** = ANSI
**AS** = ANSI Small Shank
**D1** = DIN 371
**D4** = DIN 374
**D6** = DIN 376
**D56** = DIN 5156
**J** = JIS

**Tap design**

**T820** = Steel, stainless steel, ductile iron, and cast aluminum, through holes, spiral point, solid
**T822** = Steel, stainless steel, ductile iron, and cast aluminum, through holes, spiral point, 3 flute small tap, solid
**T830** = Steel, stainless steel, ductile iron, and cast aluminum, blind holes, spiral flute, semi-bottoming, solid
**T832** = Steel, stainless steel, ductile iron, and cast aluminum, blind holes, spiral flute, bottoming, solid
**T838** = Steel, stainless steel, ductile iron, and cast aluminum, blind holes, spiral flute, TC, semi-bottoming, solid
**T839** = Steel, stainless steel, ductile iron, and cast aluminum, blind holes, spiral flute, TC, bottoming, solid
**T846** = Mold steels, NPT, straight flute, solid
**T848** = Steel, stainless steel, ductile iron, and cast aluminum, straight flute, NPT, NPTF, solid
**T854** = Steel, stainless steel, ductile iron, and cast aluminum, spiral flute, NPT, NPTF, solid
**T857** = Steel, stainless steel, ductile iron, and cast aluminum, spiral flute, G, solid
**T877** = Steel, stainless steel, ductile iron, and cast aluminum, spiral point, G, solid



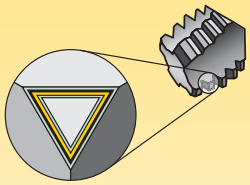
Coatings are designed for optimized tapping performance in specific materials.

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

wear resistance ← → toughness

Grade

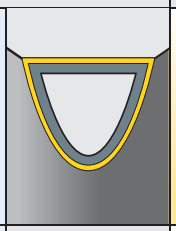
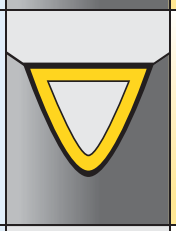
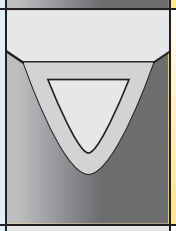
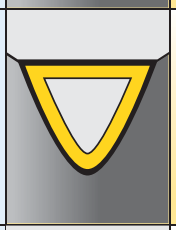
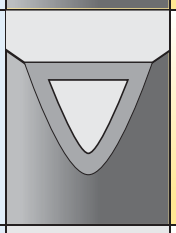
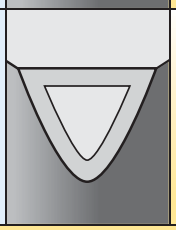
| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KC7542 | Coated carbide, PVD — multilayer coating with TiAlN and TiN over a high-strength carbide substrate specifically designed for tap application. Use in steel up to 32 HRC and cast iron at 4x faster speeds than HSS-E-PM taps. | P | ■ | ■ | ■ | | | | | | |
| | | K | ■ | ■ | ■ | | | | | | |
| KCK17 | Multilayer PVD AlCrN-coated fine-grain carbide. Newly-developed unique coating. Extraordinary wear resistance when tapping cast iron. High-temperature hardness enables long life at up to 4x faster speed than HSS-E-PM taps. | K | ■ | ■ | ■ | | | | | | |
| KCN14 | Coated carbide, PVD — two-layer coating over fine-grain carbide. Coating consists of low-friction CrC/C over wear-resistant TiN. CrC/C resists galling of non-ferrous materials to the tap. Provides superior performance for tapping cast aluminum and other non-ferrous materials. | N | ■ | ■ | ■ | | | | | | |
| KCU36 | Coated carbide. PVD — two-layer coating with heat-resistant TiAlN base layer and low-friction $MoS_2$ top layer over carbide substrate. Use in hardened steel 55–63 HRC. | H | | | | ■ | ■ | ■ | | | |
| KSP21 | Coated HSS-E-PM. PVD — powder metal HSS-E substrate with TiN coating. Use for tapping steel 32–44 HRC and for forming threads in steel 32 HRC. | P | | | | | | ■ | ■ | ■ | |
| KSH26 | Coated HSS-E-PM. PVD — powder metal HSS-E substrate coated with TiN base layer and low-friction $MoS_2$ top layer. Use in deep blind steel holes 32–44 HRC. | P | | | | | | ■ | ■ | ■ | |

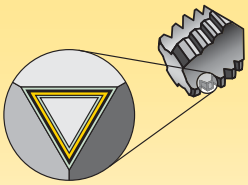


Coatings are designed for optimized tapping performance in specific materials.

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

wear resistance ⟷ toughness

| Grade | Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KP6525 |  | Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate coated with wear-resistant TiCN base layer and low-friction TiN top layer. Use in steel, cast iron, and cast aluminum with silicon. | P | | | | ■ | ■ | ■ | | | |
| | | | K | | | | | ■ | ■ | ■ | | |
| KM6515 |  | Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate. Coating consists of low-friction CrC/C over wear-resistant TiN base layer. Use for tapping stainless steel and non-ferrous materials. | M | | | | ■ | ■ | ■ | | | |
| | | | N | | | | | ■ | ■ | ■ | | |
| KSS20 |  | Surface treated HSS-E-PM: powder metal HSS-E-PM substrate with nitride surface treatment that provides wear resistance in non-ferrous materials including titanium. Use for tapping titanium and titanium alloys. | S | | | | | | | | ■ | ■ |
| KSSM24 |  | Coated HSS-E-PM, PVD: heat- and wear-resistant high- vanadium, high-cobalt powder metal HSS-E-PM substrate. Coating consists of low friction CrC/C over wear-resistant TiN base layer. Use for tapping titanium and titanium alloys. | S | | | | | ■ | ■ | ■ | | |
| KSP27 |  | Coated HSS-E-PM, PVD high vanadium cobalt powder metal HSS substrate coated with heat and wear-resistant multilayer AlCrTiN. Use in cobalt- or nickel-based heat-resistant alloys and steel. | P | | | | ■ | ■ | ■ | | | |
| | | | S | | | | ■ | ■ | ■ | | | |
| KSS29 |  | Surface treated HSS-E-PM powder metal HSS-E substrate with oxide/nitride surface treatment that provides wear resistance in nickel alloys. | S | | | | | | | ■ | ■ | ■ |

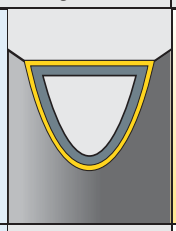
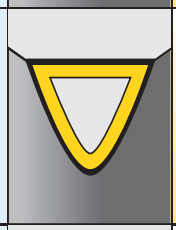
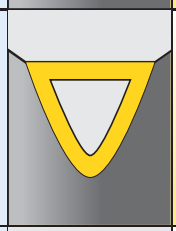
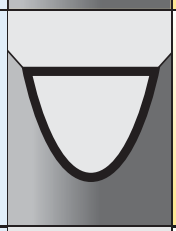
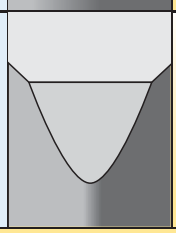


Coatings are designed for optimized tapping performance in specific materials.

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

wear resistance ← → toughness

Grade

| Coating | | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KSP32 |  | High-vanadium HSS-E substrate coated with wear-resistant TiCN base layer and low-friction TiN top layer. Use in multiple applications, including steel, stainless steel, ductile cast iron, and cast aluminum. KSP32 is abrasion resistant. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| | | | N | | | | | | | | | |
| KSMN34 |  | High-vanadium HSS-E substrate with a coating consists of low-friction CrC/C over wear-resistant TiN base layer. Use for tapping stainless steel and non-ferrous materials. | M | | | | | | | | | |
| | | | N | | | | | | | | | |
| KSU31 |  | Coated HSS-E substrate with TiN PVD layer. Use in multiple applications, including steel, stainless steel, ductile cast iron, and cast aluminum. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| | | | N | | | | | | | | | |
| KSP39 |  | HSS-E substrate with black oxide surface treatment. Use in a variety of materials, including steel, stainless steel, and ductile iron. Not recommended for non-ferrous materials. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| KSU30 |  | Uncoated HSS-E grade with bright surface. Use in easy to machine, general-purpose applications. | P | | | | | | | | | |
| | | | M | | | | | | | | | |
| | | | K | | | | | | | | | |
| | | | N | | | | | | | | | |

# Tapping Portfolio


**Spiral-Point/Left-Hand Spiral-Flute Taps ..... M2–M41**

Beyond High-Performance Solid Carbide Taps ..... M4–M5

High-Performance HSS-E-PM Taps ..... M6–M22

Multipurpose GOtap ..... M23–M35

General-Purpose Taps ..... M36–M41

**Spiral-Flute Taps ..... M42–M104**

Beyond High-Performance Solid Carbide Taps ..... M44–M45

High-Performance HSS-E-PM Taps ..... M46–M73

Multipurpose GOtap ..... M74–M101

General-Purpose Taps ..... M102–M104

**Straight-Flute Taps ..... M106–M134**

Beyond High-Performance Solid Carbide Taps ..... M108–M116

High-Performance HSS-E-PM Taps ..... M117–M123

General-Purpose Taps ..... M124–M134

**Forming Taps ..... M136–M148**

Beyond High-Performance Solid Carbide Taps ..... M138

High-Performance HSS-E-PM Taps ..... M139–M148

**Pipe Taps ..... M150–M158**

Multipurpose GOtap ..... M152–M156

General-Purpose Taps ..... M157–M158

**Solid Carbide Thread Mills ..... M160–M177**

**Taps and Thread Milling Application and Technical Information ..... M178–M216**

# Spiral-Point and Left-Hand Spiral-Flute Taps

## High-Performance Taps for Through-Hole Applications

- Steel and steel alloys.
- Stainless steel.
- Cast iron.
- Nickel- and cobalt-based alloys.
- Titanium and titanium alloys.
- Aluminum.
- Hard steel.

## High-Performance Beyond™ Solid Carbide Taps

- Left-hand spiral flute for optimal chip evacuation ahead of the tap.
- Runs up to 4x faster and 4x longer than conventional high-speed steel (HSS) taps.
- Ideal for long production runs where fewer tool changes result in greater productivity.
- For use on CNC machines with synchronous or rigid controls and precision toolholders.

## High-Performance Beyond™ HSS-E-PM Taps

- Left-hand spiral flute for optimal chip evacuation ahead of the tap.
- Higher strength and wider range of applications versus solid carbide taps.
- Higher tapping speed capability and longer tool life than conventional HSS-E taps.
- Can be used on either conventional or synchronous tapping machines.

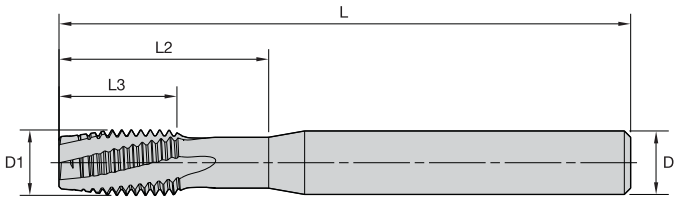
## Multipurpose HSS-E GOtap™ Taps

- Optimized spiral-point geometry for efficient chip evacuation in through-hole applications.
- Manufactured with high vanadium HSS-E material for exceptional wear characteristics and longer tool life.
- Advanced PVD coatings to reduce tapping torque, resulting in high-quality thread finish and longer tool life.
- For use in both synchronous and non-synchronous machines, including rigid, synchronous, and tension/compression tap holders.

## General-Purpose Taps

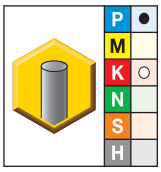
- High-quality spiral-point HSS taps for reliable, consistent performance.
- Wide range of sizes and pitch limits offered with PVD coatings and surface treatments.

• KC7542 TiAlN + TiN for steel.



beyond

## T320 • Form D Plug Chamfer • Inch • Solid Carbide • For Steel




● first choice
○ alternate choice

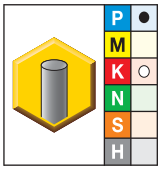
| KC7542 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| T320NC03750-16R3BX | 3/8 - 16 | 3.54 | .75 | 1.30 | .375 | 4 | 3BX |
| T320NC04375-14R3BX | 7/16 - 14 | 3.94 | .87 | 1.42 | .438 | 4 | 3BX |
| T320NC05000-13R3BX | 1/2 - 13 | 3.94 | .94 | 1.58 | .500 | 4 | 3BX |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

beyond

## T320 • Form D Plug Chamfer • Metric • Solid Carbide • For Steel




● first choice
○ alternate choice

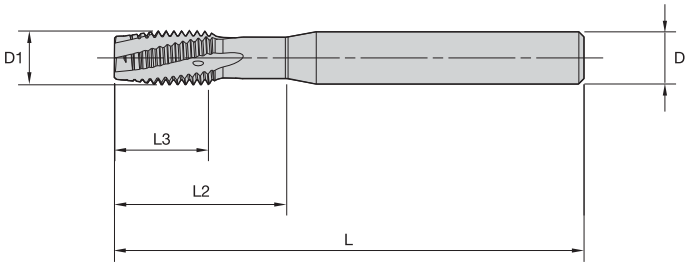
| KC7542 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| T320M060X100R6HX | M6 X 1 | 70 | 12 | 23 | 6,0 | 3 | 6HX |
| T320M080X125R6HX | M8 X 1,25 | 80 | 15 | 28 | 8,0 | 3 | 6HX |
| T320M100X150R6HX | M10 X 1,5 | 90 | 18 | 33 | 10,0 | 4 | 6HX |
| T320M120X175R6HX | M12 X 1,75 | 100 | 21 | 40 | 12,0 | 4 | 6HX |
| T320MF140X150R6HX * | M14 X 1,5 | 110 | 24 | 47 | 12,0 | 4 | 6HX |
| T320M160X200R6HX | M16 X 2 | 110 | 24 | 53 | 14,0 | 4 | 6HX |

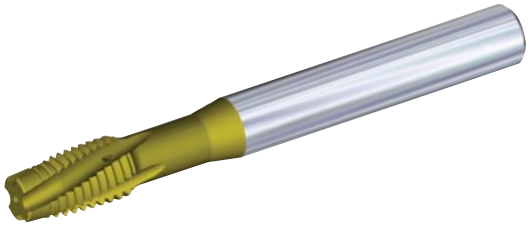
NOTE: Proprietary technology.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

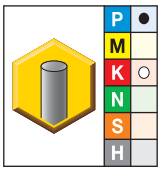
• KC7542 TiAlN + TiN for steel.



beyond

## T321 • Form D Plug Chamfer • Through Coolant • Metric • Solid Carbide • For Steel




● first choice
○ alternate choice

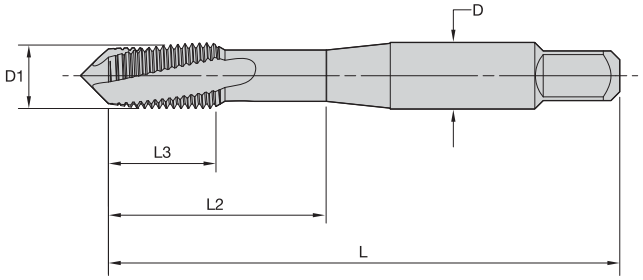
| KC7542 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T321M100X150R6HX** | M10 X 1,5 | 90 | 18 | 33 | 10,0 | 4 | 6HX |
| **T321MF120X150R6HX** | M12 X 1,5 | 100 | 21 | 40 | 12,0 | 4 | 6HX |
| **T321M120X175R6HX** | M12 X 1,75 | 100 | 21 | 40 | 12,0 | 4 | 6HX |
| **T321MF140X150R6HX** | M14 X 1,5 | 110 | 24 | 47 | 12,0 | 4 | 6HX |
| **T321M140X200R6HX** | M14 X 2 | 110 | 24 | 47 | 12,0 | 4 | 6HX |
| **T321M160X200R6HX** * | M16 X 2 | 110 | 24 | 53 | 14,0 | 4 | 6HX |

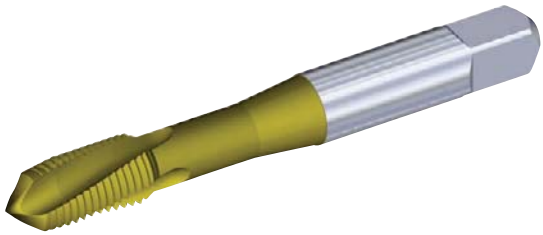
NOTE: Proprietary technology.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

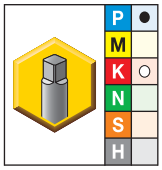
- KM6515 TiN + CrC/C for tapping stainless steel.
- KP6525 TiCN + TiN for tapping steel.

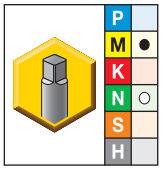




## T620 • Machine Screw and Fractional • Form D Plug Chamfer • ANSI • For Steel and Stainless Steel



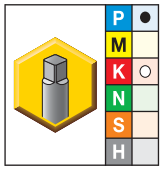



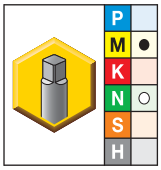

● first choice
○ alternate choice

| KP6525 | KM6515 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|---|
| T620NC#02-56R3BX-A * | T620NC#02-56R3BX-A | 2 - 56 | 1.75 | .44 | .49 | .141 | 2 | 3BX |
| T620NC#02-56R2BX-A * | T620NC#02-56R2BX-A * | 2 - 56 | 1.75 | .44 | .49 | .141 | 2 | 2BX |
| T620NC#04-40R3BX-A | T620NC#04-40R3BX-A * | 4 - 40 | 1.88 | .56 | .68 | .141 | 2 | 3BX |
| T620NC#04-40R2BX-A * | T620NC#04-40R2BX-A | 4 - 40 | 1.88 | .56 | .68 | .141 | 2 | 2BX |
| T620NC#05-40R3BX-A * | T620NC#05-40R3BX-A | 5 - 40 | 1.94 | .63 | .75 | .141 | 2 | 3BX |
| T620NC#06-32R3BX-A | T620NC#06-32R3BX-A | 6 - 32 | 2.00 | .36 | .71 | .141 | 2 | 3BX |
| T620NC#06-32R2BX-A | T620NC#06-32R2BX-A | 6 - 32 | 2.00 | .36 | .71 | .141 | 2 | 2BX |
| T620NC#08-32R3BX-A | T620NC#08-32R3BX-A * | 8 - 32 | 2.13 | .31 | .76 | .168 | 2 | 3BX |
| T620NC#08-32R2BX-A | T620NC#08-32R2BX-A | 8 - 32 | 2.13 | .31 | .76 | .168 | 2 | 2BX |
| T620NF#08-36R3BX-A | T620NF#08-36R3BX-A | 8 - 36 | 2.13 | .31 | .76 | .168 | 2 | 3BX |
| T620NC#10-24R3BX-A | T620NC#10-24R3BX-A | 10 - 24 | 2.38 | .47 | .91 | .194 | 3 | 3BX |
| T620NF#10-32R3BX-A | T620NF#10-32R3BX-A | 10 - 32 | 2.36 | .47 | .91 | .194 | 3 | 3BX |
| T620NF#10-32R2BX-A | T620NF#10-32R2BX-A | 10 - 32 | 2.36 | .47 | .91 | .194 | 3 | 2BX |
| T620NC#12-24R3BX-A * | T620NC#12-24R3BX-A * | 12 - 24 | 2.37 | .42 | .96 | .220 | 3 | 3BX |
| T620NC02500-20R3BX-A | T620NC02500-20R3BX-A | 1/4 - 20 | 1.88 | .44 | 1.01 | .255 | 3 | 3BX |
| T620NC02500-20R2BX-A | T620NC02500-20R2BX-A | 1/4 - 20 | 1.75 | .44 | 1.01 | .255 | 3 | 2BX |
| T620NF02500-28R3BX-A | T620NF02500-28R3BX-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | 3BX |
| T620NF02500-28R2BX-A | T620NF02500-28R2BX-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | 2BX |
| T620NC03125-18R3BX-A | T620NC03125-18R3BX-A | 5/16 - 18 | 2.12 | .49 | 1.13 | .318 | 3 | 3BX |
| T620NC03125-18R2BX-A | T620NC03125-18R2BX-A | 5/16 - 18 | 2.12 | .49 | 1.01 | .318 | 3 | 2BX |
| T620NF03125-24R3BX-A | T620NF03125-24R3BX-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | 3BX |
| T620NC03750-16R3BX-A | T620NC03750-16R3BX-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | 3BX |
| T620NC03750-16R2BX-A | T620NC03750-16R2BX-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | 2BX |
| T620NF03750-24R3BX-A | T620NF03750-24R3BX-A * | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | 3BX |

*(continued)*

*(T620 • Machine Screw and Fractional • Form D Plug Chamfer • ANSI • For Steel and Stainless Steel — continued)*




● first choice
○ alternate choice

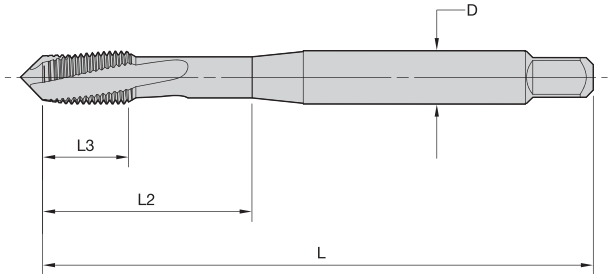
| KP6525 | KM6515 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|---|
| T620NC04375-14R3BX-A * | T620NC04375-14R3BX-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | 3BX |
| T620NF04375-20R3BX-A | T620NF04375-20R3BX-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | 3BX |
| T620NC05000-13R3BX-A | T620NC05000-13R3BX-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | 3BX |
| T620NF05000-20R3BX-A | T620NF05000-20R3BX-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | 3BX |
| T620NC06250-11R3BX-A | T620NC06250-11R3BX-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 4 | 3BX |
| T620NC07500-10R3BX-A | T620NC07500-10R3BX-A | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 4 | 3BX |

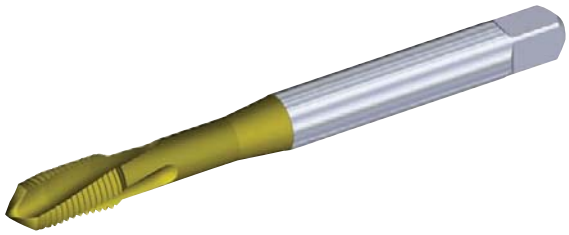
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

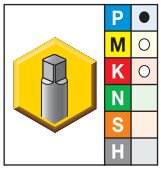
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KP6525 TiCN + TiN for steel.



## T620 • DIN 371 and 376 • Form D Plug Chamfer • Machine Screw and Fractional • For Steel and Stainless Steel



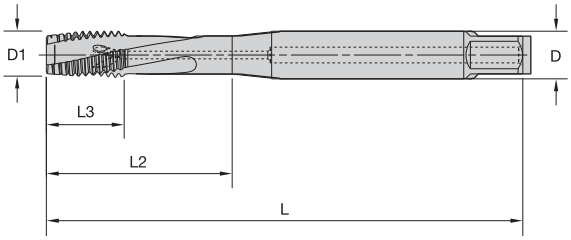

● first choice
○ alternate choice

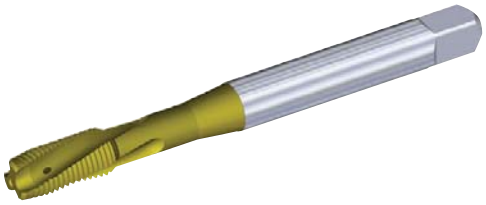
| KP6525 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T620NC#06-32R2BX-D1** | 6 - 32 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2BX |
| **T620NF#06-40R2BX-D1** | 6 - 40 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2BX |
| **T620NC#08-32R2BX-D1** | 8 - 32 | 63 | 10 | 21 | 4,5 | 2 | DIN 371 | 2BX |
| **T620NC#10-24R2BX-D1** | 10 - 24 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 2BX |
| **T620NF#10-32R2BX-D1** | 10 - 32 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 2BX |
| **T620NC02500-20R3BX-D1** | 1/4 - 20 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| **T620NF02500-28R3BX-D1** | 1/4 - 28 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| **T620NC03125-18R3BX-D1** | 5/16 - 18 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| **T620NF03125-24R3BX-D1** | 5/16 - 24 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| **T620NC04375-14R3BX-D6** | 7/16 - 14 | 100 | 15 | 41 | 8,0 | 3 | DIN 376 | 3BX |
| **T620NF04375-20R3BX-D6** | 7/16 - 20 | 100 | 15 | 41 | 8,0 | 3 | DIN 376 | 3BX |
| **T620NC03750-16R3BX-D1** | 3/8 - 16 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| **T620NF03750-24R3BX-D1** | 3/8 - 24 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| **T620NC05000-13R3BX-D6** | 1/2 - 13 | 110 | 20 | 47 | 9,0 | 3 | DIN 376 | 3BX |
| **T620NF05000-20R3BX-D6** | 1/2 - 20 | 110 | 20 | 47 | 9,0 | 3 | DIN 376 | 3BX |

**Shank Tolerance**

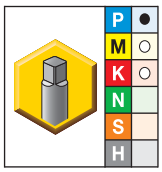
| D fractional | tolerance h6 |
|---|---|
| >3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| <10–18 | +0, -0,011 |

- KP6525 TiCN + TiN for steel.



## T621 • DIN 371 and 376 • Form D Plug Chamfer • Through Coolant • Fractional • For Steel and Stainless Steel



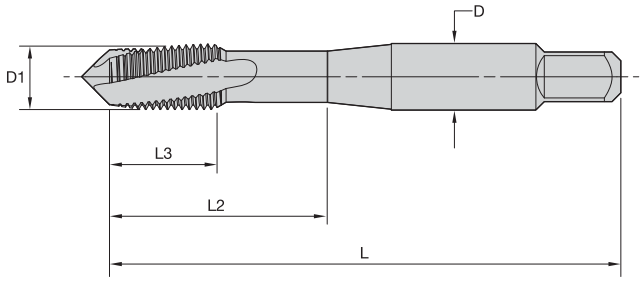

● first choice
○ alternate choice

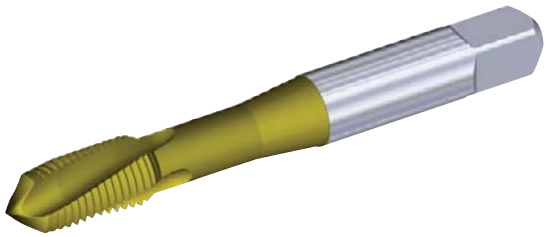
| KP6525 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T621NC02500-20R3BX-D1** | 1/4 - 20 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| **T621NF02500-28R3BX-D1** | 1/4 - 28 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| **T621NC03125-18R3BX-D1** | 5/16 - 18 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| **T621NF03125-24R3BX-D1** | 5/16 - 24 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| **T621NC03750-16R3BX-D1** | 3/8 - 16 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| **T621NF03750-24R3BX-D1** | 3/8 - 24 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| **T621NC04375-14R3BX-D6** | 7/16 - 14 | 100 | 15 | 41 | 8,0 | 3 | DIN 376 | 3BX |
| **T621NF04375-20R3BX-D6** | 7/16 - 20 | 100 | 15 | 41 | 8,0 | 3 | DIN 376 | 3BX |
| **T621NC05000-13R3BX-D6** | 1/2 - 13 | 110 | 20 | 47 | 9,0 | 3 | DIN 376 | 3BX |
| **T621NF05000-20R3BX-D6** | 1/2 - 20 | 110 | 20 | 47 | 9,0 | 3 | DIN 376 | 3BX |

**Shank Tolerance**

| D fractional | tolerance h6 |
|---|---|
| >3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| <10–18 | +0, -0,011 |

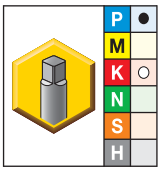
- KM6515 TiN + CrC/C for tapping stainless steel.
- KP6525 TiCN + TiN for tapping steel.

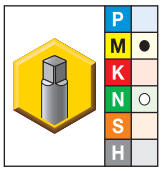


## T620 • Form D Plug Chamfer • Metric ANSI • For Steel and Stainless Steel






● first choice
○ alternate choice

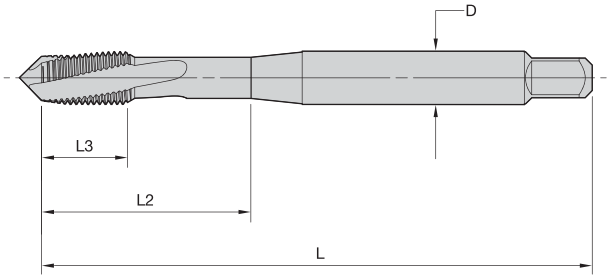
| KP6525 | KM6515 | D1 size | inch dimensions L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T620M030X050R6HX-A** * | **T620M030X050R6HX-A** | M3 X 0,5 | 1.94 | .63 | .75 | .141 | 2 | 6HX |
| **T620M040X070R6HX-A** | **T620M040X070R6HX-A** | M4 X 0,7 | 2.12 | .32 | .76 | .168 | 2 | 6HX |
| **T620M050X080R6HX-A** | **T620M050X080R6HX-A** | M5 X 0,8 | 2.37 | .47 | .91 | .194 | 2 | 6HX |
| **T620M060X100R6HX-A** | **T620M060X100R6HX-A** | M6 X 1 | 2.50 | .46 | 1.01 | .255 | 3 | 6HX |
| **T620M080X100R6HX-A** * | **T620MF080X100R6HX-A** * | M8 X 1 | 2.72 | .48 | 1.12 | .318 | 3 | 6HX |
| **T620M080X125R6HX-A** | **T620M080X125R6HX-A** | M8 X 1,25 | 2.71 | .48 | 1.13 | .318 | 3 | 6HX |
| **T620M100X150R6HX-A** | **T620M100X150R6HX-A** | M10 X 1,5 | 2.92 | .53 | 1.26 | .381 | 3 | 6HX |
| **T620M120X175R6HX-A** | **T620M120X175R6HX-A** | M12 X 1,75 | 3.38 | .77 | 1.74 | .367 | 3 | 6HX |

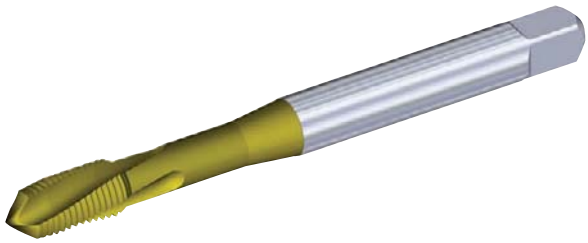
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

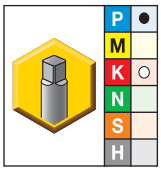
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

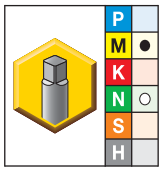
- KM6515 TiN + CrC/C for tapping stainless steel.
- KP6525 TiCN + TiN for tapping steel.



## T620 • DIN 371, 374, and 376 • Form D Plug Chamfer • Metric • for Steel and Stainless Steel



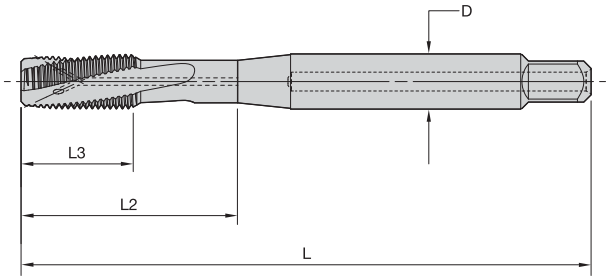

● first choice
○ alternate choice

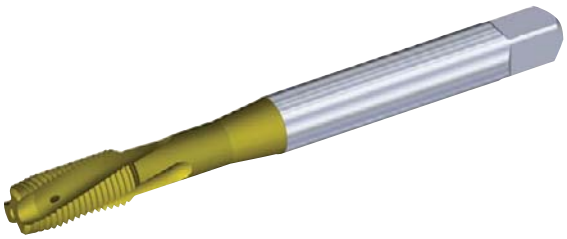
| KP6525 | KM6515 | D1 size | metric dimensions L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T620M030X050R6HX-D1 | T620M030X050R6HX-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 6HX |
| T620M040X070R6HX-D1 | T620M040X070R6HX-D1 | M4 X 0,7 | 63 | 10 | 21 | 4,5 | 2 | DIN 371 | 6HX |
| T620M050X080R6HX-D1 | T620M050X080R6HX-D1 | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 2 | DIN 371 | 6HX |
| T620M060X100R6HX-D1 | T620M060X100R6HX-D1 | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| T620MF080X100R6HX-D4 | T620MF080X100R6HX-D4 | M8 X 1 | 90 | 13 | 35 | 6,0 | 3 | DIN 374 | 6HX |
| T620M080X125R6HX-D1 | T620M080X125R6HX-D1 | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| T620MF100X100R6HX-D4 | T620MF100X100R6HX-D4 | M10 X 1 | 90 | 10 | 35 | 7,0 | 3 | DIN 374 | 6HX |
| T620MF100X125R6HX-D4 | – | M10 X 1,25 | 100 | 15 | 39 | 7,0 | 3 | DIN 374 | 6HX |
| T620M100X150R6HX-D1 | T620M100X150R6HX-D1 | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| T620MF120X150R6HX-D4 | T620MF120X150R6HX-D4 | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 3 | DIN 374 | 6HX |
| T620M120X175R6HX-D6 | T620M120X175R6HX-D6 | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 3 | DIN 376 | 6HX |
| T620MF140X150R6HX-D4 | T620MF140X150R6HX-D4 | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| T620M140X200R6HX-D6 | T620M140X200R6HX-D6 | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| T620MF160X150R6HX-D4 | T620MF160X150R6HX-D4 | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |
| T620M160X200R6HX-D6 | T620M160X200R6HX-D6 | M16 X 2 | 110 | 20 | 51 | 12,0 | 4 | DIN 376 | 6HX |
| T620MF180X150R6HX-D4 | T620MF180X150R6HX-D4 | M18 X 1,5 | 110 | 15 | 50 | 14,0 | 4 | DIN 374 | 6HX |
| T620M200X250R6HX-D6 | T620M200X250R6HX-D6 | M20 X 2,5 | 140 | 25 | 64 | 16,0 | 4 | DIN 376 | 6HX |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

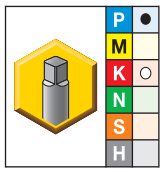
- KM6515 TiN + CrC/C for stainless steel.
- KP6525 TiCN + TiN for steel.

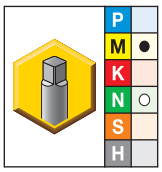




## T621 • DIN 371, 374, and 376 • Form D Plug Chamfer • Through Coolant • Metric • For Steel and Stainless Steel




● first choice
○ alternate choice

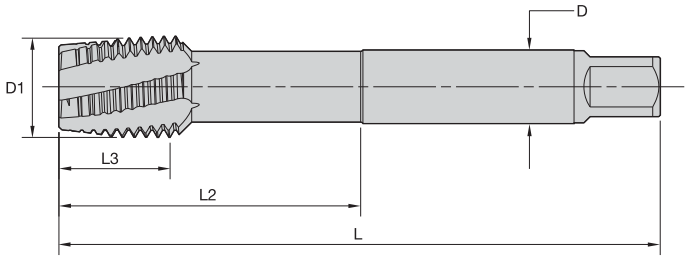
| KP6525 | KM6515 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T621M050X080R6HX-D1 | T621M050X080R6HX-D1 | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 2 | DIN 371 | 6HX |
| T621M060X100R6HX-D1 | T621M060X100R6HX-D1 | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| T621MF080X100R6HX-D4 * | T621MF080X100R6HX-D4 * | M8 X 1 | 90 | 13 | 35 | 6,0 | 3 | DIN 374 | 6HX |
| T621M080X125R6HX-D1 | T621M080X125R6HX-D1 | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| T621MF100X100R6HX-D4 | T621MF100X100R6HX-D4 | M10 X 1 | 90 | 10 | 35 | 7,0 | 3 | DIN 374 | 6HX |
| T621MF100X125R6HX-D4 | T621MF100X125R6HX-D4 | M10 X 1,25 | 100 | 15 | 39 | 7,0 | 3 | DIN 374 | 6HX |
| T621M100X150R6HX-D1 | T621M100X150R6HX-D1 | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| T621MF120X125R6HX-D4 | — | M12 X 1,25 | 100 | 15 | 39 | 9,0 | 3 | DIN 374 | 6HX |
| T621MF120X150R6HX-D4 | T621MF120X150R6HX-D4 | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 3 | DIN 374 | 6HX |
| T621M120X175R6HX-D6 | T621M120X175R6HX-D6 | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 3 | DIN 376 | 6HX |
| T621MF140X125R6HX-D4 | — | M14 X 1,25 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| T621MF140X150R6HX-D4 | T621MF140X150R6HX-D4 | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| T621M140X200R6HX-D6 | T621M140X200R6HX-D6 | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| T621MF160X150R6HX-D4 | T621MF160X150R6HX-D4 | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |
| T621M160X200R6HX-D6 | T621M160X200R6HX-D6 | M16 X 2 | 110 | 20 | 51 | 12,0 | 4 | DIN 376 | 6HX |
| T621MF180X150R6HX-D4 | T621MF180X150R6HX-D4 | M18 X 1,5 | 110 | 15 | 50 | 14,0 | 4 | DIN 374 | 6HX |
| T621M180X250R6HX-D6 | T621M180X250R6HX-D6 | M18 X 2,5 | 125 | 25 | 58 | 14,0 | 4 | DIN 376 | 6HX |

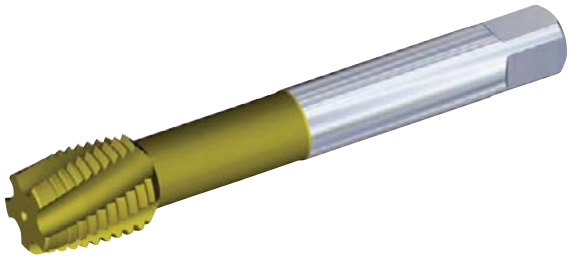
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

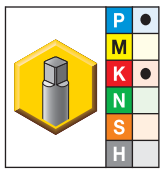
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T620 • DIN 376 • Form D Plug Chamfer • Large Sizes • Metric • For Steel and Cast Iron



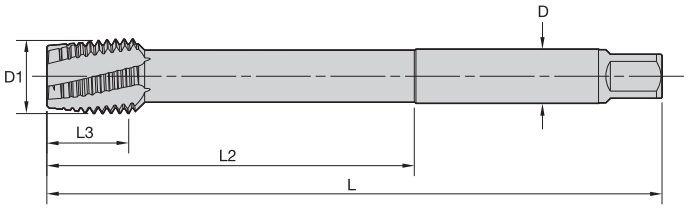

● first choice
○ alternate choice

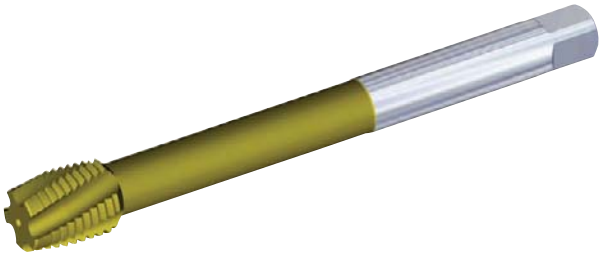
| KP6525 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T620M240X300R6HX-D6** | M24 X 3 | 160 | 30 | 77 | 18,0 | 5 | DIN 376 | 6HX |
| **T620M300X350R6HX-D6** | M30 X 3,5 | 180 | 35 | 91 | 22,0 | 5 | DIN 376 | 6HX |
| **T620M330X350R6HX-D6** | M33 X 3,5 | 180 | 35 | 100 | 25,0 | 5 | DIN 376 | 6HX |
| **T620M360X400R6HX-D6** | M36 X 4 | 200 | 40 | 110 | 28,0 | 6 | DIN 376 | 6HX |
| **T620M420X450R6HX-D6** | M42 X 4,5 | 200 | 45 | 120 | 32,0 | 6 | DIN 376 | 6HX |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

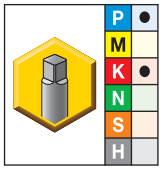
- KP6525 TiCN + TiN for tapping steel and cast iron.



## T620 • Extra Long • Form D Plug Chamfer • Larger Sizes • Metric • For Steel and Cast Iron





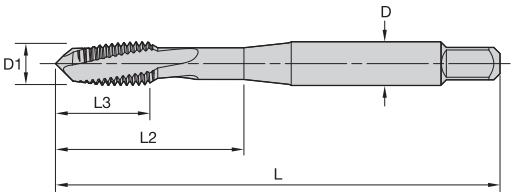

● first choice
○ alternate choice

| KP6525 | D1 size | metric dimensions L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T620M240X300R6H-XL** | M24 X 3 | 200 | 30 | 120 | 18,0 | 5 | 6HX |
| **T620M300X350R6H-XL** | M30 X 3,5 | 250 | 35 | 150 | 22,0 | 5 | 6HX |
| **T620M330X350R6H-XL** | M33 X 3,5 | 250 | 35 | 150 | 25,0 | 5 | 6HX |
| **T620M360X400R6H-XL** | M36 X 4 | 250 | 40 | 150 | 28,0 | 6 | 6HX |
| **T620M420X450R6H-XL** | M42 X 4,5 | 300 | 45 | 180 | 32,0 | 6 | 6HX |

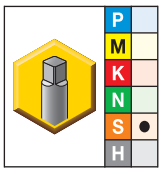
**Shank Tolerance**

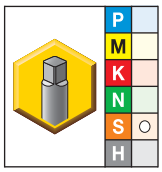
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KSS29 oxide/nitride for nickel- and cobalt-based alloys.
- KSP27 AlCrTiN for nickel- and cobalt-based alloys.



## T690 • Machine Screw and Fractional • Form D Plug Chamfer • For Nickel- and Cobalt-Based Alloys



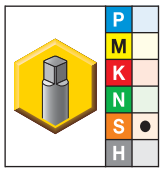



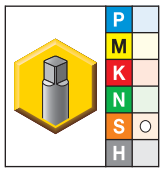

● first choice
○ alternate choice

| KSP27 | KSS29 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T690NC#02-56RH2-A * | T690NC#02-56RH2-A | 2 - 56 | 1.75 | .44 | .50 | .141 | 2 | H2 |
| T690NC#04-40RH2-A | T690NC#04-40RH2-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 2 | H2 |
| T690NC#04-40RH3-A | T690NC#04-40RH3-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 2 | H3 |
| — | T690NC#04-40RH4-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 2 | H4 |
| T690NF#04-48RH2-A | T690NF#04-48RH2-A | 4 - 48 | 1.88 | .56 | .69 | .141 | 2 | H2 |
| T690NC#05-40RH2-A | T690NC#05-40RH2-A | 5 - 40 | 1.94 | .63 | .75 | .141 | 3 | H2 |
| — | T690NF#06-40RH2-A | 6 - 40 | 2.00 | .36 | .72 | .141 | 3 | H2 |
| T690NC#06-32RH3-A | T690NC#06-32RH3-A | 6 - 32 | 2.00 | .36 | .72 | .141 | 3 | H3 |
| T690NC#06-32RH5-A | T690NC#06-32RH5-A * | 6 - 32 | 2.00 | .36 | .72 | .141 | 3 | H5 |
| T690NC#08-32RH3-A | T690NC#08-32RH3-A | 8 - 32 | 2.13 | .31 | .77 | .168 | 3 | H3 |
| T690NC#08-32RH4-A | T690NC#08-32RH4-A | 8 - 32 | 2.13 | .31 | .77 | .168 | 3 | H4 |
| — | T690NC#08-32RH5-A | 8 - 32 | 2.13 | .31 | .77 | .168 | 3 | H5 |
| — | T690NC#08-32RH6-A | 8 - 32 | 2.13 | .31 | .77 | .168 | 3 | H6 |
| T690NC#10-24RH3-A | T690NC#10-24RH3-A | 10 - 24 | 2.38 | .47 | .92 | .194 | 3 | H3 |
| — | T690NC#10-24RH5-A | 10 - 24 | 2.38 | .47 | .92 | .194 | 3 | H5 |
| T690NF#10-32RH2-A * | T690NF#10-32RH2-A | 10 - 32 | 2.38 | .47 | .92 | .194 | 3 | H2 |
| T690NF#10-32RH3-A | T690NF#10-32RH3-A | 10 - 32 | 2.38 | .47 | .92 | .194 | 3 | H3 |
| T690NF#10-32RH4-A * | T690NF#10-32RH4-A | 10 - 32 | 2.38 | .47 | .92 | .194 | 3 | H4 |
| T690NF#10-32RH5-A * | T690NF#10-32RH5-A | 10 - 32 | 2.38 | .47 | .92 | .194 | 3 | H5 |
| T690NF#10-32RH6-A * | T690NF#10-32RH6-A * | 10 - 32 | 2.38 | .47 | .92 | .194 | 3 | H6 |
| T690NC02500-20RH3-A | T690NC02500-20RH3-A | 1/4 - 20 | 2.51 | .44 | 1.02 | .255 | 3 | H3 |
| T690NC02500-20RH5-A * | T690NC02500-20RH5-A | 1/4 - 20 | 2.51 | .44 | 1.02 | .255 | 3 | H5 |
| T690NF02500-28RH3-A | T690NF02500-28RH3-A | 1/4 - 28 | 2.51 | .44 | 1.02 | .255 | 3 | H3 |
| T690NF02500-28RH4-A | T690NF02500-28RH4-A | 1/4 - 28 | 2.51 | .44 | 1.02 | .255 | 3 | H4 |
| T690NF02500-28RH5-A | T690NF02500-28RH5-A | 1/4 - 28 | 2.49 | .44 | 1.02 | .255 | 3 | H5 |
| T690NF02500-28RH6-A | T690NF02500-28RH6-A | 1/4 - 28 | 2.51 | .44 | 1.02 | .255 | 3 | H6 |
| — | T690NF02500-28RH7-A | 1/4 - 28 | 2.51 | .44 | 1.02 | .255 | 3 | H7 |
| T690NC03125-18RH3-A | T690NC03125-18RH3-A | 5/16 - 18 | 2.73 | .49 | 1.15 | .318 | 3 | H3 |
| T690NC03125-18RH5-A * | T690NC03125-18RH5-A | 5/16 - 18 | 2.73 | .49 | 1.15 | .318 | 3 | H5 |
| — | T690NC03125-18RH7-A | 5/16 - 18 | 2.73 | .49 | 1.15 | .318 | 3 | H7 |
| T690NF03125-24RH3-A | T690NF03125-24RH3-A | 5/16 - 24 | 2.73 | .49 | 1.15 | .318 | 3 | H3 |
| — | T690NF03125-24RH4-A | 5/16- 24 | 2.73 | .49 | 1.15 | .318 | 3 | H4 |

*(continued)*

*(T690 • Machine Screw and Fractional • Form D Plug Chamfer • For Nickel- and Cobalt-Based Alloys — continued)*




● first choice
○ alternate choice

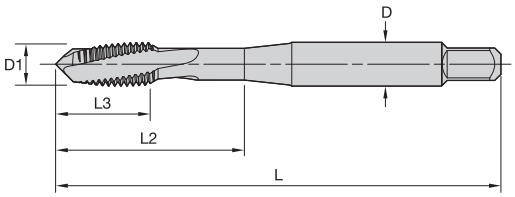
| KSP27 | KSS29 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| — | T690NF03125-24RH5-A | 5/16- 24 | 2.73 | .49 | 1.15 | .318 | 3 | H5 |
| — | T690NF03125-24RH6-A | 5/16- 24 | 2.73 | .49 | 1.15 | .318 | 3 | H6 |
| — | T690NF03125-24RH7-A * | 5/16- 24 | 2.73 | .49 | 1.15 | .318 | 3 | H7 |
| T690NC03750-16RH3-A | T690NC03750-16RH3-A | 3/8 - 16 | 2.95 | .60 | 1.28 | .381 | 3 | H3 |
| T690NC03750-16RH5-A | T690NC03750-16RH5-A | 3/8 - 16 | 2.95 | .60 | 1.28 | .381 | 3 | H5 |
| — | T690NC03750-16RH7-A | 3/8 - 16 | 2.95 | .60 | 1.28 | .381 | 3 | H7 |
| T690NF03750-24RH3-A | T690NF03750-24RH3-A | 3/8 - 24 | 2.95 | .60 | 1.28 | .381 | 3 | H3 |
| — | T690NF03750-24RH4-A | 3/8 - 24 | 2.95 | .60 | 1.28 | .381 | 3 | H4 |
| — | T690NF03750-24RH5-A | 3/8 - 24 | 2.95 | .60 | 1.28 | .381 | 3 | H5 |
| — | T690NF03750-24RH6-A | 3/8 - 24 | 2.95 | .60 | 1.28 | .381 | 3 | H6 |
| — | T690NF03750-24RH7-A * | 3/8 - 24 | 2.95 | .60 | 1.28 | .381 | 3 | H7 |
| T690NC04375-14RH3-A | T690NC04375-14RH3-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| T690NF04375-20RH3-A | T690NF04375-20RH3-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| T690NF04375-20RH5-A | T690NF04375-20RH5-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |
| T690NC05000-13RH3-A | T690NC05000-13RH3-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| — | T690NC05000-13RH5-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| — | T690NC05000-13RH7-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H7 |
| T690NF05000-20RH3-A | T690NF05000-20RH3-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| — | T690NF05000-20RH5-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| — | T690NF05000-20RH7-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H7 |
| T690NC06250-11RH3-A | T690NC06250-11RH3-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 3 | H3 |
| T690NF06250-18RH3-A | T690NF06250-18RH3-A * | 5/8 - 18 | 3.81 | .91 | 1.89 | .480 | 3 | H3 |
| — | T690NC07500-10RH3-A | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 3 | H3 |
| — | T690NF07500-16RH3-A | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

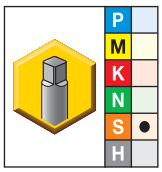
**Shank Tolerance**

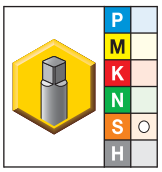
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSS29 oxide/nitride for nickel- and cobalt-based alloys.
- KSP27 AlCrTiN for nickel- and cobalt-based alloys.



## T690 • Form D Plug Chamfer • Metric ANSI • For Nickel- and Cobalt-Based Alloys




● first choice
○ alternate choice

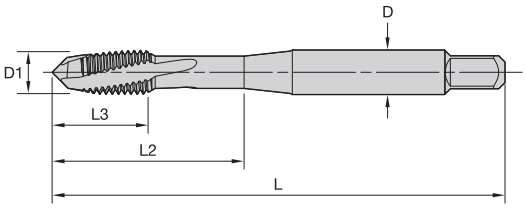
| KSP27 | KSS29 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| **T690M025X045RD3-A** | **T690M025X045RD3-A** | M2,5 X 0,45 | 1.81 | .50 | .56 | .141 | 2 | D3 |
| **T690M030X050RD3-A** | **T690M030X050RD3-A** | M3 X 0,5 | 1.94 | .63 | .75 | .141 | 2 | D3 |
| **T690M035X060RD4-A** | **T690M035X060RD4-A** | M3,5 X 0,6 | 1.99 | .36 | .72 | .141 | 3 | D4 |
| **T690M040X070RD4-A** | **T690M040X070RD4-A** | M4 X 0,7 | 2.12 | .32 | .77 | .168 | 3 | D4 |
| **T690M050X080RD4-A** | **T690M050X080RD4-A** | M5 X 0,8 | 2.38 | .47 | .92 | .194 | 3 | D4 |
| **T690M060X100RD5-A** | **T690M060X100RD5-A** | M6 X 1 | 2.51 | .46 | 1.01 | .255 | 3 | D5 |
| **T690MF080X100RD5-A *** | **T690MF080X100RD5-A *** | M8 X 1 | 2.72 | .48 | 1.14 | .318 | 3 | D5 |
| **T690M080X125RD5-A** | **T690M080X125RD5-A** | M8 X 1,25 | 2.72 | .48 | 1.14 | .318 | 3 | D5 |
| **T690M100X150RD6-A *** | **T690M100X150RD6-A** | M10 X 1,5 | 2.94 | .53 | 1.27 | .381 | 3 | D6 |
| **T690M120X175RD6-A** | **T690M120X175RD6-A** | M12 X 1,75 | 3.38 | .77 | 1.74 | .367 | 3 | D6 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

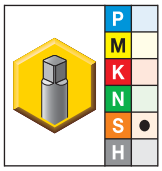
**Shank Tolerance**

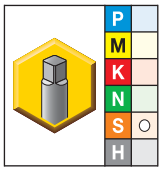
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSS20 nitride for titanium and titanium alloys.
- KSSM24 TiN + CrC/C for titanium and titanium alloys.



## T660 • Machine Screw and Fractional • Form D Plug Chamfer • For Titanium and Titanium Alloys




● first choice
○ alternate choice

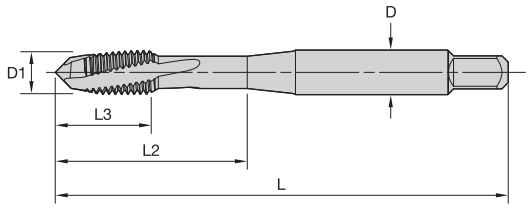
| KSSM24 | KSS20 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T660NC#02-56RH2-A | T660NC#02-56RH2-A | 2 - 56 | 1.75 | .44 | .50 | .141 | 2 | H2 |
| T660NC#04-40RH2-A | T660NC#04-40RH2-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 2 | H2 |
| T660NC#06-32RH2-A | T660NC#06-32RH2-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H2 |
| T660NC#06-32RH3-A | T660NC#06-32RH3-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H3 |
| T660NF#06-40RH2-A | T660NF#06-40RH2-A | 6 - 40 | 1.99 | .36 | .71 | .141 | 3 | H2 |
| T660NC#08-32RH2-A | T660NC#08-32RH2-A | 8 - 32 | 2.12 | .31 | .76 | .168 | 3 | H2 |
| T660NC#08-32RH3-A | T660NC#08-32RH3-A | 8 - 32 | 2.12 | .31 | .76 | .168 | 3 | H3 |
| T660NF#08-36RH2-A | T660NF#08-36RH2-A | 8 - 36 | 2.12 | .31 | .76 | .168 | 3 | H2 |
| T660NC#10-24RH3-A * | T660NC#10-24RH3-A | 10 - 24 | 2.37 | .47 | .91 | .194 | 3 | H3 |
| T660NF#10-32RH2-A | T660NF#10-32RH2-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H2 |
| T660NF#10-32RH3-A * | T660NF#10-32RH3-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H3 |
| T660NC02500-20RH3-A | T660NC02500-20RH3-A | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H3 |
| T660NC02500-20RH5-A | T660NC02500-20RH5-A * | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H5 |
| T660NF02500-28RH3-A * | T660NF02500-28RH3-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H3 |
| T660NF02500-28RH4-A | T660NF02500-28RH4-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H4 |
| T660NC03125-18RH3-A | T660NC03125-18RH3-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| T660NC03125-18RH5-A | T660NC03125-18RH5-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H5 |
| T660NF03125-24RH3-A | T660NF03125-24RH3-A * | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| T660NF03125-24RH4-A | T660NF03125-24RH4-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H4 |
| T660NC03750-16RH3-A | T660NC03750-16RH3-A | 3/8 - 16 | 2.93 | .59 | 1.26 | .381 | 3 | H3 |
| T660NC03750-16RH5-A * | T660NC03750-16RH5-A | 3/8 - 16 | 2.93 | .59 | 1.26 | .381 | 3 | H5 |
| T660NF03750-24RH3-A | T660NF03750-24RH3-A | 3/8 - 24 | 2.93 | .59 | 1.26 | .381 | 3 | H3 |
| T660NF03750-24RH4-A | T660NF03750-24RH4-A | 3/8 - 24 | 2.93 | .59 | 1.26 | .381 | 3 | H4 |
| T660NC04375-14RH3-A | T660NC04375-14RH3-A * | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| T660NF04375-20RH3-A | T660NF04375-20RH3-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| T660NC05000-13RH3-A | T660NC05000-13RH3-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| T660NF05000-20RH3-A | T660NF05000-20RH3-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| T660NF05625-18RH3-A | — | 9/16 - 18 | 3.59 | .83 | 1.74 | .429 | 4 | H3 |
| T660NF05625-18RH5-A | — | 9/16 - 18 | 3.59 | .83 | 1.74 | .429 | 4 | H5 |
| T660NC06250-11RH3-A | — | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 4 | H3 |
| T660NF06250-18RH3-A * | — | 5/8 - 18 | 3.81 | .91 | 1.89 | .480 | 4 | H3 |
| T660NF06250-18RH5-A | — | 5/8 - 18 | 3.81 | .91 | 1.89 | .480 | 4 | H5 |
| T660NC07500-10RH5-A | — | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 4 | H5 |
| T660NF07500-16RH3-A | — | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 4 | H3 |
| T660NF07500-16RH5-A | — | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 4 | H5 |
| T660NC10000-08RH5-A * | — | 1 - 8 | 5.13 | 1.25 | 2.58 | .800 | 5 | H5 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

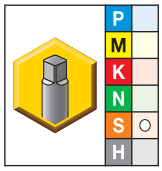
**Shank Tolerance**

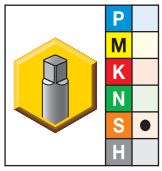
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSS20 nitride for titanium and titanium alloys.
- KSSM24 TiN + CrC/C for titanium and titanium alloys.



## T660 • Form D Plug Chamfer • Metric ANSI • For Titanium and Titanium Alloys




● first choice
○ alternate choice

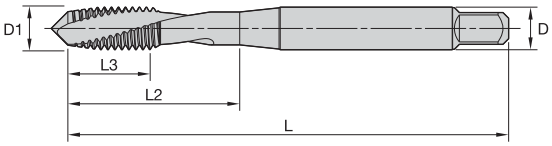
| KSSM24 | KSS20 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| **T660M025X045RD3-A** * | **T660M025X045RD3-A** * | M2,5 X 0,45 | 1.81 | .49 | .56 | .141 | 3 | D3 |
| **T660M030X050RD3-A** * | **T660M030X050RD3-A** | M3 X 0,5 | 1.94 | .63 | .75 | .141 | 3 | D3 |
| **T660M040X070RD4-A** * | **T660M040X070RD4-A** * | M4 X 0,7 | 2.12 | .32 | .76 | .168 | 3 | D4 |
| **T660M050X080RD4-A** | **T660M050X080RD4-A** * | M5 X 0,8 | 2.37 | .47 | .91 | .194 | 3 | D4 |
| **T660M060X100RD5-A** | **T660M060X100RD5-A** * | M6 X 1 | 2.50 | .16 | 1.00 | .255 | 3 | D5 |
| **T660M070X100RD5-A** | **T660M070X100RD5-A** | M7 X 1 | 2.73 | .52 | 1.15 | .318 | 3 | D5 |
| **T660M080X125RD5-A** | **T660M080X125RD5-A** | M8 X 1,25 | 2.71 | .48 | 1.12 | .318 | 3 | D5 |
| **T660MF100X125RD5-A** * | **T660MF100X125RD5-A** | M10 X 1,25 | 2.92 | .53 | 1.26 | .381 | 3 | D5 |
| **T660M100X150RD6-A** | **T660M100X150RD6-A** * | M10 X 1,5 | 2.92 | .53 | 1.26 | .381 | 3 | D6 |
| **T660M120X175RD6-A** | **T660M120X175RD6-A** | M12 X 1,75 | 3.38 | .77 | 1.74 | .367 | 3 | D6 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

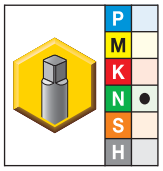
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

• KSMN34 TiN + CrC/C for aluminum.



## T672 • Machine Screw and Fractional • Form D Plug Chamfer • DIN Length ANSI Shank • For Aluminum




● first choice
○ alternate choice

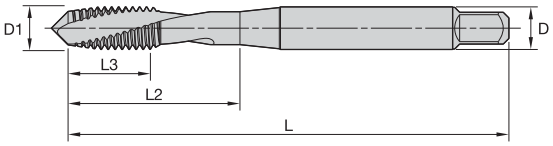
| KSMN34 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| T672NC#02-56R2B-DA | 2 - 56 | 1.77 | .31 | .71 | .141 | 2 | 2B |
| T672NC#04-40R3B-DA | 4 - 40 | 2.20 | .31 | .71 | .141 | 2 | 3B |
| T672NC#05-40R3B-DA | 5 - 40 | 2.20 | .31 | .71 | .141 | 2 | 3B |
| T672NC#06-32R2B-DA | 6 - 32 | 2.20 | .35 | .79 | .141 | 2 | 2B |
| T672NC#08-32R2B-DA | 8 - 32 | 2.48 | .43 | .83 | .168 | 2 | 2B |
| T672NC#10-24R2B-DA | 10 - 24 | 2.76 | .47 | .98 | .194 | 2 | 2B |
| T672NF#10-32R2B-DA | 10 - 32 | 2.76 | .47 | .98 | .194 | 2 | 2B |
| T672NC02500-20R2B-DA | 1/4 - 20 | 3.15 | .59 | 1.18 | .255 | 2 | 2B |
| T672NC02500-20R3B-DA | 1/4 - 20 | 3.15 | .59 | 1.18 | .255 | 2 | 3B |
| T672NF02500-28R2B-DA | 1/4 - 28 | 3.15 | .59 | 1.18 | .255 | 2 | 2B |
| T672NF02500-28R3B-DA | 1/4 - 28 | 3.15 | .59 | 1.18 | .255 | 2 | 3B |
| T672NC03125-18R2B-DA * | 5/16 - 18 | 3.54 | .59 | 1.38 | .318 | 2 | 2B |
| T672NC03125-18R3B-DA | 5/16 - 18 | 3.54 | .59 | 1.38 | .318 | 2 | 3B |
| T672NF03125-24R2B-DA * | 5/16 - 24 | 3.54 | .59 | 1.38 | .318 | 2 | 2B |
| T672NF03125-24R3B-DA | 5/16 - 24 | 3.54 | .59 | 1.38 | .318 | 2 | 3B |
| T672NC03750-16R2B-DA * | 3/8 - 16 | 3.94 | .75 | 1.54 | .381 | 2 | 2B |
| T672NC03750-16R3B-DA * | 3/8 - 16 | 3.94 | .75 | 1.54 | .381 | 2 | 3B |
| T672NF03750-24R2B-DA | 3/8 - 24 | 3.94 | .75 | 1.54 | .381 | 2 | 2B |
| T672NF03750-24R3B-DA | 3/8 - 24 | 3.94 | .75 | 1.54 | .381 | 2 | 3B |
| T672NC04375-14R2B-DA | 7/16 - 14 | 3.94 | .71 | 1.61 | .323 | 3 | 2B |
| T672NC04375-14R3B-DA | 7/16 - 14 | 3.94 | .71 | 1.61 | .323 | 3 | 3B |
| T672NF04375-20R2B-DA | 7/16 - 20 | 3.94 | .71 | 1.61 | .323 | 3 | 2B |
| T672NF04375-20R3B-DA | 7/16 - 20 | 3.94 | .71 | 1.61 | .323 | 3 | 3B |
| T672NC05000-13R2B-DA | 1/2 - 13 | 4.33 | .91 | 1.85 | .367 | 3 | 2B |
| T672NC05000-13R3B-DA | 1/2 - 13 | 4.33 | .91 | 1.85 | .367 | 3 | 3B |
| T672NF05000-20R2B-DA | 1/2 - 20 | 4.33 | .91 | 1.85 | .367 | 3 | 2B |
| T672NF05000-20R3B-DA | 1/2 - 20 | 4.33 | .91 | 1.85 | .367 | 3 | 3B |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

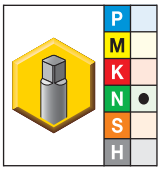
**Shank Tolerance**

| D inch | tolerance h9 |
|---|---|
| .141–.635 | +0, -.0015 |
| <.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSMN34 TiN + CrC/C for aluminum.



## T672 • Form D Plug Chamfer • Metric • DIN Length ANSI Shank • For Aluminum




● first choice
○ alternate choice

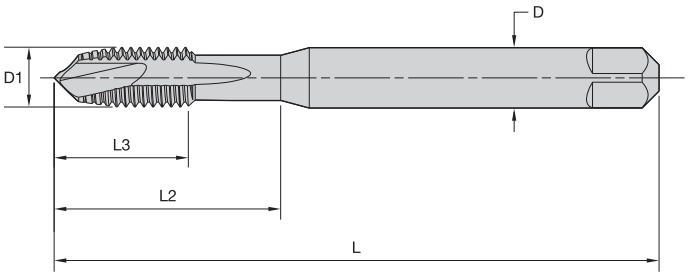
| KSMN34 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T672M030X050R6H-DA** | M3 X 0,5 | 2.20 | .31 | .71 | .141 | 2 | 6H |
| **T672M035X060R6H-DA** | M3,5 X 0,6 | 2.20 | .35 | .79 | .141 | 2 | 6H |
| **T672M040X070R6H-DA** | M4 X 0,7 | 2.48 | .43 | .83 | .168 | 2 | 6H |
| **T672M050X080R6H-DA** | M5 X 0,8 | 2.76 | .47 | .98 | .194 | 2 | 6H |
| **T672M060X100R6H-DA** | M6 X 1 | 3.15 | .47 | 1.18 | .255 | 2 | 6H |
| **T672M070X100R6H-DA** | M7 X 1 | 3.54 | .59 | 1.38 | .318 | 2 | 6H |
| **T672MF080X100R6H-DA** * | M8 X 1 | 3.54 | .59 | 1.38 | .318 | 2 | 6H |
| **T672M080X125R6H-DA** | M8 X 1,25 | 3.54 | .59 | 1.38 | .318 | 2 | 6H |
| **T672MF100X125R6H-DA** | M10 X 1,25 | 3.94 | .71 | 1.54 | .381 | 2 | 6H |
| **T672M100X150R6H-DA** | M10 X 1,5 | 3.94 | .71 | 1.54 | .381 | 2 | 6H |
| **T672MF120X125R6H-DA** | M12 X 1,25 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |
| **T672MF120X150R6H-DA** | M12 X 1,5 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |
| **T672M120X175R6H-DA** | M12 X 1,75 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |

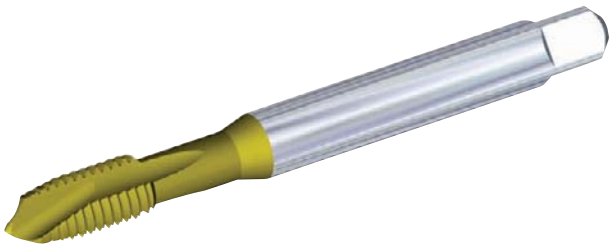
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

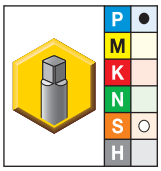
| D inch | tolerance h9 |
|---|---|
| .141–.635 | +0, -.0015 |
| <.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

- KSP21 TiN for tapping steel 32–44 HRC.



## T600 • DIN 371, 374, and 376 • Form B Plug Chamfer • Metric • For Hard Steel



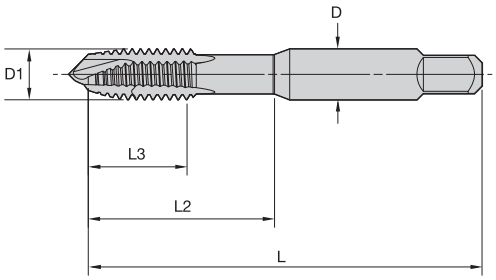

● first choice
○ alternate choice

| KSP21 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T600M030X050R6HX-D1** | M3 X 0,5 | 56 | 11 | 18 | 3,5 | 2 | DIN 371 | 6HX |
| **T600M040X070R6HX-D1** | M4 X 0,7 | 63 | 13 | 21 | 4,5 | 2 | DIN 371 | 6HX |
| **T600M050X080R6HX-D1** | M5 X 0,8 | 70 | 15 | 25 | 6,0 | 2 | DIN 371 | 6HX |
| **T600M060X100R6HX-D1** | M6 X 1 | 80 | 17 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| **T600MF080X100R6HX-D4** | M8 X 1 | 90 | 17 | – | 6,0 | 3 | DIN 374 | 6HX |
| **T600M080X125R6HX-D1** | M8 X 1,25 | 90 | 20 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| **T600MF100X100R6HX-D4** | M10 X 1 | 90 | 18 | – | 7,0 | 3 | DIN 374 | 6HX |
| **T600MF100X125R6HX-D4** | M10 X 1,25 | 100 | 22 | – | 7,0 | 3 | DIN 374 | 6HX |
| **T600M100X150R6HX-D1** | M10 X 1,5 | 100 | 22 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| **T600MF120X125R6HX-D4** | M12 X 1,25 | 100 | 22 | – | 9,0 | 3 | DIN 374 | 6HX |
| **T600MF120X150R6HX-D4** | M12 X 1,5 | 100 | 22 | – | 9,0 | 3 | DIN 374 | 6HX |
| **T600M120X175R6HX-D6** | M12 X 1,75 | 110 | 24 | – | 9,0 | 3 | DIN 376 | 6HX |
| **T600MF140X150R6HX-D4** | M14 X 1,5 | 100 | 22 | – | 11,0 | 3 | DIN 374 | 6HX |
| **T600M140X200R6HX-D6** | M14 X 2 | 110 | 26 | – | 11,0 | 3 | DIN 376 | 6HX |
| **T600MF160X150R6HX-D4** | M16 X 1,5 | 100 | 22 | – | 12,0 | 4 | DIN 374 | 6HX |
| **T600M160X200R6HX-D6** | M16 X 2 | 110 | 27 | – | 12,0 | 4 | DIN 376 | 6HX |
| **T600M180X250R6HX-D6** | M18 X 2 | 125 | 30 | – | 14,0 | 4 | DIN 376 | 6HX |
| **T600M200X250R6HX-D6** | M20 X 2,5 | 140 | 32 | – | 16,0 | 4 | DIN 376 | 6HX |

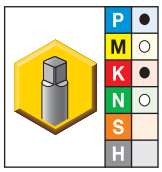
**Shank Tolerance**

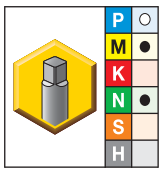
| D | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| 3,5–6 | +0, -0,030 |
| 7–10 | +0, -0,036 |
| 11–18 | +0, -0,043 |

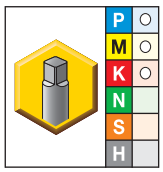
- KSP32 TiCN/TiN
- KSMN34 TiN + CrC/C
- KSP39 oxide
- KSU30 bright**



## T820 • Form B Plug Chamfer • Machine Screw and Fractional • ANSI



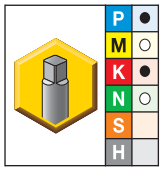



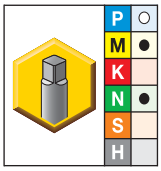

● first choice
○ alternate choice

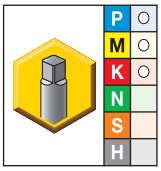
| KSP32 | KSMN34 | KSP39 | inch dimensions D1 TPI | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| – | – | T820NC#02-56RH2-A | 2 - 56 | 1.75 | .39 | .50 | .141 | 2 | H2 |
| – | – | T820NC#02-56RH3-A | 2 - 56 | 1.75 | .39 | .50 | .141 | 2 | H3 |
| – | – | T820NC#02-56RH4-A | 2 - 56 | 1.75 | .39 | .50 | .141 | 2 | H4 |
| – | – | T820NC#03-48RH2-A | 3 - 48 | 1.82 | .45 | .57 | .141 | 2 | H2 |
| T820NC#04-40RH2-A | T820NC#04-40RH2-A | T820NC#04-40RH2-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H2 |
| – | – | T820NC#04-40RH3-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H3 |
| – | – | T820NC#04-40RH4-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H4 |
| T820NC#04-40RH5-A | – | T820NC#04-40RH5-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H5 |
| – | – | T820NC#04-40RH6-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H6 |
| – | – | T820NF#04-48RH2-A | 4 - 48 | 1.88 | .51 | .69 | .141 | 2 | H2 |
| – | – | T820NF#04-48RH4-A | 4 - 48 | 1.88 | .51 | .69 | .141 | 2 | H4 |
| – | – | T820NC#05-40RH2-A | 5 - 40 | 1.94 | .58 | .75 | .141 | 2 | H2 |
| – | – | T820NC#06-32RH2-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H2 |
| T820NC#06-32RH3-A | T820NC#06-32RH3-A | T820NC#06-32RH3-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H3 |
| – | – | T820NC#06-32RH4-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H4 |
| – | – | T820NC#06-32RH5-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H5 |
| – | – | T820NC#06-32RH6-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H6 |
| – | – | T820NC#06-32RH7-A * | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H7 |
| – | – | T820NF#06-40RH2-A | 6 - 40 | 1.99 | .38 | .71 | .141 | 2 | H2 |
| – | – | T820NF#06-40RH3-A | 6 - 40 | 1.99 | .38 | .76 | .141 | 2 | H3 |
| – | – | T820NF#08-36RH2-A | 8 - 36 | 2.11 | .38 | .76 | .168 | 2 | H2 |
| – | – | T820NC#08-32RH2-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 2 | H2 |
| T820NC#08-32RH3-A | T820NC#08-32RH3-A | T820NC#08-32RH3-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 2 | H3 |
| T820NC#08-32RH4-A | – | – | 8 - 32 | 2.12 | .38 | .76 | .168 | 2 | H4 |
| – | – | T820NC#08-32RH5-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 2 | H5 |
| – | – | T820NC#08-32RH6-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 2 | H6 |
| – | – | T820NC#08-32RH7-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 2 | H7 |
| T820NF#10-32RH3-A | T820NF#10-32RH3-A | T820NF#10-32RH3-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 2 | H3 |
| – | – | T820NF#10-32RH4-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 2 | H4 |
| – | – | T820NF#10-32RH5-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 2 | H5 |
| – | – | T820NF#10-32RH6-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 2 | H6 |
| – | – | T820NF#10-32RH7-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 2 | H7 |

*(continued)*

*(T820 • Form B Plug Chamfer • Machine Screw and Fractional • ANSI — continued)*



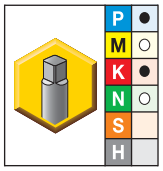



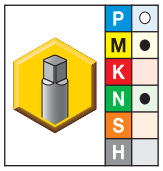

● first choice
○ alternate choice

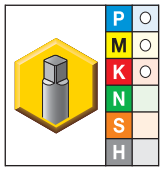
| KSP32 | KSMN34 | KSP39 | inch dimensions D1 TPI | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| T820NC#10-24RH3-A | T820NC#10-24RH3-A | T820NC#10-24RH3-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 2 | H3 |
| — | — | T820NC#10-24RH5-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 2 | H5 |
| — | — | T820NC#10-24RH7-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 2 | H7 |
| — | — | T820NF#12-28RH3-A | 12 - 28 | 2.37 | .50 | .96 | .220 | 2 | H3 |
| — | — | T820NC02500-20RH2-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H2 |
| T820NC02500-20RH3-A | T820NC02500-20RH3-A | T820NC02500-20RH3-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| — | — | T820NC02500-20RH5-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H5 |
| — | — | T820NC02500-20RH7-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H7 |
| — | — | T820NF02500-28RH2-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H2 |
| T820NF02500-28RH3-A | T820NF02500-28RH3-A | T820NF02500-28RH3-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| — | — | T820NF02500-28RH4-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H4 |
| — | — | T820NF02500-28RH5-A | 1/4 - 28 | 2.50 | .63 | 1.01 | .255 | 3 | H5 |
| — | — | T820NF02500-28RH6-A | 1/4 - 28 | 2.50 | .63 | 1.01 | .255 | 3 | H6 |
| — | — | T820NF02500-28RH7-A | 1/4 - 28 | 2.50 | .63 | 1.01 | .255 | 3 | H7 |
| T820NC03125-18RH3-A | T820NC03125-18RH3-A | T820NC03125-18RH3-A | 5/16 - 18 | 2.72 | .69 | 1.14 | .318 | 3 | H3 |
| — | — | T820NC03125-18RH5-A | 5/16 - 18 | 2.72 | .69 | 1.14 | .318 | 3 | H5 |
| — | — | T820NC03125-18RH7-A | 5/16 - 18 | 2.72 | .69 | 1.14 | .318 | 3 | H7 |
| T820NF03125-24RH3-A | T820NF03125-24RH3-A | T820NF03125-24RH3-A | 5/16 - 24 | 2.72 | .69 | 1.14 | .318 | 3 | H3 |
| — | — | T820NF03125-24RH4-A | 5/16 - 24 | 2.72 | .69 | 1.14 | .318 | 3 | H4 |
| — | — | T820NF03125-24RH5-A | 5/16 - 24 | 2.72 | .69 | 1.14 | .318 | 3 | H5 |
| — | — | T820NF03125-24RH6-A | 5/16 - 24 | 2.72 | .69 | 1.14 | .318 | 3 | H6 |
| — | — | T820NF03125-24RH7-A | 5/16 - 24 | 2.72 | .69 | 1.14 | .318 | 3 | H7 |
| T820NC03750-16RH3-A | T820NC03750-16RH3-A | T820NC03750-16RH3-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| — | — | T820NC03750-16RH5-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| — | — | T820NC03750-16RH7-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H7 |
| T820NF03750-24RH3-A | T820NF03750-24RH3-A | T820NF03750-24RH3-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| — | — | T820NF03750-24RH4-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H4 |
| — | — | T820NF03750-24RH5-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| — | — | T820NF03750-24RH6-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H6 |
| — | — | T820NF03750-24RH7-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H7 |
| — | T820NC04375-14RH3-A | T820NC04375-14RH3-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| — | — | T820NC04375-14RH5-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| — | T820NF04375-20RH3-A | T820NF04375-20RH3-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| — | — | T820NF04375-20RH5-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| — | — | T820NF04375-20RH6-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H6 |
| — | — | T820NF04375-20RH7-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H7 |
| T820NC05000-13RH3-A | T820NC05000-13RH3-A | T820NC05000-13RH3-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| — | — | T820NC05000-13RH5-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| — | — | T820NC05000-13RH7-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H7 |
| T820NF05000-20RH3-A | T820NF05000-20RH3-A | T820NF05000-20RH3-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| — | — | T820NF05000-20RH5-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| — | — | T820NF05000-20RH6-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H6 |
| — | — | T820NF05000-20RH7-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H7 |
| T820NC05625-12RH3-A | — | T820NC05625-12RH3-A | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| — | T820NF05625-18RH3-A | T820NF05625-18RH3-A | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| T820NC06250-11RH3-A | T820NC06250-11RH3-A | T820NC06250-11RH3-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| — | — | T820NC06250-11RH5-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| — | — | T820NC06250-11RH7-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H7 |
| T820NF06250-18RH3-A | — | T820NF06250-18RH3-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| T820NF06250-18RH5-A * | — | T820NF06250-18RH5-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| — | — | T820NF06250-18RH6-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H6 |
| T820NC07500-10RH3-A | T820NC07500-10RH3-A | T820NC07500-10RH3-A | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 3 | H3 |

*(continued)*

*(T820 • Form B Plug Chamfer • Machine Screw and Fractional • ANSI — continued)*




● first choice
○ alternate choice

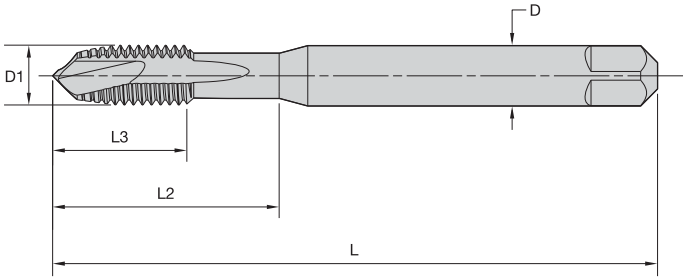
| KSP32 | KSMN34 | KSP39 | inch dimensions D1 TPI | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| **T820NF07500-16RH3-A** | **T820NF07500-16RH3-A** | **T820NF07500-16RH3-A** | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 3 | H3 |
| **T820NC08750-9RH4-A** | **T820NC08750-9RH4-A** | **—** | 7/8 - 9 | 4.69 | 1.34 | 2.30 | .697 | 3 | H4 |
| **—** | **—** | **T820NF08750-14RH4-A** | 7/8 - 14 | 4.69 | 1.34 | 2.30 | .697 | 3 | H4 |
| **T820NC10000-8RH5-A** | **T820NC10000-8RH5-A** | **T820NC10000-8RH5-A** | 1 - 8 | 5.13 | 1.50 | 2.58 | .800 | 3 | H5 |
| **—** | **—** | **T820NF10000-12RH4-A** | 1 - 12 | 5.13 | 1.50 | 2.58 | .800 | 3 | H4 |
| **—** | **—** | **T820NC11250-7RH6-A** | 1 1/8 - 7 | 5.44 | 1.71 | 2.56 | .895 | 4 | H6 |
| **—** | **—** | **T820NF11250-12RH5-A** | 1 1/8 - 12 | 5.44 | 1.71 | 2.56 | .895 | 4 | H5 |
| **—** | **—** | **T820NC12500-7RH6-A** | 1 1/4 - 7 | 5.75 | 1.71 | 2.56 | 1.021 | 4 | H6 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Bright taps (KSU30) available.

**Shank Tolerance**

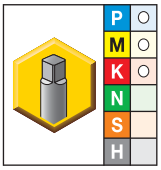
| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSP39 oxide



## T820 • DIN 371 and 376 • Form B Plug Chamfer • UNC/UNF





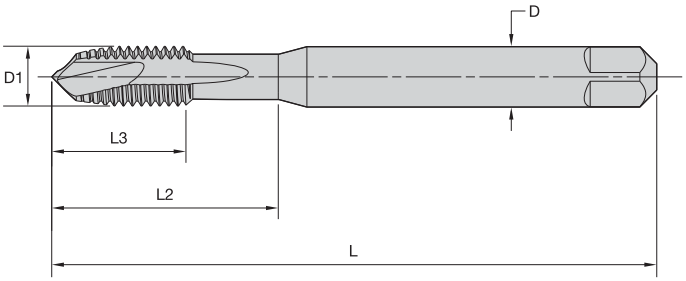

● first choice
○ alternate choice

| KSP39 | D1 size | metric dimensions L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| T820NC#04-40R2B-D1 | 4 - 40 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 2B |
| T820NC#05-40R2B-D1 | 5 - 40 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2B |
| T820NC#06-32R2B-D1 | 6 - 32 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2B |
| T820NF#06-40R2B-D1 | 6 - 40 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2B |
| T820NC#08-32R2B-D1 | 8 - 32 | 63 | 11 | 21 | 4,5 | 2 | DIN 371 | 2B |
| T820NC#10-24R2B-D1 | 10 - 24 | 70 | 12 | 25 | 6,0 | 2 | DIN 371 | 2B |
| T820NF#10-32R2B-D1 | 10 - 32 | 70 | 12 | 25 | 6,0 | 2 | DIN 371 | 2B |
| T820NC02500-20R2B-D1 | 1/4 - 20 | 80 | 15 | 30 | 7,0 | 3 | DIN 371 | 2B |
| T820NF02500-28R2B-D1 | 1/4 - 28 | 80 | 15 | 30 | 7,0 | 3 | DIN 371 | 2B |
| T820NC03125-18R2B-D1 | 5/16 - 18 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 2B |
| T820NF03125-24R2B-D1 | 5/16 - 24 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 2B |
| T820NC03750-16R2B-D1 | 3/8 - 16 | 100 | 19 | 39 | 10,0 | 3 | DIN 371 | 2B |
| T820NF03750-24R2B-D1 | 3/8 - 24 | 100 | 19 | 39 | 10,0 | 3 | DIN 371 | 2B |
| T820NC04375-14R2B-D6 | 7/16 - 14 | 100 | 18 | 41 | 8,0 | 3 | DIN 376 | 2B |
| T820NF04375-20R2B-D6 | 7/16 - 20 | 100 | 18 | 41 | 8,0 | 3 | DIN 376 | 2B |
| T820NC05000-13R2B-D6 | 1/2 - 13 | 110 | 23 | 47 | 9,0 | 3 | DIN 376 | 2B |
| T820NF05000-20R2B-D6 | 1/2 - 20 | 110 | 23 | 47 | 9,0 | 3 | DIN 376 | 2B |
| T820NC05625-12R2B-D6 | 9/16 - 12 | 110 | 25 | 53 | 11,0 | 3 | DIN 376 | 2B |
| T820NF05625-18R2B-D6 | 9/16 - 18 | 110 | 25 | 53 | 11,0 | 3 | DIN 376 | 2B |
| T820NC06250-11R2B-D6 | 5/8 - 11 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 2B |
| T820NF06250-18R2B-D6 | 5/8 - 18 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 2B |
| T820NC07500-10R2B-D6 | 3/4 - 10 | 140 | 30 | 64 | 16,0 | 3 | DIN 376 | 2B |
| T820NF07500-16R2B-D6 | 3/4 - 16 | 140 | 30 | 64 | 16,0 | 3 | DIN 376 | 2B |
| T820NC08750-9R2B-D6 | 7/8 - 9 | 140 | 34 | 71 | 18,0 | 3 | DIN 376 | 2B |
| T820NF08750-14R2B-D6 | 7/8 - 14 | 140 | 34 | 71 | 18,0 | 3 | DIN 376 | 2B |
| T820NC10000-8R2B-D6 | 1 - 8 | 160 | 38 | 81 | 18,0 | 3 | DIN 376 | 2B |
| T820NF10000-12R2B-D6 | 1 - 12 | 160 | 38 | 81 | 18,0 | 3 | DIN 376 | 2B |

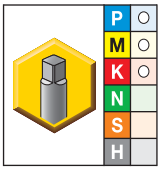
**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

• KSP39 oxide



## T820 • DIN 371 and 376 • Form B Plug Chamfer • UNJC/UNJF




● first choice
○ alternate choice

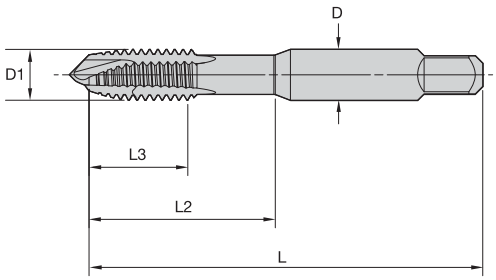
| KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T820NC#04-40R3B-D1** | 4 - 40 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 3B |
| **T820NC#06-32R3B-D1** | 6 - 32 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 3B |
| **T820NC#08-32R3B-D1** | 8 - 32 | 63 | 11 | 21 | 4,5 | 2 | DIN 371 | 3B |
| **T820NF#10-32R3B-D1** | 10 - 32 | 70 | 12 | 25 | 6,0 | 2 | DIN 371 | 3B |
| **T820NF02500-28R3B-D1** | 1/4 - 28 | 80 | 15 | 30 | 7,0 | 3 | DIN 371 | 3B |
| **T820NF03125-24R3B-D1** | 5/16 - 24 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 3B |
| **T820NF03750-24R3B-D1** | 3/8 - 24 | 100 | 19 | 39 | 10,0 | 3 | DIN 371 | 3B |
| **T820NF04375-20R3B-D6** | 7/16 - 20 | 100 | 18 | 41 | 8,0 | 3 | DIN 376 | 3B |
| **T820NF05000-20R3B-D6** | 1/2 - 20 | 110 | 23 | 47 | 9,0 | 3 | DIN 376 | 3B |

NOTE: Internal UNJC/UNJF threads may be produced with ground thread UNC/UNF taps.

**Shank Tolerance**

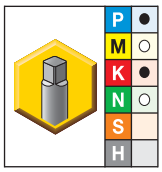
| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

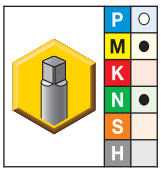
- KSP32 TiCN/TiN
- KSMN34 TiN + CrC/C
- KSP39 oxide
- KSU30 bright**

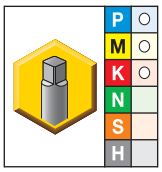


## T822 • Form B Plug Chamfer • Machine Screw • 3 Flute • ANSI






● first choice
○ alternate choice

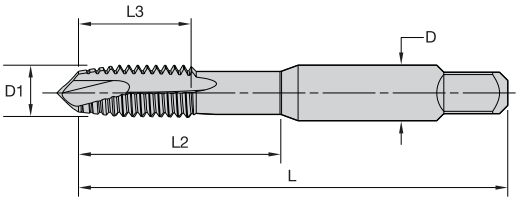
| KSP32 | KSMN34 | KSP39 | inch dimensions D1 TPI | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| – | – | T822NC#05-40RH2-A | 5 - 40 | 1.94 | .58 | .75 | .141 | 3 | H2 |
| – | – | T822NC#06-32RH2-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 3 | H2 |
| T822NC#06-32RH3-A | T822NC#06-32RH3-A | T822NC#06-32RH3-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 3 | H3 |
| – | – | T822NC#06-32RH4-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 3 | H4 |
| – | – | T822NC#06-32RH5-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 3 | H5 |
| – | – | T822NC#06-32RH6-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 3 | H6 |
| – | – | T822NC#06-32RH7-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 3 | H7 |
| – | – | T822NF#06-40RH2-A | 6 - 40 | 1.99 | .38 | .71 | .141 | 3 | H2 |
| – | – | T822NF#06-40RH3-A | 6 - 40 | 1.99 | .38 | .71 | .141 | 3 | H3 |
| – | – | T822NC#08-32RH2-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H2 |
| T822NC#08-32RH3-A * | T822NC#08-32RH3-A | T822NC#08-32RH3-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H3 |
| T822NC#08-32RH4-A | – | – | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H4 |
| – | – | T822NC#08-32RH5-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H5 |
| – | – | T822NC#08-32RH6-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H6 |
| – | – | T822NC#08-32RH7-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H7 |
| – | – | T822NF#08-36RH2-A | 8 - 36 | 2.12 | .38 | .76 | .168 | 3 | H2 |
| T822NF#10-32RH3-A | T822NF#10-32RH3-A * | T822NF#10-32RH3-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 3 | H3 |
| – | – | T822NF#10-32RH4-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 3 | H4 |
| – | – | T822NF#10-32RH5-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 3 | H5 |
| – | – | T822NF#10-32RH6-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 3 | H6 |
| – | – | T822NF#10-32RH7-A | 10 - 32 | 2.36 | .50 | .91 | .194 | 3 | H7 |
| T822NC#10-24RH3-A | T822NC#10-24RH3-A | T822NC#10-24RH3-A * | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H3 |
| – | – | T822NC#10-24RH5-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H5 |
| – | – | T822NC#10-24RH7-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H7 |
| – | – | T822NF#12-28RH3-A * | 12 - 28 | 2.37 | .50 | .96 | .220 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Bright taps (KSU30) available.

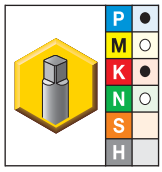
**Shank Tolerance**

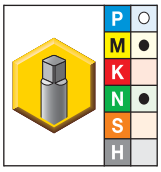
| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

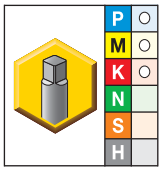
- KSP32 TiCN/TiN
- KSMN34 TiN + CrC/C
- KSP39 oxide
- KSU30 bright**



## T820 • Form B Plug Chamfer • Metric • ANSI




● first choice
○ alternate choice

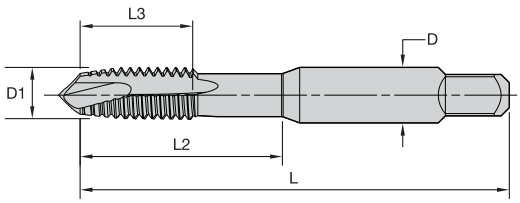
| KSP32 | KSMN34 | KSP39 | D1 size | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| **T820M030X050RD3-A** | **T820M030X050RD3-A** | **T820M030X050RD3-A** | M3 X 0,5 | 1.94 | .58 | .75 | .141 | 2 | D3 |
| **–** | **–** | **T820M035X060RD4-A** | M3,5 X 0,6 | 1.99 | .38 | .71 | .141 | 2 | D4 |
| **T820M040X070RD4-A** | **T820M040X070RD4-A** | **T820M040X070RD4-A** | M4 X 0,7 | 2.12 | .38 | .76 | .168 | 2 | D4 |
| **T820M050X080RD4-A** | **T820M050X080RD4-A** | **T820M050X080RD4-A** | M5 X 0,8 | 2.37 | .50 | .91 | .194 | 2 | D4 |
| **T820M060X100RD5-A** | **T820M060X100RD5-A** | **T820M060X100RD5-A** | M6 X 1 | 2.50 | .63 | 1.00 | .255 | 3 | D5 |
| **–** | **–** | **T820M070X100RD5-A** | M7 X 1 | 2.72 | .69 | 1.15 | .318 | 3 | D5 |
| **–** | **–** | **T820MF080X100RD5-A** | M8 X 1,0 | 2.71 | .69 | 1.12 | .318 | 3 | D5 |
| **T820M080X125RD5-A** | **T820M080X125RD5-A** | **T820M080X125RD5-A** | M8 X 1,25 | 2.71 | .69 | 1.13 | .318 | 3 | D5 |
| **–** | **–** | **T820MF100X125RD5-A** | M10 X 1,25 | 2.92 | .74 | 1.25 | .381 | 3 | D5 |
| **T820M100X150RD6-A** | **T820M100X150RD6-A *** | **T820M100X150RD6-A** | M10 X 1,50 | 2.92 | .75 | 1.26 | .381 | 3 | D6 |
| **–** | **–** | **T820MF120X125RD6-A** | M12 X 1,25 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| **–** | **–** | **T820MF120X150RD6-A** | M12 X 1,5 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| **T820M120X175RD6-A** | **T820M120X175RD6-A** | **T820M120X175RD6-A** | M12 X 1,75 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| **–** | **–** | **T820MF140X150RD6-A** | M14 X 1,5 | 3.59 | 1.00 | 1.74 | .429 | 3 | D6 |
| **–** | **–** | **T820M140X200RD7-A** | M14 X 2,0 | 3.59 | 1.00 | 1.74 | .429 | 3 | D7 |
| **–** | **T820MF160X150RD6-A** | **T820MF160X150RD6-A** | M16 X 1,5 | 3.81 | 1.09 | 1.89 | .480 | 3 | D6 |
| **T820M160X200RD7-A** | **T820M160X200RD7-A** | **T820M160X200RD7-A** | M16 X 2,0 | 3.81 | 1.09 | 1.89 | .480 | 3 | D7 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Bright taps (KSU30) available.

**Shank Tolerance**

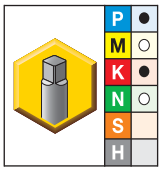
| D inch | tolerance |
|---|---|
| 0.141–0.635 | +0, -.0015 |
| >0.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

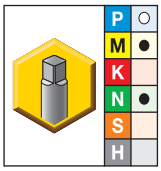
- KSP32 TiCN/TiN
- KSMN34 TiN + CrC/C
- KSP39 oxide
- KSU30 bright**

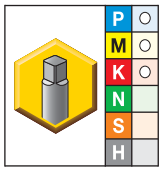


## T822 • Form B Plug Chamfer • Metric • 3 Flute • ANSI






● first choice
○ alternate choice

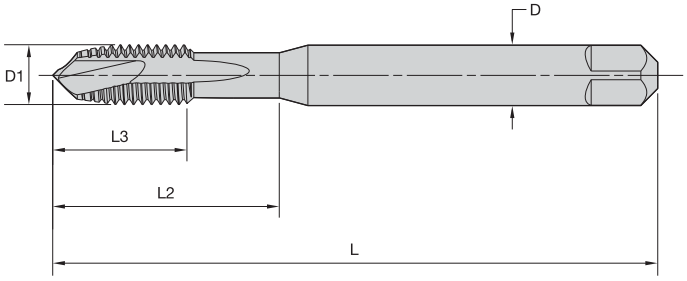
| KSP32 | KSMN34 | KSP39 | D1 size | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| T822M030X050RD3-A | T822M030X050RD3-A | T822M030X050RD3-A | M3 X 0,5 | 1.94 | .58 | .75 | .141 | 3 | D3 |
| – | – | T822M035X060RD4-A * | M3,5 X 0,6 | 1.99 | .38 | .71 | .141 | 3 | D4 |
| T822M040X070RD4-A * | T822M040X070RD4-A * | T822M040X070RD4-A * | M4 X 0,7 | 2.12 | .38 | .76 | .168 | 3 | D4 |
| T822M050X080RD4-A | T822M050X080RD4-A | T822M050X080RD4-A | M5 X 0,8 | 2.37 | .50 | .91 | .194 | 3 | D4 |

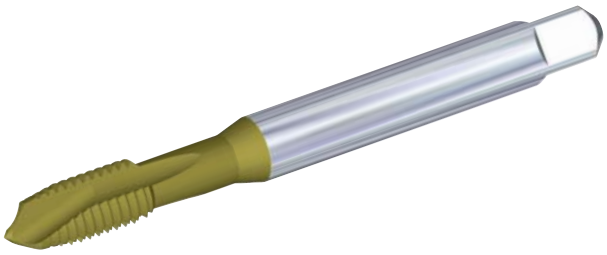
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
**Bright taps (KSU30) available.

**Shank Tolerance**

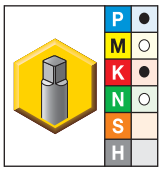
| D inch | tolerance |
|---|---|
| 0.141–0.635 | +0, -.0015 |
| >0.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

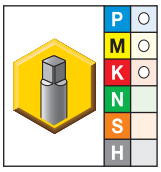
- KSP32 TiCN/TiN
- KSP39 oxide



## T820 • DIN 371, 374, and 376 • Form B Plug Chamfer • Metric



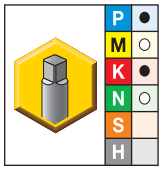



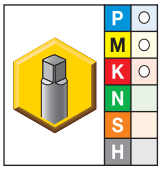

● first choice
○ alternate choice

| KSP32 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T820M020X040R6H-D1 | T820M020X040R6H-D1 | M2 X 0,4 | 45 | 7 | 13 | 2,8 | 2 | DIN 371 | 6H |
| – | T820M020X040R6G-D1 | M2 X 0,4 | 45 | 7 | 13 | 2,8 | 2 | DIN 371 | 6G |
| – | T820M025X045R6H-D1 | M2,5 X 0,45 | 50 | 7 | 15 | 2,8 | 2 | DIN 371 | 6H |
| – | T820M025X045R6G-D1 | M2,5 X 0,45 | 50 | 7 | 15 | 2,8 | 2 | DIN 371 | 6G |
| T820M030X050R6H-D1 | T820M030X050R6H-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 6H |
| – | T820M030X050R6G-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 6G |
| – | T820M035X060R6H-D1 | M3,5 X 0,6 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 6H |
| – | T820MF040X050R6H-D4 | M4 X 0,5 | 63 | 10 | 21 | 2,8 | 2 | DIN 374 | 6H |
| T820M040X070R6H-D1 | T820M040X070R6H-D1 | M4 X 0,7 | 63 | 11 | 21 | 4,5 | 2 | DIN 371 | 6H |
| – | T820M040X070R6G-D1 | M4 X 0,7 | 63 | 11 | 21 | 4,5 | 2 | DIN 371 | 6G |
| – | T820MF050X050R6H-D4 | M5 X 0,5 | 70 | 12 | 25 | 3,5 | 2 | DIN 374 | 6H |
| T820M050X080R6H-D1 | T820M050X080R6H-D1 | M5 X 0,8 | 70 | 12 | 25 | 6,0 | 2 | DIN 371 | 6H |
| – | T820M050X080R6G-D1 | M5 X 0,8 | 70 | 12 | 25 | 6,0 | 2 | DIN 371 | 6G |
| – | T820MF060X050R6H-D4 | M6 X 0,5 | 80 | 12 | 30 | 4,5 | 3 | DIN 374 | 6H |
| – | T820MF060X075R6H-D4 | M6 X 0,75 | 80 | 12 | 30 | 4,5 | 3 | DIN 374 | 6H |
| – | T820M060X100R6H-D6 | M6 X 1 | 80 | 12 | 30 | 4,5 | 3 | DIN 376 | 6H |
| T820M060X100R6H-D1 | T820M060X100R6H-D1 | M6 X 1 | 80 | 12 | 30 | 6,0 | 3 | DIN 371 | 6H |
| – | T820M060X100R6G-D1 | M6 X 1 | 80 | 12 | 30 | 6,0 | 3 | DIN 371 | 6G |
| T820M070X100R6H-D1 | T820M070X100R6H-D1 | M7 X 1 | 80 | 12 | 30 | 7,0 | 3 | DIN 371 | 6H |
| – | T820M070X100R6G-D1 | M7 X 1 | 80 | 12 | 30 | 7,0 | 3 | DIN 371 | 6G |
| – | T820MF080X100R6H-D4 | M8 X 1 | 90 | 15 | 35 | 6,0 | 3 | DIN 374 | 6H |
| – | T820M080X125R6H-D6 | M8 X 1,25 | 90 | 15 | 35 | 6,0 | 3 | DIN 376 | 6H |
| T820M080X125R6H-D1 | T820M080X125R6H-D1 | M8 X 1,25 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 6H |
| – | T820M080X125R6G-D1 | M8 X 1,25 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 6G |
| – | T820MF100X100R6H-D4 | M10 X 1 | 90 | 15 | 35 | 7,0 | 3 | DIN 374 | 6H |
| – | T820MF100X125R6H-D4 | M10 X 1,25 | 100 | 18 | 39 | 7,0 | 3 | DIN 374 | 6H |
| – | T820M100X150R6H-D6 | M10 X 1,5 | 100 | 18 | 39 | 7,0 | 3 | DIN 376 | 6H |
| T820M100X150R6H-D1 | T820M100X150R6H-D1 | M10 X 1,5 | 100 | 18 | 39 | 10,0 | 3 | DIN 371 | 6H |

*(continued)*

*(T820 • DIN 371, 374, and 376 • Form B Plug Chamfer • Metric — continued)*



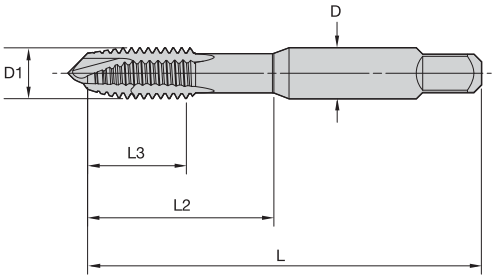

● first choice
○ alternate choice

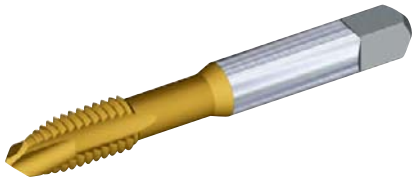
| KSP32 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| – | **T820M100X150R6G-D1** | M10 X 1,5 | 100 | 18 | 39 | 10,0 | 3 | DIN 371 | 6G |
| – | **T820MF120X100R6H-D4** | M12 X 1 | 100 | 21 | 39 | 9,0 | 3 | DIN 374 | 6H |
| – | **T820MF120X125R6H-D4** | M12 X 1,25 | 100 | 21 | 39 | 9,0 | 3 | DIN 374 | 6H |
| – | **T820MF120X150R6H-D4** | M12 X 1,5 | 100 | 21 | 39 | 9,0 | 3 | DIN 374 | 6H |
| **T820M120X175R6H-D6** | **T820M120X175R6H-D6** | M12 X 1,75 | 110 | 21 | 44 | 9,0 | 3 | DIN 376 | 6H |
| – | **T820M120X175R6G-D6** | M12 X 1,75 | 110 | 21 | 44 | 9,0 | 3 | DIN 376 | 6G |
| – | **T820MF140X100R6H-D4** | M14 X 1 | 100 | 21 | 47 | 11,0 | 3 | DIN 374 | 6H |
| – | **T820MF140X125R6H-D4** | M14 X 1,25 | 100 | 21 | 47 | 11,0 | 3 | DIN 374 | 6H |
| – | **T820MF140X150R6H-D4** | M14 X 1,5 | 100 | 21 | 47 | 11,0 | 3 | DIN 374 | 6H |
| **T820M140X200R6H-D6** | **T820M140X200R6H-D6** | M14 X 2 | 110 | 24 | 52 | 11,0 | 3 | DIN 376 | 6H |
| – | **T820M140X200R6G-D6** | M14 X 2 | 110 | 24 | 52 | 11,0 | 3 | DIN 376 | 6G |
| – | **T820MF160X100R6H-D4** | M16 X 1 | 100 | 21 | 46 | 12,0 | 3 | DIN 374 | 6H |
| – | **T820MF160X150R6H-D4** | M16 X 1,5 | 100 | 21 | 46 | 12,0 | 3 | DIN 374 | 6H |
| **T820M160X200R6H-D6** | **T820M160X200R6H-D6** | M16 X 2 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 6H |
| – | **T820M160X200R6G-D6** | M16 X 2 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 6G |
| – | **T820MF180X150R6H-D4** | M18 X 1,5 | 110 | 21 | 50 | 14,0 | 3 | DIN 374 | 6H |
| – | **T820MF180X200R6H-D4** | M18 X 2 | 125 | 30 | 58 | 14,0 | 3 | DIN 374 | 6H |
| **T820M180X250R6H-D6** | **T820M180X250R6H-D6** | M18 X 2,5 | 125 | 30 | 58 | 14,0 | 3 | DIN 376 | 6H |
| – | **T820MF200X150R6H-D4** | M20 X 1,5 | 125 | 24 | 56 | 16,0 | 3 | DIN 374 | 6H |
| – | **T820MF200X200R6H-D4** | M20 X 2 | 140 | 30 | 64 | 16,0 | 3 | DIN 374 | 6H |
| **T820M200X250R6H-D6** | **T820M200X250R6H-D6** | M20 X 2,5 | 140 | 30 | 64 | 16,0 | 3 | DIN 376 | 6H |
| – | **T820MF220X150R6H-D4** | M22 X 1,5 | 125 | 24 | 62 | 18,0 | 3 | DIN 374 | 6H |
| – | **T820MF220X200R6H-D4** | M22 X 2 | 140 | 30 | 70 | 18,0 | 3 | DIN 374 | 6H |
| – | **T820M220X250R6H-D6** | M22 X 2,5 | 140 | 30 | 70 | 18,0 | 3 | DIN 376 | 6H |
| – | **T820MF240X150R6H-D4** | M24 X 1,5 | 140 | 28 | 67 | 18,0 | 3 | DIN 374 | 6H |
| – | **T820M240X300R6H-D6** | M24 X 3 | 160 | 36 | 77 | 18,0 | 3 | DIN 376 | 6H |
| – | **T820M270X300R6H-D6** | M27 X 3 | 160 | 36 | 82 | 20,0 | 4 | DIN 376 | 6H |
| – | **T820M300X350R6H-D6** | M30 X 3,5 | 180 | 42 | 91 | 22,0 | 4 | DIN 376 | 6H |
| – | **T820M330X350R6H-D6** | M33 X 3,5 | 180 | 42 | 100 | 25,0 | 4 | DIN 376 | 6H |
| – | **T820M360X400R6H-D6** | M36 X 4 | 200 | 48 | 110 | 28,0 | 4 | DIN 376 | 6H |

**Shank Tolerance**

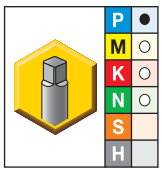
| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

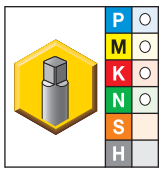
- KSU31 TiN
- KSU30 bright



## T820 • Form B Plug Chamfer • Metric • JIS



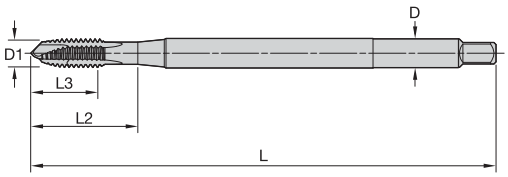




● first choice
○ alternate choice

| KSU31 | KSU30 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | tap class |
|---|---|---|---|---|---|---|---|---|---|
| **T820M030X050R6H-J** | **T820M030X050R6H-J** | M3 X 0,5 | 46 | 11 | 19 | 4,0 | 2 | JIS | ISO 2 |
| **T820M040X070R6H-J** | **T820M040X070R6H-J** | M4 X 0,7 | 52 | 13 | 21 | 5,0 | 2 | JIS | ISO 2 |
| **T820M050X080R6H-J** | **T820M050X080R6H-J** | M5 X 0,8 | 60 | 16 | 24 | 5,5 | 2 | JIS | ISO 2 |
| **T820M060X100R6H-J** | **T820M060X100R6H-J** | M6 X 1 | 62 | 19 | 29 | 6,0 | 3 | JIS | ISO 2 |
| **T820M080X125R6H-J** | **T820M080X125R6H-J** | M8 X 1,25 | 70 | 22 | 37 | 6,2 | 3 | JIS | ISO 2 |
| **T820M100X150R6H-J** | **T820M100X150R6H-J** | M10 X 1,5 | 75 | 24 | 41 | 7,0 | 3 | JIS | ISO 2 |
| – | **T820MF120X125R6H-J** | M12 X 1,25 | 82 | 29 | 48 | 8,5 | 3 | JIS | ISO 2 |
| – | **T820MF120X150R6H-J** | M12 X 1,5 | 82 | 29 | 48 | 8,5 | 3 | JIS | ISO 2 |
| – | **T820M120X175R6H-J** | M12 X 1,75 | 82 | 29 | 48 | 8,5 | 3 | JIS | ISO 2 |
| – | **T820MF140X150R6H-J** | M14 X 1,5 | 88 | 30 | 48 | 10,5 | 3 | JIS | ISO 2 |
| – | **T820M140X200R6H-J** | M14 X 2 | 88 | 30 | 48 | 10,5 | 3 | JIS | ISO 2 |
| – | **T820MF160X150R6H-J** | M16 X 1,5 | 95 | 32 | 52 | 12,5 | 3 | JIS | ISO 2 |
| – | **T820M160X200R6H-J** | M16 X 2 | 95 | 32 | 52 | 12,5 | 3 | JIS | ISO 2 |
| – | **T820M180X250R6H-J** | M18 X 2,5 | 100 | 37 | 55 | 14,0 | 3 | JIS | ISO 2 |
| – | **T820M200X250R6H-J** | M20 X 2,5 | 105 | 37 | 60 | 15,0 | 3 | JIS | ISO 2 |

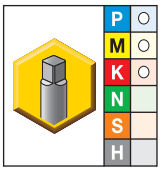
**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |



## T820 • Form B Plug Chamfer • Machine Screw and Fractional • 4" Length • ANSI



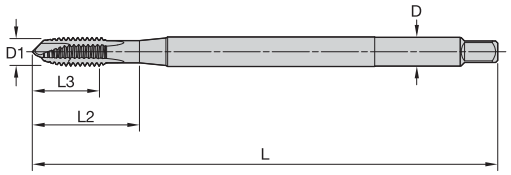



● first choice
○ alternate choice

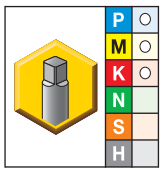
| KSP39 | inch dimensions D1 TPI | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T820NC#04-40RH2-XL4** | 4 - 40 | 4.00 | .56 | .87 | .141 | 2 | H2 |
| **T820NC#06-32RH3-XL4** | 6 - 32 | 4.00 | .38 | .71 | .141 | 2 | H3 |
| **T820NC#08-32RH3-XL4** | 8 - 32 | 4.00 | .38 | .76 | .168 | 2 | H3 |
| **T820NC#10-24RH4-XL4** | 10 - 24 | 4.00 | .50 | .91 | .194 | 2 | H3 |
| **T820NF#10-32RH3-XL4** | 10 - 32 | 4.00 | .50 | .91 | .194 | 2 | H3 |
| **T820NC02500-20RH3-XL4** | 1/4 - 20 | 4.00 | .63 | 1.01 | .255 | 3 | H3 |

**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |



## T820 • Form B Plug Chamfer • Machine Screw and Fractional • 6" Length • ANSI



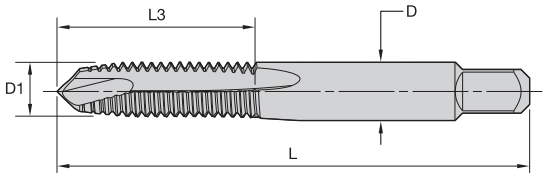

● first choice
○ alternate choice

| KSP39 | D1 TPI | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T820NC#04-40RH2-XL6** | 4 - 40 | 6.00 | .56 | .87 | .141 | 2 | H2 |
| **T820NC#06-32RH3-XL6 *** | 6 - 32 | 6.00 | .38 | .71 | .168 | 2 | H3 |
| **T820NC#08-32RH3-XL6** | 8 - 32 | 6.00 | .38 | .76 | .168 | 2 | H3 |
| **T820NC#10-24RH3-XL6** | 10 - 24 | 6.00 | .50 | .91 | .194 | 2 | H3 |
| **T820NF#10-32RH3-XL6** | 10 - 32 | 6.00 | .50 | .91 | .194 | 2 | H3 |
| **T820NC02500-20RH3-XL6** | 1/4 - 20 | 6.00 | .63 | 1.01 | .255 | 3 | H3 |
| **T820NF02500-28RH3-XL6** | 1/4 - 28 | 6.00 | .63 | 1.01 | .255 | 3 | H3 |
| **T820NC03125-18RH3-XL6** | 5/16 - 18 | 6.00 | .69 | 1.13 | .318 | 3 | H3 |
| **T820NF03125-24RH3-XL6** | 5/16 - 24 | 6.00 | .69 | 1.13 | .318 | 3 | H3 |
| **T820NC03750-16RH3-XL6** | 3/8 - 16 | 6.00 | .75 | 1.27 | .381 | 3 | H3 |
| **T820NF03750-24RH3-XL6 *** | 3/8 - 24 | 6.00 | .75 | 1.27 | .381 | 3 | H3 |
| **T820NC04375-14RH3-XL6 *** | 7/16 - 14 | 6.00 | .88 | 1.49 | .323 | 3 | H3 |
| **T820NF04375-20RH3-XL6 *** | 7/16 - 20 | 6.00 | .88 | 1.49 | .323 | 3 | H3 |
| **T820NC05000-13RH3-XL6** | 1/2 - 13 | 6.00 | .94 | 1.74 | .367 | 3 | H3 |
| **T820NF05000-20RH3-XL6** | 1/2 - 20 | 6.00 | .94 | 1.74 | .367 | 3 | H3 |
| **T820NC06250-11RH3-XL6** | 5/8 - 11 | 6.00 | 1.09 | 1.89 | .480 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

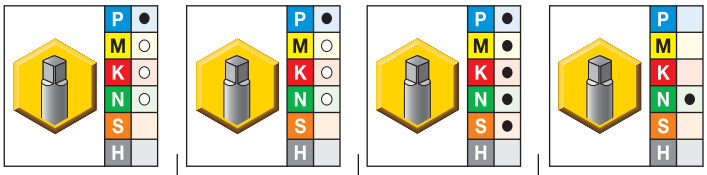
**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |



## KHSST Spiral Point • Machine Screw and Fractional Sizes • Plug Chamfer Tap

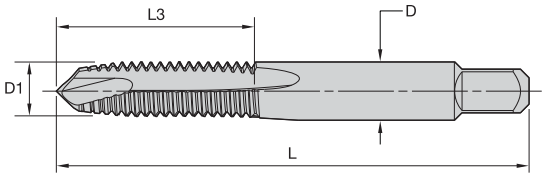




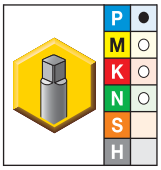

● first choice
○ alternate choice

| TiCN | TiN | oxide | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| KHSST28732 | KHSST28733 | – | KHSST28731 | 0 - 80 | 1.63 | .31 | .141 | 2 | H2 |
| – | – | – | KHSST28757 | 1 - 72 | 1.69 | .38 | .141 | 2 | H2 |
| – | KHSST09101 | KHSST28252 | KHSST08043 | 2 - 56 | 1.75 | .44 | .141 | 2 | H2 |
| – | – | – | KHSST08061 | 3 - 48 | 1.81 | .50 | .141 | 2 | H2 |
| KHSST28274 | KHSST09103 | KHSST28253 | KHSST08090 | 4 - 40 | 1.88 | .56 | .141 | 2 | H2 |
| – | – | – | KHSST08104 | 4 - 48 | 1.88 | .56 | .141 | 2 | H2 |
| – | KHSST09104 | – | KHSST08119 | 5 - 40 | 1.94 | .63 | .141 | 2 | H2 |
| – | KHSST09105 | KHSST28254 | KHSST08156 | 6 - 32 | 2.00 | .69 | .141 | 2 | H2 |
| KHSST28276 | KHSST09106 | KHSST28255 | KHSST08157 | 6 - 32 | 2.00 | .69 | .141 | 2 | H3 |
| – | – | – | KHSST08175 | 6 - 40 | 2.00 | .69 | .141 | 2 | H2 |
| – | KHSST09108 | KHSST28256 | KHSST08203 | 8 - 32 | 2.13 | .75 | .168 | 2 | H2 |
| KHSST28277 | KHSST09109 | KHSST28257 | KHSST08205 | 8 - 32 | 2.13 | .75 | .168 | 2 | H3 |
| – | – | – | KHSST28244 * | 8 - 36 | 2.13 | .75 | .168 | 2 | H2 |
| – | – | – | KHSST08243 | 10 - 24 | 2.38 | .88 | .194 | 2 | H2 |
| KHSST09608 | KHSST28113 | KHSST28262 | KHSST08245 | 10 - 24 | 2.38 | .88 | .194 | 2 | H3 |
| – | KHSST09111 | KHSST28263 | KHSST08280 | 10 - 32 | 2.38 | .88 | .194 | 2 | H2 |
| KHSST09609 | KHSST09112 | KHSST28264 | KHSST08282 | 10 - 32 | 2.38 | .88 | .194 | 2 | H3 |
| – | – | – | KHSST28248 | 10 - 32 | 2.38 | .88 | .194 | 2 | H7 |
| – | KHSST09113 | – | KHSST08296 | 12 - 24 | 2.38 | .94 | .220 | 2 | H3 |
| – | KHSST09114 | – | KHSST08331 | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H2 |
| – | KHSST09115 | KHSST28260 | KHSST08332 | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H3 |
| KHSST09611 | KHSST09116 | – | KHSST08334 | 1/4 - 20 | 2.50 | 1.00 | .255 | 3 | H3 |
| – | KHSST28111 | – | KHSST08336 | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H5 |
| – | KHSST28112 | KHSST28261 | KHSST08364 | 1/4 - 28 | 2.50 | 1.00 | .255 | 2 | H3 |
| – | KHSST09119 | KHSST28267 | KHSST08391 | 5/16 - 18 | 2.72 | 1.13 | .318 | 2 | H3 |
| KHSST28275 | – | – | KHSST08393 | 5/16 - 18 | 2.72 | 1.13 | .318 | 3 | H3 |
| – | KHSST09120 | KHSST28268 | KHSST08419 | 5/16 - 24 | 2.72 | 1.13 | .318 | 2 | H3 |
| KHSST09615 | KHSST09121 | KHSST28266 | KHSST08443 | 3/8 - 16 | 2.94 | 1.25 | .381 | 3 | H3 |
| – | – | – | KHSST08444 | 3/8 - 16 | 2.94 | 1.25 | .381 | 3 | H5 |
| – | KHSST09122 | – | KHSST08467 | 3/8 - 24 | 2.94 | 1.25 | .381 | 3 | H3 |
| – | KHSST09123 | KHSST28270 | KHSST08484 | 7/16 - 14 | 3.16 | 1.44 | .323 | 3 | H3 |
| – | KHSST09124 | KHSST28271 | KHSST08498 | 7/16 - 20 | 3.16 | 1.44 | .323 | 3 | H3 |
| KHSST28272 | KHSST09125 | KHSST28258 | KHSST08516 | 1/2 - 13 | 3.38 | 1.66 | .367 | 3 | H3 |
| – | – | – | KHSST28245 | 1/2 - 13 | 3.38 | 1.66 | .367 | 3 | H5 |
| – | KHSST09126 | KHSST28259 | KHSST08537 | 1/2 - 20 | 3.38 | 1.66 | .367 | 3 | H3 |
| KHSST28273 | KHSST09127 | KHSST28269 | KHSST08566 | 5/8 - 11 | 3.81 | 1.81 | .480 | 3 | H3 |
| – | – | – | KHSST08578 | 5/8 - 18 | 3.81 | 1.81 | .480 | 3 | H3 |
| – | KHSST09128 | KHSST28265 | KHSST08599 | 3/4 - 10 | 4.25 | 2.00 | .590 | 3 | H3 |
| – | – | – | KHSST28249 | 3/4 - 10 | 4.25 | 2.00 | .590 | 3 | H5 |

NOTE: Spiral-Point taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



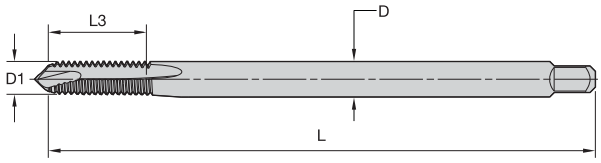
## KHSST Oversized Spiral Point • Fractional Sizes • Plug Chamfer Taps




● first choice
○ alternate choice

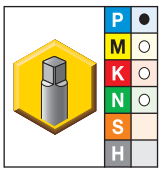
| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28247** | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H11 |
| **KHSST28251** | 5/16 - 18 | 2.72 | 1.13 | .318 | 2 | H11 |
| **KHSST28250** | 3/8 - 16 | 2.94 | 1.25 | .381 | 3 | H11 |
| **KHSST28246** | 1/2 - 13 | 3.38 | 1.66 | .367 | 3 | H11 |

NOTE: Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.



## KHSST Spiral Point 6" • Fractional Sizes • Plug Chamfer Taps

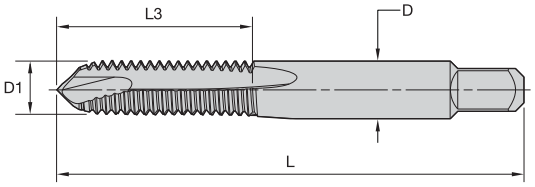




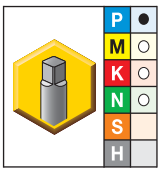

● first choice
○ alternate choice

| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28776** | 6 - 32 | 6.00 | .69 | .141 | 2 | H3 |
| **KHSST28784** | 8 - 32 | 6.00 | .75 | .168 | 2 | H3 |
| **KHSST28737** | 10 - 24 | 6.00 | .88 | .194 | 2 | H3 |
| **KHSST28744** | 10 - 32 | 6.00 | .88 | .194 | 2 | H3 |
| **KHSST28072** | 1/4 - 20 | 6.00 | 1.00 | .255 | 2 | H3 |
| **KHSST28080** * | 1/4 - 28 | 6.00 | 1.00 | .255 | 2 | H3 |
| **KHSST28209** | 5/16 - 18 | 6.00 | 1.13 | .318 | 2 | H3 |
| **KHSST28220** * | 5/16 - 24 | 6.00 | 1.13 | .318 | 2 | H3 |
| **KHSST28192** | 3/8 - 16 | 6.00 | 1.25 | .381 | 3 | H3 |
| **KHSST28204** | 3/8 - 24 | 6.00 | 1.25 | .381 | 3 | H3 |

NOTE: Spiral-point taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



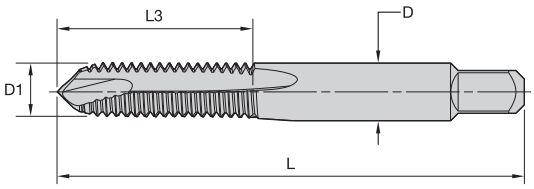
## KHSST Heavy-Duty Spiral Point • Machine Screw and Fractional • Plug Chamfer Taps




● first choice
○ alternate choice

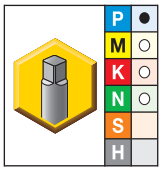
| oxide/nitride | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28526** | 6 - 32 | 2.00 | .69 | .141 | 3 | H3 |
| **KHSST28527** | 8 - 32 | 2.13 | .75 | .168 | 3 | H3 |
| **KHSST28531** | 10 - 24 | 2.38 | .88 | .194 | 3 | H3 |
| **KHSST28532** | 10 - 32 | 2.38 | .88 | .194 | 3 | H3 |
| **KHSST28529** | 1/4 - 20 | 2.50 | 1.00 | .255 | 3 | H3 |
| **KHSST28534** | 5/16 - 18 | 2.72 | 1.13 | .318 | 3 | H3 |
| **KHSST28528** | 1/2 - 13 | 3.38 | 1.66 | .367 | 3 | H3 |
| **KHSST28228** * | 5/8 - 11 | 3.81 | 1.81 | .480 | 3 | H3 |
| **KHSST28162** | 3/4 - 10 | 4.25 | 2.00 | .590 | 3 | H3 |

NOTE: Spiral-point taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.



## KHSST Spiral Point • Machine Screw and Fractional • Bottoming-Chamfer Taps

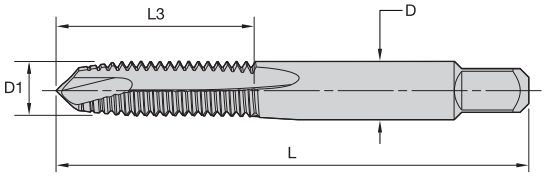




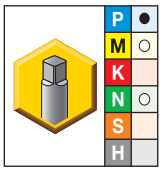

● first choice
○ alternate choice

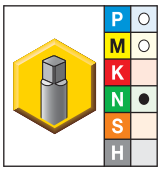
| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28730** | 0 - 80 | 1.63 | .31 | .141 | 2 | H2 |
| **KHSST08044** | 2 - 56 | 1.75 | .44 | .141 | 3 | H2 |
| **KHSST08091** | 4 - 40 | 1.88 | .56 | .141 | 2 | H2 |
| **KHSST08159** | 6 - 32 | 2.00 | .69 | .141 | 2 | H2 |
| **KHSST08160** | 6 - 32 | 2.00 | .69 | .141 | 2 | H3 |
| **KHSST08246** | 10 - 24 | 2.38 | .88 | .194 | 2 | H3 |
| **KHSST28743** | 10 - 32 | 2.38 | .88 | .194 | 2 | H2 |
| **KHSST08333** | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H3 |
| **KHSST28219** | 5/16 - 24 | 2.72 | 1.13 | .318 | 2 | H3 |

NOTE: Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.



## KHSST Spiral Point • Plug Chamfer Taps • Metric ANSI




● first choice
○ alternate choice

| TiN | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| – | **KHSST28681** | M1,6 X 0,35 | 1.63 | .31 | .1410 | 2 | D3 |
| – | **KHSST27711** | M2 X 0,4 | 1.75 | .44 | .1410 | 2 | D3 |
| – | **KHSST27719** | M2,5 X 0,45 | 1.81 | .50 | .1410 | 2 | D3 |
| **KHSST09129** | **KHSST27723** | M3 X 0,5 | 1.94 | .63 | .1410 | 2 | D3 |
| **KHSST09130** | **KHSST27731** | M4 X 0,7 | 2.13 | .75 | .1680 | 2 | D4 |
| **KHSST09131** | **KHSST27739** | M5 X 0,8 | 2.38 | .88 | .1940 | 2 | D4 |
| **KHSST09132** | **KHSST27743** | M6 X 1 | 2.50 | 1.00 | .2550 | 2 | D5 |
| **KHSST09133** | **KHSST27751** | M8 X 1,25 | 2.72 | 1.13 | .3180 | 2 | D5 |
| **KHSST28152** | **KHSST27759** | M10 X 1,5 | 2.94 | 1.25 | .3810 | 3 | D6 |
| **KHSST09135** | **KHSST27767** | M12 X 1,75 | 3.38 | 1.66 | .3670 | 3 | D6 |
| – | **KHSST28447** | M14 X 2 | 3.59 | 1.66 | .4290 | 3 | D7 |
| – | **KHSST27787 *** | M16 X 2 | 3.81 | 1.81 | .4800 | 3 | D6 |
| – | **KHSST28448** | M16 X 2 | 3.81 | 1.81 | .4800 | 3 | D7 |
| – | **KHSST27798** | M20 X 2,5 | 4.47 | 2.00 | .6520 | 3 | D7 |

NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page M203 for the recommended pitch diameter limit for 6H class of fit.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

# Spiral-Flute Taps

## High-Performance Taps for Blind-Hole Applications

- Steel and steel alloys.
- Stainless steel.
- Cast iron.
- Nickel- and cobalt-based alloys.
- Titanium and titanium alloys.
- Aluminum.
- Hard steel.

## High-Performance Beyond™ Solid Carbide Taps

- Right-hand spiral flute with through coolant for efficient chip evacuation at high spindle speeds.
- Runs up to 4x faster and 4x longer than conventional high-speed steel (HSS) taps.
- Ideal for long production runs where fewer tool changes result in greater productivity.
- For use on CNC machines with synchronous or rigid controls and precision toolholders.

## High-Performance Beyond™ HSS-E-PM Taps

- Right-hand spiral flutes with the flute form and helix angle optimized for material-specific applications.
- Higher strength and wider range of applications versus solid carbide taps.
- Higher tapping speed capability and longer tool life than conventional HSS-E taps.
- Can be used on either conventional or synchronous tapping machines with rigid or synchronous tap holders.

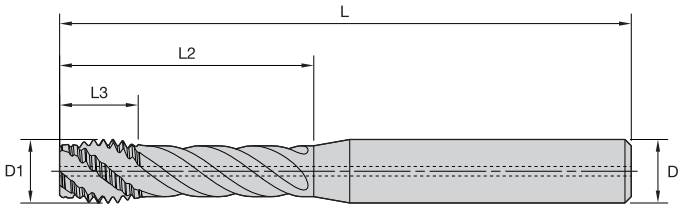
## Multipurpose HSS-E GOtap™ Taps

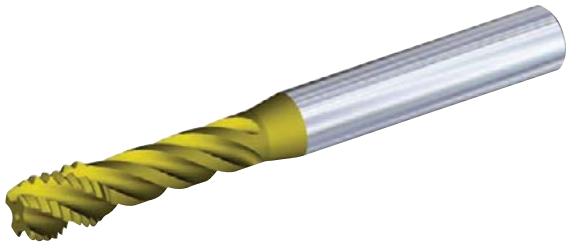
- Advanced spiral-flute geometry designed for free cutting action and efficient chip evacuation in blind holes.
- Manufactured with high vanadium HSS-E material for exceptional wear characteristics and longer tool life.
- Advanced PVD coatings to reduce tapping torque, resulting in high-quality thread finish and longer tool life.
- For use in both synchronous and non-synchronous machines, including rigid, synchronous, and tension/compression tap holders.

## General-Purpose Taps

- HSS spiral-flute taps with a neck design for improved chip flow in blind holes.
- Wide range of sizes and pitch limits offered with PVD coatings and surface treatments.
- Heavy-duty spiral-flute taps ideal for blind-hole tapping in materials up to 30 Rc.

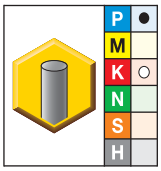
- KC7542 TiAlN + TiN for steel.



beyond

## T331 • Form C Semi-Bottoming Chamfer • Through Coolant • Inch • Solid Carbide • For Steel




● first choice
○ alternate choice

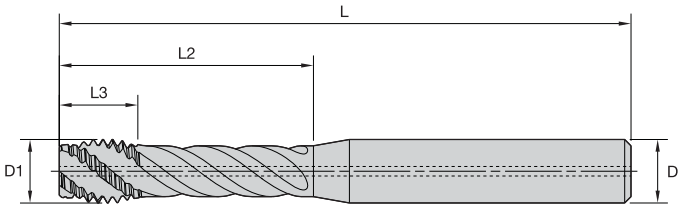
| KC7542 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T331NC2500-20R3BX** | 1/4 - 20 | 2.76 | .39 | .94 | .250 | 3 | 3BX |
| **T331NF2500-28R3BX** | 1/4 - 28 | 2.76 | .39 | .94 | .250 | 3 | 3BX |
| **T331NC3125-18R3BX** | 5/16 - 18 | 3.15 | .47 | 1.26 | .313 | 3 | 3BX |
| **T331NC3750-16R3BX** | 3/8 - 16 | 3.54 | .51 | 1.57 | .375 | 4 | 3BX |
| **T331NC4375-14R3BX** | 7/16 - 14 | 3.94 | .59 | 1.73 | .438 | 4 | 3BX |
| **T331NC5000-13R3BX** * | 1/2 - 13 | 3.94 | .63 | 1.89 | .500 | 4 | 3BX |

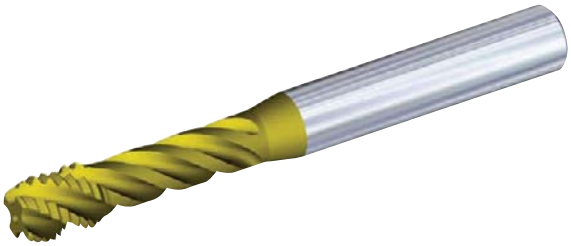
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

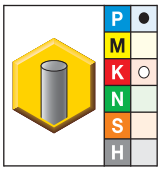
• KC7542 TiAlN + TiN for steel.



beyond

## T331 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric • Solid Carbide • For Steel




● first choice
○ alternate choice

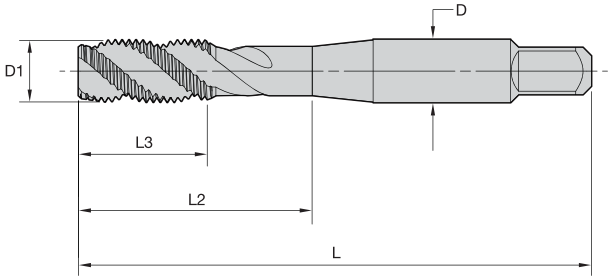
| KC7542 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T331M060X100R6HX** | M6 X 1 | 70 | 8 | 24 | 6,0 | 3 | 6HX |
| **T331M080X125R6HX** | M8 X 1,25 | 80 | 10 | 32 | 8,0 | 3 | 6HX |
| **T331M100X150R6HX** | M10 X 1,5 | 90 | 12 | 40 | 10,0 | 4 | 6HX |
| **T331MF120X150R6HX** | M12 X 1,5 | 100 | 14 | 48 | 12,0 | 4 | 6HX |
| **T331M120X175R6HX** | M12 X 1,75 | 100 | 14 | 48 | 12,0 | 4 | 6HX |
| **T331MF140X150R6HX** | M14 X 1,5 | 110 | 16 | 56 | 12,0 | 4 | 6HX |
| **T331M140X200R6HX** | M14 X 2 | 110 | 16 | 56 | 12,0 | 4 | 6HX |
| **T331M160X200R6HX** | M16 X 2 | 110 | 16 | 64 | 14,0 | 4 | 6HX |

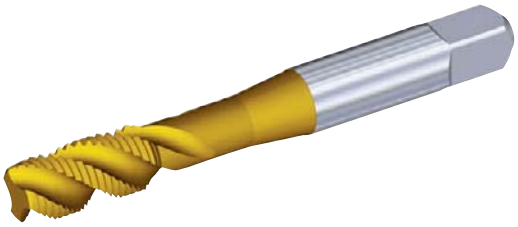
NOTE: Proprietary technology.

**Shank Tolerance**

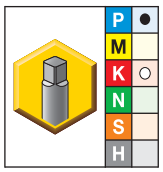
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

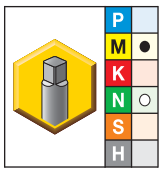
- KM6515 TiN + CrC/C for tapping stainless steel.
- KP6525 TiCN + TiN for tapping steel.



## T630 • Form C Semi-Bottoming Chamfer • Metric ANSI • For Steel and Stainless Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

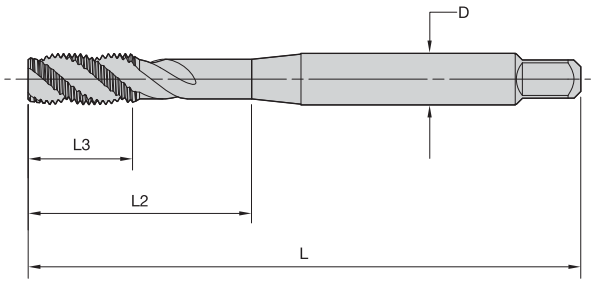
| KP6525 | KM6515 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T630NC#02-56R3BX-A * | T630NC#02-56R3BX-A | 2 - 56 | 1.75 | .44 | .49 | .141 | 2 | ANSI | 3BX |
| T630NC#04-40R3BX-A * | T630NC#04-40R3BX-A * | 4 - 40 | 1.88 | .56 | .68 | .141 | 2 | ANSI | 3BX |
| T630NC#04-40R2BX-A | T630NC#04-40R2BX-A * | 4 - 40 | 1.88 | .56 | .68 | .141 | 2 | ANSI | 2BX |
| T630NC#06-32R3BX-A | T630NC#06-32R3BX-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | ANSI | 3BX |
| T630NC#06-32R2BX-A * | T630NC#06-32R2BX-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | ANSI | 2BX |
| T630NC#08-32R3BX-A | T630NC#08-32R3BX-A | 8 - 32 | 2.12 | .31 | .76 | .168 | 3 | ANSI | 3BX |
| T630NF#10-32R2BX-A | T630NF#10-32R2BX-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | ANSI | 2BX |
| T630NF#10-32R3BX-A | T630NF#10-32R3BX-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | ANSI | 3BX |
| T630NC#10-24R3BX-A | T630NC#10-24R3BX-A | 10 - 24 | 2.37 | .47 | .91 | .194 | 3 | ANSI | 3BX |
| T630NF02500-28R2BX-A | T630NF02500-28R2BX-A * | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | ANSI | 2BX |
| T630NF02500-28R3BX-A | T630NF02500-28R3BX-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | ANSI | 3BX |
| T630NC02500-20R2BX-A | T630NC02500-20R2BX-A | 1/4 - 20 | 2.50 | .44 | 1.01 | .255 | 3 | ANSI | 2BX |
| T630NC02500-20R3BX-A | T630NC02500-20R3BX-A | 1/4 - 20 | 2.50 | .44 | 1.01 | .255 | 3 | ANSI | 3BX |
| T630NF03125-24R2BX-A | T630NF03125-24R2BX-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | ANSI | 2BX |
| T630NF03125-24R3BX-A | T630NF03125-24R3BX-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | ANSI | 3BX |
| T630NC03125-18R2BX-A | T630NC03125-18R2BX-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | ANSI | 2BX |
| T630NC03125-18R3BX-A | T630NC03125-18R3BX-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | ANSI | 3BX |
| T630NF03750-24R3BX-A | T630NF03750-24R3BX-A | 3/8 - 24 | 2.93 | .59 | 1.26 | .381 | 3 | ANSI | 3BX |
| T630NC03750-16R2BX-A | T630NC03750-16R2BX-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | ANSI | 2BX |
| T630NC03750-16R3BX-A | T630NC03750-16R3BX-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | ANSI | 3BX |
| T630NC04375-14R3BX-A | T630NC04375-14R3BX-A * | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 5 | ANSI | 3BX |
| T630NF04375-20R3BX-A | T630NF04375-20R3BX-A * | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 5 | ANSI | 3BX |
| T630NC05000-13R3BX-A | T630NC05000-13R3BX-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 5 | ANSI | 3BX |
| T630NC05000-13R2BX-A | T630NC05000-13R2BX-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 4 | ANSI | 2BX |
| T630NF05000-20R3BX-A | T630NF05000-20R3BX-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 4 | ANSI | 3BX |
| T630NC06250-11R3BX-A | T630NC06250-11R3BX-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 5 | ANSI | 3BX |
| T630NC06250-11R2BX-A | T630NC06250-11R2BX-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 4 | ANSI | 2BX |
| — | T630NC07500-10R3BX-A * | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 4 | ANSI | 3BX |
| T630NC07500-10R3BX-A | — | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 5 | ANSI | 3BX |
| T630NC07500-10R2BX-A | T630NC07500-10R2BX-A | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 4 | ANSI | 2BX |
| T630NC10000-08R3BX-A | T630NC10000-08R3BX-A * | 1 - 8 | 5.13 | 1.25 | 2.58 | .800 | 5 | ANSI | 3BX |

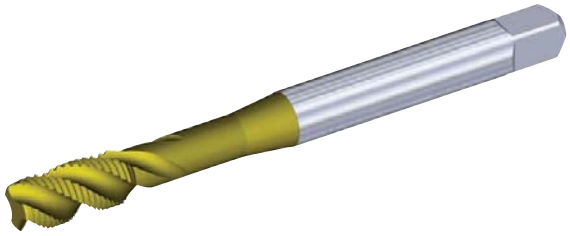
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

***NOTE: Suggested for use in rigid and synchronous holders.***

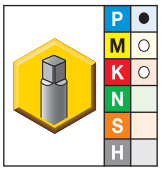
| Shank Tolerance | |
|---|---|
| D fractional | tolerance h6 |
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KP6525 TiCN + TiN for steel.



## T630 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • For Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

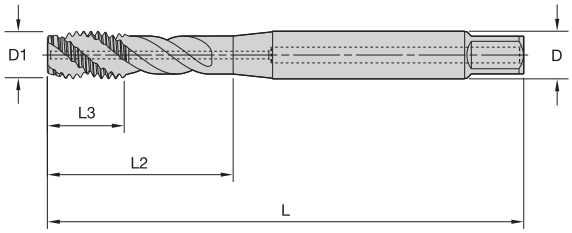
| KP6525 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T630NC#06-32R2BX-D1** | 6 - 32 | 56 | 9 | 20 | 4,0 | 3 | DIN 371 | 2BX |
| **T630NF#06-40R2BX-D1** | 6 - 40 | 56 | 9 | 20 | 4,0 | 3 | DIN 371 | 2BX |
| **T630NC#08-32R2BX-D1** | 8 - 32 | 63 | 10 | 21 | 4,5 | 3 | DIN 371 | 2BX |
| **T630NC#10-24R2BX-D1** | 10 - 24 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 2BX |
| **T630NF#10-32R2BX-D1** | 10 - 32 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 2BX |
| **T630NC02500-20R3BX-D1** | 1/4 - 20 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| **T630NF02500-28R3BX-D1** | 1/4 - 28 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| **T630NC03125-18R3BX-D1** | 5/16 - 18 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| **T630NF03125-24R3BX-D1** | 5/16 - 24 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| **T630NC03750-16R3BX-D1** | 3/8 - 16 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| **T630NF03750-24R3BX-D1** | 3/8 - 24 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| **T630NC04375-14R3BX-D6** | 7/16 - 14 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| **T630NF04375-20R3BX-D6** | 7/16 - 20 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| **T630NC05000-13R3BX-D6** | 1/2 - 13 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |
| **T630NF05000-20R3BX-D6** | 1/2 - 20 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |

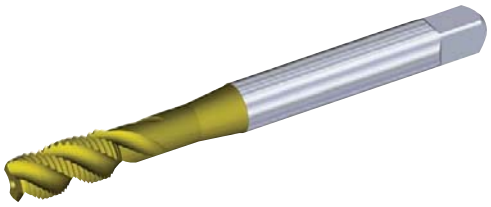
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D fractional | tolerance h6 |
|---|---|
| >3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| <10–18 | +0, -0,011 |

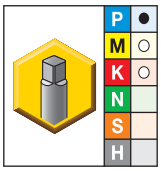
• KP6525 TiCN + TiN for steel.





## T631 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Fractional • For Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

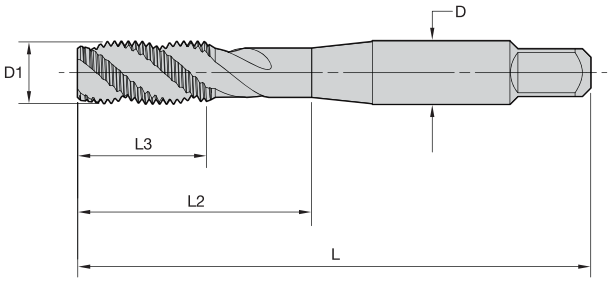
| KP6525 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| T631NC02500-20R3BX-D1 | 1/4 - 20 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| T631NF02500-28R3BX-D1 | 1/4 - 28 | 80 | 13 | 30 | 7,0 | 3 | DIN 371 | 3BX |
| T631NC03125-18R3BX-D1 | 5/16 - 18 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| T631NF03125-24R3BX-D1 | 5/16 - 24 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 3BX |
| T631NC03750-16R3BX-D1 | 3/8 - 16 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| T631NF03750-24R3BX-D1 | 3/8 - 24 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 3BX |
| T631NC04375-14R3BX-D6 | 7/16 - 14 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| T631NF04375-20R3BX-D6 | 7/16 - 20 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| T631NC05000-13R3BX-D6 | 1/2 - 13 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |
| T631NF05000-20R3BX-D6 | 1/2 - 20 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |

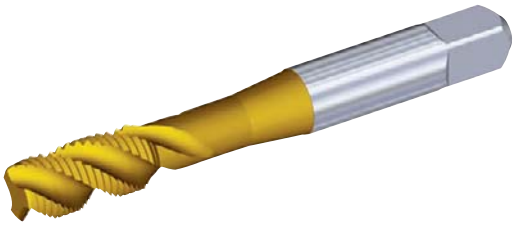
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

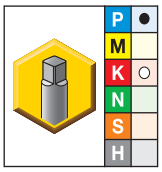
| D fractional | tolerance h6 |
|---|---|
| >3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| <10–18 | +0, -0,011 |

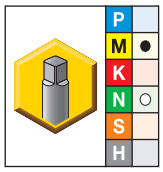
- KM6515 TiN + CrC/C for tapping stainless steel.
- KP6525 TiCN + TiN for tapping steel.



## T630 • Form C Semi-Bottoming Chamfer • Metric ANSI • For Steel and Stainless Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

| KP6525 | KM6515 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|---|
| T630M030X050R6HX-A | T630M030X050R6HX-A * | M3 X 0,5 | 1.94 | .63 | .75 | .141 | 2 | 6HX |
| T630M040X070R6HX-A | T630M040X070R6HX-A | M4 X 0,7 | 2.12 | .32 | .76 | .168 | 3 | 6HX |
| T630M050X080R6HX-A | T630M050X080R6HX-A * | M5 X 0,8 | 2.37 | .47 | .91 | .194 | 3 | 6HX |
| T630M060X100R6HX-A | T630M060X100R6HX-A | M6 X 1 | 2.50 | .46 | 1.01 | .255 | 3 | 6HX |
| T630M080X125R6HX-A | T630M080X125R6HX-A | M8 X 1,25 | 2.71 | .48 | 1.12 | .318 | 3 | 6HX |
| T630M100X150R6HX-A | T630M100X150R6HX-A | M10 X 1,5 | 2.92 | .53 | 1.26 | .381 | 3 | 6HX |
| T630M120X175R6HX-A | T630M120X175R6HX-A | M12 X 1,75 | 3.38 | .77 | 1.74 | .367 | 5 | 6HX |
| T630M140X200R6HX-A | T630M140X200R6HX-A | M14 X 2 | 3.59 | .83 | 1.74 | .429 | 5 | 6HX |
| T630M160X200R6HX-A | T630M160X200R6HX-A | M16 X 2 | 3.81 | .91 | 1.89 | .480 | 5 | 6HX |

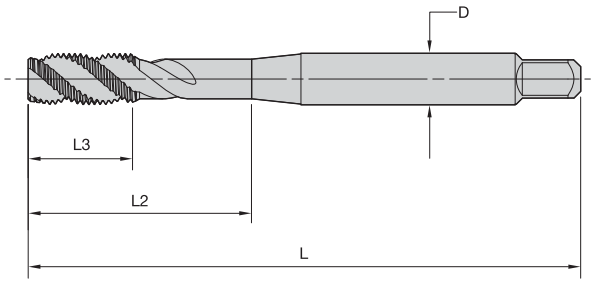
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

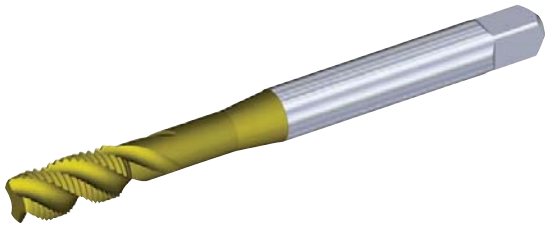
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

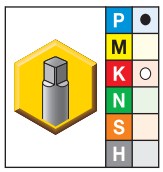
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

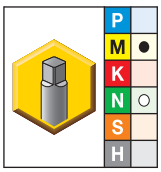
- KM6515 TiN + CrC/C for stainless steel.
- KP6525 TiCN + TiN for steel.



## T630 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • For Steel and Stainless Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

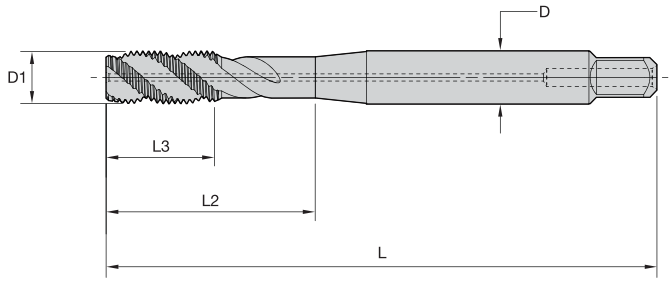
| KP6525 | KM6515 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T630M030X050R6HX-D1 | T630M030X050R6HX-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 3 | DIN 371 | 6HX |
| T630M040X070R6HX-D1 | T630M040X070R6HX-D1 | M4 X 0,7 | 63 | 10 | 21 | 4,5 | 3 | DIN 371 | 6HX |
| T630M050X080R6HX-D1 | T630M050X080R6HX-D1 | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| T630M060X100R6HX-D1 | T630M060X100R6HX-D1 | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| T630MF080X100R6HX-D4 | T630MF080X100R6HX-D4 | M8 X 1 | 90 | 13 | 35 | 6,0 | 3 | DIN 374 | 6HX |
| T630M080X125R6HX-D1 | T630M080X125R6HX-D1 | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| T630MF100X100R6HX-D4 | T630MF100X100R6HX-D4 | M10 X 1 | 90 | 10 | 35 | 7,0 | 3 | DIN 374 | 6HX |
| T630MF100X125R6HX-D4 | T630MF100X125R6HX-D4 | M10 X 1,25 | 100 | 15 | 39 | 7,0 | 3 | DIN 374 | 6HX |
| T630M100X150R6HX-D1 | T630M100X150R6HX-D1 | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| T630MF120X150R6HX-D4 | T630MF120X150R6HX-D4 | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| T630M120X175R6HX-D6 | T630M120X175R6HX-D6 | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| T630MF140X150R6HX-D4 | T630MF140X150R6HX-D4 | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| T630M140X200R6HX-D6 | T630M140X200R6HX-D6 | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| T630MF160X150R6HX-D4 | T630MF160X150R6HX-D4 | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |
| T630M160X200R6HX-D6 | T630M160X200R6HX-D6 | M16 X 2 | 110 | 20 | 51 | 12,0 | 4 | DIN 376 | 6HX |
| T630MF180X150R6HX-D4 | T630MF180X150R6HX-D4 | M18 X 1,5 | 110 | 15 | 50 | 14,0 | 4 | DIN 374 | 6HX |
| T630M180X250R6HX-D6 | T630M180X250R6HX-D6 | M18 X 2,5 | 125 | 25 | 58 | 14,0 | 4 | DIN 376 | 6HX |

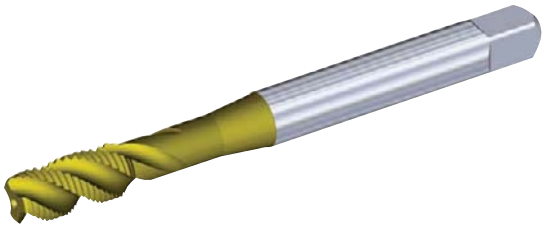
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

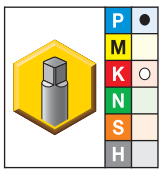
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

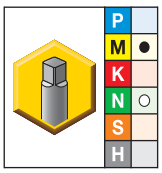
- KM6515 TiN + CrC/C for stainless steel.
- KP6525 TiCN + TiN for steel.



## T631 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric • For Steel and Stainless Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

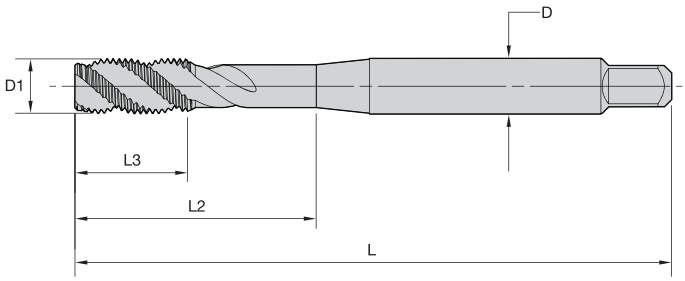
| KP6525 | KM6515 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T631M050X080R6HX-D1 | T631M050X080R6HX-D1 | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| T631M060X100R6HX-D1 | T631M060X100R6HX-D1 | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| T631MF080X100R6HX-D4 | T631MF080X100R6HX-D4 | M8 X 1 | 90 | 13 | 35 | 6,0 | 3 | DIN 374 | 6HX |
| T631M080X125R6HX-D1 | T631M080X125R6HX-D1 | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| T631MF100X100R6HX-D4 | T631MF100X100R6HX-D4 | M10 X 1 | 90 | 10 | 35 | 7,0 | 3 | DIN 374 | 6HX |
| T631MF100X125R6HX-D4 | T631MF100X125R6HX-D4 | M10 X 1,25 | 100 | 15 | 39 | 7,0 | 3 | DIN 374 | 6HX |
| T631M100X150R6HX-D1 | T631M100X150R6HX-D1 | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| T631MF120X125R6HX-D4 | T631MF120X125R6HX-D4 | M12 X 1,25 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| T631MF120X150R6HX-D4 | T631MF120X150R6HX-D4 | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| T631M120X175R6HX-D6 | T631M120X175R6HX-D6 | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| T631MF140X125R6HX-D4 | T631MF140X125R6HX-D4 | M14 X 1,25 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| T631MF140X150R6HX-D4 | T631MF140X150R6HX-D4 | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| T631M140X200R6HX-D6 | T631M140X200R6HX-D6 | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| T631MF160X150R6HX-D4 | T631MF160X150R6HX-D4 | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |
| T631M160X200R6HX-D6 | T631M160X200R6HX-D6 | M16 X 2 | 110 | 20 | 51 | 12,0 | 4 | DIN 376 | 6HX |
| T631MF180X150R6HX-D4 | T631MF180X150R6HX-D4 | M18 X 1,5 | 110 | 15 | 50 | 14,0 | 4 | DIN 374 | 6HX |
| T631M180X250R6HX-D6 | T631M180X250R6HX-D6 | M18 X 2,5 | 125 | 25 | 58 | 14,0 | 4 | DIN 376 | 6HX |

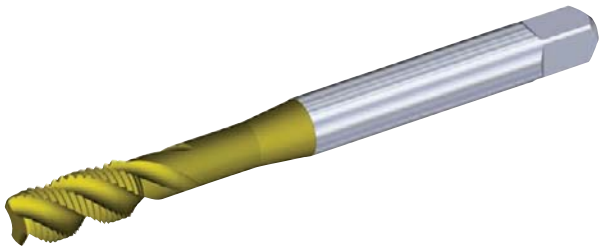
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

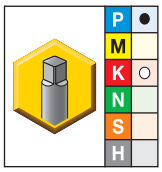
- KP6525 TiCN + TiN for tapping steel.





## T632 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric • For Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

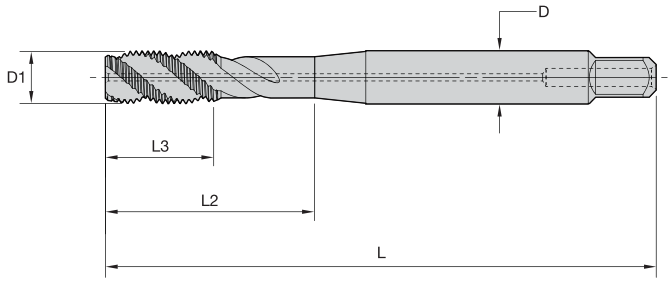
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T632M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T632M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| **T632M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| **T632M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| **T632MF120X150R6HX-D4** | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| **T632M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T632MF140X150R6HX-D4** | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| **T632M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| **T632MF160X150R6HX-D4** | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |

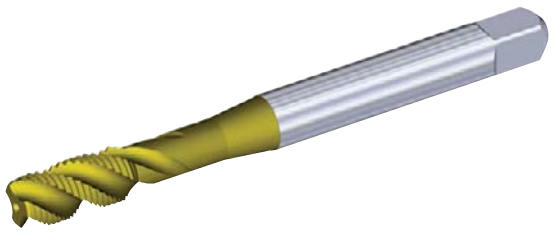
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

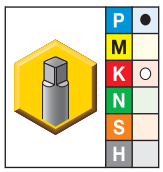
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

- KP6525 TiCN + TiN for tapping steel.



## T633 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric • For Steel • Rigid and Synchronous Holders




● first choice
○ alternate choice

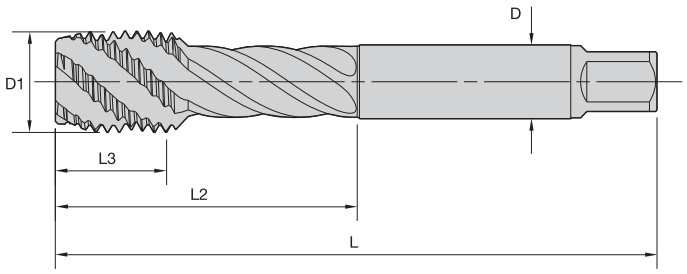
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T633M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T633M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| **T633M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| **T633M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |
| **T633MF120X150R6HX-D4** | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| **T633M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T633MF140X150R6HX-D4** | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| **T633M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| **T633MF160X150R6HX-D4** | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |

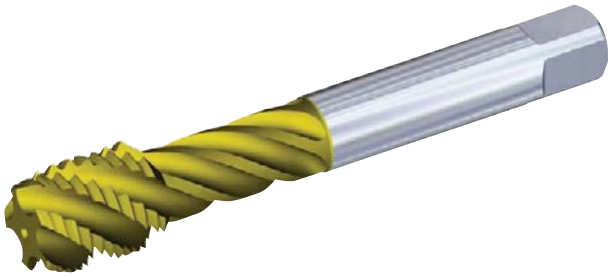
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

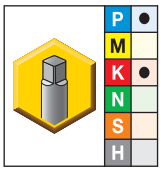
- KP6525 TiCN + TiN for tapping steel and cast iron.





## T630 • DIN 376 • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric • For Steel and Cast Iron • Rigid and Synchronous Holders




● first choice
○ alternate choice

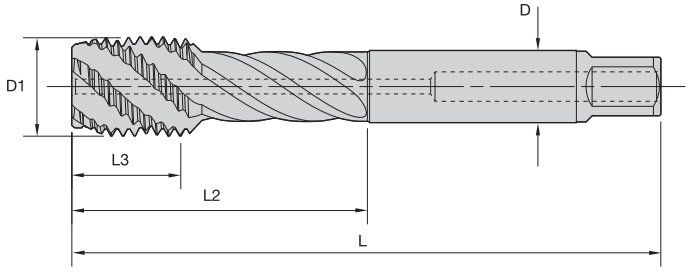
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T630M240X300R6HX-D6** | M24 X 3 | 160 | 30 | 77 | 18,0 | 5 | DIN 376 | 6HX |
| **T630M300X350R6HX-D6** | M30 X 3,5 | 180 | 35 | 91 | 22,0 | 5 | DIN 376 | 6HX |
| **T630M330X350R6HX-D6** | M33 X 3,5 | 180 | 35 | 100 | 25,0 | 5 | DIN 376 | 6HX |
| **T630M360X400R6HX-D6** | M36 X 4 | 200 | 40 | 110 | 28,0 | 5 | DIN 376 | 6HX |
| **T630M420X450R6HX-D6** | M42 X 4,5 | 200 | 45 | 120 | 32,0 | 5 | DIN 376 | 6HX |

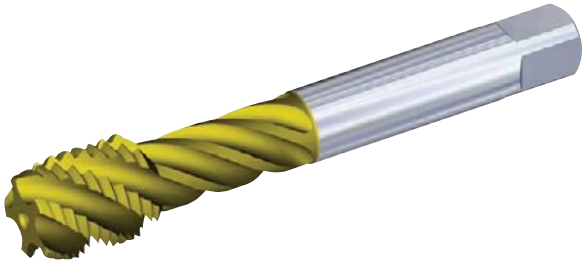
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

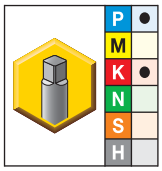
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T631 • DIN 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric • For Steel and Cast Iron • Rigid and Synchronous Holders




● first choice
○ alternate choice

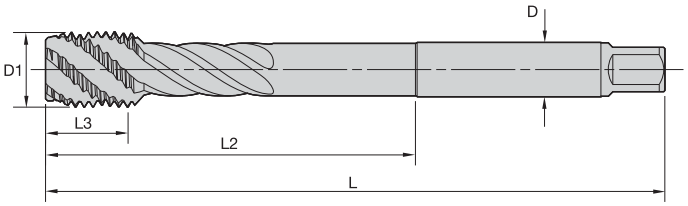
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T631M240X300R6HX-D6** | M24 X 3 | 160 | 30 | 77 | 18,0 | 5 | DIN 376 | 6HX |
| **T631M300X350R6HX-D6** | M30 X 3,5 | 180 | 35 | 91 | 22,0 | 5 | DIN 376 | 6HX |
| **T631M330X350R6HX-D6** | M33 X 3,5 | 180 | 35 | 100 | 25,0 | 5 | DIN 376 | 6HX |
| **T631M360X400R6HX-D6** | M36 X 4 | 200 | 40 | 110 | 28,0 | 5 | DIN 376 | 6HX |
| **T631M420X450R6HX-D6** | M42 X 4,5 | 200 | 45 | 120 | 32,0 | 5 | DIN 376 | 6HX |

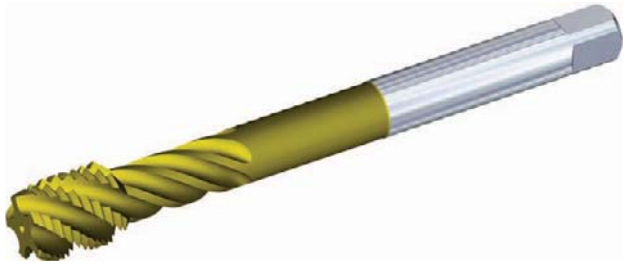
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

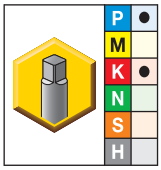
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T630 • Extra Long • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric • For Steel and Cast Iron • Rigid and Synchronous Holders




● first choice
○ alternate choice

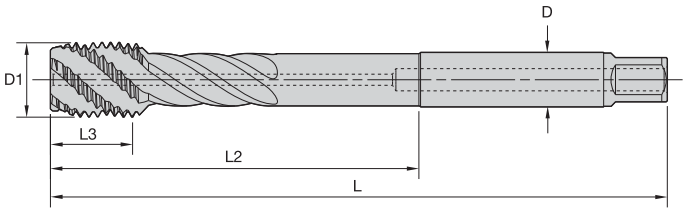
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T630M240X300R6HX-XL** | M24 X 3 | 200 | 30 | 120 | 18,0 | 5 | 6HX |
| **T630M300X350R6HX-XL** | M30 X 3,5 | 250 | 35 | 150 | 22,0 | 5 | 6HX |
| **T630M330X350R6HX-XL** | M33 X 3,5 | 250 | 35 | 150 | 25,0 | 5 | 6HX |
| **T630M360X400R6HX-XL** | M36 X 4 | 250 | 40 | 150 | 28,0 | 5 | 6HX |
| **T630M420X450R6HX-XL** | M42 X 4,5 | 300 | 45 | 180 | 32,0 | 5 | 6HX |

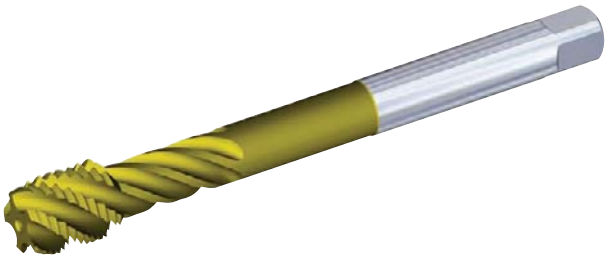
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

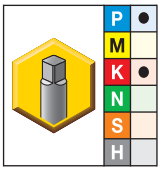
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T631 • Extra Long • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric • For Steel and Cast Iron • Rigid and Synchronous Holders




● first choice
○ alternate choice

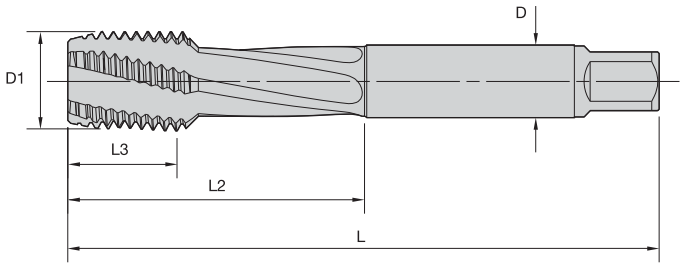
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T631M240X300R6HX-XL** | M24 X 3 | 200 | 30 | 120 | 18,0 | 5 | 6HX |
| **T631M300X350R6HX-XL** | M30 X 3,5 | 250 | 35 | 150 | 22,0 | 5 | 6HX |
| **T631M330X350R6HX-XL** | M33 X 3,5 | 250 | 35 | 150 | 25,0 | 5 | 6HX |
| **T631M360X400R6HX-XL** | M36 X 4 | 250 | 40 | 150 | 28,0 | 5 | 6HX |
| **T631M420X450R6HX-XL** | M42 X 4,5 | 300 | 45 | 180 | 32,0 | 5 | 6HX |

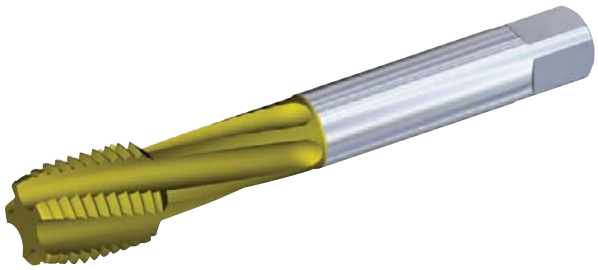
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

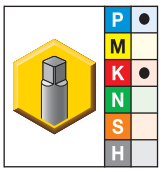
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T650 • DIN 376 • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric • For Steel and Cast Iron



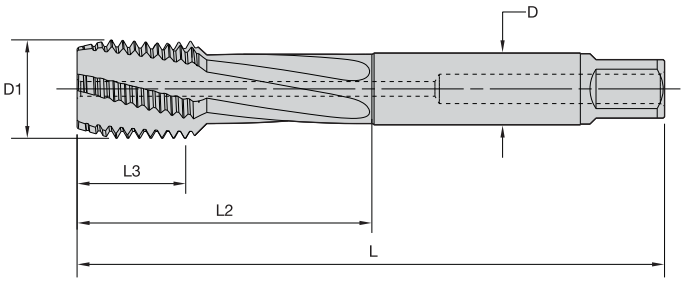

● first choice
○ alternate choice

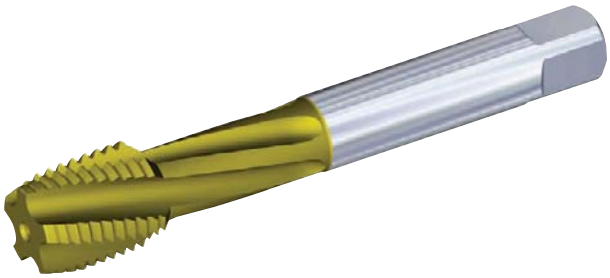
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T650M240X300R6HX-D6** | M24 X 3 | 160 | 30 | 77 | 18,0 | 4 | DIN 376 | 6HX |
| **T650M300X350R6HX-D6** | M30 X 3,5 | 180 | 35 | 91 | 22,0 | 5 | DIN 376 | 6HX |
| **T650M330X350R6HX-D6** | M33 X 3,5 | 180 | 35 | 100 | 25,0 | 5 | DIN 376 | 6HX |
| **T650M360X400R6HX-D6** | M36 X 4 | 200 | 40 | 110 | 28,0 | 5 | DIN 376 | 6HX |
| **T650M420X450R6HX-D6** | M42 X 4,5 | 200 | 45 | 120 | 32,0 | 6 | DIN 376 | 6HX |

**Shank Tolerance**

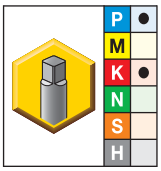
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T651 • DIN 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric • For Steel and Cast Iron



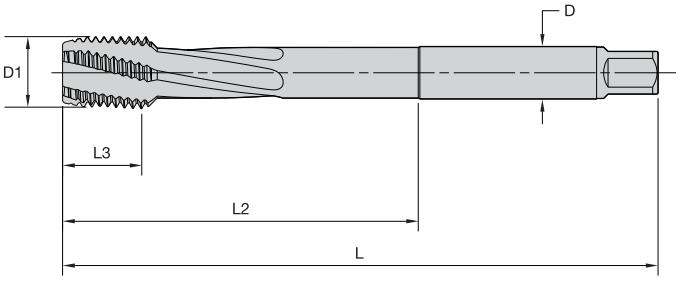

● first choice
○ alternate choice

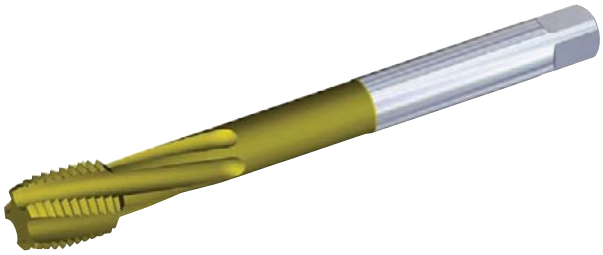
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T651M240X300R6HX-D6** | M24 X 3 | 160 | 30 | 77 | 18,0 | 4 | DIN 376 | 6HX |
| **T651M300X350R6HX-D6** | M30 X 3,5 | 180 | 35 | 91 | 22,0 | 5 | DIN 376 | 6HX |
| **T651M330X350R6HX-D6** | M33 X 3,5 | 180 | 35 | 100 | 25,0 | 5 | DIN 376 | 6HX |
| **T651M360X400R6HX-D6** | M36 X 4 | 200 | 40 | 110 | 28,0 | 5 | DIN 376 | 6HX |
| **T651M420X450R6HX-D6** | M42 X 4,5 | 200 | 45 | 120 | 32,0 | 6 | DIN 376 | 6HX |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

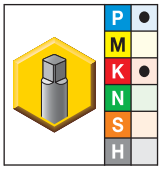
- KP6525 TiCN + TiN for tapping steel and cast iron.



## T650 • Extra Long • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric • For Steel and Cast Iron





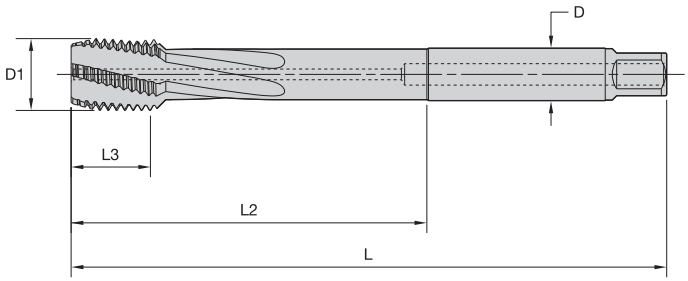

● first choice
○ alternate choice

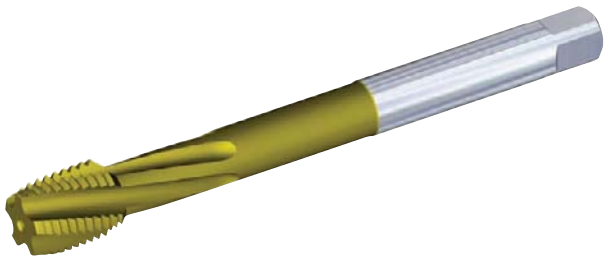
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T650M240X300R6HX-XL** | M24 X 3 | 200 | 30 | 120 | 18,0 | 4 | 6HX |
| **T650M300X350R6HX-XL** | M30 X 3,5 | 250 | 35 | 150 | 22,0 | 5 | 6HX |
| **T650M330X350R6HX-XL** | M33 X 3,5 | 250 | 35 | 150 | 25,0 | 5 | 6HX |
| **T650M360X400R6HX-XL** | M36 X 4 | 250 | 40 | 150 | 28,0 | 5 | 6HX |
| **T650M420X450R6HX-XL** | M42 X 4,5 | 300 | 45 | 180 | 32,0 | 6 | 6HX |

**Shank Tolerance**

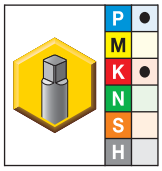
| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

- KP6525 TiCN + TiN for tapping steel and cast iron.



## T651 • Extra Long • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric • For Steel and Cast Iron



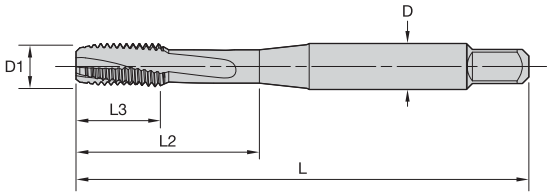

● first choice
○ alternate choice

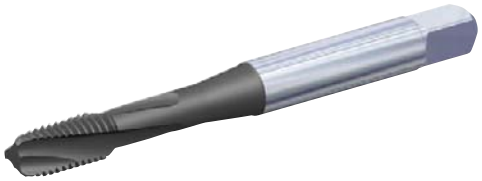
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T651M240X300R6HX-XL** | M24 X 3 | 200 | 30 | 120 | 18,0 | 4 | 6HX |
| **T651M300X350R6HX-XL** | M30 X 3,5 | 250 | 35 | 150 | 22,0 | 5 | 6HX |
| **T651M330X350R6HX-XL** | M33 X 3,5 | 250 | 35 | 150 | 25,0 | 5 | 6HX |
| **T651M360X400R6HX-XL** | M36 X 4 | 250 | 40 | 150 | 28,0 | 5 | 6HX |
| **T651M420X450R6HX-XL** | M42 X 4,5 | 300 | 45 | 180 | 32,0 | 6 | 6HX |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |
| 32–36 | +0, -0,016 |

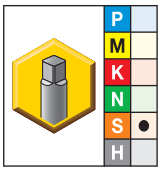
- KSS29 oxide/nitride for nickel- and cobalt-based alloys.
- KSP27 AlCrTiN for nickel- and cobalt-based alloys.

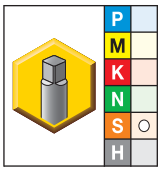


## T692 • Machine Screw and Fractional • 3–4 Pitches Chamfer • ANSI • For Nickel- and Cobalt-Based Alloys





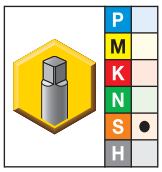



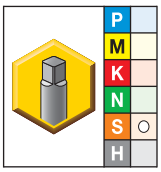

● first choice
○ alternate choice

| KSP27 | KSS29 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T692NC#02-56RH2-A * | T692NC#02-56RH2-A | 2 - 56 | 1.75 | .44 | .50 | .141 | 3 | H2 |
| — | T692NC#03-48RH2-A | 3 - 48 | 1.81 | .50 | .56 | .141 | 3 | H2 |
| T692NC#04-40RH2-A | T692NC#04-40RH2-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 3 | H2 |
| T692NC#04-40RH3-A | T692NC#04-40RH3-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 3 | H3 |
| — | T692NF#04-40RH5-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 3 | H5 |
| — | T692NC#05-40RH2-A | 5 - 40 | 1.95 | .63 | .76 | .141 | 3 | H2 |
| — | T692NC#06-32RH2-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H2 |
| T692NC#06-32RH3-A | T692NC#06-32RH3-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H3 |
| — | T692NC#06-32RH5-A | 6 - 32 | 2.03 | .36 | .71 | .141 | 3 | H5 |
| T692NC#06-32RH7-A | T692NC#06-32RH7-A | 6 - 32 | 2.03 | .36 | .71 | .141 | 3 | H7 |
| — | T692NF#06-40RH2-A | 6 - 40 | 2.03 | .36 | .71 | .141 | 3 | H2 |
| — | T692NC#08-32RH2-A | 8 - 32 | 2.16 | .31 | .76 | .168 | 3 | H2 |
| T692NC#08-32RH3-A | T692NC#08-32RH3-A | 8 - 32 | 2.12 | .31 | .76 | .168 | 3 | H3 |
| T692NC#08-32RH4-A | T692NC#08-32RH4-A | 8 - 32 | 2.16 | .31 | .76 | .168 | 3 | H4 |
| T692NC#08-32RH5-A * | T692NC#08-32RH5-A | 8 - 32 | 2.16 | .31 | .76 | .168 | 3 | H5 |
| — | T692NC#08-32RH6-A | 8 - 32 | 2.16 | .31 | .76 | .168 | 3 | H6 |
| — | T692NC#10-24RH3-A | 10 - 24 | 2.37 | .47 | .91 | .194 | 3 | H3 |
| T692NC#10-24RH5-A | T692NC#10-24RH5-A | 10 - 24 | 2.42 | .47 | .91 | .194 | 3 | H5 |
| T692NF#10-32RH2-A | T692NF#10-32RH2-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H2 |
| T692NF#10-32RH3-A | T692NF#10-32RH3-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H3 |
| — | T692NF#10-32RH5-A | 10 - 32 | 2.42 | .47 | .91 | .194 | 3 | H5 |
| — | T692NF#10-32RH7-A | 10 - 32 | 2.42 | .47 | .91 | .194 | 3 | H7 |
| T692NC02500-20RH3-A | T692NC02500-20RH3-A | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H3 |
| — | T692NC02500-20RH5-A | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H5 |
| T692NF02500-28RH3-A | T692NF02500-28RH3-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H3 |
| — | T692NF02500-28RH5-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H5 |
| — | T692NF02500-28RH6-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H6 |
| — | T692NF02500-28RH7-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H7 |
| T692NC03125-18RH3-A | T692NC03125-18RH3-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| T692NC03125-18RH5-A | T692NC03125-18RH5-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H5 |
| — | T692NC03125-18RH7-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H7 |
| T692NF03125-24RH3-A | T692NF03125-24RH3-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |

*(continued)*

*(T692 • Machine Screw and Fractional • 3–4 Pitches Chamfer • ANSI • For Nickel- and Cobalt-Based Alloys — continued)*




● first choice
○ alternate choice

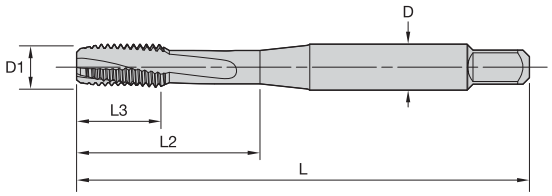
| KSP27 | KSS29 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| — | T692NF03125-24RH4-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H4 |
| — | T692NF03125-24RH5-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H5 |
| — | T692NF03125-24RH6-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H6 |
| — | T692NF03125-24RH7-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H7 |
| T692NC03750-16RH3-A | T692NC03750-16RH3-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | H3 |
| T692NC03750-16RH5-A * | T692NC03750-16RH5-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | H5 |
| T692NF03750-24RH3-A | T692NF03750-24RH3-A | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | H3 |
| T692NF03750-24RH4-A | T692NF03750-24RH4-A | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | H4 |
| T692NF03750-24RH5-A | T692NF03750-24RH5-A | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | H5 |
| — | T692NF03750-24RH6-A | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | H6 |
| — | T692NC04375-14RH3-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| — | T692NC04375-14RH5-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |
| T692NF04375-20RH3-A | T692NF04375-20RH3-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| — | T692NF04375-20RH5-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |
| T692NC05000-13RH3-A | T692NC05000-13RH3-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| T692NC05000-13RH5-A | T692NC05000-13RH5-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| T692NF05000-20RH3-A | T692NF05000-20RH3-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| T692NF05000-20RH5-A | T692NF05000-20RH5-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| — | T692NF05000-20RH7-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H7 |
| T692NC06250-11RH3-A | T692NC06250-11RH3-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 3 | H3 |
| — | T692NC06250-11RH5-A | 5/8 - 11 | 3.81 | 1.31 | 1.89 | .480 | 3 | H5 |
| — | T692NC06250-11RH7-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 3 | H7 |
| — | T692NF06250-18RH3-A | 5/8 - 18 | 3.81 | 1.31 | 1.89 | .480 | 3 | H3 |
| — | T692NC07500-10RH3-A | 3/4 - 10 | 4.25 | 1.59 | 2.08 | .590 | 3 | H3 |
| — | T692NC07500-10RH5-A | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 3 | H5 |
| — | T692NF07500-16RH3-A | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 3 | H3 |
| — | T692NF07500-16RH5-A | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 3 | H5 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

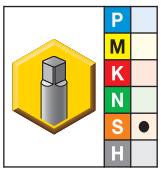
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

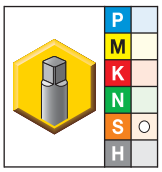
- KSS29 oxide/nitride for nickel- and cobalt-based alloys.
- KSP27 AlCrTiN for nickel- and cobalt-based alloys.



## T692 • 3–4 Pitches Chamfer • Metric ANSI • For Nickel- and Cobalt-Based Alloys






● first choice
○ alternate choice

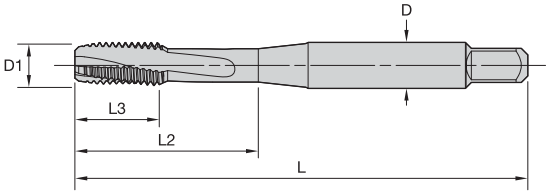
| KSP27 | KSS29 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| **T692M025X045RD3-A** | **T692M025X045RD3-A** | M2,5 X 0,45 | 1.81 | .50 | .56 | .141 | 3 | D3 |
| **T692M030X050RD3-A** | **T692M030X050RD3-A** * | M3 X 0,5 | 1.94 | .63 | .75 | .141 | 3 | D3 |
| **T692M040X070RD4-A** * | **T692M040X070RD4-A** | M4 X 0,7 | 2.12 | .32 | .76 | .168 | 3 | D4 |
| **T692M050X080RD4-A** | **T692M050X080RD4-A** | M5 X 0,8 | 2.37 | .47 | .91 | .194 | 3 | D4 |
| **T692M060X100RD5-A** | **T692M060X100RD5-A** | M6 X 1 | 2.50 | .46 | 1.00 | .255 | 3 | D5 |
| **T692MF080X100RD5-A** | **T692MF080X100RD5-A** | M8 X 1 | 2.70 | .48 | 1.12 | .318 | 3 | D5 |
| **T692M080X125RD5-A** | **T692M080X125RD5-A** | M8 X 1,25 | 2.70 | .48 | 1.12 | .318 | 3 | D5 |
| **T692MF100X125RD5-A** | **T692MF100X125RD5-A** | M10 X 1,25 | 2.92 | .53 | 1.26 | .381 | 3 | D5 |
| **T692M100X150RD6-A** | **T692M100X150RD6-A** | M10 X 1,5 | 2.92 | .53 | 1.26 | .381 | 3 | D6 |
| **T692M120X175RD6-A** * | **T692M120X175RD6-A** | M12 X 1,75 | 3.38 | .77 | 1.74 | .367 | 3 | D6 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

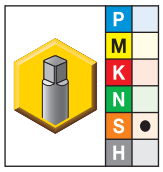
**Shank Tolerance**

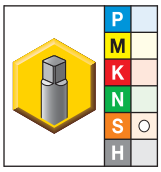
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSS29 oxide/nitride for nickel- and cobalt-based alloys.
- KSP27 AlCrTiN for nickel- and cobalt-based alloys.



## T694 • Machine Screw and Fractional • Form E Bottoming Chamfer • ANSI • For Nickel- and Cobalt-Based Alloys




● first choice
○ alternate choice

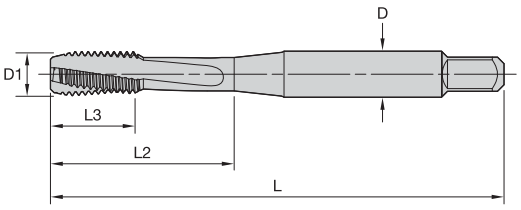
| KSP27 | KSS29 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T694NC#04-40RH2-A | T694NC#04-40RH2-A | 4 - 40 | 1.88 | .56 | .70 | .141 | 3 | H2 |
| — | T694NC#04-40RH3-A | 4 - 40 | 1.88 | .56 | .69 | .141 | 3 | H3 |
| — | T694NC#05-40RH2-A | 5 - 40 | 1.95 | .63 | .76 | .141 | 3 | H2 |
| T694NC#06-32RH3-A | T694NC#06-32RH3-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H3 |
| — | T694NC#06-32RH5-A | 6 - 32 | 2.03 | .36 | .71 | .141 | 3 | H5 |
| — | T694NF#06-40RH2-A | 6 - 40 | 2.03 | .36 | .71 | .141 | 3 | H2 |
| T694NC#08-32RH3-A | T694NC#08-32RH3-A | 8 - 32 | 2.12 | .31 | .76 | .168 | 3 | H3 |
| T694NC#10-24RH3-A | T694NC#10-24RH3-A | 10 - 24 | 2.42 | .47 | .91 | .194 | 3 | H3 |
| T694NF#10-32RH3-A | T694NF#10-32RH3-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H3 |
| T694NC02500-20RH3-A * | T694NC02500-20RH3-A | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H3 |
| — | T694NC02500-20RH5-A * | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H5 |
| T694NF02500-28RH3-A | T694NF02500-28RH3-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H3 |
| — | T694NF02500-28RH4-A | 1/4 - 28 | 2.50 | .44 | 1.00 | .255 | 3 | H4 |
| T694NC03125-18RH3-A * | T694NC03125-18RH3-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| T694NF03125-24RH3-A * | T694NF03125-24RH3-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| — | T694NF03125-24RH4-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H4 |
| T694NC03750-16RH3-A | T694NC03750-16RH3-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | H3 |
| — | T694NC03750-16RH5-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 3 | H5 |
| T694NF03750-24RH3-A | T694NF03750-24RH3-A | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | H3 |
| — | T694NF03750-24RH4-A | 3/8 - 24 | 2.94 | .60 | 1.27 | .381 | 3 | H4 |
| — | T694NC04375-14RH5-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |
| T694NF04375-20RH3-A | T694NF04375-20RH3-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| — | T694NF04375-20RH5-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |
| — | T694NC05000-13RH5-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| — | T694NF05000-20RH5-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| T694NC06250-11RH3-A | T694NC06250-11RH3-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 3 | H3 |
| T694NF06250-18RH3-A | T694NF06250-18RH3-A | 5/8 - 18 | 3.81 | .91 | 1.89 | .480 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

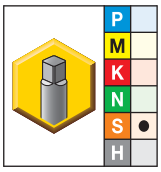
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

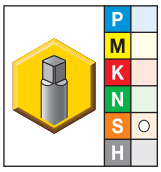
- KSS20 nitride for titanium and titanium alloys.
- KSSM24 TiN + CrC/C for titanium and titanium alloys.



## T662 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer • ANSI • For Titanium and Titanium Alloys





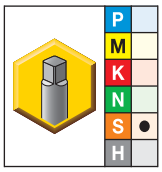



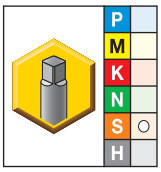

● first choice
○ alternate choice

| KSSM24 | KSS20 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T662NC#02-56RH2-A | T662NC#02-56RH2-A * | 2 - 56 | 1.75 | .44 | .50 | .141 | 3 | H2 |
| T662NC#04-40RH2-A | T662NC#04-40RH2-A | 4 - 40 | 1.88 | .56 | .69 | .142 | 3 | H2 |
| T662NC#06-32RH2-A * | T662NC#06-32RH2-A * | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H2 |
| T662NC#06-32RH3-A * | T662NC#06-32RH3-A | 6 - 32 | 1.99 | .36 | .71 | .141 | 3 | H3 |
| T662NF#06-40RH2-A | T662NF#06-40RH2-A | 6 - 40 | 1.99 | .36 | .71 | .141 | 3 | H2 |
| T662NC#08-32RH2-A | T662NC#08-32RH2-A | 8 - 32 | 2.12 | .31 | .77 | .168 | 3 | H2 |
| T662NC#08-32RH3-A | T662NC#08-32RH3-A | 8 - 32 | 2.12 | .31 | .77 | .168 | 3 | H3 |
| T662NF#08-36RH2-A * | T662NF#08-36RH2-A | 8 - 36 | 2.12 | .31 | .77 | .168 | 3 | H2 |
| T662NC#10-24RH3-A | T662NC#10-24RH3-A | 10 - 24 | 2.37 | .47 | .92 | .194 | 3 | H3 |
| T662NF#10-32RH2-A * | T662NF#10-32RH2-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H2 |
| T662NF#10-32RH3-A * | T662NF#10-32RH3-A | 10 - 32 | 2.37 | .47 | .91 | .194 | 3 | H3 |
| T662NC02500-20RH3-A | T662NC02500-20RH3-A | 1/4 - 20 | 2.50 | .44 | 1.01 | .255 | 3 | H3 |
| T662NC02500-20RH5-A | T662NC02500-20RH5-A | 1/4 - 20 | 2.50 | .44 | 1.00 | .255 | 3 | H5 |
| T662NF02500-28RH3-A | T662NF02500-28RH3-A | 1/4 - 28 | 2.50 | .44 | 1.01 | .255 | 3 | H3 |
| T662NF02500-28RH4-A * | T662NF02500-28RH4-A | 1/4 - 28 | 2.50 | .44 | 1.01 | .255 | 3 | H4 |
| T662NF02500-28RH5-A | T662NF02500-28RH5-A | 1/4 - 28 | 2.50 | .44 | 1.01 | .255 | 3 | H5 |
| T662NC03125-18RH3-A | T662NC03125-18RH3-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| T662NC03125-18RH5-A | T662NC03125-18RH5-A * | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 3 | H5 |
| T662NF03125-24RH3-A | T662NF03125-24RH3-A * | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H3 |
| T662NF03125-24RH4-A | T662NF03125-24RH4-A | 5/16 - 24 | 2.72 | .49 | 1.13 | .318 | 3 | H4 |
| T662NC03750-16RH3-A | T662NC03750-16RH3-A | 3/8 - 16 | 2.93 | .59 | 1.26 | .381 | 3 | H3 |
| T662NC03750-16RH5-A * | T662NC03750-16RH5-A | 3/8 - 16 | 2.93 | .59 | 1.26 | .381 | 3 | H5 |
| T662NF03750-24RH3-A * | T662NF03750-24RH3-A * | 3/8 - 24 | 2.93 | .59 | 1.26 | .381 | 3 | H3 |
| T662NF03750-24RH4-A | T662NF03750-24RH4-A | 3/8 - 24 | 2.93 | .59 | 1.26 | .381 | 3 | H4 |
| T662NC04375-14RH3-A | T662NC04375-14RH3-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| T662NC04375-14RH5-A | T662NC04375-14RH5-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |
| T662NF04375-20RH3-A | T662NF04375-20RH3-A * | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H3 |
| T662NF04375-20RH5-A | T662NF04375-20RH5-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 3 | H5 |

*(continued)*

*(T662 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer • ANSI • For Titanium and Titanium Alloys — continued)*




● first choice
○ alternate choice

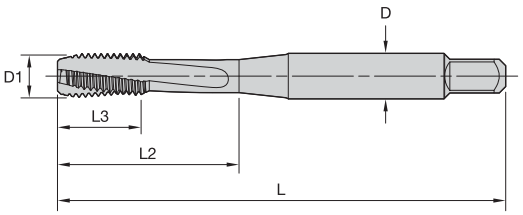
| KSSM24 | KSS20 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T662NC05000-13RH3-A | T662NC05000-13RH3-A * | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| T662NC05000-13RH5-A | T662NC05000-13RH5-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| T662NF05000-20RH3-A | T662NF05000-20RH3-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H3 |
| T662NF05000-20RH5-A | T662NF05000-20RH5-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 3 | H5 |
| T662NF05625-18RH3-A | — | 9/16 - 18 | 3.59 | .83 | 1.74 | .429 | 4 | H3 |
| T662NF05625-18RH5-A | — | 9/16 - 18 | 3.59 | .83 | 1.74 | .429 | 4 | H5 |
| T662NC06250-11RH3-A | — | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 4 | H3 |
| T662NF06250-18RH3-A | — | 5/8 - 18 | 3.81 | .91 | 1.89 | .480 | 4 | H3 |
| T662NF06250-18RH5-A | — | 5/8 - 18 | 3.81 | .91 | 1.89 | .480 | 4 | H5 |
| T662NC07500-10RH5-A | — | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 4 | H5 |
| T662NF07500-16RH3-A | — | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 4 | H3 |
| T662NF07500-16RH5-A | — | 3/4 - 16 | 4.25 | 1.00 | 2.08 | .590 | 4 | H5 |
| T662NC10000-08RH5-A | — | 1 - 8 | 5.12 | 1.25 | 2.58 | .800 | 4 | H5 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

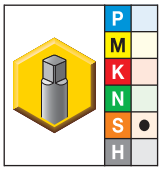
| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

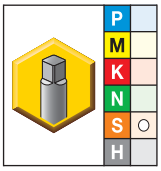
- KSS20 nitride for titanium and titanium alloys.
- KSSM24 TiN + CrC/C for titanium and titanium alloys.



## T662 • Form C Semi-Bottoming Chamfer • Metric ANSI • For Titanium and Titanium Alloys






● first choice
○ alternate choice

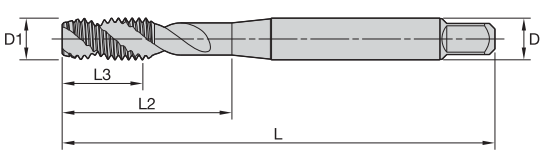
| KSSM24 | KSS20 | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| **T662M025X045RD3-A** | **T662M025X045RD3-A *** | M2,5 X 0,45 | 1.81 | .50 | .56 | .141 | 3 | D3 |
| **T662M030X050RD3-A** | **T662M030X050RD3-A** | M3 X 0,5 | 1.94 | .63 | .75 | .141 | 3 | D3 |
| **T662M040X070RD4-A** | **T662M040X070RD4-A** | M4 X 0,7 | 2.12 | .32 | .76 | .168 | 3 | D4 |
| **T662M050X080RD4-A** | **T662M050X080RD4-A** | M5 X 0,8 | 2.37 | .46 | .91 | .194 | 3 | D4 |
| **T662M060X100RD5-A** | **T662M060X100RD5-A** | M6 X 1 | 2.50 | .46 | 1.00 | .255 | 3 | D5 |
| **T662M070X100RD5-A** | **T662M070X100RD5-A** | M7 X 1 | 2.72 | .52 | 1.15 | .318 | 3 | D5 |
| **T662M080X125RD5-A** | **T662M080X125RD5-A *** | M8 X 1,25 | 2.70 | .48 | 1.12 | .318 | 3 | D5 |
| **T662MF100X125RD5-A *** | **T662MF100X125RD5-A *** | M10 X 1,25 | 2.93 | .53 | 1.26 | .381 | 3 | D5 |
| **T662M100X150RD6-A *** | **T662M100X150RD6-A** | M10 X 1,5 | 2.93 | .53 | 1.26 | .381 | 3 | D6 |
| **T662M120X175RD6-A** | **T662M120X175RD6-A** | M12 X 1,75 | 3.38 | .77 | 1.74 | .367 | 3 | D6 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

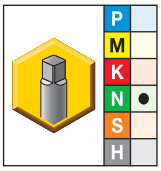
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

• KSMN34 TiN + CrC/C for aluminum.



## T682 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer • DIN Length ANSI Shank • For Wrought Aluminum




● first choice
○ alternate choice

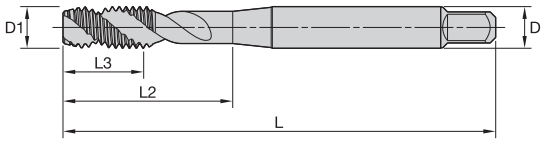
| KSMN34 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| T682NC#02-56R2B-DA | 2 - 56 | 1.77 | .31 | .71 | .141 | 2 | 2B |
| T682NC#04-40R3B-DA | 4 - 40 | 2.20 | .31 | .71 | .141 | 2 | 3B |
| T682NC#05-40R3B-DA | 5 - 40 | 2.20 | .31 | .71 | .141 | 2 | 3B |
| T682NC#06-32R2B-DA | 6 - 32 | 2.20 | .35 | .79 | .141 | 2 | 2B |
| T682NC#08-32R2B-DA | 8 - 32 | 2.48 | .43 | .83 | .168 | 2 | 2B |
| T682NC#10-24R2B-DA | 10 - 24 | 2.76 | .47 | .98 | .194 | 2 | 2B |
| T682NF#10-32R2B-DA | 10 - 32 | 2.76 | .47 | .98 | .194 | 2 | 2B |
| T682NC02500-20R2B-DA | 1/4 - 20 | 3.15 | .59 | 1.18 | .255 | 2 | 2B |
| T682NC02500-20R3B-DA | 1/4 - 20 | 3.15 | .59 | 1.18 | .255 | 2 | 3B |
| T682NF02500-28R2B-DA | 1/4 - 28 | 3.15 | .59 | 1.18 | .255 | 2 | 2B |
| T682NF02500-28R3B-DA | 1/4 - 28 | 3.15 | .59 | 1.18 | .255 | 2 | 3B |
| T682NC03125-18R2B-DA | 5/16 - 18 | 3.54 | .59 | 1.38 | .318 | 2 | 2B |
| T682NC03125-18R3B-DA | 5/16 - 18 | 3.54 | .59 | 1.38 | .318 | 2 | 3B |
| T682NF03125-24R2B-DA | 5/16 - 24 | 3.54 | .59 | 1.38 | .318 | 2 | 2B |
| T682NF03125-24R3B-DA | 5/16 - 24 | 3.54 | .59 | 1.38 | .318 | 2 | 3B |
| T682NC03750-16R2B-DA | 3/8 - 16 | 3.94 | .75 | 1.54 | .381 | 2 | 2B |
| T682NC03750-16R3B-DA | 3/8 - 16 | 3.94 | .75 | 1.54 | .381 | 2 | 3B |
| T682NF03750-24R2B-DA * | 3/8 - 24 | 3.94 | .75 | 1.54 | .381 | 2 | 2B |
| T682NF03750-24R3B-DA | 3/8 - 24 | 3.94 | .75 | 1.54 | .381 | 2 | 3B |
| T682NC04375-14R2B-DA | 7/16 - 14 | 3.94 | .71 | 1.61 | .323 | 3 | 2B |
| T682NC04375-14R3B-DA | 7/16 - 14 | 3.94 | .71 | 1.61 | .323 | 3 | 3B |
| T682NF04375-20R2B-DA | 7/16 - 20 | 3.94 | .71 | 1.61 | .323 | 3 | 2B |
| T682NF04375-20R3B-DA | 7/16 - 20 | 3.94 | .71 | 1.61 | .323 | 3 | 3B |
| T682NC05000-13R2B-DA | 1/2 - 13 | 4.33 | .91 | 1.85 | .367 | 3 | 2B |
| T682NC05000-13R3B-DA | 1/2 - 13 | 4.33 | .91 | 1.85 | .367 | 3 | 3B |
| T682NF05000-20R2B-DA | 1/2 - 20 | 4.33 | .91 | 1.85 | .367 | 3 | 2B |
| T682NF05000-20R3B-DA | 1/2 - 20 | 4.33 | .91 | 1.85 | .367 | 3 | 3B |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

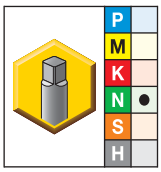
| D inch | tolerance h9 |
|---|---|
| .141–.635 | +0, -.0015 |
| <.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

- KSMN34 TiN + CrC/C for aluminum.



## T682 • Form C Semi-Bottoming • Metric • DIN Length ANSI Shank • For Wrought Aluminum






● first choice
○ alternate choice

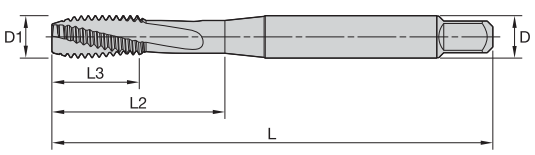
| KSMN34 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T682M030X050R6H-DA** | M3 X 0,5 | 2.20 | .31 | .71 | .141 | 2 | 6H |
| **T682M035X060R6H-DA** | M3,5 X 0,6 | 2.20 | .35 | .79 | .141 | 2 | 6H |
| **T682M040X070R6H-DA** | M4 X 0,7 | 2.48 | .43 | .83 | .168 | 2 | 6H |
| **T682M050X080R6H-DA** | M5 X 0,8 | 2.76 | .47 | .98 | .194 | 2 | 6H |
| **T682M060X100R6H-DA** | M6 X 1 | 3.15 | .47 | 1.18 | .255 | 2 | 6H |
| **T682M070X100R6H-DA** * | M7 X 1 | 3.54 | .59 | 1.38 | .318 | 2 | 6H |
| **T682MF080X100R6H-DA** | M8 X 1 | 3.54 | .59 | 1.38 | .318 | 2 | 6H |
| **T682M080X125R6H-DA** | M8 X 1,25 | 3.54 | .59 | 1.38 | .318 | 2 | 6H |
| **T682MF100X125R6H-DA** | M10 X 1,25 | 3.94 | .71 | 1.54 | .381 | 2 | 6H |
| **T682M100X150R6H-DA** | M10 X 1,5 | 3.94 | .71 | 1.54 | .381 | 2 | 6H |
| **T682MF120X125R6H-DA** | M12 X 1,25 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |
| **T682MF120X150R6H-DA** | M12 X 1,5 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |
| **T682M120X175R6H-DA** | M12 X 1,75 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

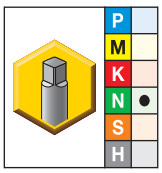
**Shank Tolerance**

| D inch | tolerance h9 |
|---|---|
| .141–.635 | +0, -.0015 |
| <.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSMN34 TiN + CrC/C for aluminum.



## T686 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer • DIN Length ANSI Shank • For Cast Aluminum



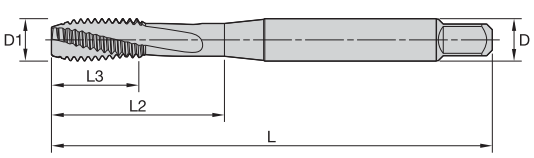

● first choice
○ alternate choice

| KSMN34 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T686NC#02-56R2B-DA** | 2 - 56 | 1.77 | .31 | .71 | .141 | 3 | 2B |
| **T686NC#04-40R3B-DA** | 4 - 40 | 2.20 | .31 | .71 | .141 | 3 | 3B |
| **T686NC#06-32R2B-DA** | 6 - 32 | 2.20 | .35 | .79 | .141 | 3 | 2B |
| **T686NC#08-32R2B-DA** | 8 - 32 | 2.48 | .43 | .83 | .168 | 3 | 2B |
| **T686NC#10-24R2B-DA** | 10 - 24 | 2.76 | .47 | .98 | .194 | 3 | 2B |
| **T686NF#10-32R2B-DA** | 10 - 32 | 2.76 | .47 | .98 | .194 | 3 | 2B |
| **T686NC02500-20R3B-DA** | 1/4 - 20 | 3.15 | .59 | 1.18 | .255 | 3 | 3B |
| **T686NF02500-28R3B-DA** | 1/4 - 28 | 3.15 | .59 | 1.18 | .255 | 3 | 3B |
| **T686NC03125-18R3B-DA** | 5/16 - 18 | 3.54 | .59 | 1.38 | .318 | 3 | 3B |
| **T686NF03125-24R3B-DA** | 5/16 - 24 | 3.54 | .59 | 1.38 | .318 | 3 | 3B |
| **T686NC03750-16R3B-DA** | 3/8 - 16 | 3.94 | .75 | 1.54 | .381 | 3 | 3B |
| **T686NF03750-24R3B-DA** | 3/8 - 24 | 3.94 | .75 | 1.54 | .381 | 3 | 3B |
| **T686NC04375-14R3B-DA** | 7/16 - 14 | 3.94 | .71 | 1.61 | .323 | 3 | 3B |
| **T686NF04375-20R3B-DA** | 7/16 - 20 | 3.94 | .71 | 1.61 | .323 | 3 | 3B |
| **T686NC05000-13R3B-DA** | 1/2 - 13 | 4.33 | .91 | 1.85 | .367 | 3 | 3B |
| **T686NF05000-20R3B-DA** | 1/2 - 20 | 4.33 | .91 | 1.85 | .367 | 3 | 3B |

**Shank Tolerance**

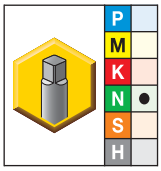
| D inch | tolerance h9 |
|---|---|
| .141–.635 | +0, -.0015 |
| <.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSMN34 TiN + CrC/C for aluminum.



## T686 • Form C Semi-Bottoming Chamfer • Metric • DIN Length ANSI Shank • For Cast Aluminum





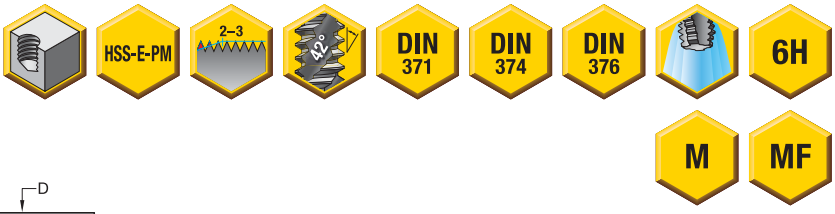

● first choice
○ alternate choice

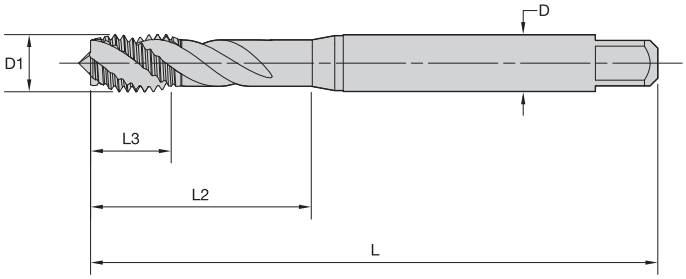
| KSMN34 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T686M030X050R6H-DA** | M3 X 0,5 | 2.20 | .31 | .71 | .141 | 3 | 6H |
| **T686M040X070R6H-DA** | M4 X 0,7 | 2.48 | .43 | .83 | .168 | 3 | 6H |
| **T686M050X080R6H-DA** | M5 X 0,8 | 2.76 | .47 | .98 | .194 | 3 | 6H |
| **T686M060X100R6H-DA** | M6 X 1 | 3.15 | .47 | 1.18 | .255 | 3 | 6H |
| **T686M080X125R6H-DA** | M8 X 1,25 | 3.54 | .59 | 1.38 | .318 | 3 | 6H |
| **T686M100X150R6H-DA** | M10 X 1,5 | 3.94 | .71 | 1.54 | .381 | 3 | 6H |
| **T686MF120X150R6H-DA** | M12 X 1,5 | 4.33 | .83 | 1.73 | .367 | 3 | 6H |

**Shank Tolerance**

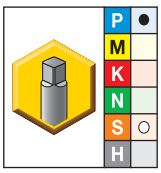
| D inch | tolerance h9 |
|---|---|
| .141–.635 | +0, -.0015 |
| <.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

- KSH26 TiAlN/$MoS_2$ for tapping steel 32–44 HRC (3 x D).



## T604 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • For Hard Steel




● first choice
○ alternate choice

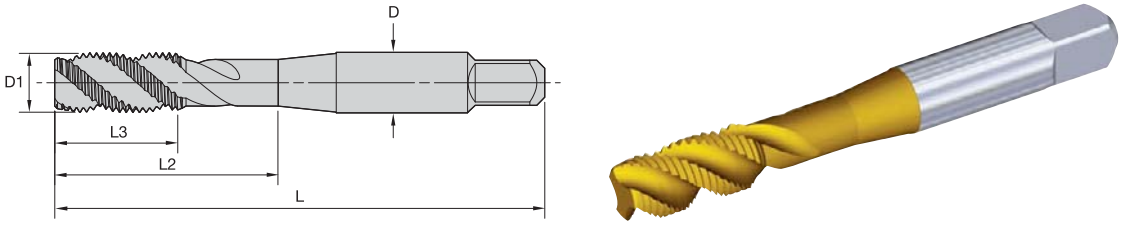
| KSH26 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T604M030X050R6H-D1** | M3 X 0,5 | 56 | 6 | 18 | 3,5 | 3 | DIN 371 | 6H |
| **T604M040X070R6H-D1** | M4 X 0,7 | 63 | 7 | 21 | 4,5 | 3 | DIN 371 | 6H |
| **T604M050X080R6H-D1** | M5 X 0,8 | 70 | 8 | 25 | 6,0 | 3 | DIN 371 | 6H |
| **T604M060X100R6H-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6H |
| **T604MF080X100R6H-D4** | M8 X 1 | 90 | 10 | – | 6,0 | 3 | DIN 374 | 6H |
| **T604M080X125R6H-D1** | M8 X 1,25 | 90 | 14 | 35 | 8,0 | 3 | DIN 371 | 6H |
| **T604MF100X100R6H-D4** | M10 X 1 | 90 | 10 | – | 7,0 | 3 | DIN 374 | 6H |
| **T604MF100X125R6H-D4** | M10 X 1,25 | 100 | 16 | – | 7,0 | 3 | DIN 374 | 6H |
| **T604M100X150R6H-D1** | M10 X 1,5 | 100 | 16 | 39 | 10,0 | 3 | DIN 371 | 6H |
| **T604MF120X125R6H-D4** | M12 X 1,25 | 100 | 15 | – | 9,0 | 4 | DIN 374 | 6H |
| **T604MF120X150R6H-D4** | M12 X 1,5 | 100 | 15 | – | 9,0 | 4 | DIN 374 | 6H |
| **T604M120X175R6H-D6** | M12 X 1,75 | 110 | 18 | – | 9,0 | 4 | DIN 376 | 6H |
| **T604MF140X150R6H-D4** | M14 X 1,5 | 100 | 15 | – | 11,0 | 4 | DIN 374 | 6H |
| **T604M140X200R6H-D6** | M14 X 2 | 110 | 20 | – | 11,0 | 4 | DIN 376 | 6H |
| **T604MF160X150R6H-D4** * | M16 X 1,5 | 100 | 15 | – | 12,0 | 4 | DIN 374 | 6H |
| **T604M160X200R6H-D6** | M16 X 2 | 110 | 22 | – | 12,0 | 4 | DIN 376 | 6H |
| **T604M180X250R6H-D6** | M18 X 2,5 | 125 | 25 | – | 14,0 | 4 | DIN 376 | 6H |
| **T604M200X250R6H-D6** | M20 X 2,5 | 140 | 25 | – | 16,0 | 4 | DIN 376 | 6H |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

| D | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| 3,5–6 | +0, -0,030 |
| 7–10 | +0, -0,036 |
| 11–18 | +0, -0,043 |

- KSP32 TiCN/TiN
- KSMN34 TiN + CrC/C
- KSP39 oxide

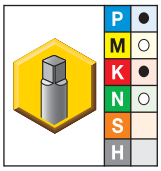


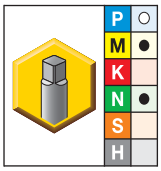


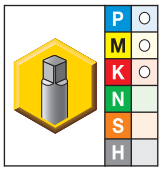




## T830 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • ANSI • Rigid and Synchronous Holders



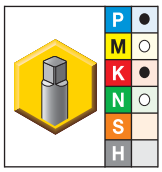



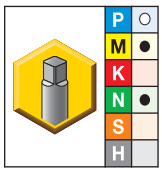

● first choice
○ alternate choice

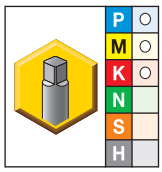
| KSP32 | KSMN34 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| – | – | T830NC#02-56RH2-A | 2 - 56 | 1.76 | .40 | .50 | .141 | 2 | H2 |
| – | – | T830NC#03-48RH2-A | 3 - 48 | 1.82 | .46 | .57 | .141 | 2 | H2 |
| T830NC#04-40RH2-A | T830NC#04-40RH2-A | T830NC#04-40RH2-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H2 |
| – | – | T830NC#04-40RH3-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H3 |
| – | – | T830NC#04-40RH4-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H4 |
| – | – | T830NC#04-40RH5-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H5 |
| – | – | T830NF#04-48RH2-A | 4 - 48 | 1.88 | .53 | .70 | .141 | 2 | H2 |
| – | – | T830NC#05-40RH2-A | 5 - 40 | 1.95 | .59 | .76 | .141 | 2 | H2 |
| – | – | T834NC#05-40RH2-A * | 5 - 40 | 1.95 | .58 | .76 | .141 | 3 | H2 |
| – | – | T830NC#06-32RH2-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H2 |
| T830NC#06-32RH3-A | T830NC#06-32RH3-A | T830NC#06-32RH3-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H3 |
| – | – | T830NC#06-32RH4-A * | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H4 |
| – | – | T830NC#06-32RH5-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H5 |
| – | – | T830NC#06-32RH7-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H7 |
| – | – | T834NC#06-32RH2-A | 6 - 32 | 2.00 | .38 | .72 | .141 | 3 | H2 |
| T834NC#06-32RH3-A | T834NC#06-32RH3-A | T834NC#06-32RH3-A | 6 - 32 | 2.00 | .38 | .72 | .141 | 3 | H3 |
| – | – | T834NC#06-32RH4-A | 6 - 32 | 2.00 | .38 | .72 | .141 | 3 | H4 |
| – | – | T834NC#06-32RH5-A | 6 - 32 | 2.00 | .38 | .72 | .141 | 3 | H5 |
| – | – | T834NC#06-32RH7-A | 6 - 32 | 2.00 | .38 | .72 | .141 | 3 | H7 |
| – | – | T830NF#06-40RH2-A | 6 - 40 | 2.00 | .39 | .72 | .140 | 2 | H2 |
| – | – | T830NF#06-40RH3-A | 6 - 40 | 2.00 | .39 | .72 | .141 | 2 | H3 |
| – | – | T834NF#06-40RH2-A | 6 - 40 | 2.00 | .38 | .72 | .141 | 3 | H2 |
| – | – | T834NF#06-40RH3-A | 6 - 40 | 2.00 | .38 | .72 | .141 | 3 | H3 |
| – | – | T830NC#08-32RH2-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H2 |
| T830NC#08-32RH3-A | T830NC#08-32RH3-A | T830NC#08-32RH3-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H3 |
| – | – | T830NC#08-32RH4-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H4 |
| – | – | T830NC#08-32RH5-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H5 |
| – | – | T830NC#08-32RH6-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H6 |
| – | – | T830NC#08-32RH7-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H7 |
| – | – | T830NC#10-24RH2-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H2 |
| T830NC#10-24RH3-A | T830NC#10-24RH3-A | T830NC#10-24RH3-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H3 |
| – | – | T830NC#10-24RH4-A * | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H4 |

*(continued)*

*(T830 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • ANSI • Rigid and Synchronous Holders — continued)*



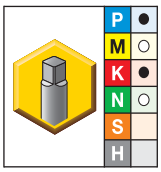



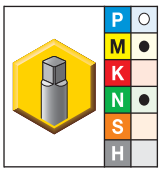

● first choice
○ alternate choice

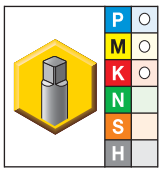
| KSP32 | KSMN34 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| – | – | T830NC#10-24RH5-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H5 |
| – | – | T830NC#10-24RH7-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H7 |
| – | – | T830NF#10-32RH2-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H2 |
| T830NF#10-32RH3-A | T830NF#10-32RH3-A | T830NF#10-32RH3-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H3 |
| – | – | T830NF#10-32RH4-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H4 |
| – | – | T830NF#10-32RH5-A | 10 - 32 | 2.37 | .50 | .91 | .194 | 3 | H5 |
| – | – | T830NF#10-32RH6-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H6 |
| – | – | T830NF#10-32RH7-A | 10 - 32 | 2.38 | .50 | .92 | .193 | 3 | H7 |
| – | – | T830NC#12-24RH3-A | 12 - 24 | 2.43 | .50 | .96 | .219 | 3 | H3 |
| – | – | T830NF#12-28RH3-A | 12 - 28 | 2.43 | .50 | .96 | .219 | 3 | H3 |
| – | – | T830NC02500-20RH2-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H2 |
| T830NC02500-20RH3-A | T830NC02500-20RH3-A | T830NC02500-20RH3-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| – | – | T830NC02500-20RH5-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H5 |
| – | – | T830NC02500-20RH7-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H7 |
| – | – | T830NF02500-28RH2-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H2 |
| T830NF02500-28RH3-A | T830NF02500-28RH3-A | T830NF02500-28RH3-A | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H3 |
| – | – | T830NF02500-28RH4-A | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H4 |
| – | – | T830NF02500-28RH5-A | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H5 |
| – | – | T830NF02500-28RH6-A * | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H6 |
| – | – | T830NF02500-28RH7-A | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H7 |
| T830NC03125-18RH3-A | T830NC03125-18RH3-A | T830NC03125-18RH3-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H3 |
| – | – | T830NC03125-18RH5-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H5 |
| – | – | T830NC03125-18RH7-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H7 |
| T830NF03125-24RH3-A | T830NF03125-24RH3-A | T830NF03125-24RH3-A | 5/16 - 24 | 2.71 | .68 | 1.13 | .318 | 3 | H3 |
| – | – | T830NF03125-24RH5-A | 5/16 - 24 | 2.71 | .68 | 1.12 | .318 | 3 | H5 |
| – | – | T830NF03125-24RH7-A | 5/16 - 24 | 2.71 | .68 | 1.12 | .318 | 3 | H7 |
| T830NC03750-16RH3-A | T830NC03750-16RH3-A | T830NC03750-16RH3-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| – | – | T830NC03750-16RH5-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| – | – | T830NC03750-16RH7-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H7 |
| T830NF03750-24RH3-A | T830NF03750-24RH3-A | T830NF03750-24RH3-A | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H3 |
| – | – | T830NF03750-24RH4-A | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H4 |
| – | – | T830NF03750-24RH5-A | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H5 |
| – | – | T830NF03750-24RH6-A | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H6 |
| T830NC04375-14RH3-A | T830NC04375-14RH3-A | T830NC04375-14RH3-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| – | – | T830NC04375-14RH5-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| – | – | T830NC04375-14RH7-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H7 |
| T830NF04375-20RH3-A | T830NF04375-20RH3-A | T830NF04375-20RH3-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| – | – | T830NF04375-20RH5-A * | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| – | – | T830NF04375-20RH6-A * | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H6 |
| – | – | T830NF04375-20RH7-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H7 |
| T830NC05000-13RH3-A | T830NC05000-13RH3-A | T830NC05000-13RH3-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| – | – | T830NC05000-13RH5-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| – | – | T830NC05000-13RH7-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H7 |
| T830NF05000-20RH3-A | T830NF05000-20RH3-A | T830NF05000-20RH3-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| – | – | T830NF05000-20RH5-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| – | – | T830NF05000-20RH6-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H6 |
| – | – | T830NF05000-20RH7-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H7 |
| T830NC05625-12RH3-A | T830NC05625-12RH3-A | T830NC05625-12RH3-A | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |

*(continued)*

*(T830 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • ANSI • Rigid and Synchronous Holders — continued)*




● first choice
○ alternate choice

| KSP32 | KSMN34 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| — | — | T830NC05625-12RH5-A * | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H5 |
| — | T830NF05625-18RH3-A | T830NF05625-18RH3-A | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| — | — | T830NF05625-18RH5-A | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H5 |
| T830NC06250-11RH3-A | T830NC06250-11RH3-A | T830NC06250-11RH3-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| — | — | T830NC06250-11RH5-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| — | — | T830NC06250-11RH7-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H7 |
| T830NF06250-18RH3-A | T830NF06250-18RH3-A | T830NF06250-18RH3-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| — | — | T830NF06250-18RH5-A * | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| — | — | T830NF06250-18RH6-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H6 |
| — | — | T830NF06250-18RH7-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H7 |
| T830NC07500-10RH3-A | T830NC07500-10RH3-A | T830NC07500-10RH3-A | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |
| — | — | T830NC07500-10RH5-A | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 4 | H5 |
| T830NF07500-16RH3-A | T830NF07500-16RH3-A | T830NF07500-16RH3-A | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |
| — | — | T830NF07500-16RH5-A | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 4 | H5 |
| — | T830NC08750-9RH4-A | T830NC08750-9RH4-A | 7/8 - 9 | 4.69 | 1.34 | 2.30 | .697 | 4 | H4 |
| — | T830NF08750-14RH4-A | T830NF08750-14RH4-A | 7/8 - 14 | 4.69 | 1.34 | 2.30 | .697 | 4 | H4 |
| — | T830NC10000-8RH4-A | — | 1 - 8 | 5.13 | 1.50 | 2.58 | .800 | 4 | H4 |
| T830NC10000-8RH5-A | — | T830NC10000-8RH5-A | 1 - 8 | 5.13 | 1.50 | 2.58 | .800 | 4 | H5 |
| — | — | T830NF1000-12RH4-A | 1 - 12 | 5.13 | 1.50 | 2.58 | .800 | 4 | H4 |
| — | — | T830NC11250-7RH6-A | 1 1/8 - 7 | 5.44 | 1.71 | 2.56 | .896 | 4 | H6 |

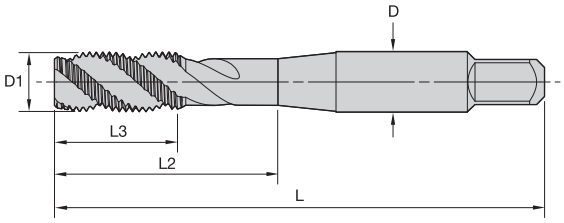
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

***NOTE: Suggested for use in rigid and synchronous holders.***

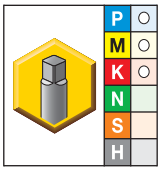
**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSP39 oxide



## T832 • Form E Bottoming Chamfer • Machine Screw and Fractional • ANSI • Rigid and Synchronous Holders

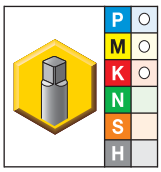



● first choice
○ alternate choice

| KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T832NC#04-40RH2-A** | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H2 |
| **T832NC#04-40RH3-A** | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H3 |
| **T832NC#04-40RH5-A** | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H5 |
| **T832NC#05-40RH2-A** | 5 - 40 | 1.94 | .58 | .75 | .141 | 2 | H2 |
| **T832NC#06-32RH2-A** | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H2 |
| **T832NC#06-32RH3-A** | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H3 |
| **T832NC#06-32RH5-A** | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H5 |
| **T832NF#06-40RH2-A** | 6 - 40 | 1.99 | .37 | .71 | .141 | 2 | H2 |
| **T832NF#06-40RH3-A** | 6 - 40 | 1.99 | .37 | .71 | .141 | 2 | H3 |
| **T832NC#08-32RH2-A** | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H2 |
| **T832NC#08-32RH3-A** | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H3 |
| **T832NC#08-32RH5-A** | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H5 |
| **T832NC#10-24RH3-A** | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H3 |
| **T832NC#10-24RH5-A** | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H5 |
| **T832NF#10-32RH3-A** | 10 - 32 | 2.36 | .49 | .91 | .194 | 3 | H3 |
| **T832NF#10-32RH5-A** | 10 - 32 | 2.36 | .49 | .91 | .194 | 3 | H5 |
| **T832NC02500-20RH3-A** | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| **T832NC02500-20RH5-A** | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H5 |
| **T832NF02500-28RH3-A** | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H3 |
| **T832NF02500-28RH5-A** | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H5 |
| **T832NC03125-18RH3-A** | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H3 |
| **T832NC03125-18RH5-A** | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H5 |
| **T832NF03125-24RH3-A** | 5/16 - 24 | 2.71 | .68 | 1.13 | .318 | 3 | H3 |
| **T832NF03125-24RH5-A** | 5/16 - 24 | 2.71 | .68 | 1.13 | .318 | 3 | H5 |
| **T832NC03750-16RH3-A** | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| **T832NC03750-16RH5-A** | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| **T832NF03750-24RH3-A** | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H3 |
| **T832NF03750-24RH4-A** | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H4 |

*(continued)*

*(T832 • Form E Bottoming Chamfer • Machine Screw and Fractional • ANSI • Rigid and Synchronous Holders — continued)*




● first choice
○ alternate choice

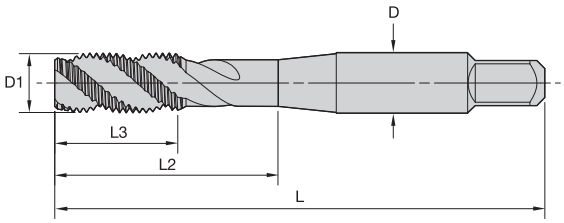
| KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T832NF03750-24RH5-A** | 3/8 - 24 | 2.92 | .74 | 1.25 | .381 | 3 | H5 |
| **T832NC04375-14RH3-A** | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| **T832NC04375-14RH5-A** | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| **T832NF04375-20RH3-A** | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| **T832NF04375-20RH5-A** | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| **T832NC05000-13RH3-A** | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| **T832NC05000-13RH5-A** | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| **T832NF05000-20RH3-A** | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| **T832NC05625-12RH3-A** | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| **T832NC05625-12RH5-A** | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H5 |
| **T832NF05625-18RH3-A** | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| **T832NC06250-11RH3-A** | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| **T832NC06250-11RH5-A** | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| **T832NF06250-18RH3-A** | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| **T832NF06250-18RH5-A** | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| **T832NC07500-10RH3-A** | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |
| **T832NF07500-16RH3-A** | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |

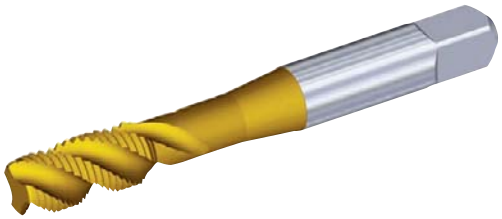
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

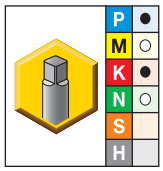
| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

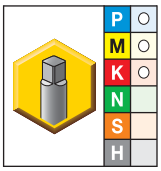
- KSP32 TiCN/TiN
- KSP39 oxide



## T838 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • ANSI • Tension/Compression Holders



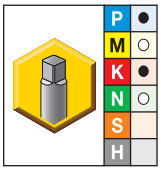



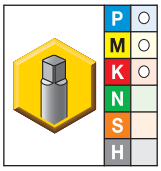

● first choice
○ alternate choice

| KSP32 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| – | T838NC#02-56RH2-A | 2 - 56 | 1.76 | .39 | .50 | .141 | 2 | H2 |
| – | T838NC#03-48RH2-A | 3 - 48 | 1.82 | .46 | .57 | .141 | 2 | H2 |
| T838NC#04-40RH2-A | T838NC#04-40RH2-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H2 |
| – | T838NC#04-40RH3-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H3 |
| – | T838NC#04-40RH4-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H4 |
| – | T838NC#04-40RH5-A | 4 - 40 | 1.88 | .52 | .70 | .141 | 2 | H5 |
| – | T838NF#04-48RH2-A | 4 - 48 | 1.88 | .53 | .70 | .141 | 2 | H2 |
| – | T838NC#05-40RH2-A | 5 - 40 | 1.95 | .59 | .76 | .141 | 2 | H2 |
| – | T838NC#06-32RH2-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H2 |
| T838NC#06-32RH3-A | T838NC#06-32RH3-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H3 |
| – | T838NC#06-32RH4-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H4 |
| – | T838NC#06-32RH5-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H5 |
| – | T838NC#06-32RH7-A | 6 - 32 | 2.00 | .39 | .72 | .141 | 2 | H7 |
| – | T838NF#06-40RH2-A | 6 - 40 | 2.00 | .39 | .72 | .141 | 2 | H2 |
| – | T838NF#06-40RH3-A | 6 - 40 | 2.00 | .39 | .72 | .141 | 2 | H3 |
| – | T838NC#08-32RH2-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H2 |
| T838NC#08-32RH3-A | T838NC#08-32RH3-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H3 |
| – | T838NC#08-32RH4-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H4 |
| – | T838NC#08-32RH5-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H5 |
| – | T838NC#08-32RH6-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H6 |
| – | T838NC#08-32RH7-A | 8 - 32 | 2.13 | .38 | .77 | .168 | 3 | H7 |
| – | T838NC#10-24RH2-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H2 |
| T838NC#10-24RH3-A | T838NC#10-24RH3-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H3 |
| – | T838NC#10-24RH4-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H4 |
| – | T838NC#10-24RH5-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H5 |
| – | T838NC#10-24RH7-A | 10 - 24 | 2.38 | .50 | .92 | .194 | 3 | H7 |
| – | T838NF#10-32RH2-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H2 |
| T838NF#10-32RH3-A | T838NF#10-32RH3-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H3 |

*(continued)*

*(T838 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • ANSI • Tension/Compression Holders — continued)*



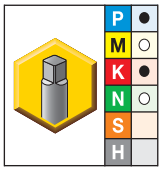



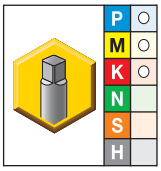

● first choice
○ alternate choice

| KSP32 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| — | T838NF#10-32RH4-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H4 |
| — | T838NF#10-32RH5-A | 10 - 32 | 2.38 | .50 | .91 | .194 | 3 | H5 |
| — | T838NF#10-32RH6-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H6 |
| — | T838NF#10-32RH7-A | 10 - 32 | 2.38 | .50 | .92 | .194 | 3 | H7 |
| — | T838NC#12-24RH3-A | 12 - 24 | 2.43 | .50 | .96 | .220 | 3 | H3 |
| — | T838NF#12-28RH3-A | 12 - 28 | 2.43 | .50 | .96 | .220 | 3 | H3 |
| — | T838NC02500-20RH2-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H2 |
| T838NC02500-20RH3-A | T838NC02500-20RH3-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| — | T838NC02500-20RH5-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H5 |
| — | T838NC02500-20RH7-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H7 |
| — | T838NF02500-28RH2-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H2 |
| T838NF02500-28RH3-A | T838NF02500-28RH3-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| — | T838NF02500-28RH4-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H4 |
| — | T838NF02500-28RH5-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H5 |
| — | T838NF02500-28RH6-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H6 |
| — | T838NF02500-28RH7-A | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H7 |
| T838NC03125-18RH3-A | T838NC03125-18RH3-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H3 |
| — | T838NC03125-18RH5-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H5 |
| — | T838NC03125-18RH7-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H7 |
| T838NF03125-24RH3-A | T838NF03125-24RH3-A | 5/16 - 24 | 2.72 | .69 | 1.13 | .318 | 3 | H3 |
| — | T838NF03125-24RH5-A | 5/16 - 24 | 2.72 | .69 | 1.12 | .318 | 3 | H5 |
| — | T838NF03125-24RH7-A | 5/16 - 24 | 2.72 | .69 | 1.12 | .318 | 3 | H7 |
| T838NC03750-16RH3-A | T838NC03750-16RH3-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| — | T838NC03750-16RH5-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| — | T838NC03750-16RH7-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H7 |
| T838NF03750-24RH3-A | T838NF03750-24RH3-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| — | T838NF03750-24RH4-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H4 |
| — | T838NF03750-24RH5-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| — | T838NF03750-24RH6-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H6 |
| T838NC04375-14RH3-A | T838NC04375-14RH3-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| — | T838NC04375-14RH5-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| — | T838NC04375-14RH7-A | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H7 |
| T838NF04375-20RH3-A | T838NF04375-20RH3-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| — | T838NF04375-20RH5-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| — | T838NF04375-20RH6-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H6 |
| — | T838NF04375-20RH7-A | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H7 |
| T838NC05000-13RH3-A | T838NC05000-13RH3-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| — | T838NC05000-13RH5-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| — | T838NC05000-13RH7-A | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H7 |
| T838NF05000-20RH3-A | T838NF05000-20RH3-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| — | T838NF05000-20RH5-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| — | T838NF05000-20RH6-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H6 |
| — | T838NF05000-20RH7-A | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H7 |
| T838NC05625-12RH3-A | T838NC05625-12RH3-A | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| — | T838NC05625-12RH5-A | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H5 |
| — | T838NF05625-18RH3-A | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| — | T838NF05625-18RH5-A | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H5 |
| T838NC06250-11RH3-A | T838NC06250-11RH3-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| — | T838NC06250-11RH5-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| — | T838NC06250-11RH7-A | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H7 |
| T838NF06250-18RH3-A | T838NF06250-18RH3-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| — | T838NF06250-18RH5-A | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |

*(continued)*

*(T838 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • ANSI • Tension/Compression Holders — continued)*




● first choice
○ alternate choice

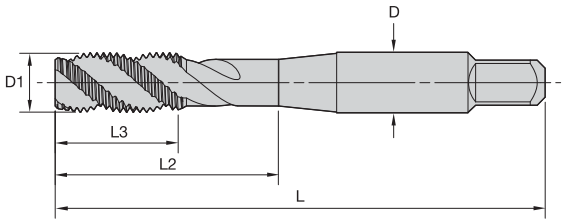
| KSP32 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| — | **T838NF06250-18RH6-A** | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H6 |
| — | **T838NF06250-18RH7-A** | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H7 |
| **T838NC07500-10RH3-A** | **T838NC07500-10RH3-A** | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |
| — | **T838NC07500-10RH5-A** | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 4 | H5 |
| **T838NF07500-16RH3-A** | **T838NF07500-16RH3-A** | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |
| — | **T838NF07500-16RH5-A** | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 4 | H5 |
| — | **T838NC08750-9RH4-A** | 7/8 - 9 | 4.69 | 1.34 | 2.30 | .697 | 4 | H4 |
| — | **T838NF08750-14RH4-A** | 7/8 - 14 | 4.69 | 1.34 | 2.30 | .697 | 4 | H4 |
| **T838NC10000-8RH5-A** | **T838NC10000-8RH5-A** | 1 - 8 | 5.13 | 1.50 | 2.58 | .800 | 4 | H5 |
| — | **T838NF1000-12RH4-A** | 1 - 12 | 5.12 | 1.50 | 2.58 | .800 | 4 | H4 |
| — | **T838NC11250-7RH6-A** | 1 1/8 - 7 | 5.44 | 1.71 | 2.56 | .896 | 4 | H6 |

***NOTE: Suitable for tension/compression holders.***

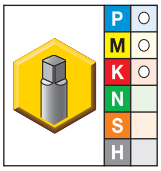
**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSP39 oxide



## T839 • Form E Bottoming Chamfer • Machine Screw and Fractional • ANSI • Tension/Compression Holders

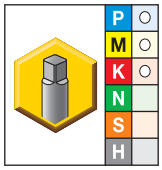



● first choice
○ alternate choice

| KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T839NC#04-40RH2-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H2 |
| T839NC#04-40RH3-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H3 |
| T839NC#04-40RH5-A | 4 - 40 | 1.88 | .51 | .69 | .141 | 2 | H5 |
| T839NC#05-40RH2-A | 5 - 40 | 1.94 | .58 | .75 | .141 | 2 | H2 |
| T839NC#06-32RH2-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H2 |
| T839NC#06-32RH3-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H3 |
| T839NC#06-32RH5-A | 6 - 32 | 1.99 | .38 | .71 | .141 | 2 | H5 |
| T839NF#06-40RH2-A | 6 - 40 | 1.99 | .37 | .71 | .141 | 2 | H2 |
| T839NF#06-40RH3-A | 6 - 40 | 1.99 | .37 | .71 | .141 | 2 | H3 |
| T839NC#08-32RH2-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H2 |
| T839NC#08-32RH3-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H3 |
| T839NC#08-32RH5-A | 8 - 32 | 2.12 | .38 | .76 | .168 | 3 | H5 |
| T839NC#10-24RH3-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H3 |
| T839NC#10-24RH5-A | 10 - 24 | 2.37 | .50 | .91 | .194 | 3 | H5 |
| T839NF#10-32RH3-A | 10 - 32 | 2.36 | .49 | .91 | .194 | 3 | H3 |
| T839NF#10-32RH5-A | 10 - 32 | 2.36 | .49 | .91 | .194 | 3 | H5 |
| T839NC02500-20RH3-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| T839NC02500-20RH5-A | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H5 |
| T839NF02500-28RH3-A | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H3 |
| T839NF02500-28RH5-A | 1/4 - 28 | 2.49 | .62 | 1.00 | .255 | 3 | H5 |
| T839NC03125-18RH3-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H3 |
| T839NC03125-18RH5-A | 5/16 - 18 | 2.72 | .69 | 1.13 | .318 | 3 | H5 |
| T839NF03125-24RH3-A | 5/16 - 24 | 2.71 | .68 | 1.13 | .318 | 3 | H3 |
| T839NF03125-24RH5-A | 5/16 - 24 | 2.71 | .68 | 1.12 | .318 | 3 | H5 |
| T839NC03750-16RH3-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| T839NC03750-16RH5-A | 3/8 - 16 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| T839NF03750-24RH3-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H3 |
| T839NF03750-24RH4-A | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H4 |

*(continued)*

*(T839 • Form E Bottoming Chamfer • Machine Screw and Fractional • ANSI • Tension/Compression Holders — continued)*




● first choice
○ alternate choice

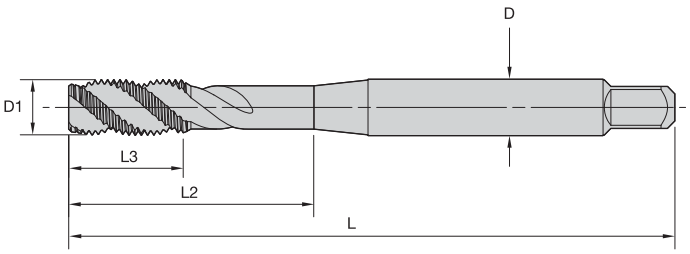
| KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T839NF03750-24RH5-A** | 3/8 - 24 | 2.94 | .75 | 1.27 | .381 | 3 | H5 |
| **T839NC04375-14RH3-A** | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| **T839NC04375-14RH5-A** | 7/16 - 14 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| **T839NF04375-20RH3-A** | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H3 |
| **T839NF04375-20RH5-A** | 7/16 - 20 | 3.16 | .88 | 1.49 | .323 | 3 | H5 |
| **T839NC05000-13RH3-A** | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| **T839NC05000-13RH5-A** | 1/2 - 13 | 3.38 | .94 | 1.74 | .367 | 3 | H5 |
| **T839NF05000-20RH3-A** | 1/2 - 20 | 3.38 | .94 | 1.74 | .367 | 3 | H3 |
| **T839NC05625-12RH3-A** | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| **T839NC05625-12RH5-A** | 9/16 - 12 | 3.59 | 1.00 | 1.74 | .429 | 3 | H5 |
| **T839NF05625-18RH3-A** | 9/16 - 18 | 3.59 | 1.00 | 1.74 | .429 | 3 | H3 |
| **T839NC06250-11RH3-A** | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| **T839NC06250-11RH5-A** | 5/8 - 11 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| **T839NF06250-18RH3-A** | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H3 |
| **T839NF06250-18RH5-A** | 5/8 - 18 | 3.81 | 1.09 | 1.89 | .480 | 3 | H5 |
| **T839NC07500-10RH3-A** | 3/4 - 10 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |
| **T839NF07500-16RH3-A** | 3/4 - 16 | 4.25 | 1.22 | 2.08 | .590 | 4 | H3 |

***NOTE: Suitable for tension/compression holders.***

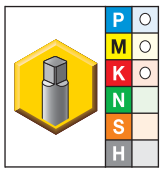
**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSP39 oxide



## T830 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • UNC/UNF • Rigid and Synchronous Holders




● first choice
○ alternate choice

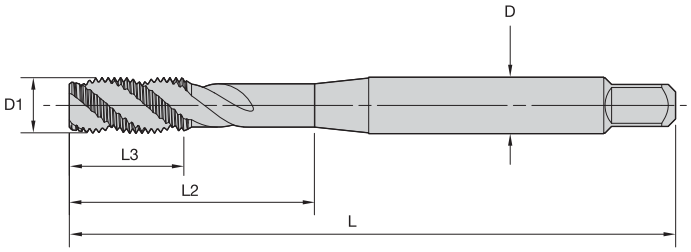
| KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T830NC#04-40R2B-D1** | 4 - 40 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 2B |
| **T830NC#05-40R2B-D1** | 5 - 40 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2B |
| **T830NC#06-32R2B-D1** | 6 - 32 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2B |
| **T830NF#06-40R2B-D1** | 6 - 40 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 2B |
| **T830NC#08-32R2B-D1** | 8 - 32 | 63 | 11 | 21 | 4,5 | 3 | DIN 371 | 2B |
| **T830NC#10-24R2B-D1** | 10 - 24 | 70 | 12 | 25 | 6,0 | 3 | DIN 371 | 2B |
| **T830NF#10-32R2B-D1** | 10 - 32 | 70 | 12 | 25 | 6,0 | 3 | DIN 371 | 2B |
| **T830NC02500-20R2B-D1** | 1/4 - 20 | 80 | 15 | 30 | 7,0 | 3 | DIN 371 | 2B |
| **T830NF02500-28R2B-D1** | 1/4 - 28 | 80 | 15 | 30 | 7,0 | 3 | DIN 371 | 2B |
| **T830NC03125-18R2B-D1** | 5/16 - 18 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 2B |
| **T830NF03125-24R2B-D1** | 5/16 - 24 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 2B |
| **T830NC03750-16R2B-D1** | 3/8 - 16 | 100 | 19 | 39 | 10,0 | 3 | DIN 371 | 2B |
| **T830NF03750-24R2B-D1** | 3/8 - 24 | 100 | 19 | 39 | 10,0 | 3 | DIN 371 | 2B |
| **T830NC04375-14R2B-D6** | 7/16 - 14 | 100 | 18 | 41 | 8,0 | 3 | DIN 376 | 2B |
| **T830NF04375-20R2B-D6** | 7/16 - 20 | 100 | 18 | 41 | 8,0 | 3 | DIN 376 | 2B |
| **T830NC05000-13R2B-D6** | 1/2 - 13 | 110 | 23 | 47 | 9,0 | 3 | DIN 376 | 2B |
| **T830NF05000-20R2B-D6** | 1/2 - 20 | 110 | 23 | 47 | 9,0 | 3 | DIN 376 | 2B |
| **T830NC05625-12R2B-D6** | 9/16 - 12 | 110 | 25 | 53 | 11,0 | 3 | DIN 376 | 2B |
| **T830NF05625-18R2B-D6** | 9/16 - 18 | 110 | 25 | 53 | 11,0 | 3 | DIN 376 | 2B |
| **T830NC06250-11R2B-D6** | 5/8 - 11 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 2B |
| **T830NF06250-18R2B-D6** | 5/8 - 18 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 2B |
| **T830NC07500-10R2B-D6** | 3/4 - 10 | 140 | 30 | 64 | 16,0 | 4 | DIN 376 | 2B |
| **T830NF07500-16R2B-D6** | 3/4 - 16 | 140 | 30 | 64 | 16,0 | 4 | DIN 376 | 2B |
| **T830NF08750-9R2B-D6** | 7/8 - 9 | 140 | 34 | 71 | 18,0 | 4 | DIN 376 | 2B |
| **T830NF08750-14R2B-D6** | 7/8 - 14 | 140 | 34 | 71 | 18,0 | 4 | DIN 376 | 2B |
| **T830NC10000-8R2B-D6** | 1 - 8 | 160 | 38 | 81 | 18,0 | 4 | DIN 376 | 2B |
| **T830NF10000-12R2B-D6** | 1 - 12 | 160 | 38 | 81 | 18,0 | 4 | DIN 376 | 2B |

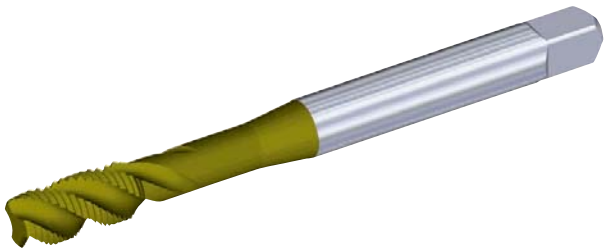
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

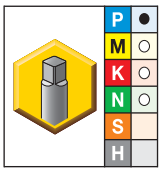
| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

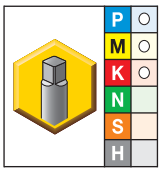
- KSU31 TiN
- KSP39 oxide



## T838 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • UNC/UNF • Tension/Compression Holders



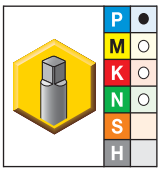



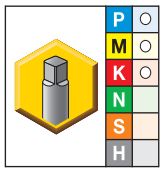

● first choice
○ alternate choice

| KSU31 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T838NC#06-32R2B-D1 | T838NC#06-32R2B-D1 | 6 - 32 | 56 | 7 | 21 | 4,0 | 3 | DIN 371 | 2B |
| T838NF#06-40R2B-D1 | T838NF#06-40R2B-D1 | 6 - 40 | 56 | 7 | 21 | 4,0 | 3 | DIN 371 | 2B |
| T838NC#08-32R2B-D1 | T838NC#08-32R2B-D1 | 8 - 32 | 63 | 7 | 21 | 4,5 | 3 | DIN 371 | 2B |
| T838NF#08-36R2B-D1 | T838NF#08-36R2B-D1 | 8 - 36 | 63 | 7 | 21 | 4,5 | 3 | DIN 371 | 2B |
| T838NC#10-24R2B-D1 | T838NC#10-24R2B-D1 | 10 - 24 | 70 | 8 | 25 | 6,0 | 3 | DIN 371 | 2B |
| T838NF#10-32R2B-D1 | T838NF#10-32R2B-D1 | 10 - 32 | 70 | 8 | 25 | 6,0 | 3 | DIN 371 | 2B |
| T838NC#12-24R2B-D1 | T838NC#12-24R2B-D1 | 12 - 24 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 2B |
| T838NF#12-28R2B-D1 | T838NF#12-28R2B-D1 | 12 - 28 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 2B |
| T838NC02500-20R2B-D1 | T838NC02500-20R2B-D1 | 1/4 - 20 | 80 | 10 | 29 | 7,0 | 3 | DIN 371 | 2B |
| T838NC02500-20R2B-D6 | T838NC02500-20R2B-D6 | 1/4 - 20 | 80 | 10 | 36 | 4,5 | 3 | DIN 376 | 2B |
| T838NF02500-28R2B-D1 | T838NF02500-28R2B-D1 | 1/4 - 28 | 80 | 10 | 29 | 7,0 | 3 | DIN 371 | 2B |
| T838NF02500-28R2B-D4 | T838NF02500-28R2B-D4 | 1/4 - 28 | 80 | 10 | 36 | 4,5 | 3 | DIN 374 | 2B |
| T838NC03125-18R2B-D1 | T838NC03125-18R2B-D1 | 5/16 - 18 | 90 | 13 | 37 | 8,0 | 3 | DIN 371 | 2B |
| T838NC03125-18R2B-D6 | T838NC03125-18R2B-D6 | 5/16 - 18 | 90 | 13 | 37 | 6,0 | 3 | DIN 376 | 2B |
| T838NF03125-24R2B-D4 | T838NF03125-24R2B-D4 | 5/16 - 24 | 90 | 13 | 37 | 6,0 | 3 | DIN 374 | 2B |
| T838NC03750-16R2B-D1 | T838NC03750-16R2B-D1 | 3/8 - 16 | 100 | 15 | 42 | 10,0 | 3 | DIN 371 | 2B |
| T838NC03750-16R2B-D6 | T838NC03750-16R2B-D6 | 3/8 - 16 | 100 | 15 | 45 | 7,0 | 3 | DIN 376 | 2B |
| T838NF03750-24R2B-D4 | T838NF03750-24R2B-D4 | 3/8 - 24 | 90 | 15 | 40 | 7,0 | 3 | DIN 374 | 2B |
| T838NC04375-14R2B-D6 | T838NC04375-14R2B-D6 | 7/16 - 14 | 100 | 15 | 47 | 8,0 | 3 | DIN 376 | 2B |
| T838NF04375-20R2B-D4 | T838NF04375-20R2B-D4 | 7/16 - 20 | 100 | 15 | 47 | 8,0 | 3 | DIN 374 | 2B |
| T838NC05000-13R2B-D6 | T838NC05000-13R2B-D6 | 1/2 - 13 | 110 | 18 | 50 | 9,0 | 3 | DIN 376 | 2B |
| T838NF05000-20R2B-D4 | T838NF05000-20R2B-D4 | 1/2 - 20 | 100 | 13 | 44 | 9,0 | 3 | DIN 374 | 2B |
| T838NC05625-12R2B-D6 | T838NC05625-12R2B-D6 | 9/16 - 12 | 110 | 20 | 55 | 11,0 | 4 | DIN 376 | 2B |
| T838NF05625-18R2B-D4 | T838NF05625-18R2B-D4 | 9/16 - 18 | 100 | 15 | 44 | 11,0 | 4 | DIN 374 | 2B |
| T838NC06250-11R2B-D6 | T838NC06250-11R2B-D6 | 5/8 - 11 | 110 | 20 | 55 | 12,0 | 4 | DIN 376 | 2B |
| T838NF06250-18R2B-D4 | T838NF06250-18R2B-D4 | 5/8 - 18 | 100 | 15 | 45 | 12,0 | 4 | DIN 374 | 2B |
| T838NC07500-10R2B-D6 | T838NC07500-10R2B-D6 | 3/4 - 10 | 125 | 25 | 65 | 14,0 | 4 | DIN 376 | 2B |
| T838NF07500-16R2B-D4 | T838NF07500-16R2B-D4 | 3/4 - 16 | 110 | 17 | 55 | 14,0 | 4 | DIN 374 | 2B |

*(continued)*

*(T838 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • UNC/UNF • Tension/Compression Holders — continued)*




● first choice
○ alternate choice

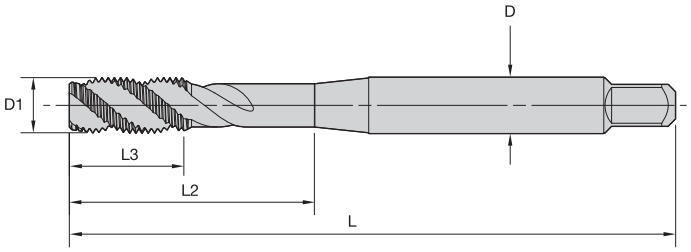
| KSU31 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| **T838NC08750-9R2B-D6** | **T838NC08750-9R2B-D6** | 7/8 - 9 | 140 | 25 | 68 | 18,0 | 4 | DIN 376 | 2B |
| **T838NF08750-14R2B-D4** | **T838NF08750-14R2B-D4** | 7/8 - 14 | 125 | 18 | 57 | 18,0 | 4 | DIN 374 | 2B |
| **T838NC10000-8R2B-D6** | **T838NC10000-8R2B-D6** | 1 - 8 | 160 | 30 | 89 | 18,0 | 4 | DIN 376 | 2B |
| **T838NF10000-12R2B-D4** | **T838NF10000-12R2B-D4** | 1 - 12 | 140 | 22 | 63 | 18,0 | 4 | DIN 374 | 2B |
| **T838NC11250-7R2B-D6** | **T838NC11250-7R2B-D6** | 1 1/8 - 7 | 180 | 35 | 90 | 22,0 | 4 | DIN 376 | 2B |
| **T838NF11250-12R2B-D4** | **T838NF11250-12R2B-D4** | 1 1/8 - 12 | 150 | 22 | 70 | 22,0 | 4 | DIN 374 | 2B |
| **T838NC12500-7R2B-D6** | **T838NC12500-7R2B-D6** | 1 1/4 - 7 | 180 | 35 | 95 | 22,0 | 4 | DIN 376 | 2B |
| **T838NF12500-12R2B-D4** | **T838NF12500-12R2B-D4** | 1 1/4 - 12 | 150 | 22 | 67 | 22,0 | 5 | DIN 374 | 2B |
| **T838NC13750-6R2B-D6** | **T838NC13750-6R2B-D6** | 1 3/8 - 6 | 200 | 40 | 100 | 28,0 | 4 | DIN 376 | 2B |
| **T838NF13750-12R2B-D4** | **T838NF13750-12R2B-D4** | 1 3/8 - 12 | 170 | 24 | 80 | 28,0 | 5 | DIN 374 | 2B |
| **T838NC15000-6R2B-D6** | **T838NC15000-6R2B-D6** | 1 1/2 - 6 | 200 | 40 | 100 | 28,0 | 4 | DIN 376 | 2B |
| **T838NF15000-12R2B-D4** | **T838NF15000-12R2B-D4** | 1 1/2 - 12 | 170 | 24 | 72 | 28,0 | 6 | DIN 374 | 2B |
| **T838NC17500-5R2B-D6** | **T838NC17500-5R2B-D6** | 1 3/4 - 5 | 220 | 50 | 108 | 36,0 | 5 | DIN 376 | 2B |
| **T838NC20000-4,5R2B-D6** | **T838NC20000-4,5R2B-D6** | 2 - 4 1/2 | 250 | 55 | 140 | 40,0 | 5 | DIN 376 | 2B |

***NOTE: Suitable for tension/compression holders.***

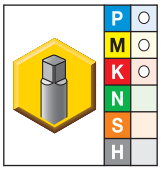
**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

• KSP39 oxide



## T830 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • UNJC/UNJF • Rigid and Synchronous Holders




● first choice
○ alternate choice

| KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T830NC#04-40R3B-D1** | 4 - 40 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 3B |
| **T830NC#06-32R3B-D1** | 6 - 32 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 3B |
| **T830NC#08-32R3B-D1** | 8 - 32 | 63 | 11 | 21 | 4,5 | 3 | DIN 371 | 3B |
| **T830NF#10-32R3B-D1** | 10 - 32 | 70 | 12 | 25 | 6,0 | 3 | DIN 371 | 3B |
| **T830NF02500-28R3B-D1** | 1/4 - 28 | 80 | 15 | 30 | 7,0 | 3 | DIN 371 | 3B |
| **T830NF03125-24R3B-D1** | 5/16 - 24 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 3B |
| **T830NF03750-24R3B-D1** | 3/8 - 24 | 100 | 19 | 39 | 10,0 | 3 | DIN 371 | 3B |
| **T830NF04375-20R3B-D6** | 7/16 - 20 | 100 | 18 | 41 | 8,0 | 3 | DIN 376 | 3B |
| **T830NF05000-20R3B-D6** | 1/2 - 20 | 110 | 23 | 47 | 9,0 | 3 | DIN 376 | 3B |

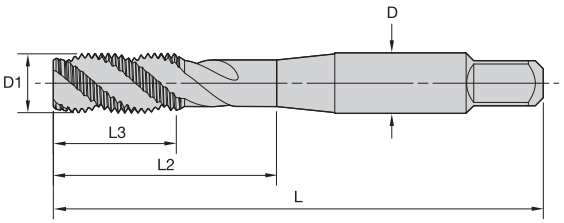
NOTE: Internal UNJC/UNJF threads may be produced with ground thread UNC/UNF taps.

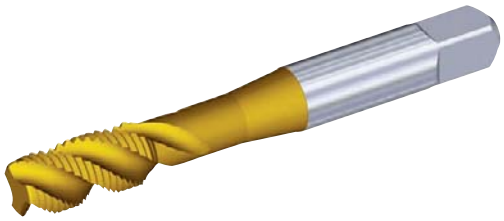
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

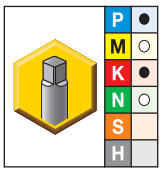
- KSP32 TiCN/TiN
- KSMN34 TiN + CrC/C
- KSP39 oxide

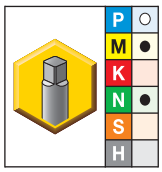


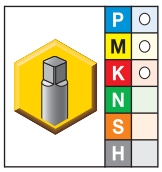



## T830 • Form C Semi-Bottoming Chamfer • Metric • ANSI • Rigid and Synchronous Holders






● first choice
○ alternate choice

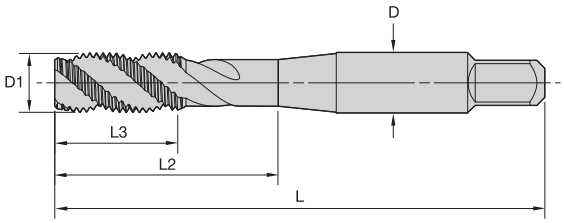
| KSP32 | KSMN34 | KSP39 | D1 size | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| T830M030X050RD3-A | – | T830M030X050RD3-A | M3 X 0,5 | 1.94 | .58 | .75 | .141 | 2 | D3 |
| T834M030X050RD3-A | – | T834M030X050RD3-A | M3 X 0.5 | 1.94 | .58 | .76 | .141 | 3 | D3 |
| – | – | T830M035X060RD4-A | M3,5 X 0,6 | 1.99 | .38 | .71 | .141 | 2 | D4 |
| – | – | T834M035X060RD4-A | M3.5 X 0.6 | 2.00 | .38 | .72 | .141 | 3 | D4 |
| T830M040X070RD4-A | – | T830M040X070RD4-A | M4 X 0,7 | 2.12 | .38 | .76 | .168 | 3 | D4 |
| T830M050X080RD4-A | T830M050X080RD4-A | T830M050X080RD4-A | M5 X 0,8 | 2.37 | .50 | .91 | .194 | 3 | D4 |
| T830M060X100RD5-A | T830M060X100RD5-A | T830M060X100RD5-A | M6 X 1 | 2.50 | .63 | 1.00 | .255 | 3 | D5 |
| – | – | T830M070X100RD5-A | M7 X 1 | 2.72 | .69 | 1.15 | .318 | 3 | D5 |
| – | – | T830MF080X100RD5-A | M8 X 1 | 2.70 | .69 | 1.12 | .318 | 3 | D5 |
| T830M080X125RD5-A | T830M080X125RD5-A | T830M080X125RD5-A | M8 X 1,25 | 2.70 | .69 | 1.12 | .318 | 3 | D5 |
| – | – | T830MF100X125RD5-A | M10 X 1,25 | 2.92 | .74 | 1.25 | .381 | 3 | D5 |
| T830M100X150RD6-A | T830M100X150RD6-A | T830M100X150RD6-A | M10 X 1,5 | 2.93 | .75 | 1.26 | .381 | 3 | D6 |
| – | – | T830MF120X125RD5-A | M12 X 1,25 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| – | – | T830MF120X150RD5-A | M12 X 1,5 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| T830M120X175RD6-A | T830M120X175RD6-A | T830M120X175RD6-A | M12 X 1,75 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| – | – | T830MF140X150RD6-A | M14 X 1,5 | 3.59 | 1.00 | 1.74 | .429 | 3 | D6 |
| – | – | T830M140X200RD7-A | M14 X 2 | 3.59 | 1.00 | 1.74 | .429 | 3 | D7 |
| – | – | T830MF160X150RD6-A | M16 X 1,5 | 3.81 | 1.09 | 1.89 | .480 | 3 | D6 |
| – | – | T830M160X200RD7-A | M16 X 2 | 3.81 | 1.09 | 1.89 | .480 | 3 | D7 |
| – | – | T830MF180X150RD6-A | M18 X 1,5 | 4.03 | 1.09 | 1.89 | .542 | 4 | D6 |
| – | – | T830M180X250RD7-A | M18 X 2,5 | 4.03 | 1.09 | 1.89 | .542 | 4 | D7 |

***NOTE: Suggested for use in rigid and synchronous holders.***

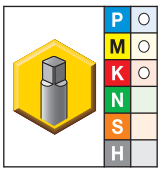
**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSP39 oxide



## T832 • Form E Bottoming Chamfer • Metric • ANSI • Rigid and Synchronous Holders




● first choice
○ alternate choice

| KSP39 | D1 size | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T832M030X050RD3-A** | M3 X 0,5 | 1.94 | .58 | .75 | .141 | 2 | D3 |
| **T832M035X060RD4-A** | M3,5 X 0,6 | 2.00 | .38 | .71 | .141 | 2 | D4 |
| **T832M040X070RD4-A** | M4 X 0,7 | 2.13 | .38 | .76 | .168 | 3 | D4 |
| **T832M050X080RD4-A** | M5 X 0,8 | 2.38 | .50 | .91 | .194 | 3 | D4 |
| **T832M060X100RD5-A** | M6 X 1 | 2.50 | .63 | 1.00 | .255 | 3 | D5 |
| **T832M070X100RD5-A** | M7 X 1 | 2.72 | .69 | 1.15 | .318 | 3 | D5 |
| **T832MF080X100RD5-A** | M8 X 1 | 2.72 | .69 | 1.12 | .318 | 3 | D5 |
| **T832M080X125RD5-A** | M8 X 1,25 | 2.72 | .69 | 1.12 | .318 | 3 | D5 |
| **T832MF100X125RD5-A** | M10 X 1,25 | 2.94 | .75 | 1.26 | .381 | 3 | D5 |
| **T832M100X150RD6-A** | M10 X 1,5 | 2.94 | .75 | 1.26 | .381 | 3 | D6 |
| **T832MF120X125RD5-A** | M12 X 1,25 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| **T832MF120X150RD5-A *** | M12 X 1,5 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| **T832M120X175RD6-A** | M12 X 1,75 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| **T832MF140X150RD6-A** | M14 X 1,5 | 3.59 | 1.00 | 1.74 | .429 | 3 | D6 |
| **T832M140X200RD7-A** | M14 X 2 | 3.59 | 1.00 | 1.74 | .429 | 3 | D7 |
| **T832MF160X150RD6-A** | M16 X 1,5 | 3.81 | 1.09 | 1.89 | .480 | 3 | D6 |
| **T832M160X200RD7-A** | M16 X 2 | 3.81 | 1.09 | 1.89 | .480 | 3 | D7 |
| **T832MF180X150RD6-A** | M18 X 1,5 | 4.03 | 1.09 | 1.89 | .542 | 4 | D6 |

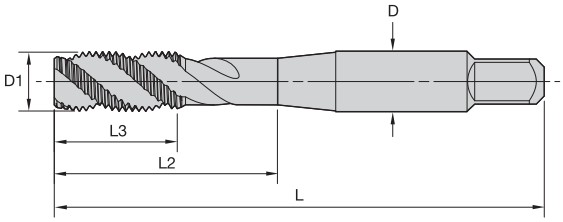
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

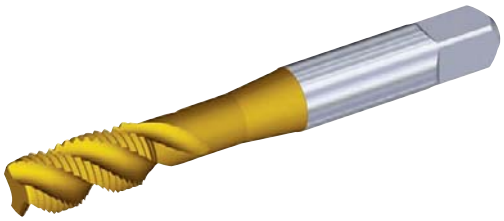
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

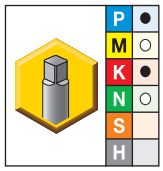
- KSP32 TiCN/TiN
- KSP39 oxide

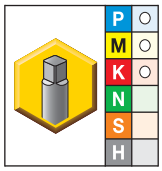




## T838 • Form C Semi-Bottoming Chamfer • Metric • ANSI • Tension/Compression Holders




● first choice
○ alternate choice

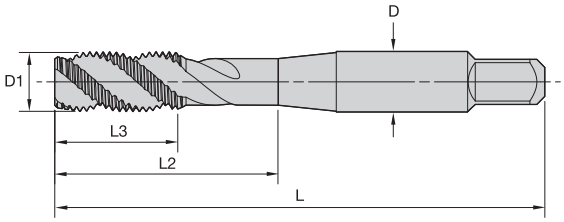
| KSP32 | KSP39 | inch dimensions D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| T838M030X050RD3-A | T838M030X050RD3-A | M3 X 0,5 | 1.94 | .58 | .75 | .141 | 2 | D3 |
| – | T838M035X060RD4-A | M3,5 X 0,6 | 1.99 | .38 | .71 | .141 | 2 | D4 |
| T838M040X070RD4-A | T838M040X070RD4-A | M4 X 0,7 | 2.12 | .38 | .76 | .168 | 3 | D4 |
| T838M050X080RD4-A | T838M050X080RD4-A | M5 X 0,8 | 2.37 | .50 | .91 | .194 | 3 | D4 |
| T838M060X100RD5-A | T838M060X100RD5-A | M6 X 1 | 2.50 | .63 | 1.01 | .255 | 3 | D5 |
| – | T838M070X100RD5-A | M7 X 1 | 2.73 | .69 | 1.15 | .318 | 3 | D5 |
| – | T838MF080X100RD5-A | M8 X 1 | 2.71 | .69 | 1.12 | .318 | 3 | D5 |
| T838M080X125RD5-A | T838M080X125RD5-A | M8 X 1,25 | 2.71 | .69 | 1.12 | .318 | 3 | D5 |
| – | T838MF100X125RD5-A | M10 X 1,25 | 2.92 | .74 | 1.25 | .381 | 3 | D5 |
| T838M100X150RD6-A | T838M100X150RD6-A | M10 X 1,5 | 2.92 | .75 | 1.26 | .381 | 3 | D6 |
| – | T838MF120X125RD5-A | M12 X 1,25 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| – | T838MF120X150RD5-A | M12 X 1,5 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| T838M120X175RD6-A | T838M120X175RD6-A | M12 X 1,75 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| – | T838MF140X150RD6-A | M14 X 1,5 | 3.59 | 1.00 | 1.74 | .429 | 3 | D6 |
| – | T838M140X200RD7-A | M14 X 2 | 3.59 | 1.00 | 1.74 | .429 | 3 | D7 |
| – | T838MF160X150RD6-A | M16 X 1,5 | 3.81 | 1.09 | 1.89 | .480 | 3 | D6 |
| – | T838M160X200RD7-A | M16 X 2 | 3.81 | 1.09 | 1.89 | .480 | 3 | D7 |
| – | T838MF180X150RD6-A | M18 X 1,5 | 4.03 | 1.09 | 1.89 | .542 | 4 | D6 |
| – | T838M180X250RD7-A | M18 X 2,5 | 4.03 | 1.09 | 1.89 | .542 | 4 | D7 |

***NOTE: Suitable for tension/compression holders.***

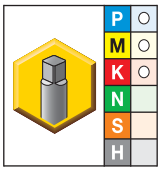
**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

• KSP39 oxide



## T839 • Form E Bottoming Chamfer • Metric • ANSI • Tension/Compression Holders




● first choice
○ alternate choice

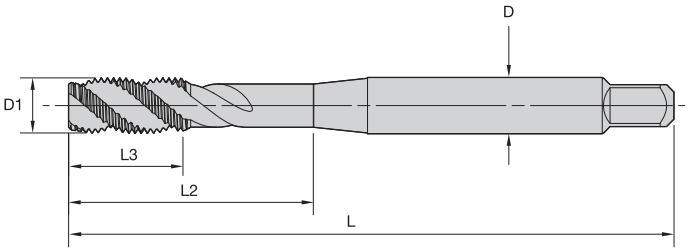
| KSP39 | D1 size | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T839M030X050RD3-A** | M3 X 0,5 | 1.94 | .58 | .75 | .141 | 2 | D3 |
| **T839M035X060RD4-A** | M3,5 X 0,6 | 2.00 | .38 | .71 | .141 | 2 | D4 |
| **T839M040X070RD4-A** | M4 X 0,7 | 2.13 | .38 | .76 | .168 | 3 | D4 |
| **T839M050X080RD4-A** | M5 X 0,8 | 2.38 | .50 | .91 | .194 | 3 | D4 |
| **T839M060X100RD5-A** | M6 X 1 | 2.50 | .63 | 1.00 | .255 | 3 | D5 |
| **T839M070X100RD5-A** | M7 X 1 | 2.72 | .69 | 1.15 | .318 | 3 | D5 |
| **T839MF080X100RD5-A** | M8 X 1 | 2.72 | .69 | 1.12 | .318 | 3 | D5 |
| **T839M080X125RD5-A** | M8 X 1,25 | 2.72 | .69 | 1.12 | .318 | 3 | D5 |
| **T839MF100X125RD5-A** | M10 X 1,25 | 2.94 | .75 | 1.26 | .381 | 3 | D5 |
| **T839M100X150RD6-A** | M10 X 1,5 | 2.94 | .75 | 1.26 | .381 | 3 | D6 |
| **T839MF120X125RD5-A** | M12 X 1,25 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| **T839MF120X150RD5-A** | M12 X 1,5 | 3.38 | .94 | 1.74 | .367 | 3 | D5 |
| **T839M120X175RD6-A** | M12 X 1,75 | 3.38 | .94 | 1.74 | .367 | 3 | D6 |
| **T839MF140X150RD6-A** | M14 X 1,5 | 3.59 | 1.00 | 1.74 | .429 | 3 | D6 |
| **T839M140X200RD7-A** | M14 X 2 | 3.59 | 1.00 | 1.74 | .429 | 3 | D7 |
| **T839MF160X150RD6-A** | M16 X 1,5 | 3.81 | 1.09 | 1.89 | .480 | 3 | D6 |
| **T839M160X200RD7-A** | M16 X 2 | 3.81 | 1.09 | 1.89 | .480 | 3 | D7 |
| **T839MF180X150RD6-A** | M18 X 1,5 | 4.03 | 1.09 | 1.89 | .542 | 4 | D6 |

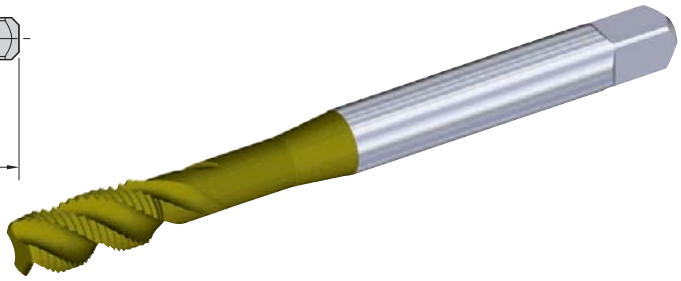
***NOTE: Suitable for tension/compression holders.***

**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |

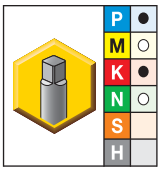
- KSP32 TiCN/TiN
- KSP39 oxide

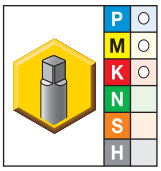




## T830 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • Rigid and Synchronous Holders



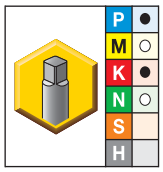



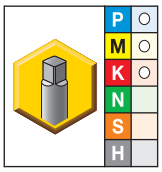

● first choice
○ alternate choice

| KSP32 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| – | T830M020X040R6H-D1 | M2 X 0,4 | 45 | 7 | 13 | 2,8 | 2 | DIN 371 | 6H |
| – | T830M020X040R6G-D1 | M2 X 0,4 | 45 | 7 | 13 | 2,8 | 2 | DIN 371 | 6G |
| – | T830M025X045R6H-D1 | M2,5 X 0,45 | 50 | 7 | 15 | 2,8 | 2 | DIN 371 | 6H |
| – | T830M025X045R6G-D1 | M2,5 X 0,45 | 50 | 7 | 15 | 2,8 | 2 | DIN 371 | 6G |
| T830M030X050R6H-D1 | T830M030X050R6H-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 6H |
| – | T830M030X050R6G-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 6G |
| – | T830M035X060R6H-D1 | M3,5 X 0,6 | 56 | 9 | 20 | 4,0 | 2 | DIN 371 | 6H |
| T830M040X070R6H-D1 | T830M040X070R6H-D1 | M4 X 0,7 | 63 | 11 | 21 | 4,5 | 3 | DIN 371 | 6H |
| – | T830M040X070R6G-D1 | M4 X 0,7 | 63 | 11 | 21 | 4,5 | 3 | DIN 371 | 6G |
| T830M050X080R6H-D1 | T830M050X080R6H-D1 | M5 X 0,8 | 70 | 12 | 25 | 6,0 | 3 | DIN 371 | 6H |
| – | T830M050X080R6G-D1 | M5 X 0,8 | 70 | 12 | 25 | 6,0 | 3 | DIN 371 | 6G |
| – | T830M060X100R6H-D6 | M6 X 1 | 80 | 12 | 30 | 4,5 | 3 | DIN 376 | 6H |
| T830M060X100R6H-D1 | T830M060X100R6H-D1 | M6 X 1 | 80 | 12 | 30 | 6,0 | 3 | DIN 371 | 6H |
| – | T830M060X100R6G-D1 | M6 X 1 | 80 | 12 | 30 | 6,0 | 3 | DIN 371 | 6G |
| – | T830M070X100R6H-D1 | M7 X 1 | 80 | 12 | 30 | 7,0 | 3 | DIN 371 | 6H |
| T830MF080X100R6H-D4 | T830MF080X100R6H-D4 | M8 X 1 | 90 | 15 | 35 | 6,0 | 3 | DIN 374 | 6H |
| – | T830M080X125R6H-D6 | M8 X 1,25 | 90 | 15 | 35 | 6,0 | 3 | DIN 376 | 6H |
| T830M080X125R6H-D1 | T830M080X125R6H-D1 | M8 X 1,25 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 6H |
| – | T830M080X125R6G-D1 | M8 X 1,25 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 6G |
| T830MF100X125R6H-D4 | T830MF100X125R6H-D4 | M10 X 1,25 | 100 | 18 | 39 | 7,0 | 3 | DIN 374 | 6H |
| – | T830M100X150R6H-D6 | M10 X 1,5 | 100 | 18 | 39 | 7,0 | 3 | DIN 376 | 6H |
| T830M100X150R6H-D1 | – | M10 X 1,5 | 100 | 18 | 39 | 10,0 | 3 | DIN 371 | 6G |
| – | T830M100X150R6H-D1 | M10 X 1,5 | 100 | 18 | 39 | 10,0 | 3 | DIN 371 | 6H |
| – | T830M100X150R6G-D1 | M10 X 1,5 | 100 | 18 | 39 | 10,0 | 3 | DIN 371 | 6G |

*(continued)*

*(T830 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • Rigid and Synchronous Holders — continued)*




● first choice
○ alternate choice

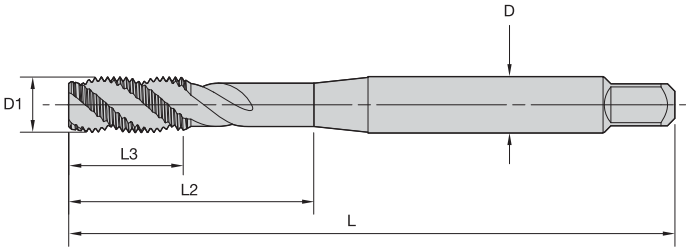
| KSP32 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| – | T830MF120X125R6H-D4 | M12 X 1,25 | 100 | 21 | 39 | 9,0 | 3 | DIN 374 | 6H |
| T830MF120X150R6H-D4 | T830MF120X150R6H-D4 | M12 X 1,5 | 100 | 21 | 39 | 9,0 | 3 | DIN 374 | 6H |
| T830M120X175R6H-D6 | T830M120X175R6H-D6 | M12 X 1,75 | 110 | 21 | 44 | 9,0 | 3 | DIN 376 | 6H |
| – | T830M120X175R6G-D6 | M12 X 1,75 | 110 | 21 | 44 | 9,0 | 3 | DIN 376 | 6G |
| T830MF140X150R6H-D4 | T830MF140X150R6H-D4 | M14 X 1,5 | 100 | 21 | 47 | 11,0 | 3 | DIN 374 | 6H |
| T830M140X200R6H-D6 | T830M140X200R6H-D6 | M14 X 2 | 110 | 24 | 52 | 11,0 | 3 | DIN 376 | 6H |
| – | T830M140X200R6G-D6 | M14 X 2 | 110 | 24 | 52 | 11,0 | 3 | DIN 376 | 6G |
| – | T830MF160X150R6H-D4 | M16 X 1,5 | 100 | 21 | 46 | 12,0 | 3 | DIN 374 | 6H |
| – | T830M160X200R6H-D6 | M16 X 2 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 6H |
| – | T830M160X200R6G-D6 | M16 X 2 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 6G |
| – | T830MF180X150R6H-D4 | M18 X 1,5 | 110 | 21 | 50 | 14,0 | 4 | DIN 374 | 6H |
| – | T830M180X250R6H-D6 | M18 X 2,5 | 125 | 30 | 58 | 14,0 | 4 | DIN 376 | 6H |
| – | T830M200X250R6H-D6 | M20 X 2,5 | 140 | 30 | 64 | 16,0 | 4 | DIN 376 | 6H |
| – | T830M220X250R6H-D6 | M22 X 2,5 | 140 | 30 | 70 | 18,0 | 4 | DIN 376 | 6H |
| – | T830M240X300R6H-D6 | M24 X 3 | 160 | 36 | 77 | 18,0 | 4 | DIN 376 | 6H |
| – | T830M270X300R6H-D6 | M27 X 3 | 160 | 36 | 82 | 20,0 | 4 | DIN 376 | 6H |
| – | T830M300X350R6H-D6 | M30 X 3,5 | 180 | 42 | 91 | 22,0 | 4 | DIN 376 | 6H |
| – | T830M330X350R6H-D6 | M33 X 3,5 | 180 | 42 | 100 | 25,0 | 4 | DIN 376 | 6H |
| – | T830M360X400R6H-D6 | M36 X 4 | 200 | 48 | 110 | 28,0 | 5 | DIN 376 | 6H |

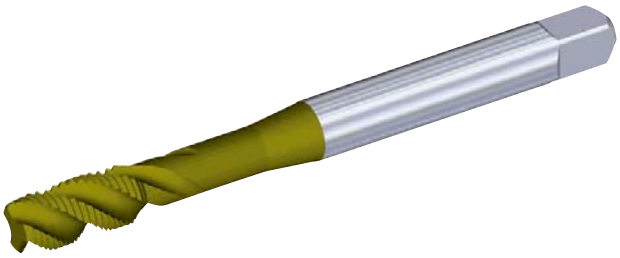
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

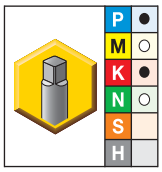
- KSP32 TiCN/TiN
- KSP39 oxide

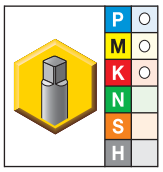


## T832 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric • Rigid and Synchronous Holders






● first choice
○ alternate choice

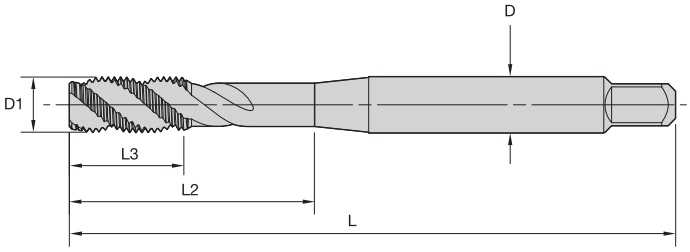
| KSP32 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T832M030X050R6H-D1 | T832M030X050R6H-D1 | M3 X 0,5 | 56 | 8 | 18 | 3,5 | 2 | DIN 371 | 6H |
| T832M040X070R6H-D1 | T832M040X070R6H-D1 | M4 X 0,7 | 63 | 11 | 21 | 4,5 | 3 | DIN 371 | 6H |
| T832M050X080R6H-D1 | T832M050X080R6H-D1 | M5 X 0,8 | 70 | 12 | 25 | 6,0 | 3 | DIN 371 | 6H |
| T832M060X100R6H-D1 | T832M060X100R6H-D1 | M6 X 1 | 80 | 12 | 30 | 6,0 | 3 | DIN 371 | 6H |
| T832MF080X100R6H-D4 | T832MF080X100R6H-D4 | M8 X 1 | 90 | 15 | 35 | 6,0 | 3 | DIN 374 | 6H |
| T832M080X125R6H-D1 | T832M080X125R6H-D1 | M8 X 1,25 | 90 | 15 | 35 | 8,0 | 3 | DIN 371 | 6H |
| T832MF100X125R6H-D4 | T832MF100X125R6H-D4 | M10 X 1,25 | 100 | 18 | 39 | 7,0 | 3 | DIN 374 | 6H |
| T832M100X150R6H-D1 | T832M100X150R6H-D1 | M10 X 1,5 | 100 | 18 | 39 | 10,0 | 3 | DIN 371 | 6H |
| T832MF120X150R6H-D4 | T832MF120X150R6H-D4 | M12 X 1,5 | 100 | 21 | 39 | 9,0 | 3 | DIN 374 | 6H |
| T832M120X175R6H-D6 | T832M120X175R6H-D6 | M12 X 1,75 | 110 | 21 | 44 | 9,0 | 3 | DIN 376 | 6H |
| T832MF140X150R6H-D4 | T832MF140X150R6H-D4 | M14 X 1,5 | 100 | 21 | 47 | 11,0 | 3 | DIN 374 | 6H |
| T832M140X200R6H-D6 | T832M140X200R6H-D6 | M14 X 2 | 110 | 24 | 52 | 11,0 | 3 | DIN 376 | 6H |
| — | T832M160X200R6H-D6 | M16 X 2 | 110 | 24 | 51 | 12,0 | 3 | DIN 376 | 6H |
| T832M180X250R6H-D6 | T832M180X250R6H-D6 | M18 X 2,5 | 125 | 30 | 58 | 14,0 | 4 | DIN 376 | 6H |
| T832M200X250R6H-D6 | T832M200X250R6H-D6 | M20 X 2,5 | 140 | 30 | 64 | 16,0 | 4 | DIN 376 | 6H |

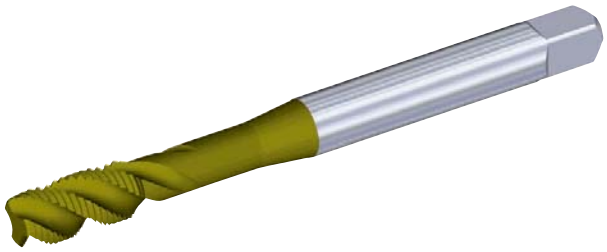
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

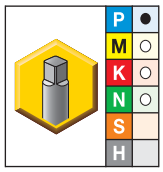
| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

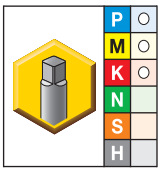
- KSU31 TiN
- KSP39 oxide



## T838 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • Tension/Compression Holders



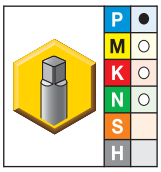



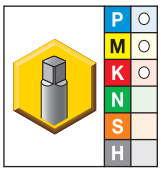

● first choice
○ alternate choice

| KSU31 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T838M020X040R6H-D1 | T838M020X040R6H-D1 | M2 X 0,4 | 45 | 7 | 13 | 2,8 | 3 | DIN 371 | 6H |
| T838M030X050R6H-D1 | T838M030X050R6H-D1 | M3 X 0,5 | 56 | 5 | 19 | 3,5 | 3 | DIN 371 | 6H |
| T838M040X070R6H-D1 | T838M040X070R6H-D1 | M4 X 0,7 | 63 | 7 | 21 | 4,5 | 3 | DIN 371 | 6H |
| T838M050X080R6H-D1 | T838M050X080R6H-D1 | M5 X 0,8 | 70 | 8 | 26 | 6,0 | 3 | DIN 371 | 6H |
| T838M050X080R6H-D6 | T838M050X080R6H-D6 | M5 X 0,8 | 70 | 8 | 27 | 3,5 | 3 | DIN 376 | 6H |
| T838MF060X075R6H-D4 | T838MF060X075R6H-D4 | M6 X 0,75 | 80 | 10 | 34 | 4,5 | 3 | DIN 374 | 6H |
| T838M060X100R6H-D1 | T838M060X100R6H-D1 | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6H |
| T838M060X100R6H-D6 | T838M060X100R6H-D6 | M6 X 1 | 80 | 10 | 34 | 4,5 | 3 | DIN 376 | 6H |
| T838MF080X075R6H-D4 | T838MF080X075R6H-D4 | M8 X 0,75 | 90 | 13 | 37 | 6,0 | 3 | DIN 374 | 6H |
| T838MF080X100R6H-D4 | T838MF080X100R6H-D4 | M8 X 1 | 90 | 13 | 37 | 6,0 | 3 | DIN 374 | 6H |
| T838M080X125R6H-D1 | T838M080X125R6H-D1 | M8 X 1,25 | 90 | 13 | 37 | 8,0 | 3 | DIN 371 | 6H |
| T838M080X125R6H-D6 | T838M080X125R6H-D6 | M8 X 1,25 | 90 | 13 | 37 | 6,0 | 3 | DIN 376 | 6H |
| T838MF100X075R6H-D4 | T838MF100X075R6H-D4 | M10 X 0,75 | 90 | 15 | 40 | 7,0 | 3 | DIN 374 | 6H |
| T838MF100X100R6H-D4 | T838MF100X100R6H-D4 | M10 X 1 | 90 | 15 | 40 | 7,0 | 3 | DIN 374 | 6H |
| T838MF100X125R6H-D4 | T838MF100X125R6H-D4 | M10 X 1,25 | 100 | 15 | 44 | 7,0 | 3 | DIN 374 | 6H |
| T838M100X150R6H-D1 | T838M100X150R6H-D1 | M10 X 1,5 | 100 | 15 | 41 | 10,0 | 3 | DIN 371 | 6H |
| T838M100X150R6H-D6 | T838M100X150R6H-D6 | M10 X 1,5 | 100 | 15 | 44 | 7,0 | 3 | DIN 376 | 6H |
| T838MF120X100R6H-D4 | T838MF120X100R6H-D4 | M12 X 1 | 100 | 13 | 50 | 9,0 | 3 | DIN 374 | 6H |
| T838MF120X125R6H-D4 | T838MF120X125R6H-D4 | M12 X 1,25 | 100 | 13 | 50 | 9,0 | 3 | DIN 374 | 6H |
| T838MF120X150R6H-D4 | T838MF120X150R6H-D4 | M12 X 1,5 | 100 | 13 | 50 | 9,0 | 3 | DIN 374 | 6H |
| T838M120X175R6H-D6 | T838M120X175R6H-D6 | M12 X 1,75 | 110 | 18 | 55 | 9,0 | 3 | DIN 376 | 6H |
| T838MF140X100R6H-D4 | T838MF140X100R6H-D4 | M14 X 1 | 100 | 15 | 41 | 11,0 | 4 | DIN 374 | 6H |
| T838MF140X125R6H-D4 | T838MF140X125R6H-D4 | M14 X 1,25 | 100 | 15 | 41 | 11,0 | 4 | DIN 374 | 6H |
| T838MF140X150R6H-D4 | T838MF140X150R6H-D4 | M14 X 1,5 | 100 | 15 | 41 | 11,0 | 4 | DIN 374 | 6H |
| T838M140X200R6H-D6 | T838M140X200R6H-D6 | M14 X 2 | 110 | 20 | 50 | 11,0 | 3 | DIN 376 | 6H |
| T838MF160X150R6H-D4 | T838MF160X150R6H-D4 | M16 X 1,5 | 100 | 15 | 45 | 12,0 | 4 | DIN 374 | 6H |
| T838M160X200R6H-D6 | T838M160X200R6H-D6 | M16 X 2 | 110 | 20 | 55 | 12,0 | 4 | DIN 376 | 6H |
| T838MF180X150R6H-D4 | T838MF180X150R6H-D4 | M18 X 1,5 | 110 | 17 | 55 | 14,0 | 4 | DIN 374 | 6H |

*(continued)*

*(T838 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • Tension/Compression Holders — continued)*




● first choice
○ alternate choice

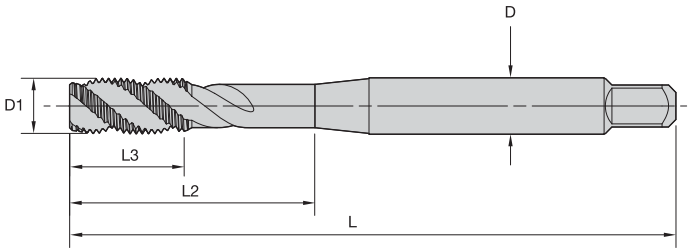
| KSU31 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T838MF180X200R6H-D4 | T838MF180X200R6H-D4 | M18 X 2 | 125 | 25 | 61 | 14,0 | 4 | DIN 374 | 6H |
| T838M180X250R6H-D6 | T838M180X250R6H-D6 | M18 X 2,5 | 125 | 25 | 61 | 14,0 | 4 | DIN 376 | 6H |
| T838MF200X150R6H-D4 | T838MF200X150R6H-D4 | M20 X 1,5 | 125 | 17 | 56 | 16,0 | 4 | DIN 374 | 6H |
| T838MF200X200R6H-D4 | T838MF200X200R6H-D4 | M20 X 2 | 140 | 25 | 65 | 16,0 | 4 | DIN 374 | 6H |
| T838M200X250R6H-D6 | T838M200X250R6H-D6 | M20 X 2,5 | 140 | 25 | 65 | 16,0 | 4 | DIN 376 | 6H |
| T838MF220X150R6H-D4 | T838MF220X150R6H-D4 | M22 X 1,5 | 125 | 18 | 61 | 18,0 | 4 | DIN 374 | 6H |
| T838MF220X200R6H-D4 | T838MF220X200R6H-D4 | M22 X 2 | 140 | 25 | 66 | 18,0 | 4 | DIN 374 | 6H |
| T838M220X250R6H-D6 | T838M220X250R6H-D6 | M22 X 2,5 | 140 | 25 | 66 | 18,0 | 4 | DIN 376 | 6H |
| T838MF240X150R6H-D4 | T838MF240X150R6H-D4 | M24 X 1,5 | 140 | 20 | 67 | 18,0 | 4 | DIN 374 | 6H |
| T838MF240X200R6H-D4 | T838MF240X200R6H-D4 | M24 X 2 | 140 | 20 | 67 | 18,0 | 4 | DIN 374 | 6H |
| T838M240X300R6H-D6 | T838M240X300R6H-D6 | M24 X 3 | 160 | 30 | 77 | 18,0 | 4 | DIN 376 | 6H |
| T838MF270X150R6H-D4 | T838MF270X150R6H-D4 | M27 X 1,5 | 140 | 20 | 65 | 20,0 | 4 | DIN 374 | 6H |
| T838M270X300R6H-D6 | T838M270X300R6H-D6 | M27 X 3 | 160 | 33 | 85 | 20,0 | 4 | DIN 376 | 6H |
| T838MF300X150R6H-D4 | T838MF300X150R6H-D4 | M30 X 1,5 | 150 | 22 | 68 | 20,0 | 4 | DIN 374 | 6H |
| T838MF300X200R6H-D4 | T838MF300X200R6H-D4 | M30 X 2 | 150 | 22 | 68 | 22,0 | 4 | DIN 374 | 6H |
| T838M300X350R6H-D6 | T838M300X350R6H-D6 | M30 X 3,5 | 180 | 35 | 87 | 22,0 | 4 | DIN 376 | 6H |
| T838M330X350R6H-D6 | T838M330X350R6H-D6 | M33 X 3,5 | 180 | 35 | 92 | 25,0 | 4 | DIN 376 | 6H |
| T838M360X400R6H-D6 | T838M360X400R6H-D6 | M36 X 4 | 200 | 40 | 110 | 28,0 | 4 | DIN 376 | 6H |
| T838M390X400R6H-D6 | T838M390X400R6H-D6 | M39 X 4 | 200 | 40 | 105 | 32,0 | 4 | DIN 376 | 6H |
| T838M420X450R6H-D6 | T838M420X450R6H-D6 | M42 X 4,5 | 200 | 40 | 105 | 32,0 | 5 | DIN 376 | 6H |
| T838M450X450R6H-D6 | T838M450X450R6H-D6 | M45 X 5 | 220 | 50 | 110 | 36,0 | 5 | DIN 376 | 6H |
| T838M480X500R6H-D6 | T838M480X500R6H-D6 | M48 X 5 | 250 | 50 | 145 | 36,0 | 5 | DIN 376 | 6H |
| T838M520X500R6H-D6 | T838M520X500R6H-D6 | M52 X 5 | 250 | 50 | 135 | 40,0 | 5 | DIN 376 | 6H |

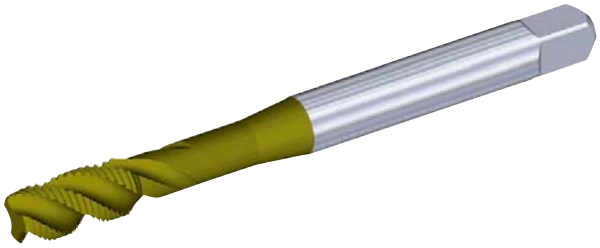
***NOTE: Suitable for tension/compression holders.***

**Shank Tolerance**

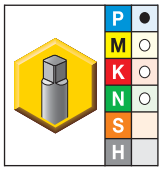
| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

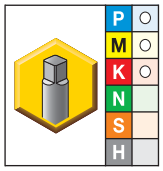
- KSU31 TiN
- KSP39 oxide



## T839 • DIN 371 and 376 • Form E Bottoming Chamfer • Metric • Tension/Compression Holders




● first choice
○ alternate choice

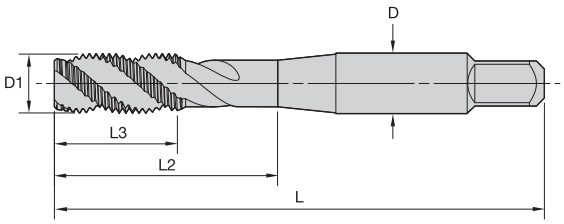
| KSU31 | KSP39 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| T839M030X050R6H-D1 | T839M030X050R6H-D1 | M3 X 0,5 | 56 | 5 | 19 | 3,5 | 3 | DIN 371 | 6H |
| T839M040X070R6H-D1 | T839M040X070R6H-D1 | M4 X 0,7 | 63 | 7 | 21 | 4,5 | 3 | DIN 371 | 6H |
| T839M050X080R6H-D1 | T839M050X080R6H-D1 | M5 X 0,8 | 70 | 8 | 26 | 6,0 | 3 | DIN 371 | 6H |
| T839M060X100R6H-D1 | T839M060X100R6H-D1 | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6H |
| T839M080X125R6H-D1 | T839M080X125R6H-D1 | M8 X 1,25 | 90 | 13 | 37 | 8,0 | 3 | DIN 371 | 6H |
| T839M100X150R6H-D1 | T839M100X150R6H-D1 | M10 X 1,5 | 100 | 15 | 42 | 10,0 | 3 | DIN 371 | 6H |
| T839M120X175R6H-D6 | T839M120X175R6H-D6 | M12 X 1,75 | 110 | 18 | 55 | 9,0 | 3 | DIN 376 | 6H |
| T839M140X200R6H-D6 | T839M140X200R6H-D6 | M14 X 2 | 110 | 20 | 50 | 11,0 | 3 | DIN 376 | 6H |
| T839M160X200R6H-D6 | T839M160X200R6H-D6 | M16 X 2 | 110 | 20 | 55 | 12,0 | 4 | DIN 376 | 6H |
| T839M180X250R6H-D6 | T839M180X250R6H-D6 | M18 X 2,5 | 125 | 25 | 61 | 14,0 | 4 | DIN 376 | 6H |
| T839M200X250R6H-D6 | T839M200X250R6H-D6 | M20 X 2,5 | 140 | 25 | 65 | 16,0 | 4 | DIN 376 | 6H |

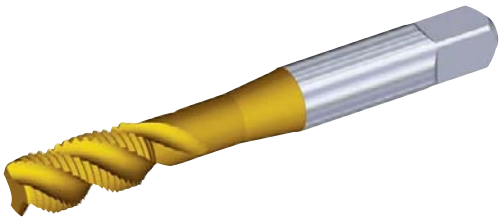
***NOTE: Suitable for tension/compression holders.***

**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |

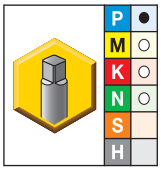
- KSU31 TiN
- KSU30 bright

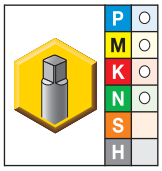


## T830 • Form C Semi-Bottoming Chamfer • Metric • JIS • Rigid and Synchronous Holders





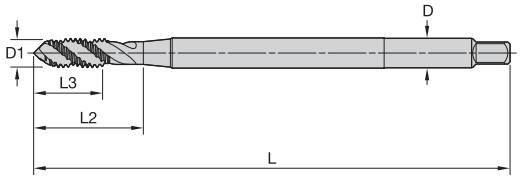

● first choice
○ alternate choice

| KSU31 | KSU30 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | tap class |
|---|---|---|---|---|---|---|---|---|---|
| **T830M030X050R6H-J** | **T830M030X050R6H-J** | M3 X 0,5 | 46 | 11 | 19 | 4,0 | 2 | JIS | ISO 2 |
| **T830M040X070R6H-J** | **T830M040X070R6H-J** | M4 X 0,7 | 52 | 13 | 21 | 5,0 | 3 | JIS | ISO 2 |
| **T830M050X080R6H-J** | **T830M050X080R6H-J** | M5 X 0,8 | 60 | 16 | 24 | 5,5 | 3 | JIS | ISO 2 |
| **T830M060X100R6H-J** | **T830M060X100R6H-J** | M6 X 1 | 62 | 19 | 29 | 6,0 | 3 | JIS | ISO 2 |
| **T830M080X125R6H-J** | **T830M080X125R6H-J** | M8 X 1,25 | 70 | 22 | 37 | 6,2 | 3 | JIS | ISO 2 |
| **T830M100X150R6H-J** | **T830M100X150R6H-J** | M10 X 1,5 | 75 | 24 | 41 | 7,0 | 3 | JIS | ISO 2 |
| – | **T830MF120X125R6H-J** | M12 X 1,25 | 82 | 29 | 48 | 8,5 | 3 | JIS | ISO 2 |
| – | **T830MF120X150R6H-J** | M12 X 1,5 | 82 | 29 | 48 | 8,5 | 3 | JIS | ISO 2 |
| – | **T830M120X175R6H-J** | M12 X 1,75 | 82 | 29 | 48 | 8,5 | 3 | JIS | ISO 2 |
| – | **T830MF140X150R6H-J** | M14 X 1,5 | 88 | 30 | 48 | 10,5 | 3 | JIS | ISO 2 |
| – | **T830M140X200R6H-J** | M14 X 2 | 88 | 30 | 48 | 10,5 | 3 | JIS | ISO 2 |
| – | **T830MF160X150R6H-J** | M16 X 1,5 | 95 | 32 | 52 | 12,5 | 3 | JIS | ISO 2 |
| – | **T830M160X200R6H-J** | M16 X 2 | 95 | 32 | 52 | 12,5 | 3 | JIS | ISO 2 |
| – | **T830M180X250R6H-J** | M18 X 2,5 | 100 | 37 | 55 | 14,0 | 4 | JIS | ISO 2 |
| – | **T830M200X250R6H-J** | M20 X 2,5 | 105 | 37 | 60 | 15,0 | 4 | JIS | ISO 2 |

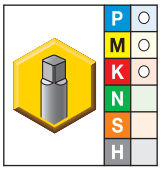
***NOTE: Suggested for use in rigid and synchronous holders.***

**Shank Tolerance**

| D mm | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| >3–6 | +0, -0,030 |
| >6–10 | +0, -0,036 |
| >10–18 | +0, -0,043 |
| >18–30 | +0, -0,052 |



## T830 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • 4" Length • ANSI • Tension/Compression Holders




● first choice
○ alternate choice

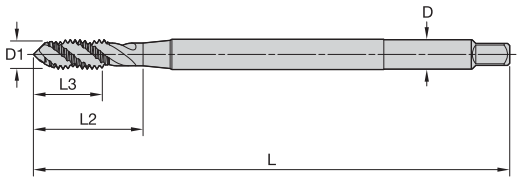
| KSP39 | D1 TPI | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T830NC#04-40RH2-XL4** | 4 - 40 | 4.00 | .56 | .87 | .141 | 2 | H2 |
| **T830NC#06-32RH3-XL4 *** | 6 - 32 | 4.00 | .38 | .71 | .141 | 2 | H3 |
| **T830NC#08-32RH3-XL4** | 8 - 32 | 4.00 | .38 | .76 | .168 | 3 | H3 |
| **T830NF#10-32RH3-XL4** | 10 - 32 | 4.00 | .50 | .91 | .194 | 3 | H3 |
| **T830NC02500-20RH3-XL4** | 1/4 20 | 4.00 | .63 | 1.00 | .255 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

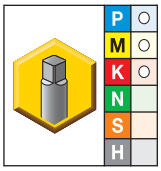
***NOTE: Suitable for tension/compression holders.***

**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |



## T830 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • 6" Length • ANSI • Tension/Compression Holders




● first choice
○ alternate choice

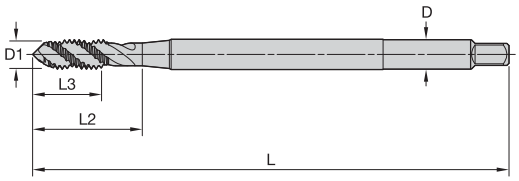
| KSP39 | inch dimensions D1 TPI | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T830NC#04-40RH2-XL6 * | 4 - 40 | 6.00 | .56 | .87 | .141 | 2 | H2 |
| T830NC#06-32RH3-XL6 | 6 - 32 | 6.00 | .38 | .71 | .141 | 2 | H3 |
| T830NC#08-32RH3-XL6 | 8 - 32 | 6.00 | .38 | .76 | .168 | 3 | H3 |
| T830NC#10-24RH3-XL6 * | 10 - 24 | 6.00 | .50 | .91 | .194 | 3 | H3 |
| T830NF#10-32RH3-XL6 | 10 - 32 | 6.00 | .50 | .91 | .194 | 3 | H3 |
| T830NC02500-20RH3-XL6 | 1/4 20 | 6.00 | .63 | 1.00 | .255 | 3 | H3 |
| T860NF02500-28RH3-XL6 | 1/4 - 28 | 6.00 | .63 | 1.01 | .255 | 3 | H3 |
| T830NC03125-18RH3-XL6 | 5/16 - 18 | 6.00 | .69 | 1.13 | .318 | 3 | H3 |
| T830NF03125-24RH3-XL6 | 5/16 - 24 | 6.00 | .69 | 1.13 | .318 | 3 | H3 |
| T830NC03750-16RH3-XL6 | 3/8 - 16 | 6.00 | .75 | 1.27 | .381 | 3 | H3 |
| T830NF03750-24RH3-XL6 * | 3/8 - 24 | 6.00 | .75 | 1.26 | .381 | 3 | H3 |
| T830NC04375-14RH3-XL6 * | 7/16 - 14 | 6.00 | .88 | 1.49 | .323 | 3 | H3 |
| T830NF04375-20RH3-XL6 | 7/16 - 20 | 6.00 | .88 | 1.49 | .323 | 3 | H3 |
| T830NC05000-13RH3-XL6 | 1/2 - 13 | 6.00 | .94 | 1.74 | .367 | 3 | H3 |
| T830NF05000-20RH3-XL6 | 1/2 - 20 | 6.00 | .94 | 1.74 | .367 | 3 | H3 |
| T830NC06250-11RH3-XL6 | 5/8 - 11 | 6.00 | 1.09 | 1.89 | .480 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

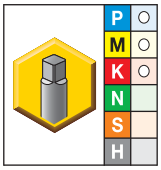
***NOTE: Suitable for tension/compression holders.***

**Shank Tolerance**

| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |



## T832 • Form E Bottoming Chamfer • Machine Screw and Fractional • 6" Length • ANSI • Tension/Compression Holders




● first choice
○ alternate choice

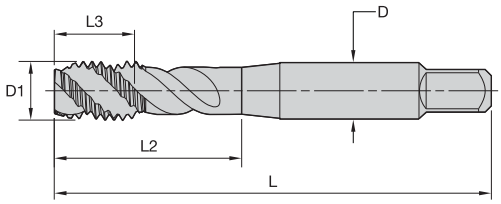
| KSP39 | D1 TPI | inch dimensions L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T832NC#04-40RH2-XL6** | 4 - 40 | 6.00 | .56 | .87 | .141 | 2 | H2 |
| **T832NC#06-32RH3-XL6** | 6 - 32 | 6.00 | .38 | .71 | .141 | 2 | H3 |
| **T832NC#08-32RH3-XL6** | 8 - 32 | 6.00 | .38 | .76 | .168 | 3 | H3 |
| **T832NF#10-32RH3-XL6 *** | 10 - 32 | 6.00 | .50 | .91 | .194 | 3 | H3 |
| **T832NC02500-20RH3-XL6** | 1/4 20 | 6.00 | .63 | 1.00 | .255 | 3 | H3 |
| **T832NF02500-28RH3-XL6** | 1/4 - 28 | 6.00 | .63 | 1.01 | .255 | 3 | H3 |
| **T832NC03125-18RH3-XL6** | 5/16 - 18 | 6.00 | .69 | 1.13 | .318 | 3 | H3 |
| **T832NC03750-16RH3-XL6** | 3/8 - 16 | 6.00 | .75 | 1.27 | .381 | 3 | H3 |
| **T832NF03750-24RH3-XL6** | 3/8 - 24 | 6.00 | .75 | 1.26 | .381 | 3 | H3 |
| **T832NC04375-14RH3-XL6** | 7/16 - 14 | 6.00 | .88 | 1.49 | .323 | 3 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

***NOTE: Suitable for tension/compression holders.***

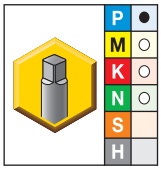
**Shank Tolerance**

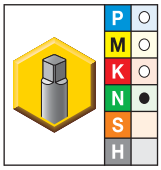
| D inch | tolerance |
|---|---|
| .141–.635 | +0, -.0015 |
| >.635–1.51 | +0, -.0020 |
| >1.51–2.01 | +0, -.0030 |



## KHSST Spiral Flute • Machine Screw and Fractional • Bottoming Chamfer Tap



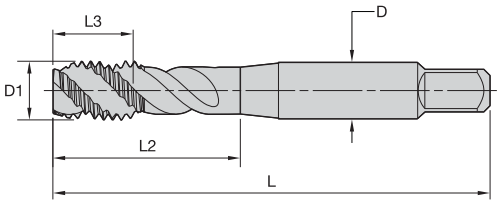


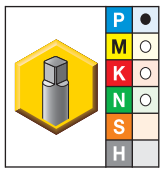

● first choice
○ alternate choice

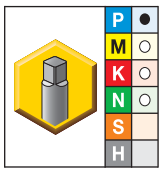
| TiN | uncoated | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| **KHSST28761** | **KHSST28762** | 4 - 40 | 1.88 | .56 | — | .141 | 2 | H2 |
| **KHSST28779** | **KHSST28774** | 6 - 32 | 2.00 | .38 | .69 | .141 | 2 | H3 |
| **KHSST28785** | **KHSST28787** | 8 - 32 | 2.13 | .38 | .75 | .168 | 3 | H3 |
| **KHSST28738** | **KHSST28740** | 10 - 24 | 2.38 | .50 | .88 | .194 | 3 | H3 |
| **KHSST28745** | **KHSST28747** | 10 - 32 | 2.38 | .50 | .88 | .194 | 3 | H3 |
| **KHSST28137** | **KHSST28074** | 1/4 - 20 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| **KHSST28081** | **KHSST28083** | 1/4 - 28 | 2.50 | .63 | 1.00 | .255 | 3 | H3 |
| **KHSST28211** | **KHSST28213** | 5/16 - 18 | 2.72 | .69 | 1.12 | .318 | 3 | H3 |
| **KHSST28221** | **KHSST28223** | 5/16 - 24 | 2.72 | .69 | 1.12 | .318 | 3 | H3 |
| **KHSST28187** | **KHSST28189** | 3/8 - 16 | 2.94 | .75 | 1.25 | .381 | 3 | H3 |
| **KHSST28201** | — | 3/8 - 24 | 2.94 | .75 | 1.25 | .381 | 3 | H3 |
| **KHSST28670** | **KHSST28672** | 7/16 - 14 | 3.16 | .88 | — | .323 | 3 | H3 |
| — | **KHSST28674** | 7/16 - 20 | 3.16 | .88 | — | .323 | 3 | H3 |
| **KHSST28047** | **KHSST28049** | 1/2 - 13 | 3.38 | .94 | — | .367 | 3 | H3 |
| — | **KHSST28062** | 1/2 - 20 | 3.38 | .94 | — | .367 | 3 | H3 |
| — | **KHSST28231** | 5/8 - 11 | 3.81 | 1.09 | — | .480 | 4 | H3 |
| — | **KHSST28165** | 3/4 - 10 | 4.25 | 1.22 | — | .590 | 4 | H3 |

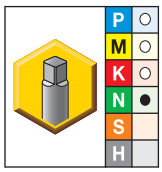
NOTE: Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.



## KHSST Spiral Flute • Bottoming Chamfer Tap • Metric ANSI



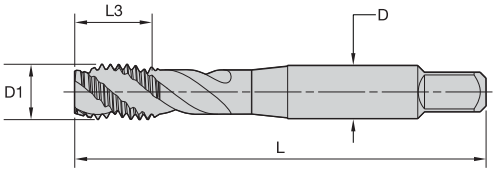




● first choice
○ alternate choice

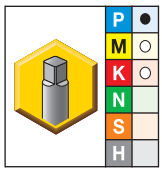
| TiCN | TiN | uncoated | D1 size | L | L3 | L2 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| **KHSST28478** | **KHSST28700** | **KHSST28692** | M3 X 0,5 | 1.94 | .31 | — | .141 | 2 | D3 |
| **KHSST28709** | **—** | **KHSST28707** | M4 X 0,7 | 2.13 | .38 | .75 | .168 | 3 | D4 |
| **—** | **—** | **KHSST28716** | M5 X 0,8 | 2.38 | .50 | .88 | .194 | 3 | D4 |
| **KHSST28723** | **—** | **KHSST28721** | M6 X 1 | 2.50 | .38 | .75 | .255 | 3 | D5 |
| **—** | **—** | **KHSST28726** | M8 X 1,25 | 2.72 | .69 | 1.12 | .318 | 3 | D5 |
| **KHSST28476** | **—** | **KHSST28683** | M10 X 1,5 | 2.94 | .75 | 1.25 | .381 | 3 | D6 |

NOTE: Metric D limits are suitable for ISO 6H tolerance class.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page M203 for the recommended pitch diameter limit for 6H class of fit.



## KHSST Heavy-Duty Spiral Flute • Machine Screw and Fractional • Bottoming Chamfer Taps






● first choice
○ alternate choice

| oxide | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28780** | 6 - 32 | 2.00 | .38 | .141 | 3 | H3 |
| **KHSST28786** | 8 - 32 | 2.13 | .38 | .168 | 3 | H3 |
| **KHSST28739** | 10 - 24 | 2.38 | .50 | .194 | 3 | H3 |
| **KHSST28746** | 10 - 32 | 2.38 | .50 | .194 | 3 | H3 |
| **KHSST28073** | 1/4 - 20 | 2.50 | .63 | .255 | 3 | H3 |
| **KHSST28082** | 1/4 - 28 | 2.50 | .63 | .255 | 3 | H3 |
| **KHSST28212** | 5/16 - 18 | 2.72 | .69 | .318 | 3 | H3 |
| **KHSST28188** | 3/8 - 16 | 2.94 | .75 | .381 | 3 | H3 |
| **KHSST28671** * | 7/16 - 14 | 3.16 | .88 | .323 | 3 | H3 |
| **KHSST28048** | 1/2 - 13 | 3.38 | .94 | .367 | 3 | H3 |
| **KHSST28163** | 3/4 - 10 | 4.25 | 1.22 | .590 | 4 | H3 |

NOTE: KHSST taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

# NOVO KNOWS SEARCH

Searching for a tool has been enhanced by Advise and Select functions from NOVO™ applications — saving you time and money.

## ADVISE

Uses a rules-based approach to provide cutting tool recommendations:

- Define Machining Feature (face milling, slotting, blind hole, etc.)
- Apply Constraint Requirements (geometric, material, tolerance, etc.)
- Set Machining Sequence (single or multi-step operations, rough then finish, etc.)
- Receive Ranked Results

## SELECT

A method of selecting cutting tools from a tree structure via a hierarchy or parametric search:

- If you know which product you are looking for, a quick search can be performed by just the catalog number or product description.
- Smart filters significantly reduce the amount of potential tooling solutions.
- After the tool is selected, NOVO also provides cutting and adaptive item options that fit with your solution.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

# Straight-Flute Taps

## High-Performance Taps for Through-Hole and Blind-Hole Applications

- Steel and steel alloys.
- Stainless steel.
- Cast iron.
- Cast aluminum.

## High-Performance Beyond™ Solid Carbide Taps

- Straight-flute design for through- and blind-hole tapping in cast iron, cast aluminum, and hard steels.
- Runs up to 4x faster and 4x longer than conventional high-speed steel (HSS) taps.
- Ideal for long production runs where fewer tool changes result in greater productivity.
- For use on CNC machines with synchronous or rigid controls and precision toolholders.

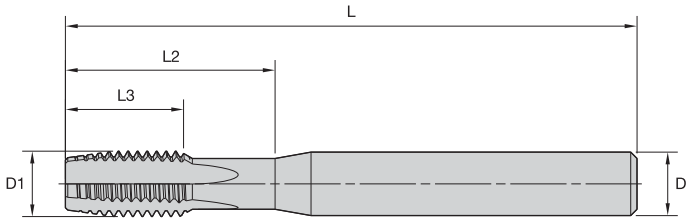
## High-Performance Beyond HSS-E-PM Taps

- Straight-flute design for through- and blind-hole tapping in cast iron and cast aluminum.
- Higher strength and wider range of applications versus solid carbide taps.
- Higher tapping speed capability and longer tool life than conventional HSS-E taps.
- Can be used on either conventional or synchronous tapping machines with rigid or synchronous tap holders.

## General-Purpose Taps

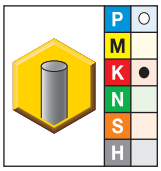
- HSS straight-flute hand taps for use by hand or tapping under power.
- Plug and bottoming chamfers for through- and blind-hole tapping.
- Wide range of sizes and pitch limits offered with PVD coatings and surface treatments.

- KCK17 AlCrTiN for cast iron.



## T340 • Form D Plug • Inch • Solid Carbide • For Cast Iron






● first choice
○ alternate choice

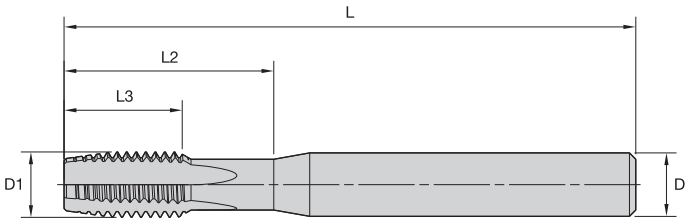
| KCK17 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T340NC#6-32R3BX** | 6 - 32 | 2.36 | .28 | .55 | .2500 | 3 | 3BX |
| **T340NC#8-32R3BX *** | 8 - 32 | 2.36 | .28 | .63 | .2500 | 3 | 3BX |
| **T340NC#10-24R3BX** | 10 - 24 | 2.36 | .35 | .79 | .2500 | 3 | 3BX |
| **T340NF#10-32R3BX** | 10 - 32 | 2.36 | .35 | .79 | .2500 | 3 | 3BX |
| **T340NC02500-20R3BX** | 1/4 - 20 | 2.76 | .59 | .94 | .2500 | 4 | 3BX |
| **T340NC03125-18R3BX** | 5/16 - 18 | 3.15 | .67 | 1.26 | .3125 | 4 | 3BX |
| **T340NC03750-16R3BX** | 3/8 - 16 | 3.54 | .75 | 1.57 | .3750 | 4 | 3BX |
| **T340NF03750-24R3BX** | 3/8 - 24 | 3.54 | .75 | 1.57 | .3750 | 4 | 3BX |
| **T340NC05000-13R3BX** | 1/2 - 13 | 3.94 | .94 | 1.89 | .5000 | 4 | 3BX |
| **T340NF05000-20R3BX** | 1/2 - 20 | 3.94 | .94 | 1.89 | .5000 | 4 | 3BX |
| **T340NF05625-18R3BX** | 9/16 - 18 | 4.33 | 1.02 | 2.21 | .5000 | 4 | 3BX |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

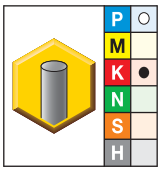
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KCK17 AlCrTiN for cast iron.



## T340 • Form D Plug • Metric • Solid Carbide • For Cast Iron



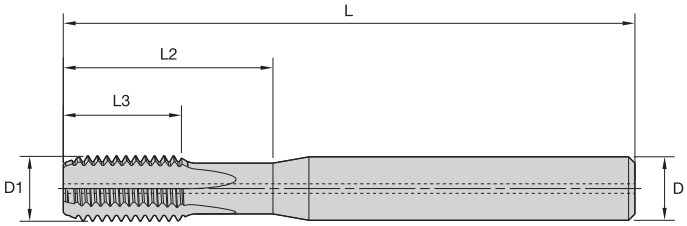

● first choice
○ alternate choice

| KCK17 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T340M040X070R6HX** | M4 X 0,7 | 60 | 6 | 16 | 6,0 | 3 | 6HX |
| **T340M050X080R6HX** | M5 X 0,8 | 60 | 7 | 20 | 6,0 | 3 | 6HX |
| **T340M060X100R6HX** | M6 X 1 | 70 | 12 | 24 | 6,0 | 4 | 6HX |
| **T340M080X125R6HX** | M8 X 1,25 | 80 | 15 | 32 | 8,0 | 4 | 6HX |
| **T340MF100X100R6HX** | M10 X 1 | 90 | 18 | 40 | 10,0 | 4 | 6HX |
| **T340M100X150R6HX** | M10 X 1,5 | 90 | 18 | 40 | 10,0 | 4 | 6HX |
| **T340MF120X150R6HX** | M12 X 1,5 | 100 | 21 | 48 | 12,0 | 4 | 6HX |
| **T340M120X175R6HX** | M12 X 1,75 | 100 | 21 | 48 | 12,0 | 4 | 6HX |
| **T340MF140X150R6HX** | M14 X 1,5 | 110 | 24 | 56 | 12,0 | 4 | 6HX |
| **T340M140X200R6HX** | M14 X 2 | 110 | 24 | 56 | 12,0 | 4 | 6HX |
| **T340M160X200R6HX** | M16 X 2 | 110 | 24 | 64 | 14,0 | 4 | 6HX |
| **T340M200X250R6HX** | M20 X 2,5 | 140 | 30 | 80 | 18,0 | 5 | 6HX |

**Shank Tolerance**

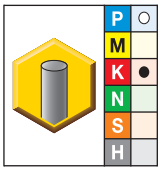
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

- KCK17 AlCrTiN for cast iron.



## T351 • Form E Bottoming Chamfer • Through Coolant 1/4" and Larger • Inch • Solid Carbide • For Cast Iron






● first choice
○ alternate choice

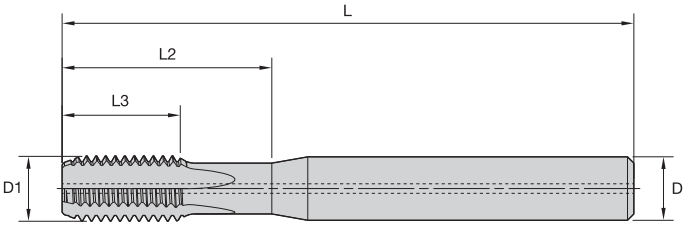
| KCK17 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T351NC#6-32R3BX *** | 6 - 32 | 2.36 | .28 | .55 | .2500 | 3 | 3BX |
| **T351NC#8-32R3BX** | 8 - 32 | 2.36 | .28 | .63 | .2500 | 3 | 3BX |
| **T351NF#10-32R3BX *** | 10 - 32 | 2.36 | .35 | .79 | .2500 | 3 | 3BX |
| **T351NC02500-20R3BX** | 1/4 - 20 | 2.76 | .59 | .95 | .2500 | 4 | 3BX |
| **T351NC03125-18R3BX** | 5/16 - 18 | 3.15 | .67 | 1.26 | .3125 | 4 | 3BX |
| **T351NC03750-16R3BX** | 3/8 - 16 | 3.54 | .75 | 1.57 | .3750 | 4 | 3BX |
| **T351NC04375-14R3BX** | 7/16 - 14 | 3.94 | .87 | 1.73 | .4375 | 4 | 3BX |
| **T351NC05000-13R3BX** | 1/2 - 13 | 3.94 | .94 | 1.89 | .5000 | 4 | 3BX |
| **T351NC06250-11R3BX** | 5/8 - 11 | 4.33 | 1.10 | 2.52 | .5625 | 5 | 3BX |
| **T351NC07500-10R3BX** | 3/4 - 10 | 4.92 | 1.22 | 3.01 | .6250 | 5 | 3BX |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

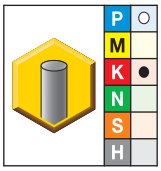
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KCK17 AlCrTiN for cast iron.



## T351 • Form E Bottoming Chamfer • Through Coolant M6 and Larger • Metric • Solid Carbide • For Cast Iron




● first choice
○ alternate choice

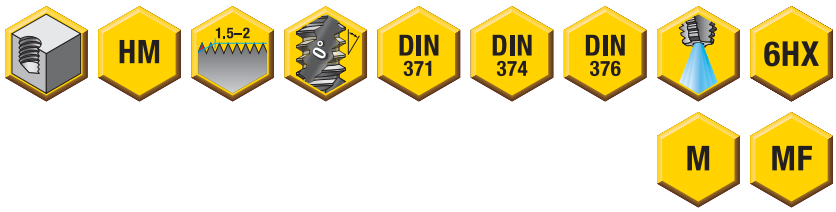
| KCK17 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T351M040X070R6HX *** | M4 X 0,7 | 60 | 6 | 16 | 6,0 | 3 | 6HX |
| **T351M050X080R6HX** | M5 X 0,8 | 60 | 7 | 20 | 6,0 | 3 | 6HX |
| **T351M060X100R6HX** | M6 X 1 | 70 | 12 | 24 | 6,0 | 4 | 6HX |
| **T351M080X125R6HX** | M8 X 1,25 | 80 | 15 | 32 | 8,0 | 4 | 6HX |
| **T351MF100X100R6HX** | M10 X 1 | 90 | 18 | 40 | 10,0 | 4 | 6HX |
| **T351M100X150R6HX** | M10 X 1,5 | 90 | 18 | 40 | 10,0 | 4 | 6HX |
| **T351MF120X150R6HX** | M12 X 1,5 | 100 | 21 | 48 | 12,0 | 4 | 6HX |
| **T351M120X175R6HX** | M12 X 1,75 | 100 | 21 | 48 | 12,0 | 4 | 6HX |
| **T351MF140X150R6HX** | M14 X 1,5 | 110 | 24 | 56 | 12,0 | 4 | 6HX |
| **T351M140X200R6HX** | M14 X 2 | 110 | 24 | 56 | 12,0 | 4 | 6HX |
| **T351M160X200R6HX** | M16 X 2 | 110 | 24 | 64 | 14,0 | 4 | 6HX |

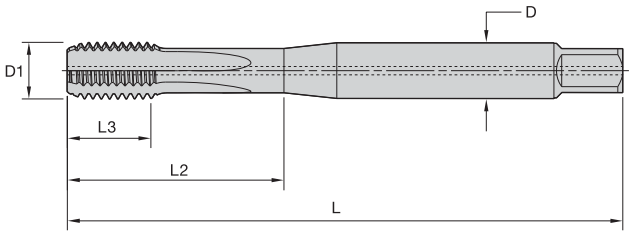
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

• KCK17 AlCrTiN for cast iron.

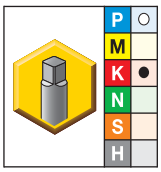


beyond

## T351 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric • Solid Carbide • For Cast Iron





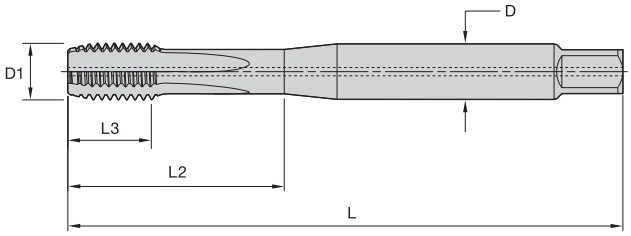

● first choice
○ alternate choice

| KCK17 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T351M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 4 | DIN 371 | 6HX |
| **T351M070X100R6HX-D1** | M7 X 1 | 80 | 10 | 30 | 7,0 | 4 | DIN 371 | 6HX |
| **T351M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 6HX |
| **T351M090X125R6HX-D1** | M9 X 1,25 | 90 | 13 | 35 | 9,0 | 4 | DIN 371 | 6HX |
| **T351MF100X100R6HX-D4** | M10 X 1 | 90 | 10 | 35 | 7,0 | 4 | DIN 374 | 6HX |
| **T351MF100X125R6HX-D4** | M10 X 1,25 | 100 | 15 | 39 | 7,0 | 4 | DIN 374 | 6HX |
| **T351M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 4 | DIN 371 | 6HX |
| **T351MF120X125R6HX-D4** | M12 X 1,25 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| **T351MF120X150R6HX-D4** | M12 X 1,50 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| **T351M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T351MF140X125R6HX-D4** | M14 X 1,25 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| **T351MF140X150R6HX-D4** | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| **T351M140X2006RHX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |

**Shank Tolerance**

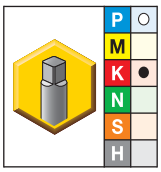
| D | tolerance h6 |
|---|---|
| 3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| >10–18 | +0, -0,011 |
| >18–30 | +0, -0,013 |
| >30–50 | +0, -0,016 |

- KCK17 AlCrTiN for cast iron.



beyond

## T353 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Through Coolant M6 and Larger • Metric • Solid Carbide • For Cast Iron



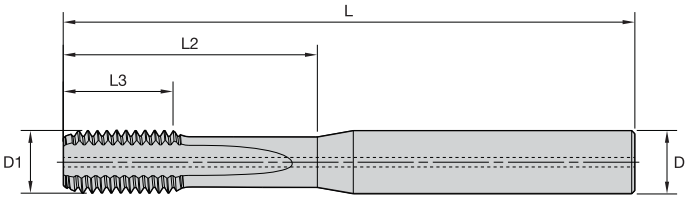

● first choice
○ alternate choice

| KCK17 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T353M040X070R6HX-D1** | M4 X 0,7 | 63 | 10 | 21 | 4,5 | 3 | DIN 371 | 6HX |
| **T353M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T353M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 4 | DIN 371 | 6HX |
| **T353M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 6HX |
| **T353M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 4 | DIN 371 | 6HX |
| **T353M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T353M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |

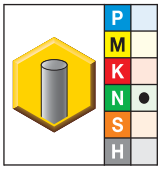
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| >10–18 | +0, -0,011 |
| >18–30 | +0, -0,013 |
| >30–50 | +0, -0,016 |

• KCN14 TiN + CrC/C for aluminum.



## T471 • Form E Bottoming Chamfer • Through Coolant • Metric • Solid Carbide • For Aluminum



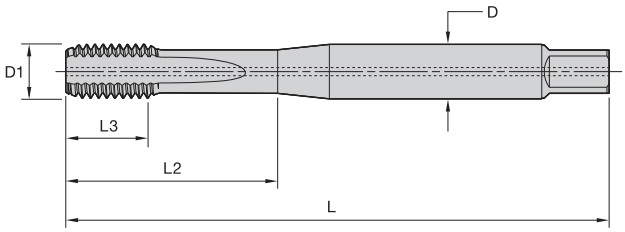

● first choice
○ alternate choice

| KCN14 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| **T471M060X100R6HX** | M6 X 1 | 70 | 12 | 24 | 6,0 | 3 | 6HX |
| **T471M080X125R6HX** | M8 X 1,25 | 80 | 15 | 32 | 8,0 | 3 | 6HX |
| **T471M100X150R6HX** | M10 X 1,5 | 90 | 18 | 40 | 10,0 | 3 | 6HX |
| **T471M120X175R6HX** | M12 X 1,75 | 100 | 21 | 48 | 12,0 | 3 | 6HX |
| **T471M140X200R6HX** | M14 X 2 | 110 | 24 | 56 | 12,0 | 4 | 6HX |

**Shank Tolerance**

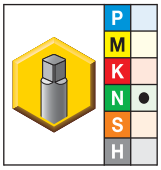
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

• KCN14 TiN + CrC/C for aluminum.



beyond

## T471 • DIN 371 • Form E Bottoming Chamfer • Through Coolant • Metric • Solid Carbide • For Aluminum



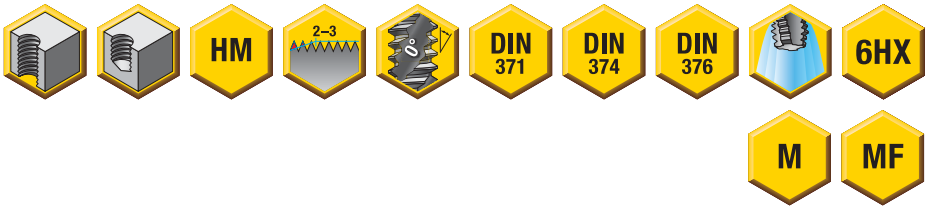

● first choice
○ alternate choice

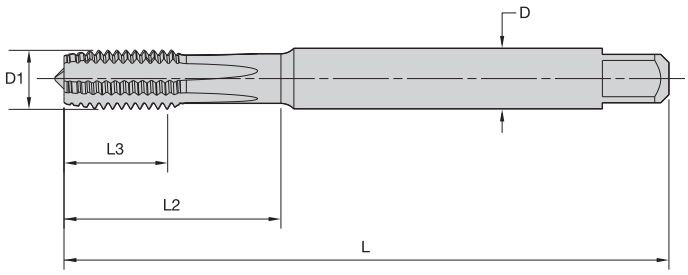
| KCN14 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T471M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 3 | DIN 371 | 6HX |
| **T471M080X125R6HX-D1** | M8 X 1,25 | 90 | 10 | 35 | 8,0 | 3 | DIN 371 | 6HX |
| **T471M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 371 | 6HX |

**Shank Tolerance**

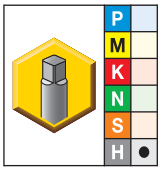
| D | tolerance h6 |
|---|---|
| 3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| >10–18 | +0, -0,011 |
| >18–30 | +0, -0,013 |
| >30–50 | +0, -0,016 |

- KCU36 TiAlN/$MoS_2$ for tapping steel 55–63 HRC.



## T410 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric • Solid Carbide • For Hard Steel




● first choice
○ alternate choice

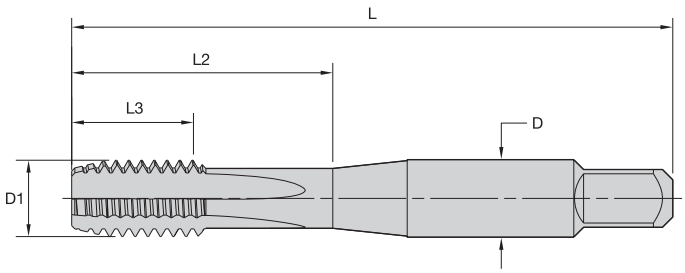
| KCU36 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T410M030X050R6HX-D1** | M3 X 0,5 | 63 | 6 | 18 | 4,5 | 4 | DIN 371 | 6HX |
| **T410M040X070R6HX-D1** | M4 X 0,7 | 63 | 8 | 20 | 4,5 | 4 | DIN 371 | 6HX |
| **T410M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 26 | 6,0 | 4 | DIN 371 | 6HX |
| **T410M060X100R6HX-D1** | M6 X 1 | 80 | 12 | 28 | 6,0 | 4 | DIN 371 | 6HX |
| **T410MF080X100R6HX-D4** * | M8 X 1 | 90 | 15 | 35 | 8,0 | 5 | DIN 374 | 6HX |
| **T410M080X125R6HX-D1** | M8 X 1,25 | 90 | 15 | 35 | 8,0 | 5 | DIN 371 | 6HX |
| **T410MF100X100R6HX-D4** * | M10 X 1 | 100 | 18 | 38 | 10,0 | 5 | DIN 374 | 6HX |
| **T410M100X150R6HX-D1** | M10 X 1,5 | 100 | 18 | 38 | 10,0 | 5 | DIN 371 | 6HX |
| **T410MF120X150R6HX-D4** | M12 X 1,5 | 110 | 21 | 41 | 12,0 | 5 | DIN 374 | 6HX |
| **T410M120X175R6HX-D6** | M12 X 1,75 | 110 | 21 | 41 | 12,0 | 5 | DIN 376 | 6HX |
| **T410MF140X150R6HX-D4** | M14 X 1,5 | 110 | 24 | 44 | 14,0 | 5 | DIN 374 | 6HX |
| **T410M140X200R6HX-D6** | M14 X 2 | 110 | 24 | 44 | 14,0 | 6 | DIN 376 | 6HX |
| **T410MF160X150R6HX-D4** | M16 X 1,5 | 110 | 24 | 44 | 16,0 | 5 | DIN 374 | 6HX |

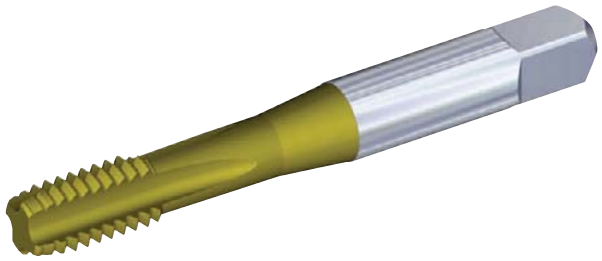
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

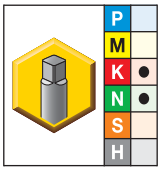
| D | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| 3,5–6 | +0, -0,030 |
| 7–10 | +0, -0,036 |
| 11–18 | +0, -0,043 |

- KP6525 TiCN + TiN for cast iron and cast aluminum.



## T640 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer • ANSI • For Cast Iron and Cast Aluminum




● first choice
○ alternate choice

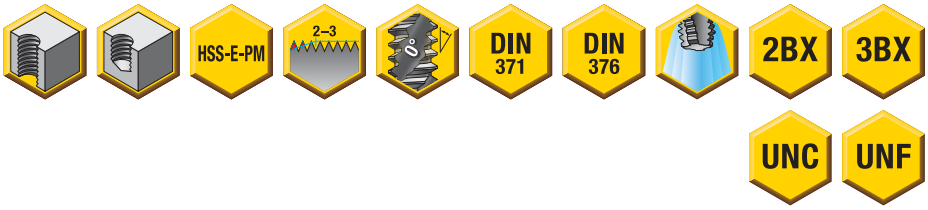
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | class of fit |
|---|---|---|---|---|---|---|---|
| T640NC#10-24R3BX-A * | 10 - 24 | 2.37 | .47 | .91 | .194 | 3 | 3BX |
| T640NF#10-32R3BX-A | 10 - 32 | 2.36 | .47 | .91 | .194 | 3 | 3BX |
| T640NC02500-20R2BX-A | 1/4 - 20 | 2.50 | .44 | 1.01 | .255 | 4 | 2BX |
| T640NC02500-20R3BX-A * | 1/4 - 20 | 2.50 | .44 | 1.01 | .255 | 4 | 3BX |
| T640NF02500-28R2BX-A | 1/4 - 28 | 2.49 | .43 | 1.00 | .255 | 4 | 2BX |
| T640NF02500-28R3BX-A | 1/4 - 28 | 2.49 | .43 | 1.00 | .255 | 4 | 3BX |
| T640NC03125-18R2BX-A | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 4 | 2BX |
| T640NC03125-18R3BX-A * | 5/16 - 18 | 2.72 | .49 | 1.13 | .318 | 4 | 3BX |
| T640NF03125-24R3BX-A * | 5/16 - 24 | 2.71 | .48 | 1.13 | .318 | 4 | 3BX |
| T640NC03750-16R2BX-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 4 | 2BX |
| T640NC03750-16R3BX-A | 3/8 - 16 | 2.94 | .60 | 1.27 | .381 | 4 | 3BX |
| T640NF03750-24R3BX-A | 3/8 - 24 | 2.92 | .58 | 1.25 | .381 | 4 | 3BX |
| T640NC04375-14R3BX-A | 7/16 - 14 | 3.16 | .71 | 1.49 | .323 | 4 | 3BX |
| T640NF04375-20R3BX-A | 7/16 - 20 | 3.16 | .71 | 1.49 | .323 | 4 | 3BX |
| T640NC05000-13R3BX-A | 1/2 - 13 | 3.38 | .77 | 1.74 | .367 | 4 | 3BX |
| T640NF05000-20R3BX-A | 1/2 - 20 | 3.38 | .77 | 1.74 | .367 | 4 | 3BX |
| T640NC06250-11R3BX-A | 5/8 - 11 | 3.81 | .91 | 1.89 | .480 | 4 | 3BX |
| T640NC07500-10R3BX-A | 3/4 - 10 | 4.25 | 1.00 | 2.08 | .590 | 4 | 3BX |

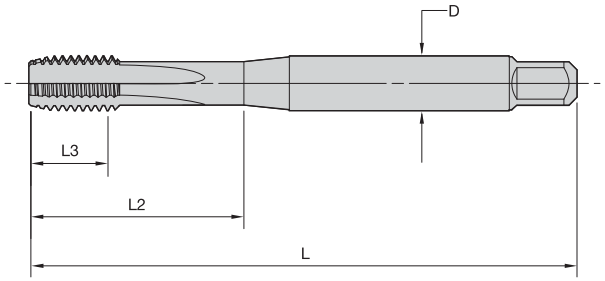
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

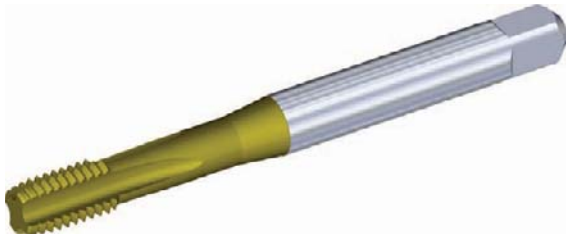
**Shank Tolerance**

| D fractional | D inch |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KP6525 TiCN + TiN for cast iron and cast aluminum.

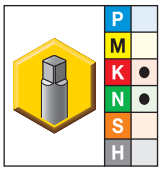


## T640 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Machine Screw and Fractional • For Cast Iron and Cast Aluminum






● first choice
○ alternate choice

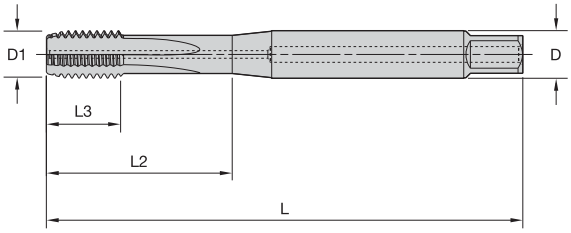
| KP6525 | metric dimensions D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T640NC#06-32R2BX-D1** | 6 - 32 | 56 | 9 | 20 | 4,0 | 3 | DIN 371 | 2BX |
| **T640NF#06-40R2BX-D1 *** | 6 - 40 | 56 | 9 | 20 | 4,0 | 3 | DIN 371 | 2BX |
| **T640NC#08-32R2BX-D1** | 8 - 32 | 63 | 10 | 21 | 4,5 | 3 | DIN 371 | 2BX |
| **T640NC#10-24R2BX-D1** | 10 - 24 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 2BX |
| **T640NF#10-32R2BX-D1** | 10 - 32 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 2BX |
| **T640NC02500-20R3BX-D1** | 1/4 - 20 | 80 | 13 | 30 | 7,0 | 4 | DIN 371 | 3BX |
| **T640NF02500-28R3BX-D1** | 1/4 - 28 | 80 | 13 | 30 | 7,0 | 4 | DIN 371 | 3BX |
| **T640NC03125-18R3BX-D1** | 5/16 - 18 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 3BX |
| **T640NF03125-24R3BX-D1** | 5/16 - 24 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 3BX |
| **T640NC03750-16R3BX-D1** | 3/8 - 16 | 100 | 16 | 39 | 10,0 | 4 | DIN 371 | 3BX |
| **T640NF03750-24R3BX-D1** | 3/8 - 24 | 100 | 16 | 39 | 10,0 | 4 | DIN 371 | 3BX |
| **T640NC04375-14R3BX-D6** | 7/16 - 14 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| **T640NF04375-20R3BX-D6** | 7/16 - 20 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| **T640NC05000-13R3BX-D6** | 1/2 - 13 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |
| **T640NF05000-20R3BX-D6** | 1/2 - 20 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |

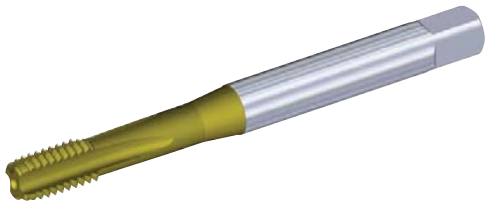
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

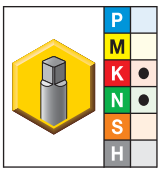
| D fractional | tolerance h6 |
|---|---|
| >3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| <10–18 | +0, -0,011 |

- KP6525 TiCN + TiN for cast iron and cast aluminum.



## T641 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Fractional • For Cast Iron and Cast Aluminum



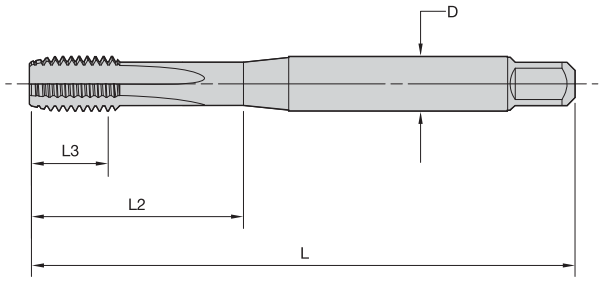

● first choice
○ alternate choice

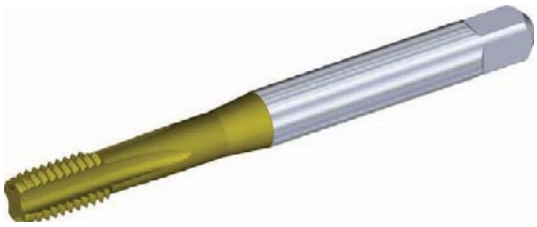
| KP6525 | D1 size | metric dimensions L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T641NC02500-20R3BX-D1** | 1/4 - 20 | 80 | 13 | 30 | 7,0 | 4 | DIN 371 | 3BX |
| **T641NF02500-28R3BX-D1** | 1/4 - 28 | 80 | 13 | 30 | 7,0 | 4 | DIN 371 | 3BX |
| **T641NC03125-18R3BX-D1** | 5/16 - 18 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 3BX |
| **T641NF03125-24R3BX-D1** | 5/16 - 24 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 3BX |
| **T641NC03750-16R3BX-D1** | 3/8 - 16 | 100 | 16 | 39 | 10,0 | 4 | DIN 371 | 3BX |
| **T641NF03750-24R3BX-D1** | 3/8 - 24 | 100 | 16 | 39 | 10,0 | 4 | DIN 371 | 3BX |
| **T641NC04375-14R3BX-D6** | 7/16 - 14 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| **T641NF04375-20R3BX-D6** | 7/16 - 20 | 100 | 15 | 41 | 8,0 | 4 | DIN 376 | 3BX |
| **T641NC05000-13R3BX-D6** | 1/2 - 13 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |
| **T641NF05000-20R3BX-D6** | 1/2 - 20 | 110 | 20 | 47 | 9,0 | 4 | DIN 376 | 3BX |

**Shank Tolerance**

| D fractional | tolerance h6 |
|---|---|
| >3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| <10–18 | +0, -0,011 |

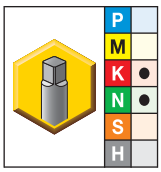
- KP6525 TiCN + TiN for cast iron and cast aluminum.



## T640 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric • For Cast Iron and Cast Aluminum





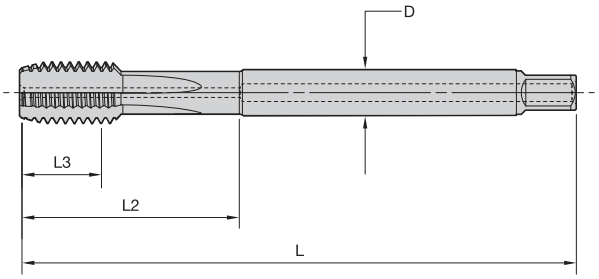

● first choice
○ alternate choice

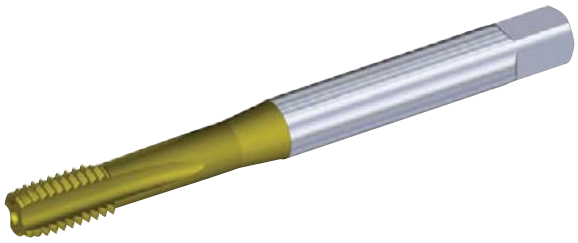
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T640M040X070R6HX-D1** | M4 X 0,7 | 63 | 10 | 21 | 4,5 | 3 | DIN 371 | 6HX |
| **T640M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T640M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 4 | DIN 371 | 6HX |
| **T640M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 6HX |
| **T640M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 4 | DIN 371 | 6HX |
| **T640M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T640M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| **T640M160X200R6HX-D6** | M16 X 2 | 110 | 20 | 51 | 12,0 | 4 | DIN 376 | 6HX |
| **T640M180X250R6HX-D6** | M18 X 2,5 | 125 | 25 | 58 | 14,0 | 4 | DIN 376 | 6HX |
| **T640M200X250R6HX-D6** | M20 X 2,5 | 140 | 25 | 64 | 16,0 | 4 | DIN 376 | 6HX |
| **T640M220X250R6HX-D6** | M22 X 2,5 | 140 | 25 | 70 | 18,0 | 4 | DIN 376 | 6HX |

**Shank Tolerance**

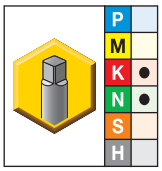
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

- KP6525 TiCN + TiN for cast iron and cast aluminum.



## T641 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric • For Cast Iron and Cast Aluminum



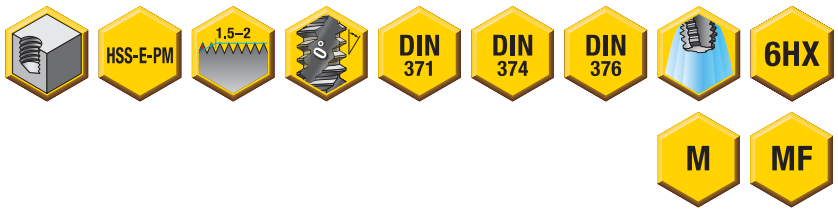

● first choice
○ alternate choice

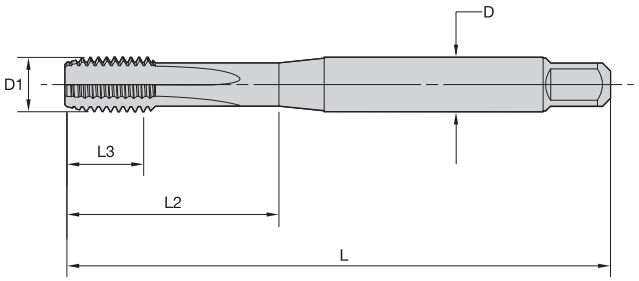
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T641M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T641M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 4 | DIN 371 | 6HX |
| **T641M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 6HX |
| **T641M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 4 | DIN 371 | 6HX |
| **T641M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T641M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| **T641M160X200R6HX-D6** | M16 X 2 | 110 | 20 | 51 | 12,0 | 4 | DIN 376 | 6HX |
| **T641M180X250R6HX-D6** | M18 X 2,5 | 125 | 25 | 58 | 14,0 | 4 | DIN 376 | 6HX |
| **T641M200X250R6HX-D6** | M20 X 2,5 | 140 | 25 | 64 | 16,0 | 4 | DIN 376 | 6HX |

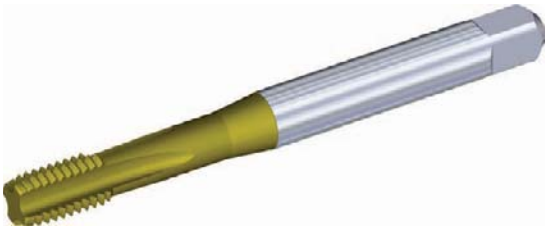
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

- KP6525 TiCN + TiN for cast iron and cast silicon aluminum.

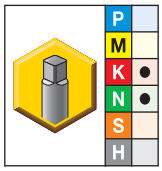




## T642 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric • For Cast Iron and Cast Silicon Aluminum



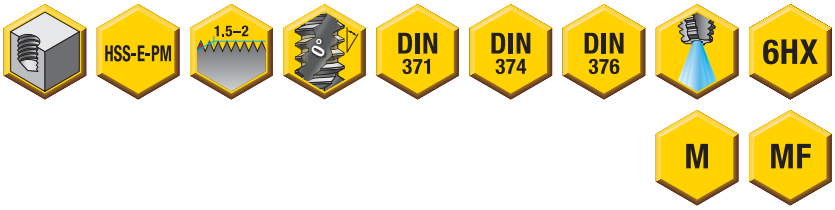

● first choice
○ alternate choice

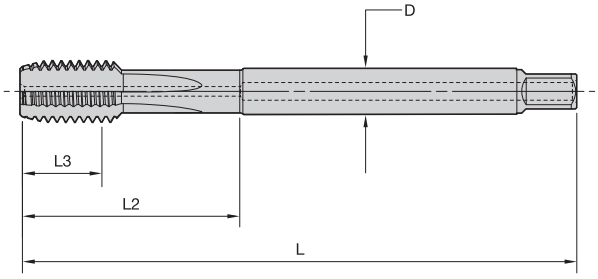
| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T642M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T642M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 4 | DIN 371 | 6HX |
| **T642M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 6HX |
| **T642M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 4 | DIN 371 | 6HX |
| **T642MF120X150R6HX-D4** | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| **T642M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T642MF140X150R6HX-D4** | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| **T642M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| **T642MF160X150R6HX-D4** | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |

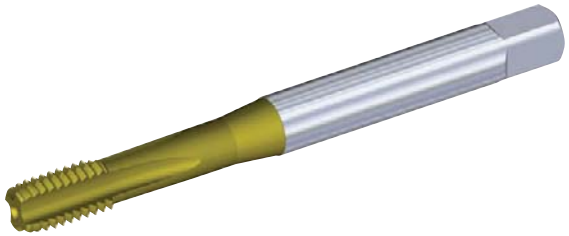
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

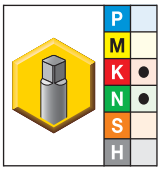
- KP6525 TiCN + TiN for tapping cast iron and cast silicon aluminum.



## T643 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric • For Cast Iron and Cast Silicon Aluminum

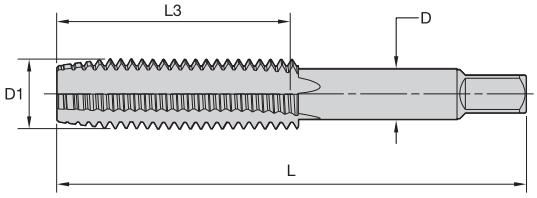



● first choice
○ alternate choice

| KP6525 | D1 size | L | L3 | L2 | D | number of flutes | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T643M050X080R6HX-D1** | M5 X 0,8 | 70 | 10 | 25 | 6,0 | 3 | DIN 371 | 6HX |
| **T643M060X100R6HX-D1** | M6 X 1 | 80 | 10 | 30 | 6,0 | 4 | DIN 371 | 6HX |
| **T643M080X125R6HX-D1** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 4 | DIN 371 | 6HX |
| **T643M100X150R6HX-D1** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 4 | DIN 371 | 6HX |
| **T643MF120X150R6HX-D4** | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 4 | DIN 374 | 6HX |
| **T643M120X175R6HX-D6** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 4 | DIN 376 | 6HX |
| **T643MF140X150R6HX-D4** | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 4 | DIN 374 | 6HX |
| **T643M140X200R6HX-D6** | M14 X 2 | 110 | 20 | 52 | 11,0 | 4 | DIN 376 | 6HX |
| **T643MF160X150R6HX-D4** | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 4 | DIN 374 | 6HX |

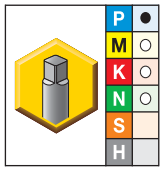
**Shank Tolerance**

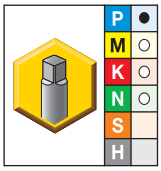
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

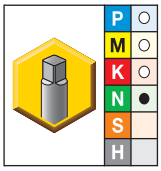


## KHSST Hand • Machine Screw Sizes • Plug Chamfer Tap





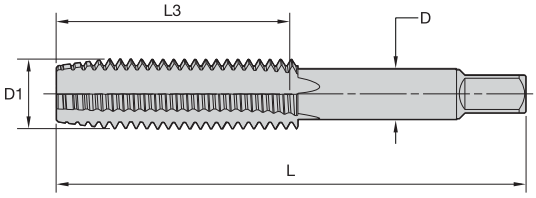



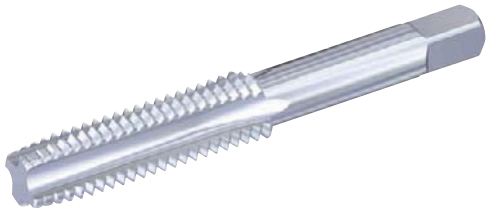




● first choice
○ alternate choice

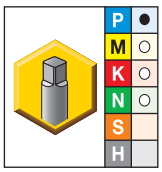
| TiCN | TiN | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| – | – | KHSST28372 | 0 - 80 | 1.63 | .31 | .141 | 2 | H1 |
| – | KHSST09000 | KHSST08003 | 0 - 80 | 1.63 | .31 | .141 | 2 | H2 |
| – | – | KHSST08015 | 1 - 64 | 1.69 | .38 | .141 | 2 | H2 |
| – | KHSST28129 | KHSST28376 | 2 - 56 | 1.75 | .44 | .141 | 2 | H2 |
| – | KHSST28426 | KHSST08039 | 2 - 56 | 1.75 | .44 | .141 | 3 | H2 |
| – | KHSST28134 | – | 3 - 48 | 1.81 | .50 | .141 | 2 | H2 |
| – | – | KHSST28380 | 3 - 48 | 1.81 | .50 | .141 | 3 | H2 |
| – | – | KHSST08067 | 3 - 56 | 1.81 | .50 | .141 | 3 | H2 |
| – | KHSST28427 | KHSST08082 | 4 - 40 | 1.88 | .56 | .141 | 2 | H2 |
| KHSST28433 | KHSST09004 | KHSST08087 | 4 - 40 | 1.88 | .56 | .141 | 3 | H2 |
| – | – | KHSST08101 | 4 - 48 | 1.88 | .56 | .141 | 3 | H2 |
| – | – | KHSST08112 | 5 - 40 | 1.94 | .63 | .141 | 2 | H2 |
| – | – | KHSST08116 | 5 - 40 | 1.94 | .63 | .141 | 3 | H2 |
| – | – | KHSST08140 | 6 - 32 | 2.00 | .69 | .141 | 2 | H2 |
| – | KHSST28428 | KHSST28389 | 6 - 32 | 2.00 | .69 | .141 | 2 | H3 |
| – | KHSST09008 | KHSST08148 | 6 - 32 | 2.00 | .69 | .141 | 3 | H2 |
| KHSST28440 | – | KHSST08151 | 6 - 32 | 2.00 | .69 | .141 | 3 | H3 |
| – | – | KHSST08172 | 6 - 40 | 2.00 | .69 | .141 | 3 | H2 |
| – | – | KHSST28396 | 8 - 32 | 2.13 | .75 | .168 | 2 | H2 |
| – | – | KHSST28400 | 8 - 32 | 2.13 | .75 | .168 | 2 | H3 |
| – | KHSST28136 | KHSST28401 | 8 - 32 | 2.13 | .75 | .168 | 3 | H3 |
| – | KHSST09010 | KHSST28397 | 8 - 32 | 2.13 | .75 | .168 | 4 | H2 |
| – | – | KHSST08192 | 8 - 32 | 2.13 | .75 | .168 | 4 | H3 |
| – | – | KHSST08218 | 8 - 36 | 2.13 | .75 | .168 | 4 | H2 |
| – | – | KHSST08238 | 10 - 24 | 2.38 | .88 | .194 | 2 | H3 |
| – | – | KHSST28410 | 10 - 32 | 2.38 | .88 | .194 | 2 | H2 |
| – | KHSST28425 | KHSST08272 | 10 - 32 | 2.38 | .88 | .194 | 2 | H3 |
| – | – | KHSST28407 | 10 - 24 | 2.38 | .88 | .194 | 3 | H3 |
| – | – | KHSST28413 | 10 - 32 | 2.38 | .88 | .194 | 3 | H3 |
| – | KHSST09012 | KHSST08234 | 10 - 24 | 2.38 | .88 | .194 | 4 | H3 |
| – | – | KHSST08261 | 10 - 32 | 2.38 | .88 | .194 | 4 | H2 |
| – | KHSST09014 | KHSST08268 | 10 - 32 | 2.38 | .88 | .194 | 4 | H3 |
| – | KHSST28132 | KHSST08294 | 12 - 24 | 2.38 | .94 | .220 | 4 | H3 |
| – | – | KHSST28417 | 12 - 28 | 2.38 | .94 | .220 | 4 | H3 |

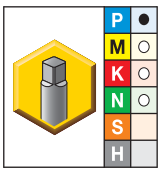
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.

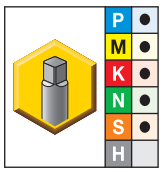


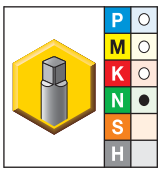



## KHSST Hand • Fractional Sizes • Plug Chamfer Tap



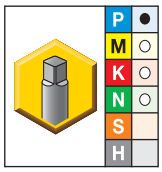



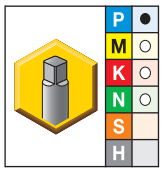

● first choice
○ alternate choice

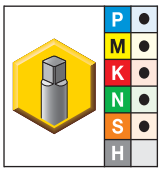
| TiCN | TiN | oxide | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| – | – | – | KHSST08316 | 1/4 - 20 | 2.50 | 1.00 | .255 | 4 | H2 |
| – | KHSST28358 | – | KHSST08324 | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H3 |
| – | – | – | KHSST28296 | 1/4 - 20 | 2.50 | 1.00 | .255 | 3 | H3 |
| KHSST28364 | KHSST09018 | KHSST28343 | KHSST08320 | 1/4 - 20 | 2.50 | 1.00 | .255 | 4 | H3 |
| – | – | – | KHSST28298 | 1/4 - 20 | 2.50 | 1.00 | .255 | 4 | H5 |
| – | – | – | KHSST08355 | 1/4 - 28 | 2.50 | 1.00 | .255 | 3 | H3 |
| – | – | – | KHSST08353 | 1/4 - 28 | 2.50 | 1.00 | .255 | 4 | H3 |
| – | – | – | KHSST28293 | 1/4 - 20 | 3.38 | 1.66 | .367 | 4 | H5 |
| – | KHSST28356 | – | KHSST28318 | 5/16 - 18 | 2.72 | 1.13 | .318 | 2 | H3 |
| – | KHSST28127 | – | KHSST28314 | 5/16 - 18 | 2.72 | 1.13 | .318 | 3 | H3 |
| – | KHSST09022 | – | KHSST08380 | 5/16 - 18 | 2.72 | 1.13 | .318 | 4 | H3 |
| – | – | – | KHSST08411 * | 5/16 - 24 | 2.72 | 1.13 | .318 | 3 | H3 |
| – | – | KHSST28349 | KHSST08409 | 5/16 - 24 | 2.72 | 1.13 | .318 | 4 | H3 |
| – | KHSST28359 | – | KHSST28309 | 3/8 - 16 | 2.94 | 1.25 | .381 | 3 | H3 |
| – | KHSST09026 | KHSST28348 | KHSST08434 | 3/8 - 16 | 2.94 | 1.25 | .381 | 4 | H3 |
| – | – | – | KHSST08461 | 3/8 - 24 | 2.94 | 1.25 | .381 | 3 | H3 |
| – | KHSST09028 | – | KHSST08459 | 3/8 - 24 | 2.94 | 1.25 | .381 | 4 | H3 |
| – | KHSST09030 | – | KHSST08477 | 7/16 - 14 | 3.16 | 1.44 | .323 | 4 | H3 |
| – | KHSST28123 | – | KHSST08493 | 7/16 - 20 | 3.16 | 1.44 | .323 | 4 | H3 |
| – | – | – | KHSST08510 | 1/2 - 13 | 3.38 | 1.66 | .367 | 3 | H3 |
| KHSST28361 | KHSST28116 | KHSST28341 | KHSST08508 | 1/2 - 13 | 3.38 | 1.66 | .367 | 4 | H3 |
| – | – | – | KHSST28291 | 1/2 - 20 | 3.38 | 1.66 | .367 | 3 | H3 |
| – | – | – | KHSST08530 | 1/2 - 20 | 3.38 | 1.66 | .367 | 4 | H3 |
| – | – | – | KHSST08545 | 9/16 - 12 | 3.59 | 1.66 | .429 | 4 | H3 |
| – | – | – | KHSST08553 | 9/16 - 18 | 3.59 | 1.66 | .429 | 4 | H3 |
| KHSST28366 | KHSST28120 | KHSST28351 | KHSST08561 | 5/8 - 11 | 3.81 | 1.81 | .480 | 4 | H3 |
| – | – | – | KHSST28323 | 5/8 - 11 | 3.81 | 1.81 | .480 | 4 | H5 |
| – | KHSST28121 | – | KHSST08574 | 5/8 - 18 | 3.81 | 1.81 | .480 | 4 | H3 |

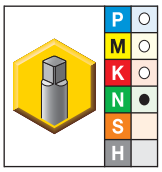
(continued)

*(KHSST Hand • Fractional Sizes • Plug Chamfer Tap — continued)*





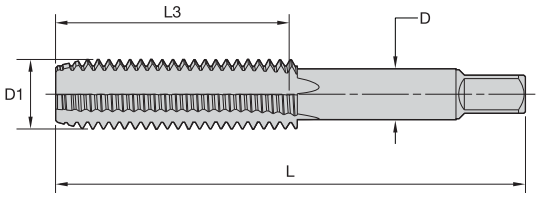


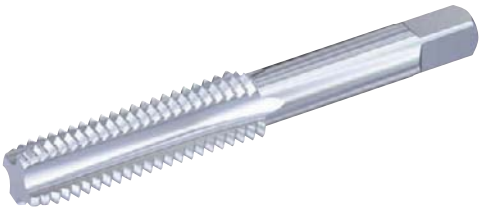



● first choice
○ alternate choice

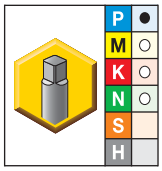
| TiCN | TiN | oxide | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|---|
| – | – | – | **KHSST28242** | 5/8 - 18 | 3.81 | 1.81 | .480 | 4 | H5 |
| **KHSST28365** | **KHSST09042** | **KHSST28345** | **KHSST08595** | 3/4 - 10 | 4.25 | 2.00 | .590 | 4 | H3 |
| – | – | – | **KHSST28302** | 3/4 - 10 | 4.25 | 2.00 | .590 | 4 | H5 |
| – | **KHSST28118** | **KHSST28346** | **KHSST08608** | 3/4 - 16 | 4.25 | 2.00 | .590 | 4 | H3 |
| – | – | – | **KHSST28305** | 3/4 - 16 | 4.25 | 2.00 | .590 | 4 | H5 |
| – | **KHSST28125** | **KHSST28352** | **KHSST08616** | 7/8 - 9 | 4.69 | 2.22 | .697 | 4 | H4 |
| – | **KHSST09048** | – | **KHSST28330** | 7/8 - 14 | 4.69 | 2.22 | .697 | 4 | H4 |
| – | **KHSST28115** | **KHSST28339** | **KHSST08630** | 1 - 8 | 5.13 | 2.50 | .800 | 4 | H4 |
| – | – | – | **KHSST28286** | 1 - 8 | 5.13 | 2.50 | .800 | 4 | H6 |
| – | – | – | **KHSST28279** | 1 - 12 | 5.13 | 2.50 | .800 | 4 | H4 |
| – | – | – | **KHSST28281** | 1 - 14 | 5.13 | 2.50 | .800 | 4 | H2 |
| – | – | – | **KHSST28283** | 1 - 14 | 5.13 | 2.50 | .800 | 4 | H4 |
| – | – | – | **KHSST28033** | 1 1/8 - 7 | 5.44 | 2.56 | .896 | 4 | H4 |
| – | – | – | **KHSST28029** | 1 1/8 - 12 | 5.44 | 2.56 | .896 | 4 | H4 |
| – | – | – | **KHSST28021** | 1 1/4 - 7 | 5.75 | 2.56 | 1.021 | 4 | H4 |
| – | – | – | **KHSST28016** | 1 1/4 - 12 | 5.75 | 2.56 | 1.021 | 6 | H4 |
| – | – | – | **KHSST28043** | 1 3/8 - 6 | 6.06 | 3.00 | 1.108 | 4 | H4 |
| – | – | – | **KHSST28040** | 1 3/8 - 12 | 6.06 | 3.00 | 1.108 | 6 | H4 |
| – | – | – | **KHSST28009** | 1 1/2 - 6 | 6.38 | 3.00 | 1.233 | 4 | H4 |
| – | – | – | **KHSST28004** | 1 1/2 - 12 | 6.38 | 3.00 | 1.233 | 6 | H4 |

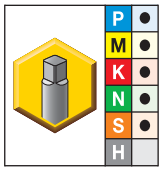
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.

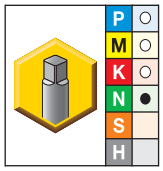


## KHSST Hand • Machine Screw Sizes • Bottoming Chamfer Tap



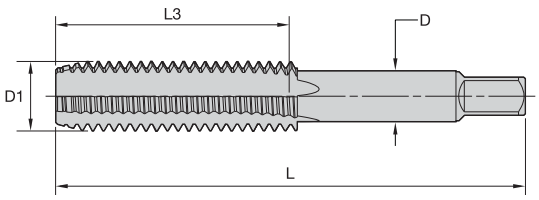



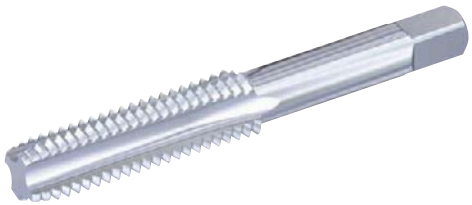




● first choice
○ alternate choice

| TiN | oxide | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| – | – | KHSST28368 | 0 - 80 | 1.63 | .31 | .141 | 2 | H1 |
| KHSST28128 | – | KHSST28371 | 0 - 80 | 1.63 | .31 | .141 | 2 | H2 |
| – | – | KHSST28373 | 1 - 72 | 1.69 | .38 | .141 | 2 | H1 |
| – | – | KHSST28374 | 2 - 56 | 1.75 | .44 | .141 | 2 | H2 |
| KHSST09003 | – | KHSST28375 | 2 - 56 | 1.75 | .44 | .141 | 3 | H2 |
| – | – | KHSST28379 | 3 - 48 | 1.81 | .50 | .141 | 3 | H2 |
| – | – | KHSST08083 | 4 - 40 | 1.88 | .56 | .141 | 2 | H2 |
| KHSST28130 | KHSST28420 | KHSST08088 | 4 - 40 | 1.88 | .56 | .141 | 3 | H2 |
| – | – | KHSST28384 | 4 - 48 | 1.88 | .56 | .141 | 3 | H2 |
| – | – | KHSST08117 | 5 - 40 | 1.94 | .63 | .141 | 3 | H2 |
| KHSST09009 | – | KHSST08149 | 6 - 32 | 2.00 | .69 | .141 | 3 | H2 |
| KHSST28135 | – | KHSST28388 | 6 - 32 | 2.00 | .69 | .141 | 2 | H3 |
| – | – | KHSST08152 | 6 - 32 | 2.00 | .69 | .141 | 3 | H3 |
| – | – | KHSST08173 | 6 - 40 | 2.00 | .69 | .141 | 3 | H2 |
| – | – | KHSST28394 | 8 - 32 | 2.13 | .75 | .168 | 2 | H2 |
| KHSST09011 | – | KHSST28395 | 8 - 32 | 2.13 | .75 | .168 | 4 | H2 |
| – | – | KHSST08197 | 8 - 32 | 2.13 | .75 | .168 | 2 | H3 |
| KHSST28429 | – | KHSST28399 | 8 - 32 | 2.13 | .75 | .168 | 3 | H3 |
| – | KHSST28423 | KHSST08193 | 8 - 32 | 2.13 | .75 | .168 | 4 | H3 |
| – | – | KHSST28403 | 8 - 36 | 2.13 | .75 | .168 | 4 | H2 |
| – | – | KHSST08239 | 10 - 24 | 2.38 | .88 | .194 | 2 | H3 |
| – | – | KHSST28406 | 10 - 24 | 2.38 | .88 | .194 | 3 | H3 |
| KHSST09013 | – | KHSST08235 | 10 - 24 | 2.38 | .88 | .194 | 4 | H3 |
| KHSST28133 | – | – | 10 - 32 | 2.38 | .88 | .194 | 3 | H2 |
| – | – | KHSST08262 | 10 - 32 | 2.38 | .88 | .194 | 4 | H2 |
| – | – | KHSST08273 | 10 - 32 | 2.38 | .88 | .194 | 2 | H3 |
| – | – | KHSST28412 | 10 - 32 | 2.38 | .88 | .194 | 3 | H3 |
| KHSST09015 | KHSST28419 | KHSST08269 | 10 - 32 | 2.38 | .88 | .194 | 4 | H3 |
| KHSST28131 | – | KHSST08295 | 12 - 24 | 2.38 | .94 | .220 | 4 | H3 |
| – | – | KHSST28416 | 12 - 28 | 2.38 | .94 | .220 | 4 | H3 |

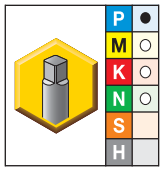
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.

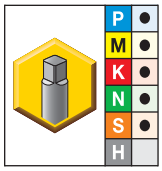


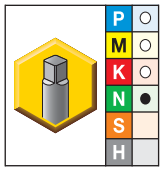



## KHSST Hand • Fractional Sizes • Bottoming Chamfer Tap





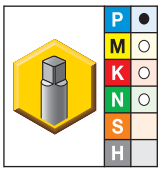



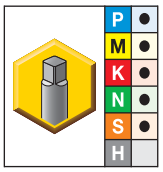

● first choice
○ alternate choice

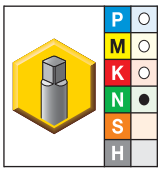
| TiN | oxide | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| – | – | KHSST08317 | 1/4 - 20 | 2.50 | 1.00 | .255 | 4 | H2 |
| KHSST28353 | – | KHSST28294 | 1/4 - 20 | 2.50 | 1.00 | .255 | 2 | H3 |
| – | – | KHSST28295 | 1/4 - 20 | 2.50 | 1.00 | .255 | 3 | H3 |
| KHSST09019 | KHSST28342 | KHSST08321 | 1/4 - 20 | 2.50 | 1.00 | .255 | 4 | H3 |
| – | – | KHSST08327 | 1/4 - 20 | 2.50 | 1.00 | .255 | 4 | H5 |
| – | – | KHSST08356 | 1/4 - 28 | 2.50 | 1.00 | .255 | 3 | H3 |
| KHSST09021 | – | KHSST08354 | 1/4 - 28 | 2.50 | 1.00 | .255 | 4 | H3 |
| – | – | KHSST08392 | 5/16 - 18 | 2.72 | 1.13 | .318 | 2 | H3 |
| – | – | KHSST28313 | 5/16 - 18 | 2.72 | 1.13 | .318 | 3 | H3 |
| KHSST28119 | – | KHSST08381 | 5/16 - 18 | 2.72 | 1.13 | .318 | 4 | H3 |
| – | – | KHSST28317 | 5/16 - 18 | 2.72 | 1.13 | .318 | 4 | H5 |
| KHSST09025 | – | KHSST28319 | 5/16 - 24 | 2.72 | 1.13 | .318 | 4 | H3 |
| – | – | KHSST28308 | 3/8 - 16 | 2.94 | 1.25 | .381 | 3 | H3 |
| KHSST09027 | KHSST28347 | KHSST08435 | 3/8 - 16 | 2.94 | 1.25 | .381 | 4 | H3 |
| – | – | KHSST28311 | 3/8 - 16 | 2.94 | 1.25 | .381 | 4 | H5 |
| KHSST09029 | – | KHSST08460 | 3/8 - 24 | 2.94 | 1.25 | .381 | 4 | H3 |
| – | – | KHSST08478 | 7/16 - 14 | 3.16 | 1.44 | .323 | 4 | H3 |
| KHSST28122 | – | KHSST08494 | 7/16 - 20 | 3.16 | 1.44 | .323 | 4 | H3 |
| – | – | KHSST28290 | 1/2 - 13 | 3.38 | 1.66 | .367 | 3 | H3 |
| KHSST09035 | KHSST28340 | KHSST28287 | 1/2 - 13 | 3.38 | 1.66 | .367 | 4 | H3 |
| – | – | KHSST28289 | 1/2 - 13 | 3.38 | 1.66 | .367 | 4 | H5 |
| – | – | KHSST08531 | 1/2 - 20 | 3.38 | 1.66 | .367 | 4 | H3 |
| – | – | KHSST08546 | 9/16 - 12 | 3.59 | 1.66 | .429 | 4 | H3 |
| – | – | KHSST08554 | 9/16 - 18 | 3.59 | 1.66 | .429 | 4 | H3 |
| KHSST09039 | KHSST28350 | KHSST08562 | 5/8 - 11 | 3.81 | 1.81 | .480 | 4 | H3 |
| – | – | KHSST28235 | 5/8 - 11 | 3.81 | 1.81 | .480 | 4 | H5 |
| KHSST09041 | – | KHSST08575 | 5/8 - 18 | 3.81 | 1.81 | .480 | 4 | H3 |
| – | – | KHSST28102 | 11/16 - 16 | 4.03 | 1.06 | .542 | 4 | H3 |
| KHSST09043 | KHSST28344 | KHSST08596 | 3/4 - 10 | 4.25 | 2.00 | .590 | 4 | H3 |
| – | – | KHSST28301 | 3/4 - 10 | 4.25 | 2.00 | .590 | 4 | H5 |
| KHSST28117 | – | KHSST08609 | 3/4 - 16 | 4.25 | 2.00 | .590 | 4 | H3 |
| – | – | KHSST28304 | 3/4 - 16 | 4.25 | 2.00 | .590 | 4 | H5 |

*(continued)*

*(KHSST Hand • Fractional Sizes • Bottoming Chamfer Tap — continued)*



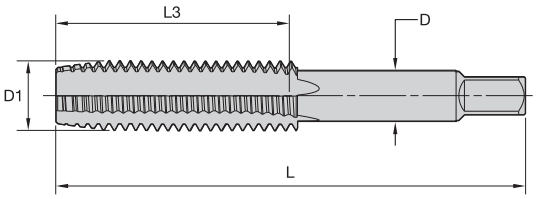



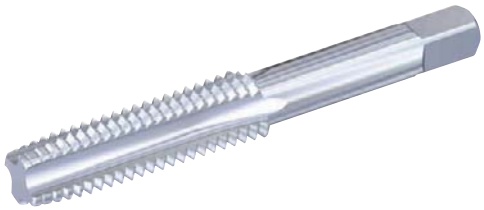




● first choice
○ alternate choice

| TiN | oxide | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|---|
| **KHSST09047** | – | **KHSST08617** | 7/8 - 9 | 4.69 | 2.22 | .697 | 4 | H4 |
| **KHSST28124** | – | **KHSST28329** | 7/8 - 14 | 4.69 | 2.22 | .697 | 4 | H4 |
| **KHSST28114** | **KHSST28338** | **KHSST08631** | 1 - 8 | 5.13 | 2.50 | .800 | 4 | H4 |
| – | – | **KHSST28278** | 1 - 12 | 5.13 | 2.50 | .800 | 4 | H4 |
| – | – | **KHSST28282** | 1 - 14 | 5.13 | 2.50 | .800 | 4 | H4 |
| – | – | **KHSST28032** | 1 1/8 - 7 | 5.44 | 2.56 | .896 | 4 | H4 |
| – | – | **KHSST28028** | 1 1/8 - 12 | 5.44 | 2.56 | .896 | 4 | H4 |
| – | – | **KHSST28020** | 1 1/4 - 7 | 5.75 | 2.56 | 1.021 | 4 | H4 |
| – | – | **KHSST28015** | 1 1/4 - 12 | 5.75 | 2.56 | 1.021 | 6 | H4 |
| – | – | **KHSST28008** | 1 1/2 - 6 | 6.38 | 3.00 | 1.233 | 4 | H4 |
| – | – | **KHSST28003** | 1 1/2 - 12 | 6.38 | 3.00 | 1.233 | 6 | H4 |

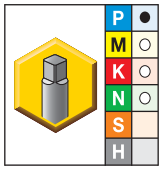
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.

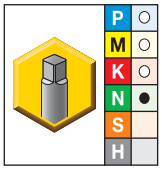


## KHSST Hand • Plug Chamfer Tap • Metric ANSI



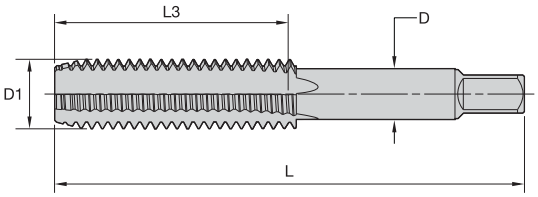


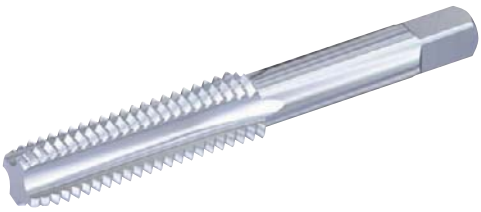




● first choice
○ alternate choice

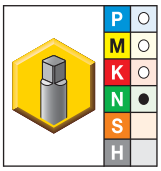
| TiN | uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| – | **KHSST28682 *** | M1,6 X 0,35 | 1.63 | .31 | .141 | 2 | D3 |
| – | **KHSST27709** | M2 X 0,4 | 1.75 | .44 | .141 | 3 | D3 |
| – | **KHSST27721** | M3 X 0,5 | 1.94 | .63 | .141 | 3 | D3 |
| – | **KHSST27729** | M4 X 0,7 | 2.13 | .75 | .168 | 4 | D4 |
| – | **KHSST27737** | M5 X 0,8 | 2.38 | .88 | .194 | 4 | D4 |
| **KHSST09054** | **KHSST27741** | M6 X 1 | 2.50 | 1.00 | .255 | 4 | D5 |
| – | **KHSST27749** | M8 X 1,25 | 2.72 | 1.13 | .318 | 4 | D5 |
| – | **KHSST27757** | M10 X 1,5 | 2.94 | 1.25 | .381 | 4 | D6 |
| – | **KHSST27765** | M12 X 1,75 | 3.38 | 1.66 | .367 | 4 | D6 |
| – | **KHSST27773** | M14 X 2 | 3.59 | 1.66 | .429 | 4 | D7 |
| – | **KHSST27781** | M16 X 2 | 3.81 | 1.81 | .480 | 4 | D7 |
| – | **KHSST27793** | M18 X 2,5 | 4.03 | 1.06 | .542 | 4 | D7 |
| – | **KHSST27800** | M20 X 1,5 | 4.47 | 2.00 | .652 | 4 | D6 |
| – | **KHSST27796** | M20 X 2,5 | 4.47 | 2.00 | .652 | 4 | D7 |
| – | **KHSST27809** | M24 X 3 | 4.91 | 2.22 | .760 | 4 | D8 |
| – | **KHSST28695** | M30 X 3,5 | 5.44 | 2.56 | 1.021 | 4 | D9 |
| – | **KHSST28698** | M36 X 4 | 6.06 | 3.00 | 1.233 | 4 | D9 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page M203 for the recommended pitch diameter limit for 6H class of fit.



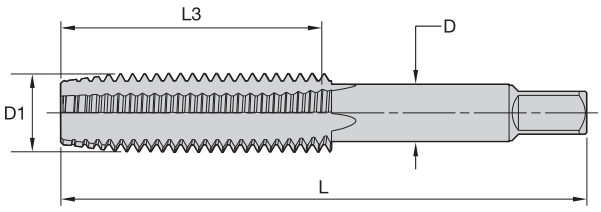
## KHSST Hand • Bottoming Chamfer Tap • Metric ANSI




● first choice
○ alternate choice

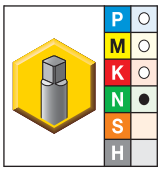
| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST27710** | M2 X 0,4 | 1.75 | .44 | .141 | 3 | D3 |
| **KHSST27722** | M3 X 0,5 | 1.94 | .63 | .141 | 3 | D3 |
| **KHSST27730** | M4 X 0,7 | 2.13 | .75 | .168 | 4 | D4 |
| **KHSST27738** | M5 X 0,8 | 2.38 | .88 | .194 | 4 | D4 |
| **KHSST27742** | M6 X 1 | 2.50 | 1.00 | .255 | 4 | D5 |
| **KHSST27750** | M8 X 1,25 | 2.72 | 1.13 | .318 | 4 | D5 |
| **KHSST27758** | M10 X 1,5 | 2.94 | 1.25 | .381 | 4 | D6 |
| **KHSST27766** | M12 X 1,75 | 3.38 | 1.66 | .367 | 4 | D6 |
| **KHSST28455** | M14 X 2 | 3.59 | 1.66 | .429 | 4 | D7 |
| **KHSST28458** | M16 X 2 | 3.81 | 1.81 | .480 | 4 | D7 |
| **KHSST28462** | M20 X 2,5 | 4.47 | 2.00 | .652 | 4 | D7 |
| **KHSST28465** | M24 X 3 | 4.91 | 2.22 | .760 | 4 | D8 |

NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page M203 for the recommended pitch diameter limit for 6H class of fit.



## KHSST Left Hand • Fractional Sizes • Plug Chamfer Taps

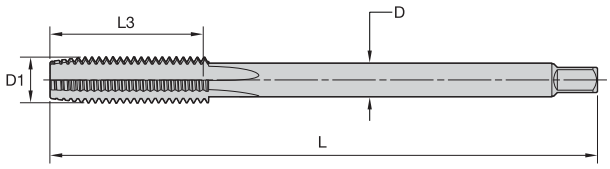




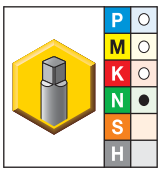

● first choice
○ alternate choice

| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28086** | 1/4 - 28 | 2.50 | 1.00 | .255 | 4 | H3 |
| **KHSST28207** | 3/8 - 24 | 2.94 | 1.25 | .381 | 4 | H3 |
| **KHSST28675** | 7/16 - 20 | 3.16 | 1.44 | .323 | 4 | H3 |
| **KHSST28053** | 1/2 - 13 | 3.38 | 1.66 | .367 | 4 | H3 |
| **KHSST28064** | 1/2 - 20 | 3.38 | 1.66 | .367 | 4 | H3 |
| **KHSST28233** | 5/8 - 11 | 3.81 | 1.81 | .480 | 4 | H3 |
| **KHSST28239** | 5/8 - 18 | 3.81 | 1.81 | .480 | 4 | H3 |
| **KHSST28167** | 3/4 - 10 | 4.25 | 2.00 | .590 | 4 | H3 |
| **KHSST28184** | 3/4 - 16 | 4.25 | 2.00 | .590 | 4 | H3 |

NOTE: Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.



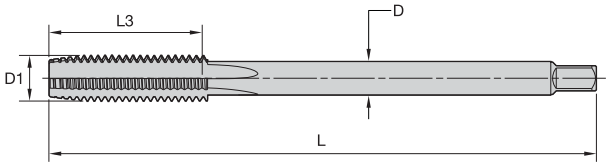
## KHSST Extended-Length Hand Taps • Machine Screw and Fractional • Plug Chamfer Tap




● first choice
○ alternate choice

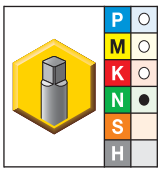
| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28781** | 6 - 32 | 6.00 | .69 | .141 | 3 | H3 |
| **KHSST28791** | 8 - 32 | 6.00 | .75 | .168 | 4 | H3 |
| **KHSST28742** | 10 - 24 | 6.00 | .88 | .194 | 4 | H3 |
| **KHSST28752** | 10 - 32 | 6.00 | .88 | .194 | 4 | H3 |
| **KHSST28078** | 1/4 - 20 | 6.00 | 1.00 | .255 | 4 | H3 |
| **KHSST28085** | 1/4 - 28 | 6.00 | 1.00 | .255 | 4 | H3 |
| **KHSST28218** | 5/16 - 18 | 6.00 | .67 | .318 | 4 | H3 |
| **KHSST28195** | 3/8 - 16 | 6.00 | 1.25 | .381 | 4 | H3 |

NOTE: Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.



## KHSST Extended-Length Hand Taps • Machine Screw and Fractional • Bottoming Chamfer Tap






● first choice
○ alternate choice

| uncoated | D1 size | L | L3 | D | number of flutes | pitch diameter limit |
|---|---|---|---|---|---|---|
| **KHSST28751 *** | 10 - 32 | 6.00 | .88 | .194 | 4 | H3 |
| **KHSST28077** | 1/4 - 20 | 6.00 | 1.00 | .255 | 4 | H3 |
| **KHSST28217** | 5/16 - 18 | 6.00 | .67 | .318 | 4 | H3 |
| **KHSST28226** | 5/16 - 24 | 6.00 | .59 | .318 | 4 | H3 |
| **KHSST28194** | 3/8 - 16 | 6.00 | 1.25 | .381 | 4 | H3 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
Refer to table on pages M202–M203 for the recommended pitch diameter limit for 2B or 3B class of fit.

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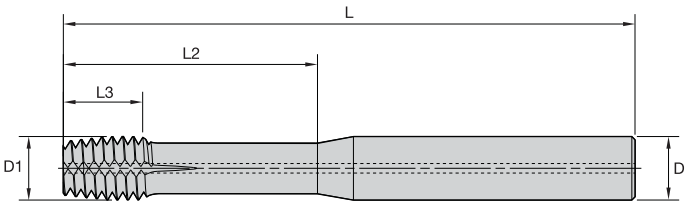
## High-Performance Beyond™ Solid Carbide Taps

- Grade and geometry optimized for form tapping blind holes in aluminum.
- Runs up to 4x faster and 4x longer than conventional HSS taps.
- Ideal for long production runs where fewer tool changes result in greater productivity.
- For use on CNC machines with synchronous or rigid controls and precision toolholders.

## High-Performance Beyond HSS-E-PM Taps

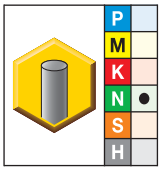
- High-performance forming taps for through- and blind-hole applications in steel, stainless steel, and aluminum.
- Higher strength and wider range of applications versus solid carbide taps.
- Higher tapping speed capability and longer tool life than conventional HSS-E taps.
- Can be used on either conventional or synchronous tapping machines.

• KCN14 TiN + CrC/C for aluminum.



beyond

## T491 • Form E Bottoming Entry Taper • Through Coolant M6 and Larger • Metric • Solid Carbide • For Aluminum



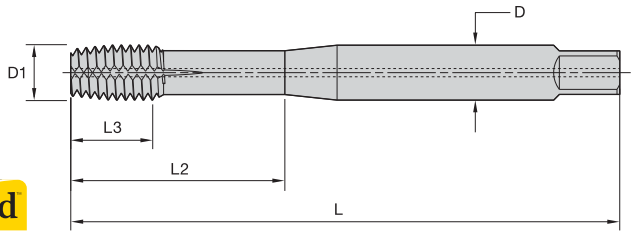

● first choice
○ alternate choice

| KCN14 | D1 size | L | L3 | L2 | D | number of lube grooves | class of fit |
|---|---|---|---|---|---|---|---|
| **T491M050X080R6HX** | M5 X 0,8 | 60 | 7 | 20 | 6,0 | 2 | 6HX |
| **T491M060X100R6HX** | M6 X 1 | 70 | 8 | 24 | 6,0 | 2 | 6HX |
| **T491M080X125R6HX** | M8 X 1,25 | 80 | 10 | 32 | 8,0 | 2 | 6HX |
| **T491M100X150R6HX** | M10 X 1,5 | 90 | 12 | 40 | 10,0 | 3 | 6HX |
| **T491M120X175R6HX** | M12 X 1,75 | 100 | 14 | 48 | 12,0 | 3 | 6HX |

**Shank Tolerance**

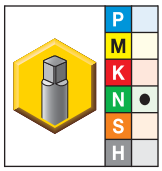
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–16 | +0, -0,011 |

• KCN14 TiN + CrC/C for aluminum.



beyond

## T491 • DIN 2174 • Form E Bottoming Chamfer • Through Coolant • Metric • Solid Carbide • For Aluminum



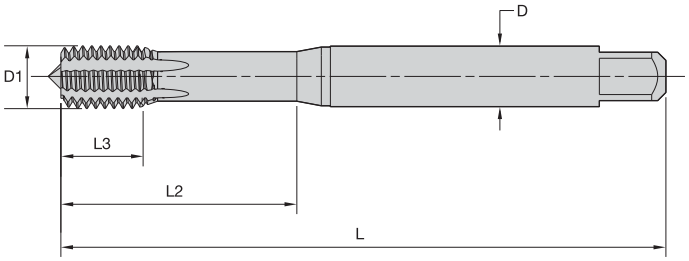

● first choice
○ alternate choice

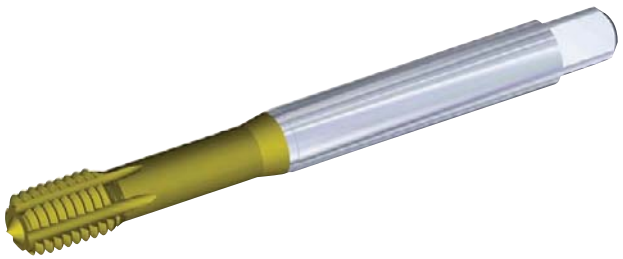
| KCN14 | D1 size | L | L3 | L2 | D | number of lube grooves | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|
| **T491M060X100R6HX-D74** | M6 X 1 | 80 | 10 | 30 | 6,0 | 2 | DIN 2174 | 6HX |
| **T491M080X125R6HX-D74** | M8 X 1,25 | 90 | 13 | 35 | 8,0 | 2 | DIN 2174 | 6HX |
| **T491M100X150R6HX-D74** | M10 X 1,5 | 100 | 15 | 39 | 10,0 | 3 | DIN 2174 | 6HX |

**Shank Tolerance**

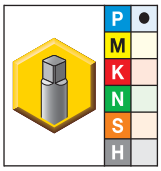
| D | tolerance h6 |
|---|---|
| 3–6 | +0, -0,008 |
| >6–10 | +0, -0,009 |
| >10–18 | +0, -0,011 |
| >18–30 | +0, -0,013 |
| >30–50 | +0, -0,016 |

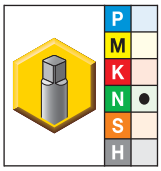
- KSP21 TiN for tapping steel.
- KSN28 DLC for tapping aluminum.



## T622 • DIN 2174 • Form C Semi-Bottoming Entry Taper • Metric • For Steel and Aluminum




● first choice
○ alternate choice

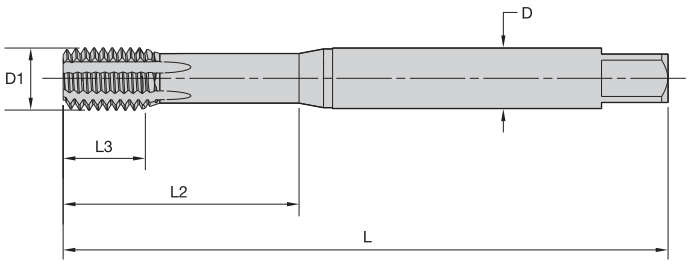
| KSP21 | KSN28 | D1 size | L | L3 | L2 | D | number of lube grooves | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| **T622M030X050R6HX-D74** | **T622M030X050R6HX-D74** | M3 X 0,5 | 56 | 6 | 18 | 3,5 | 4 | DIN 2174 | 6HX |
| **T622M040X070R6HX-D74** | **T622M040X070R6HX-D74** | M4 X 0,7 | 63 | 7 | 21 | 4,5 | 4 | DIN 2174 | 6HX |
| **T622M050X080R6HX-D74** | **T622M050X080R6HX-D74** | M5 X 0,8 | 70 | 8 | 25 | 6,0 | 4 | DIN 2174 | 6HX |
| **T622M060X100R6HX-D74** | **T622M060X100R6HX-D74** | M6 X 1 | 80 | 10 | 30 | 6,0 | 5 | DIN 2174 | 6HX |
| **T622MF080X100R6HX-D74** | **T622MF080X100R6HX-D74** | M8 X 1 | 90 | 10 | 35 | 8,0 | 5 | DIN 2174 | 6HX |
| **T622M080X125R6HX-D74** | **T622M080X125R6HX-D74** | M8 X 1,25 | 90 | 14 | 35 | 8,0 | 5 | DIN 2174 | 6HX |
| **T622MF100X100R6HX-D74** | **T622MF100X100R6HX-D74** * | M10 X 1 | 90 | 10 | 35 | 10,0 | 5 | DIN 2174 | 6HX |
| **T622MF100X125R6HX-D74** | **T622MF100X125R6HX-D74** | M10 X 1,25 | 100 | 16 | 39 | 10,0 | 5 | DIN 2174 | 6HX |
| **T622M100X150R6HX-D74** | **T622M100X150R6HX-D74** | M10 X 1,5 | 100 | 16 | 39 | 10,0 | 5 | DIN 2174 | 6HX |
| **T622MF120X125R6HX-D74** | **T622MF120X125R6HX-D74** | M12 X 1,25 | 100 | 15 | 39 | 9,0 | 6 | DIN 2174 | 6HX |
| **T622MF120X150R6HX-D74** | **T622MF120X150R6HX-D74** | M12 X 1,5 | 100 | 15 | 39 | 9,0 | 6 | DIN 2174 | 6HX |
| **T622M120X175R6HX-D74** | **T622M120X175R6HX-D74** | M12 X 1,75 | 110 | 18 | 44 | 9,0 | 6 | DIN 2174 | 6HX |
| **T622MF140X150R6HX-D74** | **T622MF140X150R6HX-D74** | M14 X 1,5 | 100 | 15 | 47 | 11,0 | 6 | DIN 2174 | 6HX |
| **T622MF160X150R6HX-D74** | **T622MF160X150R6HX-D74** | M16 X 1,5 | 100 | 15 | 46 | 12,0 | 6 | DIN 2174 | 6HX |
| **T622M160X200R6HX-D74** | **T622M160X200R6HX-D74** | M16 X 2 | 110 | 22 | 51 | 12,0 | 6 | DIN 2174 | 6HX |

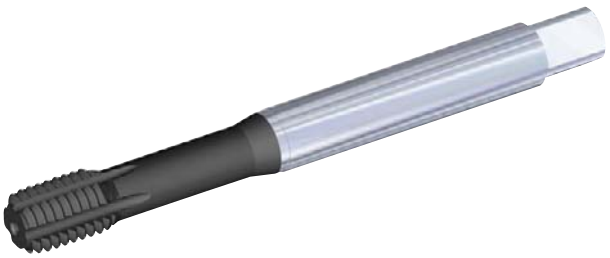
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

| D | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| 3,5–6 | +0, -0,030 |
| 7–10 | +0, -0,036 |
| 11–18 | +0, -0,043 |

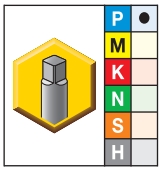
- KSP21 TiN for tapping steel.
- KSN28 DLC for tapping aluminum.

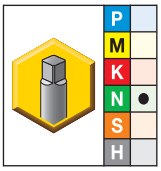


## T623 • DIN 2174 • Form C Semi-Bottoming Entry Taper • Through Coolant • Metric • For Steel and Aluminum






● first choice
○ alternate choice

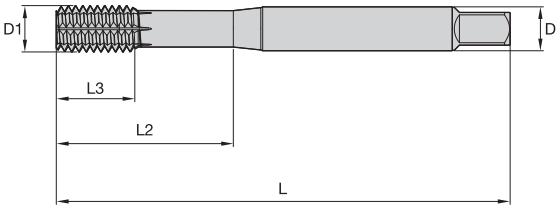
| KSP21 | KSN28 | D1 size | L | L3 | L2 | D | number of lube grooves | dimension standard | class of fit |
|---|---|---|---|---|---|---|---|---|---|
| **T623M050X080R6HX-D74** | **T623M050X080R6HX-D74** | M5 X 0,8 | 70 | 8 | 25 | 6,0 | 4 | DIN 2174 | 6HX |
| **T623M060X100R6HX-D74** | **T623M060X100R6HX-D74** | M6 X 1 | 80 | 10 | 30 | 6,0 | 5 | DIN 2174 | 6HX |
| **T623MF080X100R6HX-D74** | **T623MF080X100R6HX-D74** * | M8 X 1 | 90 | 10 | 35 | 8,0 | 5 | DIN 2174 | 6HX |
| **T623M080X125R6HX-D74** | **T623M080X125R6HX-D74** | M8 X 1,25 | 90 | 14 | 35 | 8,0 | 5 | DIN 2174 | 6HX |
| **T623MF100X100R6HX-D74** | **T623MF100X100R6HX-D74** | M10 X 1 | 90 | 10 | 35 | 10,0 | 5 | DIN 2174 | 6HX |
| **T623M100X150R6HX-D74** | **T623M100X150R6HX-D74** | M10 X 1,5 | 100 | 16 | 39 | 10,0 | 5 | DIN 2174 | 6HX |
| **T623MF120X150R6HX-D74** | **T623MF120X150R6HX-D74** | M12 X 1,5 | 100 | 15 | 27 | 9,0 | 6 | DIN 2174 | 6HX |
| **T623M120X175R6HX-D74** | **T623M120X175R6HX-D74** | M12 X 1,75 | 110 | 18 | 30 | 9,0 | 6 | DIN 2174 | 6HX |
| **T623MF140X150R6HX-D74** | **T623MF140X150R6HX-D74** | M14 X 1,5 | 100 | 15 | 29 | 11,0 | 6 | DIN 2174 | 6HX |
| **T623MF160X150R6HX-D74** | **T623MF160X150R6HX-D74** | M16 X 1,5 | 100 | 15 | 31 | 12,0 | 6 | DIN 2174 | 6HX |
| **T623M160X200R6HX-D74** | **T623M160X200R6HX-D74** | M16 X 2 | 110 | 22 | 38 | 12,0 | 6 | DIN 2174 | 6HX |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

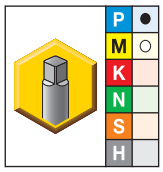
| D | tolerance h9 |
|---|---|
| 1–3 | +0, -0,025 |
| 3,5–6 | +0, -0,030 |
| 7–10 | +0, -0,036 |
| 11–18 | +0, -0,043 |

• KSP27 AlCrTiN for steel and stainless steel.



beyond

## T624 • DIN Length ANSI Shank • Form C Semi-Bottoming Entry Taper • Machine Screw and Fractional • For Steel and Stainless Steel



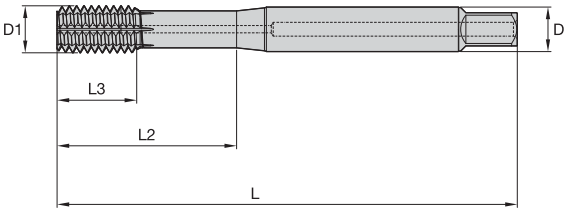

● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T624NC#06-32RH3-DA | 6 - 32 | 2.22 | .41 | .81 | .141 | 2 | H3 |
| T624NC#06-32RH5-DA | 6 - 32 | 2.22 | .41 | .81 | .141 | 2 | H5 |
| T624NC#08-32RH3-DA | 8 - 32 | 2.48 | .39 | .83 | .168 | 4 | H3 |
| T624NC#08-32RH5-DA | 8 - 32 | 2.48 | .39 | .83 | .168 | 4 | H5 |
| T624NC#10-24RH4-DA | 10 - 24 | 2.78 | .39 | 1.01 | .194 | 4 | H4 |
| T624NC#10-24RH6-DA | 10 - 24 | 2.78 | .39 | 1.01 | .194 | 4 | H6 |
| T624NF#10-32RH4-DA | 10 - 32 | 2.77 | .39 | 1.00 | .194 | 4 | H4 |
| T624NF#10-32RH6-DA | 10 - 32 | 2.77 | .39 | 1.00 | .194 | 4 | H6 |
| T624NC02500-20RH4-DA | 1/4 - 20 | 3.18 | .51 | 1.22 | .255 | 4 | H4 |
| T624NC02500-20RH6-DA | 1/4 - 20 | 3.18 | .51 | 1.21 | .255 | 4 | H6 |
| T624NF02500-28RH4-DA | 1/4 - 28 | 3.16 | .51 | 1.20 | .255 | 4 | H4 |
| T624NF02500-28RH6-DA | 1/4 - 28 | 3.16 | .51 | 1.20 | .255 | 4 | H6 |
| T624NC03125-18RH5-DA | 5/16 - 18 | 3.58 | .55 | 1.42 | .318 | 6 | H5 |
| T624NC03125-18RH7-DA | 5/16 - 18 | 3.58 | .55 | 1.42 | .318 | 6 | H7 |
| T624NF03125-24RH5-DA | 5/16 - 24 | 3.56 | .55 | 1.40 | .318 | 6 | H5 |
| T624NF03125-24RH7-DA | 5/16 - 24 | 3.56 | .55 | 1.38 | .318 | 6 | H7 |
| T624NC03750-16RH5-DA | 3/8 - 16 | 3.98 | .63 | 1.54 | .381 | 6 | H5 |
| T624NC03750-16RH7-DA | 3/8 - 16 | 3.98 | .63 | 1.54 | .381 | 6 | H7 |
| T624NF03750-24RH5-DA | 3/8 - 24 | 3.95 | .63 | 1.54 | .381 | 6 | H5 |
| T624NF03750-24RH7-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T624NC05000-13RH5-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T624NC05000-13RH7-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T624NF05000-20RH5-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T624NF05000-20RH7-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T624NC06250-11RH10-DA | 5/8 - 11 | 4.33 | .91 | 2.01 | .480 | 6 | H10 |
| T624NC06250-11RH7-DA | 5/8 - 11 | 4.33 | .91 | 2.01 | .480 | 6 | H7 |
| T624NF06250-18RH10-DA | 5/8 - 18 | 4.33 | .91 | 2.01 | .480 | 6 | H10 |
| T624NF06250-18RH7-DA | 5/8 - 18 | 4.33 | .91 | 2.01 | .480 | 6 | H7 |
| T624NC07500-10RH10-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T624NC07500-10RH7-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |
| T624NF07500-16RH10-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T624NF07500-16RH7-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |

**Shank Tolerance**

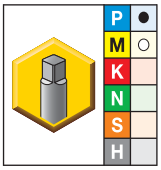
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

• KSP27 AlCrTiN for steel and stainless steel.



beyond

## T625 • DIN Length ANSI Shank • Form C Semi-Bottoming Entry Taper • Through Coolant • Fractional • For Steel and Stainless Steel



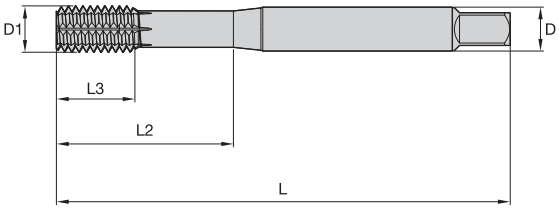

● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T625NC02500-20RH4-DA | 1/4 - 20 | 3.15 | .51 | 1.18 | .255 | 4 | H4 |
| T625NC02500-20RH6-DA | 1/4 - 20 | 3.15 | .51 | 1.18 | .255 | 4 | H6 |
| T625NF02500-28RH4-DA | 1/4 - 28 | 3.15 | .51 | 1.18 | .255 | 4 | H4 |
| T625NF02500-28RH6-DA | 1/4 - 28 | 3.15 | .51 | 1.18 | .255 | 4 | H6 |
| T625NC03125-18RH5-DA | 5/16 - 18 | 3.54 | .55 | 1.38 | .318 | 6 | H5 |
| T625NC03125-18RH7-DA | 5/16 - 18 | 3.54 | .55 | 1.38 | .318 | 6 | H7 |
| T625NF03125-24RH5-DA | 5/16 - 24 | 3.54 | .55 | 1.38 | .318 | 6 | H5 |
| T625NF03125-24RH7-DA | 5/16 - 24 | 3.54 | .55 | 1.38 | .318 | 6 | H7 |
| T625NC03750-16RH5-DA | 3/8 - 16 | 3.94 | .63 | 1.54 | .381 | 6 | H5 |
| T625NC03750-16RH7-DA | 3/8 - 16 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T625NF03750-24RH5-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H5 |
| T625NF03750-24RH7-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T625NC05000-13RH5-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T625NC05000-13RH7-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T625NF05000-20RH5-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T625NF05000-20RH7-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T625NC06250-11RH10-DA | 5/8 - 11 | 4.33 | .79 | 2.01 | .480 | 6 | H10 |
| T625NC06250-11RH7-DA | 5/8 - 11 | 4.33 | .79 | 2.01 | .480 | 6 | H7 |
| T625NF06250-18RH10-DA | 5/8 - 18 | 4.33 | .79 | 2.01 | .480 | 6 | H10 |
| T625NF06250-18RH7-DA | 5/8 - 18 | 4.33 | .79 | 2.01 | .480 | 6 | H7 |
| T625NC07500-10RH10-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T625NC07500-10RH7-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |
| T625NF07500-16RH10-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T625NF07500-16RH7-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |

**Shank Tolerance**

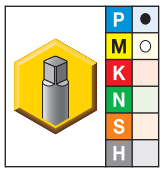
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

• KSP27 AlCrTiN for steel and stainless steel.



beyond

## T626 • DIN Length ANSI Shank • Form E Bottoming Entry Taper • Machine Screw and Fractional • For Steel and Stainless Steel




● first choice
○ alternate choice

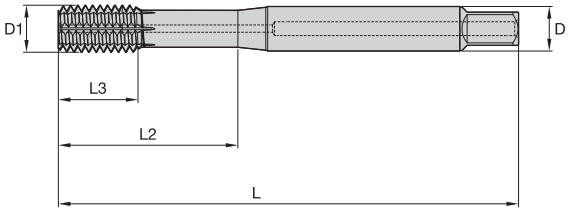
| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T626NC#02-56RH3-DA | 2 - 56 | 1.75 | .44 | .50 | .141 | 0 | H3 |
| T626NC#03-48RH3-DA | 3 - 48 | 1.97 | .39 | .71 | .141 | 0 | H3 |
| T626NC#04-40RH3-DA | 4 - 40 | 2.20 | .39 | .71 | .141 | 0 | H3 |
| T626NC#04-40RH5-DA | 4 - 40 | 2.20 | .39 | .71 | .141 | 0 | H5 |
| T626NC#06-32RH3-DA | 6 - 32 | 2.21 | .39 | .79 | .141 | 2 | H3 |
| T626NC#06-32RH5-DA | 6 - 32 | 2.21 | .39 | .79 | .141 | 2 | H5 |
| T626NC#08-32RH3-DA | 8 - 32 | 2.48 | .39 | .83 | .168 | 4 | H3 |
| T626NC#08-32RH5-DA | 8 - 32 | 2.48 | .39 | .83 | .168 | 4 | H5 |
| T626NC#10-24RH4-DA | 10 - 24 | 2.76 | .39 | .98 | .194 | 4 | H4 |
| T626NC#10-24RH6-DA | 10 - 24 | 2.76 | .39 | .98 | .194 | 4 | H6 |
| T626NF#10-32RH4-DA | 10 - 32 | 2.76 | .39 | .98 | .194 | 4 | H4 |
| T626NF#10-32RH6-DA | 10 - 32 | 2.76 | .39 | .98 | .194 | 4 | H6 |
| T626NC02500-20RH4-DA | 1/4 - 20 | 3.15 | .51 | 1.18 | .255 | 4 | H4 |
| T626NC02500-20RH6-DA | 1/4 - 20 | 3.15 | .51 | 1.18 | .255 | 4 | H6 |
| T626NF02500-28RH4-DA | 1/4 - 28 | 3.15 | .51 | 1.18 | .255 | 4 | H4 |
| T626NF02500-28RH6-DA * | 1/4 - 28 | 3.15 | .51 | 1.18 | .255 | 4 | H6 |
| T626NC03125-18RH5-DA | 5/16 - 18 | 3.54 | .55 | 1.38 | .318 | 6 | H5 |
| T626NC03125-18RH7-DA | 5/16 - 18 | 3.54 | .55 | 1.38 | .318 | 6 | H7 |
| T626NF03125-24RH5-DA | 5/16 - 24 | 3.54 | .55 | 1.38 | .318 | 6 | H5 |
| T626NF03125-24RH7-DA | 5/16 - 24 | 3.54 | .55 | 1.38 | .318 | 6 | H7 |
| T626NC03750-16RH5-DA | 3/8 - 16 | 3.94 | .63 | 1.54 | .381 | 6 | H5 |
| T626NC03750-16RH7-DA | 3/8 - 16 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T626NF03750-24RH5-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H5 |
| T626NF03750-24RH7-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T626NC05000-13RH5-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T626NC05000-13RH7-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T626NF05000-20RH5-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T626NF05000-20RH7-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T626NC06250-11RH10-DA | 5/8 - 11 | 4.33 | .79 | 2.01 | .480 | 6 | H10 |
| T626NC06250-11RH7-DA | 5/8 - 11 | 4.33 | .79 | 2.01 | .480 | 6 | H7 |
| T626NF06250-18RH10-DA | 5/8 - 18 | 4.33 | .79 | 2.01 | .480 | 6 | H10 |
| T626NF06250-18RH7-DA | 5/8 - 18 | 4.33 | .79 | 2.01 | .480 | 6 | H7 |
| T626NC07500-10RH10-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T626NC07500-10RH7-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |
| T626NF07500-16RH10-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T626NF07500-16RH7-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

**Shank Tolerance**

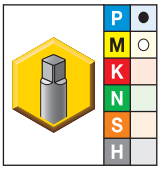
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSP27 AlCrTiN for steel and stainless steel.



beyond

## T627 • DIN Length ANSI Shank • Form E Bottoming Entry Taper • Through Coolant • Fractional • For Steel and Stainless Steel



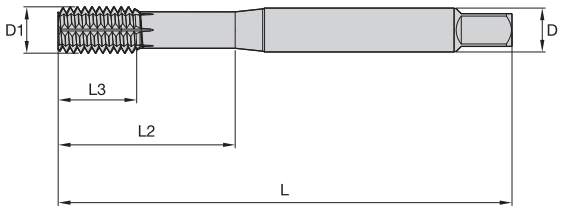

● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T627NC02500-20RH4-DA | 1/4 - 20 | 3.15 | .51 | 1.18 | .255 | 4 | H4 |
| T627NC02500-20RH6-DA | 1/4 - 20 | 3.15 | .51 | 1.18 | .255 | 4 | H6 |
| T627NF02500-28RH4-DA | 1/4 - 28 | 3.15 | .51 | 1.18 | .255 | 4 | H4 |
| T627NF02500-28RH6-DA | 1/4 - 28 | 3.15 | .51 | 1.18 | .255 | 4 | H6 |
| T627NC03125-18RH5-DA | 5/16 - 18 | 3.54 | .55 | 1.38 | .318 | 6 | H5 |
| T627NC03125-18RH7-DA | 5/16 - 18 | 3.54 | .55 | 1.38 | .318 | 6 | H7 |
| T627NF03125-24RH5-DA | 5/16 - 24 | 3.54 | .55 | 1.38 | .318 | 6 | H5 |
| T627NF03125-24RH7-DA | 5/16 - 24 | 3.54 | .55 | 1.38 | .318 | 6 | H7 |
| T627NC03750-16RH5-DA | 3/8 - 16 | 3.94 | .63 | 1.54 | .381 | 6 | H5 |
| T627NC03750-16RH7-DA | 3/8 - 16 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T627NF03750-24RH5-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H5 |
| T627NF03750-24RH7-DA | 3/8 - 24 | 3.94 | .63 | 1.54 | .381 | 6 | H7 |
| T627NC05000-13RH5-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T627NC05000-13RH7-DA | 1/2 - 13 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T627NF05000-20RH5-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H5 |
| T627NF05000-20RH7-DA | 1/2 - 20 | 4.33 | .79 | 1.85 | .367 | 6 | H7 |
| T627NC06250-11RH10-DA | 5/8 - 11 | 4.33 | .79 | 2.01 | .480 | 6 | H10 |
| T627NC06250-11RH7-DA | 5/8 - 11 | 4.33 | .79 | 2.01 | .480 | 6 | H7 |
| T627NF06250-18RH10-DA | 5/8 - 18 | 4.33 | .79 | 2.01 | .480 | 6 | H10 |
| T627NF06250-18RH7-DA | 5/8 - 18 | 4.33 | .79 | 2.01 | .480 | 6 | H7 |
| T627NC07500-10RH10-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T627NC07500-10RH7-DA | 3/4 - 10 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |
| T627NF07500-16RH10-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H10 |
| T627NF07500-16RH7-DA | 3/4 - 16 | 4.92 | .98 | 2.52 | .590 | 6 | H7 |

**Shank Tolerance**

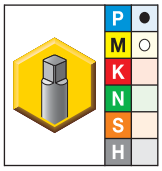
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSP27 AlCrTiN for steel and stainless steel.



beyond

## T624 • DIN Length ANSI Shank • Form C Semi-Bottoming Entry Taper • Metric • For Steel and Stainless Steel



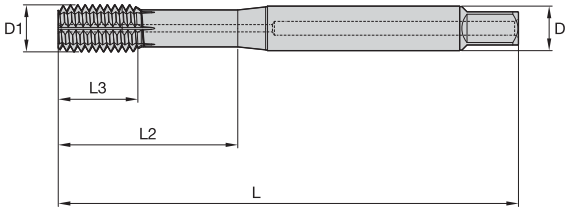

● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T624M030X050RD5-DA** | M3 X 0,5 | 2.20 | .39 | .79 | .141 | 2 | D5 |
| **T624M040X070RD6-DA** | M4 X 0,7 | 2.48 | .39 | .83 | .168 | 4 | D6 |
| **T624M060X100RD8-DA** | M6 X 1 | 3.15 | .51 | 1.18 | .255 | 4 | D8 |
| **T624M080X125RD9-DA** | M8 X 1,25 | 3.54 | .55 | 1.38 | .318 | 6 | D9 |
| **T624MF100X125RD9-DA** | M10 X 1,25 | 3.94 | .63 | 1.53 | .381 | 6 | D9 |
| **T624M100X150RD10-DA** | M10 X 1,5 | 3.94 | .63 | 1.54 | .381 | 6 | D10 |
| **T624MF120X125RD9-DA** | M12 X 1,25 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| **T624MF120X150RD9-DA** | M12 X 1,5 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| **T624M120X175RD11-DA** | M12 X 1,75 | 4.33 | .71 | 1.73 | .367 | 6 | D11 |
| **T624MF140X150RD11-DA** | M14 X 1,5 | 4.33 | .79 | 2.05 | .429 | 6 | D11 |
| **T624M140X200RD12-DA** | M14 X 2 | 4.33 | .79 | 2.05 | .429 | 6 | D12 |
| **T624MF160X150RD11-DA** | M16 X 1,5 | 4.33 | .79 | 2.01 | .480 | 6 | D11 |
| **T624M160X200RD12-DA** | M16 X 2 | 4.33 | .79 | 2.01 | .480 | 6 | D12 |

**Shank Tolerance**

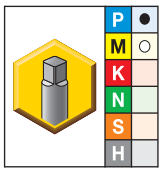
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

• KSP27 AlCrTiN for steel and stainless steel.



beyond

## T625 • DIN Length ANSI Shank • Form C Semi-Bottoming Entry Taper • Through Coolant • Metric • For Steel and Stainless Steel



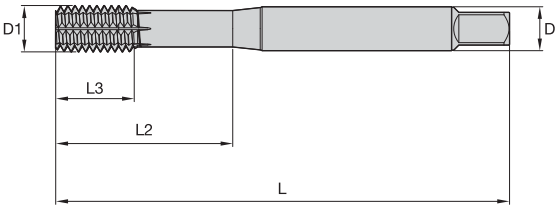

● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| T625M060X100RD8-DA | M6 X 1 | 3.15 | .51 | 1.18 | .255 | 4 | D8 |
| T625M080X125RD9-DA | M8 X 1,25 | 3.54 | .55 | 1.38 | .318 | 6 | D9 |
| T625MF100X125RD9-DA | M10 X 1,25 | 3.94 | .63 | 1.54 | .381 | 6 | D9 |
| T625M100X150RD10-DA | M10 X 1,5 | 3.94 | .63 | 1.54 | .381 | 6 | D10 |
| T625MF120X125RD9-DA | M12 X 1,25 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| T625MF120X150RD9-DA | M12 X 1,5 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| T625M120X175RD11-DA | M12 X 1,75 | 4.33 | .71 | 1.73 | .367 | 6 | D11 |
| T625MF140X150RD11-DA | M14 X 1,5 | 4.33 | .79 | 2.05 | .429 | 6 | D11 |
| T625M140X200RD12-DA | M14 X 2 | 4.33 | .79 | 2.05 | .429 | 6 | D12 |
| T625MF160X150RD11-DA | M16 X 1,5 | 4.33 | .79 | 2.01 | .480 | 6 | D11 |
| T625M160X200RD12-DA | M16 X 2 | 4.33 | .79 | 2.01 | .480 | 6 | D12 |

**Shank Tolerance**

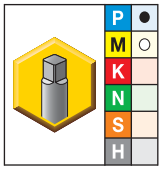
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

• KSP27 AlCrTiN for steel and stainless steel.



beyond

## T626 • DIN Length ANSI Shank • Form E Bottoming Entry Taper • Metric • For Steel and Stainless Steel



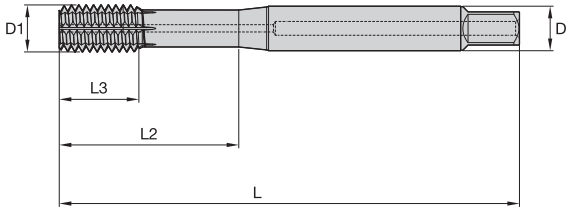

● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T626M030X050RD5-DA** | M3 X 0,5 | 2.20 | .39 | .79 | .141 | 2 | D5 |
| **T626M035X060RD6-DA** | M3,5 X 0,6 | 2.20 | .39 | .79 | .141 | 2 | D6 |
| **T626M040X070RD6-DA** | M4 X 0,7 | 2.48 | .39 | .83 | .168 | 4 | D6 |
| **T626M050X080RD7-DA** | M5 X 0,8 | 2.76 | .39 | .98 | .194 | 4 | D7 |
| **T626M060X100RD8-DA** | M6 X 1 | 3.15 | .51 | 1.18 | .255 | 4 | D8 |
| **T626M080X125RD9-DA** | M8 X 1,25 | 3.54 | .55 | 1.38 | .318 | 6 | D9 |
| **T626MF100X125RD9-DA** | M10 X 1,25 | 3.94 | .63 | 1.53 | .381 | 6 | D9 |
| **T626M100X150RD10-DA** | M10 X 1,5 | 3.94 | .63 | 1.54 | .381 | 6 | D10 |
| **T626MF120X125RD9-DA** | M12 X 1,25 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| **T626MF120X150RD9-DA** | M12 X 1,5 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| **T626M120X175RD11-DA** | M12 X 1,75 | 4.33 | .71 | 1.73 | .367 | 6 | D11 |
| **T626MF140X150RD11-DA** | M14 X 1,5 | 4.33 | .79 | 2.05 | .429 | 6 | D11 |
| **T626M140X200RD12-DA** | M14 X 2 | 4.33 | .79 | 2.05 | .429 | 6 | D12 |
| **T626MF160X150RD11-DA** | M16 X 1,5 | 4.33 | .79 | 2.01 | .480 | 6 | D11 |
| **T626M160X200RD12-DA** | M16 X 2 | 4.33 | .79 | 2.01 | .480 | 6 | D12 |

**Shank Tolerance**

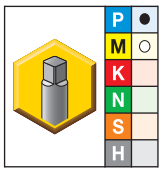
| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

- KSP27 AlCrTiN for steel and stainless steel.



beyond

## T627 • DIN Length ANSI Shank • Form E Bottoming Entry Taper • Through Coolant • Metric • For Steel and Stainless Steel




● first choice
○ alternate choice

| KSP27 | D1 size | L | L3 | L2 | D | number of lube grooves | pitch diameter limit |
|---|---|---|---|---|---|---|---|
| **T627M060X100RD8-DA** | M6 X 1 | 3.15 | .51 | 1.18 | .255 | 4 | D8 |
| **T627M080X125RD9-DA** | M8 X 1,25 | 3.54 | .55 | 1.38 | .318 | 6 | D9 |
| **T627MF100X125RD9-DA** | M10 X 1,25 | 3.94 | .63 | 1.54 | .381 | 6 | D9 |
| **T627M100X150RD10-DA** | M10 X 1,5 | 3.94 | .63 | 1.54 | .381 | 6 | D10 |
| **T627MF120X125RD9-DA** | M12 X 1,25 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| **T627MF120X150RD9-DA** | M12 X 1,5 | 4.33 | .71 | 1.73 | .367 | 6 | D9 |
| **T627M120X175RD11-DA** | M12 X 1,75 | 4.33 | .71 | 1.73 | .367 | 6 | D11 |
| **T627MF140X150RD11-DA** | M14 X 1,5 | 4.33 | .79 | 2.05 | .429 | 6 | D11 |
| **T627M140X200RD12-DA** | M14 X 2 | 4.33 | .79 | 2.05 | .429 | 6 | D12 |
| **T627MF160X150RD11-DA** | M16 X 1,5 | 4.33 | .79 | 2.01 | .480 | 6 | D11 |
| **T627M160X200RD12-DA** | M16 X 2 | 4.33 | .79 | 2.01 | .480 | 6 | D12 |

**Shank Tolerance**

| D fractional | tolerance h6 |
|---|---|
| .250–.375 | +0, -.0004 |
| .438–.625 | +0, -.0004 |

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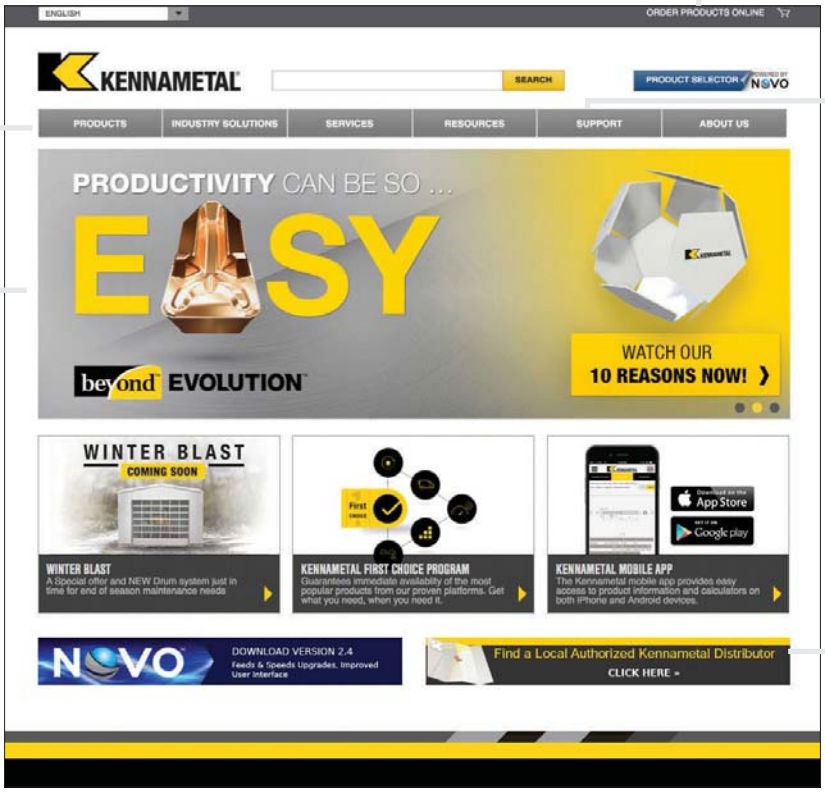


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# Pipe Taps

## High-Performance Pipe Taps for Through-Hole and Blind-Hole Applications

- Steel and steel alloys.
- Stainless steel.
- Aluminum.

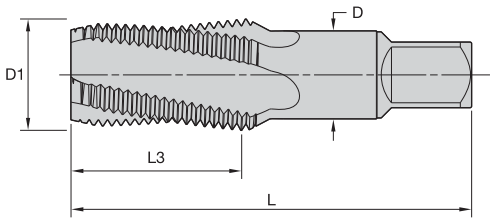
## Multipurpose HSS-E GOtap™ Taps

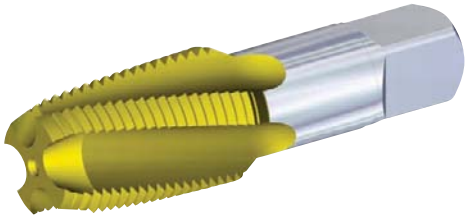
- NPT and NPTF taper pipe taps with standard projections and standard chamfers for ductile materials and mold steels.
- DIN EN ISO 228 G straight pipe taps with Whitworth thread form for ductile materials.
- Manufactured with high-vanadium HSS-E material for exceptional wear characteristics and longer tool life.
- Advanced PVD coatings to reduce tapping torque, resulting in high-quality thread finish and longer tool life.
- For use in both synchronous and non-synchronous machines, including rigid, synchronous, and tension/compression tap holders.

## General-Purpose Taps

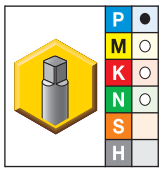
- Manufactured with select high-speed steel (HSS).
- Ground thread pipe taps are standard in American Standard Taper pipe threads (NPT), Dryseal American Standard Taper pipe threads (NPTF), American Standard Straight pipe threads (NPS), and American Standard Dryseal Fuel Straight pipe threads (NPSF).

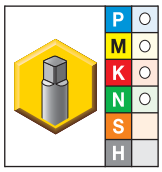
- KSU31 TiN
- KSP39 oxide



## T854 • Standard Chamfer • Standard Projection

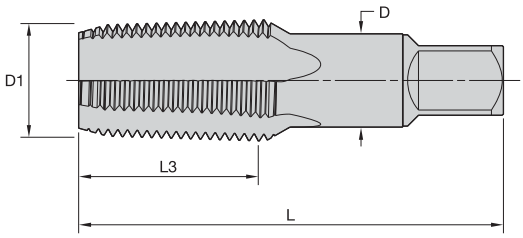


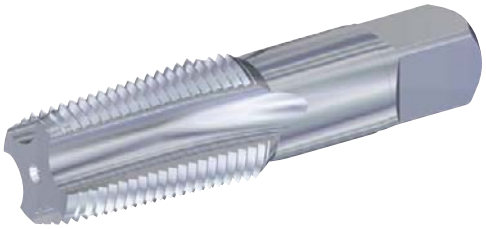




● first choice
○ alternate choice

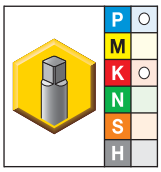
| KSU31 | KSP39 | D1 size | L | L3 | D | number of flutes | thread type |
|---|---|---|---|---|---|---|---|
| T854NPT00625-27R-A | T854NPT00625-27R-A | 1/16 - 27 | 2.13 | .69 | .313 | 4 | NPT |
| – | T854NPTF00625-27R-A | 1/16 - 27 | 2.13 | .69 | .313 | 4 | NPTF |
| T854NPT01250-27R-AS | T854NPT01250-27R-AS | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPT |
| T854NPTF01250-27R-AS | T854NPTF01250-27R-AS | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPTF |
| T854NPT01250-27R-A | T854NPT01250-27R-A | 1/8 - 27 | 2.13 | .75 | .438 | 4 | NPT |
| T854NPTF01250-27R-A | T854NPTF01250-27R-A | 1/8 - 27 | 2.13 | .75 | .438 | 4 | NPTF |
| T854NPT02500-18R-A | T854NPT02500-18R-A | 1/4 - 18 | 2.44 | 1.03 | .563 | 4 | NPT |
| T854NPTF02500-18R-A | T854NPTF02500-18R-A | 1/4 - 18 | 2.44 | 1.03 | .563 | 4 | NPTF |
| T854NPT03750-18R-A | T854NPT03750-18R-A | 3/8 - 18 | 2.56 | 1.03 | .700 | 4 | NPT |
| T854NPTF03750-18R-A | T854NPTF03750-18R-A | 3/8 - 18 | 2.56 | 1.03 | .700 | 4 | NPTF |
| T854NPT05000-14R-A | T854NPT05000-14R-A | 1/2 - 14 | 3.13 | 1.38 | .688 | 4 | NPT |
| T854NPTF05000-14R-A | T854NPTF05000-14R-A | 1/2 - 14 | 3.13 | 1.38 | .688 | 4 | NPTF |
| T854NPT07500-14R-A | T854NPT07500-14R-A | 3/4 - 14 | 3.25 | 1.38 | .906 | 4 | NPT |
| – | T854NPTF07500-14R-A | 3/4 - 14 | 3.25 | 1.38 | .906 | 4 | NPTF |
| T854NPT10000-11.5R-A | T854NPT10000-11.5R-A | 1 - 11 1/2 | 3.75 | 1.75 | 1.125 | 4 | NPT |
| – | T854NPTF10000-11.5R-A | 1 - 11 1/2 | 3.75 | 1.75 | 1.125 | 4 | NPTF |

- KSU30 bright



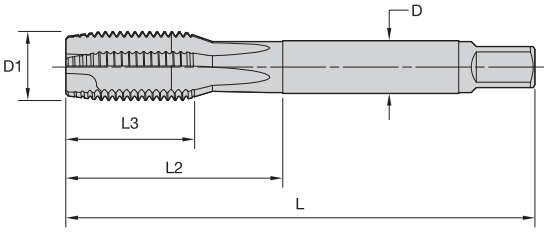
## T846 • NPT • Standard Chamfer • Standard Projection

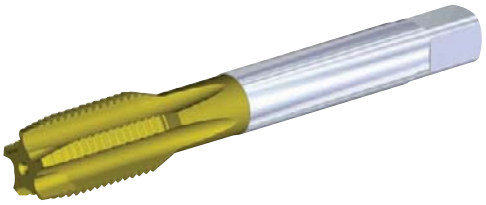



● first choice
○ alternate choice

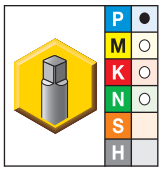
| KSU30 | D1 size | L | L3 | D | number of flutes | thread type |
|---|---|---|---|---|---|---|
| **T846NPT01250-27R-AS** | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPT |
| **T846NPT02500-18R-A** | 1/4 - 18 | 2.44 | 1.03 | .563 | 4 | NPT |
| **T846NPT03750-18R-A** | 3/8 - 18 | 2.56 | 1.03 | .700 | 4 | NPT |
| **T846NPT05000-14R-A** | 1/2 - 14 | 3.13 | 1.38 | .688 | 4 | NPT |
| **T846NPT07500-14R-A** | 3/4 - 14 | 3.25 | 1.38 | .906 | 5 | NPT |

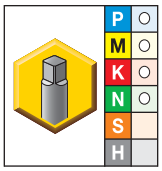
- KSU31 TiN
- KSP39 oxide



## T877 • (G) Whitworth Pipe Thread • DIN EN ISO 228 • Form B

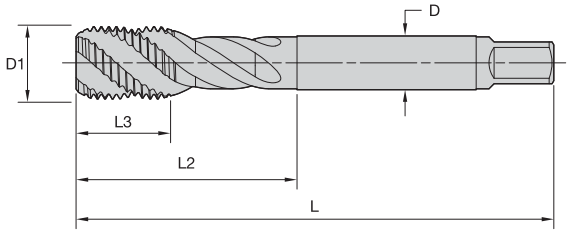


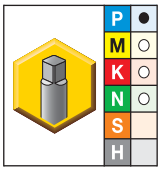

● first choice
○ alternate choice

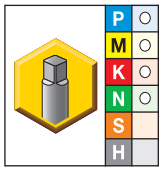
| KSU31 | KSP39 | D1 size | L | L3 | L2 | D | number of flutes | thread type |
|---|---|---|---|---|---|---|---|---|
| **T877G01250-28R-D56** | **T877G01250-28R-D56** | 1/8 - 28 | 90 | 15 | 35 | 7 | 3 | G |
| **T877G02500-19R-D56** | **T877G02500-19R-D56** | 1/4 - 19 | 100 | 22 | 44 | 11 | 3 | G |
| **T877G03750-19R-D56** | **T877G03750-19R-D56** | 3/8 - 19 | 100 | 22 | 47 | 12 | 4 | G |
| **T877G05000-14R-D56** | **T877G05000-14R-D56** | 1/2 - 14 | 125 | 25 | 55 | 16 | 4 | G |
| **T877G06250-14R-D56** | **T877G06250-14R-D56** | 5/8 - 14 | 125 | 25 | 61 | 18 | 4 | G |
| **T877G07500-14R-D56** | **T877G07500-14R-D56** | 3/4 - 14 | 140 | 25 | 60 | 20 | 4 | G |
| **T877G08750-14R-D56** | **T877G08750-14R-D56** | 7/8 - 14 | 150 | 28 | 68 | 22 | 4 | G |
| **T877G10000-11R-D56** | **T877G10000-11R-D56** | 1 - 11 | 160 | 30 | 68 | 25 | 5 | G |

- KSU31 TiN
- KSP39 oxide



## T857 • (G) Whitworth Pipe Thread • DIN EN ISO 228 • Form C • Tension/Compression Holders



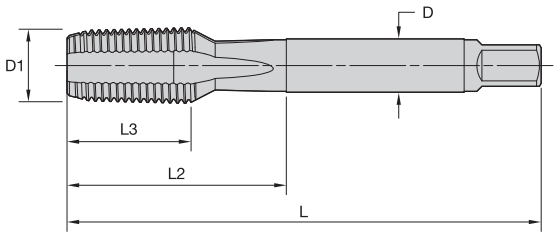




● first choice
○ alternate choice

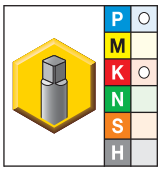
| KSU31 | KSP39 | D1 size | L | L3 | L2 | D | number of flutes | thread type |
|---|---|---|---|---|---|---|---|---|
| T857G01250-28R-D56 | T857G01250-28R-D56 | 1/8 - 28 | 90 | 15 | 37 | 7 | 3 | G |
| T857G02500-19R-D56 | T857G02500-19R-D56 | 1/4 - 19 | 100 | 15 | 44 | 11 | 3 | G |
| T857G03750-19R-D56 | T857G03750-19R-D56 | 3/8 - 19 | 100 | 15 | 47 | 12 | 4 | G |
| T857G05000-14R-D56 | T857G05000-14R-D56 | 1/2 - 14 | 125 | 18 | 55 | 16 | 4 | G |
| T857G06250-14R-D56 | T857G06250-14R-D56 | 5/8 - 14 | 125 | 18 | 61 | 18 | 4 | G |
| T857G07500-14R-D56 | T857G07500-14R-D56 | 3/4 - 14 | 140 | 20 | 65 | 20 | 4 | G |
| T857G08750-14R-D56 | T857G08750-14R-D56 | 7/8 - 14 | 150 | 22 | 68 | 22 | 4 | G |
| T857G10000-11R-D56 | T857G10000-11R-D56 | 1 - 11 | 160 | 24 | 74 | 25 | 5 | G |

***NOTE: Suitable for tension/compression holders.***

- KSU30 bright



## T848 • NPT and NPTF • Standard Projection • Form C

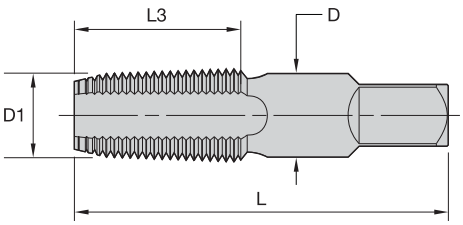


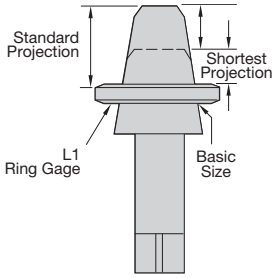

● first choice
○ alternate choice



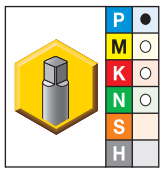
| KSU30 | D1 size | L | L3 | L2 | D | number of flutes | thread type |
|---|---|---|---|---|---|---|---|
| **T848NPT00625-27R-D56** | 1/16 - 27 | 90 | 13 | 35 | 6 | 3 | NPT |
| **T848NPTF00625-27R-D56** | 1/16 - 27 | 90 | 13 | 35 | 6 | 3 | NPTF |
| **T848NPT01250-27R-D56** | 1/8 - 27 | 90 | 13 | 36 | 7 | 4 | NPT |
| **T848NPTF01250-27R-D56** | 1/8 - 27 | 90 | 13 | 36 | 7 | 4 | NPTF |
| **T848NPT02500-18R-D56** | 1/4 - 18 | 100 | 20 | 39 | 11 | 4 | NPT |
| **T848NPTF02500-18R-D56** | 1/4 - 18 | 100 | 20 | 39 | 11 | 4 | NPTF |
| **T848NPT03750-18R-D56** | 3/8 - 18 | 110 | 20 | 39 | 12 | 4 | NPT |
| **T848NPTF03750-18R-D56** | 3/8 - 18 | 110 | 20 | 39 | 12 | 4 | NPTF |
| **T848NPT05000-14R-D56** | 1/2 - 14 | 125 | 26 | 56 | 16 | 4 | NPT |
| **T848NPTF05000-14R-D56** | 1/2 - 14 | 125 | 26 | 56 | 16 | 4 | NPTF |
| **T848NPT07500-14R-D56** | 3/4 - 14 | 140 | 26 | 55 | 20 | 4 | NPT |
| **T848NPTF07500-14R-D56** | 3/4 - 14 | 140 | 26 | 55 | 20 | 4 | NPTF |
| **T848NPT10000-11,5R-D56** | 1 - 11 1/2 | 160 | 32 | 71 | 25 | 5 | NPT |
| **T848NPTF10000-11,5R-D56** | 1 - 11 1/2 | 160 | 32 | 71 | 25 | 5 | NPTF |

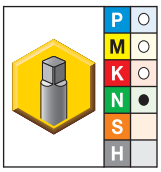
- Manufactured from select high-speed steel.
- Ground thread pipe taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Thread Form (NPTF).
- NPT threads require the use of a sealer, such as Teflon® tape or pipe compound.
- NPTF dryseal threads give a pressure-tight joint without the use of sealer.
- The nominal size of a pipe tap is that of the pipe fitting to be tapped, not the actual size of the tap; thread taper is 3/4" per foot.
- Alternate tap coatings are available as stock modifications.




## KHSST Taper Pipe Tap • Chamfer 2-1/2–3-1/2 Pitches



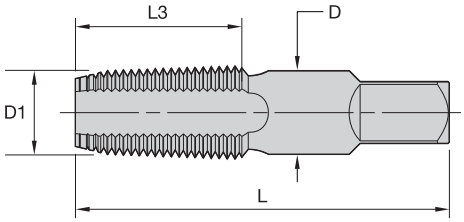




● first choice
○ alternate choice

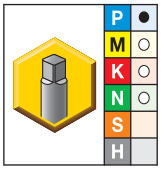
| TiN | uncoated | D1 size | L | L3 | D | number of flutes | thread type |
|---|---|---|---|---|---|---|---|
| **KHSST09137** | **KHSST28443** | 1/16 - 27 | 2.13 | .69 | .313 | 4 | NPT/ANPT |
| **KHSST09140** | **KHSST08703** | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPT/ANPT |
| **KHSST28141** | **KHSST08705** | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPTF |
| **KHSST28139** | **KHSST08704** | 1/8 - 27 | 2.13 | .75 | .438 | 4 | NPT/ANPT |
| **KHSST28140** | **–** | 1/8 - 27 | 2.13 | .75 | .438 | 4 | NPTF |
| **KHSST09143** | **KHSST08709** | 1/4 - 18 | 2.44 | 1.06 | .563 | 4 | NPT/ANPT |
| **–** | **KHSST28445** | 1/4 - 18 | 2.44 | 1.06 | .563 | 4 | NPTF |
| **KHSST28142** | **KHSST28446** | 3/8 - 18 | 2.56 | 1.06 | .700 | 4 | NPT/ANPT |
| **–** | **KHSST08712** | 3/8 - 18 | 2.56 | 1.06 | .700 | 4 | NPTF |
| **KHSST09147** | **KHSST08715** | 1/2 - 14 | 3.13 | 1.66 | .687 | 4 | NPT/ANPT |
| **KHSST28060** | **KHSST28444** | 1/2 - 14 | 3.13 | 1.66 | .687 | 4 | NPTF |
| **KHSST28178** | **KHSST28177** | 3/4 - 14 | 3.25 | 1.38 | .906 | 5 | NPT/ANPT |
| **–** | **KHSST28181** | 3/4 - 14 | 3.25 | 1.38 | .906 | 5 | NPTF |
| **–** | **KHSST28107** | 1 - 11 1/2 | 3.75 | 1.75 | 1.125 | 5 | NPTF |
| **KHSST09151** | **KHSST28106** | 1 - 11 1/2 | 3.75 | 1.75 | 1.125 | 5 | NPT/ANPT |
| **–** | **KHSST08724** | 1 1/4 - 11 1/2 | 4.00 | 1.75 | 1.313 | 5 | NPT/ANPT |
| **–** | **KHSST28002** | 1 1/2 - 11 1/2 | 4.25 | 3.00 | 1.500 | 7 | NPT/ANPT |
| **–** | **KHSST28109** | 2 - 11 1/2 | 4.25 | 1.75 | 1.875 | 7 | NPT/ANPT |

* Pipe tap projection is the distance the small end of the tap projects through an American National Standard Pipe Tap Thread Ring Gage.
NOTE: ANPT Taps marked NPT may be used for NPT and ANPT applications.

- Manufactured from select tap high-speed steel.
- Ground thread pipe taps are standard in American National Standard Straight Pipe (NPS) thread form and American National Standard Dryseal Straight Pipe (NPSF) thread form.
- NPS threads are suitable for tapping holes or couplings for low-pressure work when used with a sealer; also suitable for NPSC and NPSM work.
- NPSF dryseal taps are intended for low-pressure work, such as fuel and oil lines, where a sealer is not used.
- Dryseal threads give a low-pressure, pressure-tight joint without the use of sealer.



## KHSST Straight Pipe • Chamfer 2-1/2–3-1/2 Pitches




● first choice
○ alternate choice

| uncoated | D1 size | L | L3 | D | number of flutes | thread series |
|---|---|---|---|---|---|---|
| **KHSST28091** | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPS |
| **KHSST28093** * | 1/8 - 27 | 2.13 | .75 | .313 | 4 | NPSF |
| **KHSST28092** * | 1/8 - 27 | 2.13 | .75 | .438 | 4 | NPS |
| **KHSST28094** | 1/8 - 27 | 2.13 | .75 | .438 | 4 | NPSF |
| **KHSST28067** | 1/4 - 18 | 2.44 | 1.06 | .563 | 4 | NPS |
| **KHSST28068** | 1/4 - 18 | 2.44 | 1.06 | .563 | 4 | NPSF |
| **KHSST28196** | 3/8 - 18 | 2.56 | 1.06 | .700 | 4 | NPS |
| **KHSST28197** | 3/8 - 18 | 2.56 | 1.06 | .700 | 4 | NPSF |
| **KHSST28057** | 1/2 - 14 | 3.13 | 1.66 | .688 | 4 | NPS |
| **KHSST28058** | 1/2 - 14 | 3.13 | 1.66 | .688 | 4 | NPSF |
| **KHSST28172** | 3/4 - 14 | 3.25 | 1.38 | .906 | 5 | NPS |
| **KHSST28173** * | 3/4 - 14 | 3.25 | 1.38 | .906 | 5 | NPSF |
| **KHSST28104** | 1 - 11 1/2 | 3.75 | 1.75 | 1.125 | 5 | NPS |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

# NOVO KNOWS CAD/CAM

With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

# High-Performance Solid Carbide Thread Mills

Our solid carbide thread mills are designed to deliver high-quality internal threading on 3-axis CNC machines. Because these mills are made of carbide, they are capable of easily cutting most difficult materials up to 63 HRC. Thread mills make interrupted cuts and short chips.

The combination of these design elements offers a range of benefits to improve overall thread quality and tool production. Short, easily evacuated chips generate less heat and friction, so there is a lower risk of damage to threading. Also, the superior carbide grades make threading easier and machining times shorter.

## Features and Benefits

### System Requirements

- 3-axis CNC machine.
- Good clamping for tool and workpiece.
- Internal coolant supply.

### Advantages

- Versatile.
- Better surface quality.
- No chip problems.
- No need to reverse the spindle.
- More production safety.

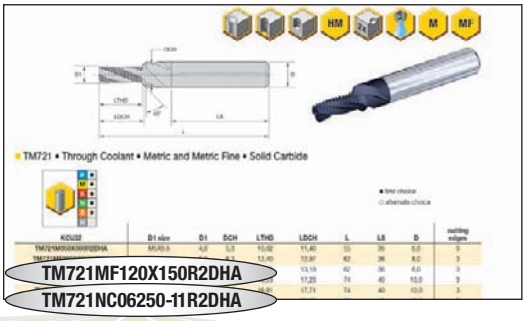
### Features

- Interrupted cut.
- Short chips.
- Optimized carbide grades.
- Drill, thread, chamfer.

## Through and Blind Holes (2 x D)

| | | | | | |
|---|---|---|---|---|---|
| | | Thread Mill | Thread Mill and Chamfer | Drill, Thread Mill, and Chamfer | Mill, Thread Mill, and Chamfer |
| P | <35 HRC | TM711 | TM721 | — | TM741_RHSF |
| P | 35–43 HRC | — | TM721 | — | TM741_RHSF |
| M | | TM711 | TM721 | — | TM741_RHSF |
| K | | TM711 | TM721 | TM731 | TM741_RHSF |
| N | Wrought | TM711 | TM721 | — | TM731 |
| N | Cast | TM711 | TM721 | TM731 | TM741_RHSF |
| S | | TM711 | TM721 | — | TM741_LHSF |
| H | 44–63 HRC | — | — | — | TM741_RHSF<br>TM741_LHSF |

## Solid Thread Mills Identification System




**Metric**

| TM721 | MF | 120 | X | 150 | R | 2D | HA |
|---|---|---|---|---|---|---|---|

**Inch**

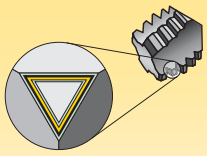
| TM721 | NC | 06250 | - | 11 | R | 2D | HA |
|---|---|---|---|---|---|---|---|

| Thread Mill Design | Type of Thread | Nominal Diameter of Thread | | Pitch | Cutting Direction | Depth of Cut | Shank |
|---|---|---|---|---|---|---|---|
| | | mm or inch (depending on type) | | mm or TPI (depending on type) | | | |

**M** = Metric coarse-pitch thread (ISO form)
**MF** = Metric fine-pitch thread (ISO form)
**NC** = Unified coarse series thread
**NF** = Unified fine series thread

**DIN 6535**
**HA** = Plain Shank
**HB** = Weldon® Shank
**HE** = Whistle Notch Shank

**Style**
**TM711** = Solid Thread Mill; Through Coolant
**TM721** = Solid Thread Mill and Chamfer; Through Coolant
**TM731** = Solid Thread Mill, Chamfer, and Drill; Through Coolant
**TM741** = Solid Thread Mill, Chamfer, and Mill; Through Coolant

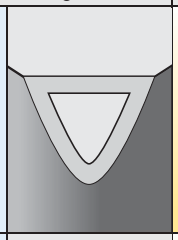
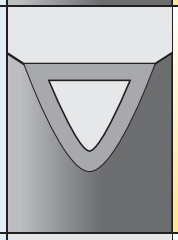
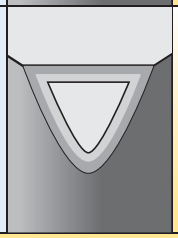


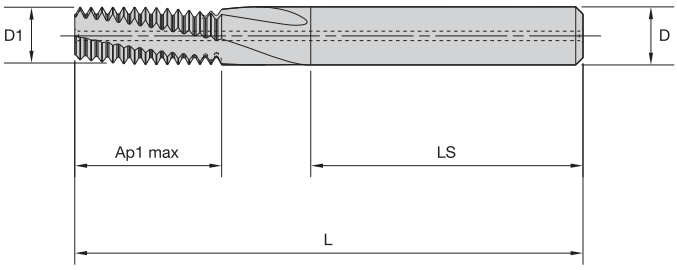
**Coatings are designed for optimized tapping performance in specific materials.**

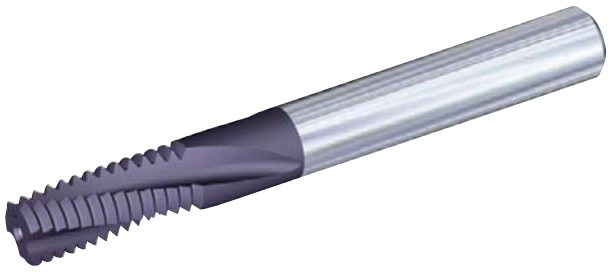
| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

**wear resistance** ⟷ **toughness**

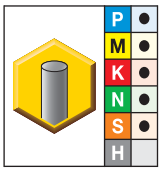
Grade

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KCU32  | Coated carbide. PVD — Fine-grain carbide substrate with high hardness TiCN coating. Universal grade for thread milling most materials. | P | | ■ | ■ | ■ | | | | | |
| | | M | | ■ | ■ | ■ | | | | | |
| | | K | | ■ | ■ | ■ | | | | | |
| | | N | | | ■ | ■ | ■ | | | | |
| | | S | | ■ | ■ | ■ | | | | | |
| | | | | | | | | | | | |
| KCU33  | Coated carbide. PVD — Carbide substrate with heat-resistant TiAlN coating. Universal grade for thread milling most materials. | P | | | ■ | ■ | ■ | ■ | | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | K | | ■ | ■ | ■ | ■ | | | | |
| | | N | | | | ■ | ■ | ■ | ■ | | |
| | | S | | | ■ | ■ | ■ | ■ | | | |
| | | | | | | | | | | | |
| KCU36  | Coated carbide. PVD — two-layer coating with heat-resistant TiAlN base layer and low-friction $MoS_2$ top layer over carbide substrate. Use for thread milling most materials including high hardness materials. | P | | | | ■ | ■ | ■ | ■ | | |
| | | M | | | | ■ | ■ | ■ | ■ | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |
| | | N | | | ■ | ■ | ■ | ■ | | | |
| | | S | | | | ■ | ■ | ■ | ■ | | |
| | | H | | | | | ■ | ■ | ■ | ■ | |



## TM711 • Through Coolant • Metric and Metric Fine • Solid Carbide • Solid Carbide

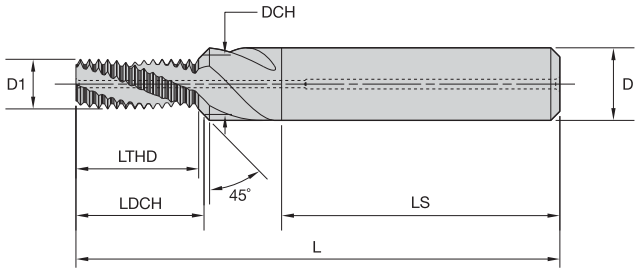



● first choice
○ alternate choice

| KCU33 | D1 size | D1 | Ap1 max | L | LS | D | cutting edges |
|---|---|---|---|---|---|---|---|
| TM711M030X050R2DHA | M3 X 0.5 | 2,4 | – | 42 | 28 | 4,0 | 3 |
| TM711MF040X050R2DHA | M4 X 0.5 | 3,4 | 8,2 | 55 | 36 | 6,0 | 3 |
| TM711M040X070R2DHA | M4 X 0.7 | 3,2 | – | 55 | 36 | 6,0 | 3 |
| TM711MF050X050R2DHA | M5 X 0.5 | 4,3 | 10,2 | 55 | 36 | 6,0 | 3 |
| TM711M050X080R2DHA | M5 X 0.8 | 4,0 | – | 55 | 36 | 6,0 | 3 |
| TM711MF060X075R2DHA | M6 X 0.75 | 5,0 | 12,0 | 55 | 36 | 6,0 | 3 |
| TM711M060X100R2DHA | M6 X 1 | 4,8 | 12,0 | 55 | 36 | 6,0 | 3 |
| TM711MF080X075R2DHA | M8 X 0.75 | 6,0 | 16,8 | 63 | 36 | 6,0 | 3 |
| TM711MF080X100R2DHA | M8 X 1.0 | 6,0 | 16,4 | 63 | 36 | 6,0 | 3 |
| TM711M080X125R2DHA | M8 X 1.25 | 5,9 | 16,0 | 63 | 36 | 6,0 | 3 |
| TM711MF100X100R2DHA | M10 X 1.0 | 8,0 | 20,5 | 70 | 36 | 8,0 | 3 |
| TM711M100X150R2DHA | M10 X 1.5 | 8,0 | 20,2 | 70 | 36 | 8,0 | 3 |
| TM711MF120X100R2DHA | M12 X 1.0 | 10,0 | 24,5 | 80 | 40 | 10,0 | 4 |
| TM711MF120X150R2DHA | M12 X 1.5 | 10,0 | 24,7 | 80 | 40 | 10,0 | 4 |
| TM711M120X175R2DHA | M12 X 1.75 | 10,0 | 25,3 | 80 | 40 | 10,0 | 4 |
| TM711MF140X150R2DHA | M14 X 1.5 | 10,0 | 29,2 | 80 | 40 | 10,0 | 4 |
| TM711M140X200R2DHA | M14 X 2.0 | 11,6 | 28,0 | 90 | 45 | 12,0 | 4 |
| TM711MF160X150R2DHA | M16 X 1.5 | 12,0 | 32,2 | 90 | 45 | 12,0 | 4 |
| TM711M160X200R2DHA | M16 X 2.0 | 12,0 | 32,9 | 90 | 45 | 12,0 | 4 |
| TM711MF180X150R2DHA | M18 X 1.5 | 14,0 | 36,7 | 90 | 45 | 14,0 | 4 |
| TM711M180X250R2DHA | M18 X 2.5 | 14,0 | 38,7 | 90 | 45 | 14,0 | 4 |
| TM711MF200X150R2DHA | M20 X 1.5 | 14,0 | 41,2 | 90 | 45 | 14,0 | 4 |
| TM711M200X250R2DHA | M20 X 2.5 | 14,0 | 41,2 | 90 | 45 | 14,0 | 4 |

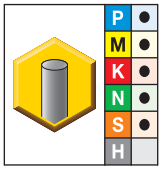
**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |



## TM721 • UNC • Through Coolant • Inch • Solid Carbide • Solid Carbide





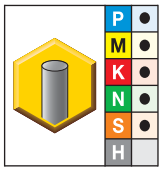

● first choice
○ alternate choice

| KCU32 | D1 size | D1 | DCH | LTHD | LDCH | L | LS | D | cutting edges |
|---|---|---|---|---|---|---|---|---|---|
| **TM721NC2500-20R2DHA** | 1/4-20 | 4,7 | 6,7 | 13,36 | 14,23 | 62 | 36 | 8,0 | 3 |
| **TM721NC3125-18R2DHA** | 5/16-18 | 6,2 | 8,3 | 16,26 | 17,19 | 74 | 40 | 10,0 | 3 |
| **TM721NC3750-16R2DHA** | 3/8-16 | 7,7 | 9,8 | 19,89 | 20,85 | 80 | 45 | 12,0 | 3 |
| **TM721NC4375-14R2DHA** | 7/16-14 | 9,0 | 11,4 | 22,72 | 23,79 | 80 | 45 | 12,0 | 3 |
| **TM721NC0500-13R2DHA** | 1/2-13 | 10,4 | 13,0 | 26,43 | 27,60 | 90 | 45 | 14,0 | 4 |
| **TM721NC5625-12R2DHA** | 9/16-12 | 11,8 | 14,6 | 30,75 | 31,99 | 100 | 48 | 16,0 | 4 |
| **TM721NC0625-11R2DHA** | 5/8-11 | 13,1 | 16,2 | 33,54 | 34,89 | 102 | 48 | 18,0 | 4 |

**Shank Tolerance**

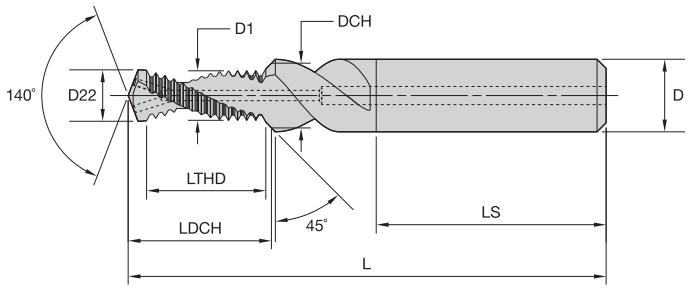
| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |

## TM721 • Through Coolant • Metric and Metric Fine • Solid Carbide • Solid Carbide

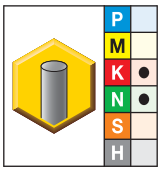



● first choice
○ alternate choice

| KCU32 | D1 size | D1 | DCH | LTHD | LDCH | L | LS | D | cutting edges |
|---|---|---|---|---|---|---|---|---|---|
| **TM721M060X100R2DHA** | M6X1 | 4,8 | 6,3 | 12,52 | 13,19 | 62 | 36 | 8,0 | 3 |
| **TM721MF080X100R2DHA** | M8X1 | 6,7 | 8,3 | 16,53 | 17,23 | 74 | 40 | 10,0 | 3 |
| **TM721M080X125R2DHA** | M8X1.25 | 6,5 | 8,3 | 16,91 | 17,71 | 74 | 40 | 10,0 | 3 |
| **TM721M100X150R2DHA** | M10X1.5 | 8,2 | 10,3 | 20,29 | 21,22 | 80 | 45 | 12,0 | 3 |
| **TM721MF120X125R2DHA** | M12X1.25 | 10,4 | 12,3 | 24,43 | 25,24 | 90 | 45 | 14,0 | 4 |
| **TM721M120X175R2DHA** | M12X1.75 | 9,9 | 12,3 | 25,42 | 26,48 | 90 | 45 | 14,0 | 4 |
| **TM721MF140X150R2DHA** | M14X1.5 | 12,1 | 14,3 | 29,31 | 30,25 | 100 | 48 | 16,0 | 4 |
| **TM721M140X200R2DHA** | M14X2 | 11,6 | 14,3 | 29,05 | 30,24 | 100 | 48 | 16,0 | 4 |
| **TM721M160X200R2DHA** | M16X2 | 13,6 | 16,3 | 33,05 | 34,24 | 102 | 48 | 18,0 | 4 |



## TM731 • Through Coolant • Metric and Metric Fine • Solid Carbide • Solid Carbide

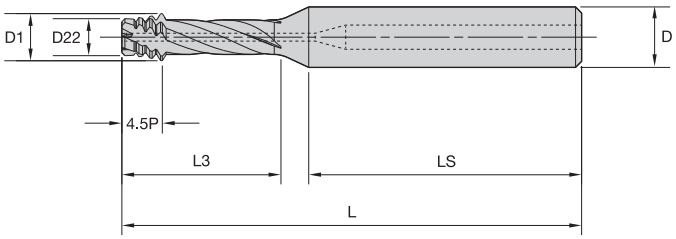



● first choice
○ alternate choice

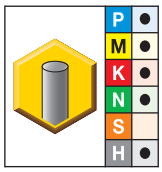
| KCU32 | D1 size | D22 | D1 | DCH | LTHD | LDCH | L | LS | D | cutting edges |
|---|---|---|---|---|---|---|---|---|---|---|
| **TM731M040X070R2DHA** | M4X0.7 | 3,3 | 3,2 | 4,3 | 7,74 | 9,59 | 49 | 36 | 6,0 | 2 |
| **TM731M050X080R2DHA** | M5X0.8 | 4,2 | 4,0 | 5,3 | 9,65 | 11,82 | 55 | 36 | 6,0 | 2 |
| **TM731M060X100R2DHA** | M6X1 | 5,0 | 4,8 | 6,3 | 12,06 | 14,69 | 62 | 36 | 8,0 | 2 |
| **TM731MF080X100R2DHA** | M8X1 | 7,0 | 6,8 | 8,3 | 16,09 | 19,10 | 74 | 40 | 10,0 | 2 |
| **TM731M080X125R2DHA** | M8X1.25 | 6,8 | 6,5 | 8,3 | 15,08 | 18,42 | 74 | 40 | 10,0 | 2 |
| **TM731M100X150R2DHA** | M10X1.5 | 8,5 | 8,2 | 10,3 | 19,59 | 23,65 | 79 | 45 | 12,0 | 2 |
| **TM731M120X175R2DHA** | M12X1.75 | 10,3 | 9,9 | 12,3 | 22,86 | 27,63 | 89 | 45 | 14,0 | 2 |
| **TM731M160X200R2DHA** | M16X2 | 14,0 | 13,6 | 16,3 | 32,13 | 38,00 | 102 | 48 | 18,0 | 2 |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |



## TM741 • UNC and UNF • Through Coolant • Right Hand • Inch • Solid Carbide

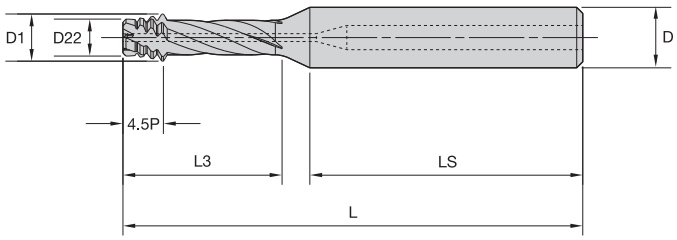



● first choice
○ alternate choice

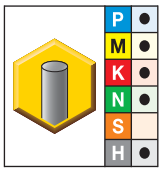
| KCU36 | D1 size | D1 | D22 | L3 | L | LS | D | cutting edges |
|---|---|---|---|---|---|---|---|---|
| **TM741NC2500-20R2DHA** | 1/4-20 | 4,64 | 3,34 | 17,0 | 60 | 36 | 8,0 | 3 |
| **TM741NF2500-28R2DHA** | 1/4-28 | 4,66 | 3,62 | 17,0 | 60 | 36 | 8,0 | 3 |
| **TM741NC3125-18R2DHA** | 5/16-18 | 5,64 | 4,12 | 21,9 | 76 | 40 | 10,0 | 4 |
| **TM741NF3125-24R2DHA** | 5/16-24 | 5,64 | 4,48 | 21,9 | 76 | 40 | 10,0 | 4 |
| **TM741NC3750-16R2DHA** | 3/8-16 | 7,16 | 5,42 | 26,3 | 76 | 40 | 10,0 | 4 |
| **TM741NF3750-24R2DHA** | 3/8-24 | 7,14 | 6,00 | 26,3 | 76 | 40 | 10,0 | 4 |
| **TM741NC0500-13R2DHA** | 1/2-13 | 10,08 | 7,95 | 33,4 | 86 | 45 | 12,0 | 4 |
| **TM741NF0500-20R2DHA** | 1/2-20 | 8,45 | 7,06 | 33,0 | 86 | 45 | 12,0 | 4 |
| **TM741NF0625-18R2DHA** | 5/8-18 | 12,38 | 10,83 | 42,0 | 98 | 48 | 16,0 | 4 |
| **TM741NC0750-10R2DHA** | 3/4-10 | 15,50 | 12,77 | 51,3 | 111 | 50 | 20,0 | 5 |
| **TM741NC0750-16R2DHA** | 3/4-16 | 15,38 | 13,65 | 51,3 | 111 | 50 | 20,0 | 5 |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |



## TM741 • Through Coolant • Right Hand • Metric and Metric Fine • Solid Carbide



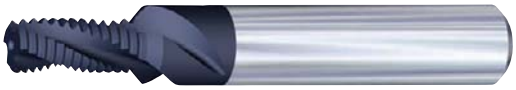

● first choice
○ alternate choice

| KCU36 | D1 size | D1 | D22 | L3 | L | LS | D | cutting edges |
|---|---|---|---|---|---|---|---|---|
| **TM741M060X100R2DHA** | M6X1 | 4,51 | 3,41 | 16,5 | 60 | 36 | 8,0 | 3 |
| **TM741MF080X100R2DHA** | M8X1 | 6,23 | 5,13 | 21,9 | 71 | 40 | 10,0 | 4 |
| **TM741M080X125R2DHA** | M8X1.25 | 6,23 | 4,91 | 21,9 | 71 | 40 | 10,0 | 4 |
| **TM741MF100X100R2DHA** | M10X1 | 6,23 | 5,13 | 21,9 | 71 | 40 | 10,0 | 4 |
| **TM741MF100X125R2DHA** | M10X1.25 | 6,23 | 4,91 | 21,9 | 71 | 40 | 10,0 | 4 |
| **TM741M100X150R2DHA** | M10X1.5 | 7,75 | 6,11 | 26,3 | 76 | 40 | 10,0 | 4 |
| **TM741MF120X150R2DHA** | M12X1.5 | 7,75 | 6,11 | 26,3 | 76 | 40 | 10,0 | 4 |
| **TM741M120X175R2DHA** | M12X1.75 | 9,16 | 7,21 | 32,4 | 86 | 45 | 12,0 | 4 |
| **TM741M140X200R2DHA** | M14X2 | 11,08 | 8,91 | 41,0 | 98 | 48 | 16,0 | 4 |
| **TM741M160X200R2DHA** | M16X2 | 11,08 | 8,91 | 41,0 | 98 | 48 | 16,0 | 4 |
| **TM741M180X250R2DHA** | M18X2.5 | 14,38 | 11,71 | 51,3 | 111 | 50 | 20,0 | 5 |
| **TM741M200X250R2DHA** | M20X2.5 | 14,38 | 11,71 | 51,3 | 111 | 50 | 20,0 | 5 |

**Shank Tolerance**

| D | tolerance h6 |
|---|---|
| 6 | +0, -0,008 |
| 8–10 | +0, -0,009 |
| 12–18 | +0, -0,011 |
| 20–30 | +0, -0,013 |

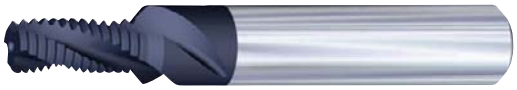
Thread Mill TM711



Thread Mill and Chamfer TM721

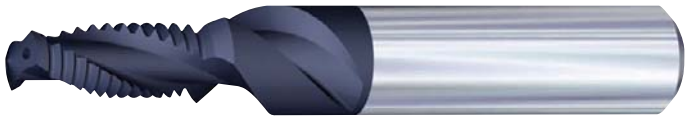
| Material Group | | Cutting Speed – vc Range – m/min | | | Feed/Tooth by Diameter | | | Cutting Speed – vc Range – m/min | | | Feed/Tooth by Diameter | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | <10mm | >10mm | min | Starting Value | max | | <10mm | >10mm |
| P | 1 | 90 | **115** | 150 | mm/r | 0,05 | 0,08 | 140 | **185** | 240 | mm/r | 0,06 | 0,10 |
| | 2 | 90 | **115** | 150 | mm/r | 0,05 | 0,08 | 140 | **185** | 240 | mm/r | 0,06 | 0,10 |
| | 3 | 40 | **50** | 70 | mm/r | 0,02 | 0,03 | 70 | **90** | 120 | mm/r | 0,03 | 0,04 |
| | 4 | – | **–** | – | – | – | – | 70 | **90** | 120 | mm/r | 0,03 | 0,04 |
| | 5 | 60 | **80** | 100 | mm/r | 0,04 | 0,06 | 70 | **90** | 120 | mm/r | 0,05 | 0,08 |
| | 6 | – | **–** | – | – | – | – | – | **–** | – | – | – | – |
| M | 1 | 60 | **80** | 100 | mm/r | 0,04 | 0,06 | 70 | **90** | 120 | mm/r | 0,05 | 0,08 |
| | 2 | 60 | **80** | 100 | mm/r | 0,04 | 0,06 | 70 | **90** | 120 | mm/r | 0,05 | 0,08 |
| | 3 | – | **–** | – | – | – | – | – | **–** | – | – | – | – |
| K | 1 | 120 | **150** | 200 | mm/r | 0,06 | 0,10 | 130 | **170** | 220 | mm/r | 0,06 | 0,11 |
| | 2 | 120 | **150** | 200 | mm/r | 0,06 | 0,10 | 130 | **170** | 220 | mm/r | 0,06 | 0,11 |
| | 3 | 90 | **115** | 150 | mm/r | 0,05 | 0,07 | 110 | **140** | 180 | mm/r | 0,05 | 0,07 |
| N | 1 | 250 | **275** | 300 | mm/r | 0,07 | 0,09 | 270 | **300** | 330 | mm/r | 0,08 | 0,16 |
| | 2 | 200 | **225** | 250 | mm/r | 0,05 | 0,06 | 270 | **300** | 330 | mm/r | 0,08 | 0,16 |
| | 3 | 170 | **190** | 210 | mm/r | 0,04 | 0,05 | 160 | **175** | 190 | mm/r | 0,08 | 0,16 |
| | 4 | 250 | **275** | 300 | mm/r | 0,07 | 0,09 | 270 | **300** | 330 | mm/r | 0,08 | 0,16 |
| | 5 | 270 | **300** | 330 | mm/r | 0,12 | 0,13 | 250 | **275** | 300 | mm/r | 0,11 | 0,20 |
| | 6 | 170 | **190** | 210 | mm/r | 0,05 | 0,06 | 90 | **100** | 110 | mm/r | 0,11 | 0,20 |
| S | 1 | 60 | **80** | 100 | mm/r | 0,04 | 0,06 | 70 | **90** | 120 | mm/r | 0,05 | 0,08 |
| | 2 | 50 | **65** | 80 | mm/r | 0,03 | 0,04 | 50 | **60** | 80 | mm/r | 0,03 | 0,05 |
| | 3 | 50 | **65** | 80 | mm/r | 0,03 | 0,04 | 50 | **60** | 80 | mm/r | 0,03 | 0,05 |
| | 4 | 50 | **65** | 80 | mm/r | 0,03 | 0,04 | 50 | **60** | 80 | mm/r | 0,03 | 0,05 |

Thread Mill TM711



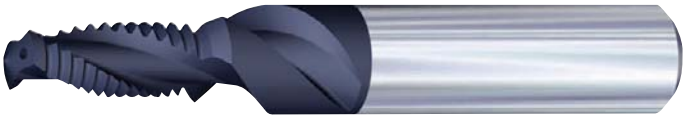
Thread Mill and Chamfer TM721

| Material Group | | Cutting Speed – vc Range – SFM | | | Feed/Tooth by Diameter | | | Cutting Speed – vc Range – SFM | | | Feed/Tooth by Diameter | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | <0.375" | >0.375" | min | Starting Value | max | | <0.375" | >0.375" |
| P | 1 | 300 | **380** | 490 | IPR | 0.002 | 0.003 | 460 | **610** | 790 | IPR | 0.002 | 0.004 |
| | 2 | 300 | **380** | 490 | IPR | 0.002 | 0.003 | 460 | **610** | 790 | IPR | 0.002 | 0.004 |
| | 3 | 130 | **160** | 230 | IPR | 0.001 | 0.001 | 230 | **300** | 390 | IPR | 0.001 | 0.001 |
| | 4 | – | **–** | – | – | – | – | 230 | **300** | 390 | IPR | 0.001 | 0.001 |
| | 5 | 200 | **260** | 330 | IPR | 0.002 | 0.002 | 230 | **300** | 390 | IPR | 0.002 | 0.003 |
| | 6 | – | **–** | – | – | – | – | – | **–** | – | – | – | – |
| M | 1 | 200 | **260** | 330 | IPR | 0.002 | 0.002 | 230 | **300** | 390 | IPR | 0.002 | 0.003 |
| | 2 | 200 | **260** | 330 | IPR | 0.002 | 0.002 | 230 | **300** | 390 | IPR | 0.002 | 0.003 |
| | 3 | – | **–** | – | – | – | – | – | **–** | – | – | – | – |
| K | 1 | 390 | **490** | 660 | IPR | 0.002 | 0.004 | 430 | **560** | 720 | IPR | 0.002 | 0.004 |
| | 2 | 390 | **490** | 660 | IPR | 0.002 | 0.004 | 430 | **560** | 720 | IPR | 0.002 | 0.004 |
| | 3 | 300 | **380** | 490 | IPR | 0.002 | 0.003 | 360 | **460** | 590 | IPR | 0.002 | 0.003 |
| N | 1 | 820 | **900** | 980 | IPR | 0.003 | 0.004 | 890 | **980** | 1080 | IPR | 0.003 | 0.006 |
| | 2 | 660 | **740** | 820 | IPR | 0.002 | 0.002 | 890 | **980** | 1080 | IPR | 0.003 | 0.006 |
| | 3 | 560 | **620** | 690 | IPR | 0.002 | 0.002 | 520 | **570** | 620 | IPR | 0.003 | 0.006 |
| | 4 | 820 | **900** | 980 | IPR | 0.003 | 0.004 | 890 | **980** | 1080 | IPR | 0.003 | 0.006 |
| | 5 | 890 | **980** | 1080 | IPR | 0.005 | 0.005 | 820 | **900** | 980 | IPR | 0.004 | 0.008 |
| | 6 | 560 | **620** | 690 | IPR | 0.002 | 0.002 | 300 | **330** | 360 | IPR | 0.004 | 0.008 |
| S | 1 | 200 | **260** | 330 | IPR | 0.002 | 0.002 | 230 | **300** | 390 | IPR | 0.002 | 0.003 |
| | 2 | 160 | **210** | 260 | IPR | 0.001 | 0.002 | 160 | **200** | 260 | IPR | 0.001 | 0.002 |
| | 3 | 160 | **210** | 260 | IPR | 0.001 | 0.002 | 160 | **200** | 260 | IPR | 0.001 | 0.002 |
| | 4 | 160 | **210** | 260 | IPR | 0.001 | 0.002 | 160 | **200** | 260 | IPR | 0.001 | 0.002 |



Drill, Chamfer, and Thread Mill TM731

| Material Group | | Cutting Speed — vc Range — m/min | | | Drilling Recommended Feed by Diameter | | | | Milling Feed/Tooth by Diameter | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | <6mm | 6–10mm | 10–16mm | | <6mm | 6–10mm | 10–16mm |
| K | 1 | 130 | **175** | 230 | mm/r | 0,10 | 0,16 | 0,30 | mm/r | 0,05 | 0,07 | 0,10 |
| N | 2 | 270 | **300** | 330 | mm/r | 0,15 | 0,25 | 0,34 | mm/r | 0,06 | 0,08 | 0,12 |
| | 3 | 140 | **150** | 170 | mm/r | 0,15 | 0,25 | 0,34 | mm/r | 0,06 | 0,08 | 0,12 |
| | 4 | 270 | **300** | 330 | mm/r | 0,15 | 0,25 | 0,34 | mm/r | 0,06 | 0,08 | 0,12 |
| | 5 | 110 | **120** | 130 | mm/r | 0,12 | 0,20 | 0,32 | mm/r | 0,06 | 0,08 | 0,12 |

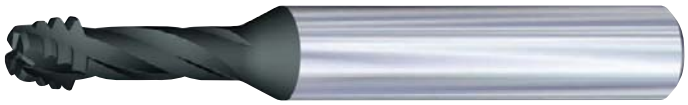


Drill, Chamfer, and Thread Mill TM731

| Material Group | | Cutting Speed — vc Range — SFM | | | Drilling Recommended Feed by Diameter | | | | Milling Feed/Tooth by Diameter | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min | Starting Value | max | | <0.250" | 0.250–0.375" | 0.375–0.625" | | <0.250" | 0.250–0.375" | 0.375–0.625" |
| K | 1 | 430 | **570** | 750 | IPR | 0.004 | 0.006 | 0.012 | IPR | 0.002 | 0.003 | 0.004 |
| N | 2 | 890 | **980** | 1080 | IPR | 0.006 | 0.010 | 0.013 | IPR | 0.002 | 0.003 | 0.005 |
| | 3 | 460 | **490** | 560 | IPR | 0.006 | 0.010 | 0.013 | IPR | 0.002 | 0.003 | 0.005 |
| | 4 | 890 | **980** | 1080 | IPR | 0.006 | 0.010 | 0.013 | IPR | 0.002 | 0.003 | 0.005 |
| | 5 | 360 | **390** | 430 | IPR | 0.005 | 0.008 | 0.013 | IPR | 0.002 | 0.003 | 0.005 |

Mill, Chamfer, and Thread Mill TM741

| Material Group | | TM Style | Grade | Cutting Speed — vc Range — m/min | | | Feed/Tooth by Diameter | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | min | Starting Value | max | | <10mm | >10mm |
| P | 1 | TM741 R | KCU36 | 170 | 225 | 290 | mm/r | 0,05 | 0,08 |
| | 2 | TM741 R | KCU36 | 170 | 225 | 290 | mm/r | 0,05 | 0,08 |
| | 3 | TM741 R | KCU36 | 120 | 150 | 200 | mm/r | 0,03 | 0,05 |
| | 4 | TM741 R | KCU36 | 100 | 125 | 160 | mm/r | 0,03 | 0,05 |
| | 5 | TM741 R | KCU36 | 120 | 150 | 200 | mm/r | 0,03 | 0,04 |
| | 6 | TM741 R | KCU36 | 60 | 80 | 100 | mm/r | 0,03 | 0,04 |
| M | 1 | TM741 R | KCU36 | 120 | 150 | 200 | mm/r | 0,03 | 0,04 |
| | 2 | TM741 R | KCU36 | 120 | 150 | 200 | mm/r | 0,03 | 0,04 |
| | 3 | TM741 R | KCU36 | 120 | 150 | 200 | mm/r | 0,03 | 0,04 |
| K | 1 | TM741 R | KCU36 | 190 | 250 | 330 | mm/r | 0,06 | 0,10 |
| | 2 | TM741 R | KCU36 | 190 | 250 | 330 | mm/r | 0,06 | 0,10 |
| | 3 | TM741 R | KCU36 | 140 | 185 | 240 | mm/r | 0,04 | 0,07 |
| N | 1 | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – |
| | 3 | TM741 R | KCU36 | 180 | 230 | 300 | mm/r | 0,06 | 0,07 |
| | 4 | TM741 R | KCU36 | 210 | 275 | 360 | mm/r | 0,06 | 0,07 |
| | 5 | – | – | – | – | – | – | – | – |
| | 6 | TM741 R | KCU36 | 210 | 275 | 360 | mm/r | 0,06 | 0,07 |
| S | 1 | TM741 L | KCU36 | 120 | 150 | 200 | mm/r | 0,025 | 0,045 |
| | 2 | TM741 L | KCU36 | 50 | 60 | 80 | mm/r | 0,015 | 0,025 |
| | 3 | TM741 L | KCU36 | 50 | 60 | 80 | mm/r | 0,015 | 0,025 |
| | 4 | TM741 L | KCU36 | 70 | 90 | 120 | mm/r | 0,025 | 0,035 |
| H | 1 | TM741 | KCU36 | 80 | 100 | 130 | mm/r | 0,030 | 0,050 |
| | 2 | TM741 | KCU36 | 80 | 100 | 130 | mm/r | 0,030 | 0,050 |
| | 3 | TM741 | KCU36 | 50 | 65 | 80 | mm/r | 0,020 | 0,030 |
| | 4 | TM741 | KCU36 | 50 | 65 | 80 | mm/r | 0,020 | 0,030 |



Mill, Chamfer, and Thread Mill TM741

| Material Group | | TM Style | Grade | Cutting Speed — vc Range — SFM | | | Feed/Tooth By Diameter | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | min | Starting Value | max | | <0.375" | >0.375" |
| P | 1 | TM741 R | KCU36 | 560 | 740 | 950 | IPR | 0.002 | 0.003 |
| | 2 | TM741 R | KCU36 | 560 | 740 | 950 | IPR | 0.002 | 0.003 |
| | 3 | TM741 R | KCU36 | 390 | 490 | 660 | IPR | 0.001 | 0.002 |
| | 4 | TM741 R | KCU36 | 330 | 410 | 520 | IPR | 0.001 | 0.002 |
| | 5 | TM741 R | KCU36 | 390 | 490 | 660 | IPR | 0.001 | 0.002 |
| | 6 | TM741 R | KCU36 | 200 | 260 | 330 | IPR | 0.001 | 0.002 |
| M | 1 | TM741 R | KCU36 | 390 | 490 | 660 | IPR | 0.001 | 0.002 |
| | 2 | TM741 R | KCU36 | 390 | 490 | 660 | IPR | 0.001 | 0.002 |
| | 3 | TM741 R | KCU36 | 390 | 490 | 660 | IPR | 0.001 | 0.002 |
| K | 1 | TM741 R | KCU36 | 620 | 820 | 1080 | IPR | 0.002 | 0.004 |
| | 2 | TM741 R | KCU36 | 620 | 820 | 1080 | IPR | 0.002 | 0.004 |
| | 3 | TM741 R | KCU36 | 460 | 610 | 790 | IPR | 0.002 | 0.003 |
| N | 1 | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – |
| | 3 | TM741 R | KCU36 | 590 | 750 | 980 | IPR | 0.002 | 0.003 |
| | 4 | TM741 R | KCU36 | 690 | 900 | 1180 | IPR | 0.002 | 0.003 |
| | 5 | – | – | – | – | – | – | – | – |
| | 6 | TM741 R | KCU36 | 690 | 900 | 1180 | IPR | 0.002 | 0.003 |
| S | 1 | TM741 L | KCU36 | 390 | 490 | 660 | IPR | 0.001 | 0.002 |
| | 2 | TM741 L | KCU36 | 160 | 200 | 260 | IPR | 0.001 | 0.001 |
| | 3 | TM741 L | KCU36 | 160 | 200 | 260 | IPR | 0.001 | 0.001 |
| | 4 | TM741 L | KCU36 | 230 | 300 | 390 | IPR | 0.001 | 0.001 |
| H | 1 | TM741 | KCU36 | 260 | 330 | 430 | IPR | 0.001 | 0.002 |
| | 2 | TM741 | KCU36 | 260 | 330 | 430 | IPR | 0.001 | 0.002 |
| | 3 | TM741 | KCU36 | 160 | 210 | 260 | IPR | 0.001 | 0.001 |
| | 4 | TM741 | KCU36 | 160 | 210 | 260 | IPR | 0.001 | 0.001 |

NOTE: For thread depths over 2 x D up to 3 x D, reduce speed and feed by 25%.

# Milling Methods

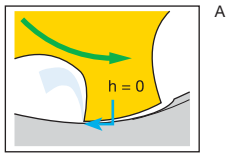
## Climb Milling

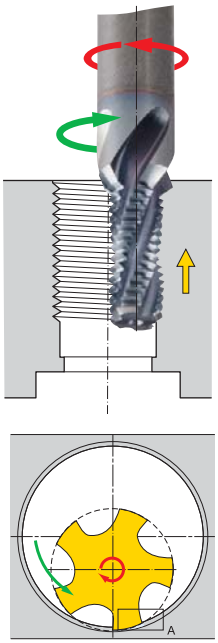
**Properties:**

- Tool rotation direction clockwise
- Tool moves counter-clockwise
- Pitch “upwards”

- Right-hand thread

Climb milling is always when the cutting edge goes out of the material with a chip thickness h = 0



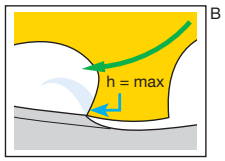

## Conventional Milling

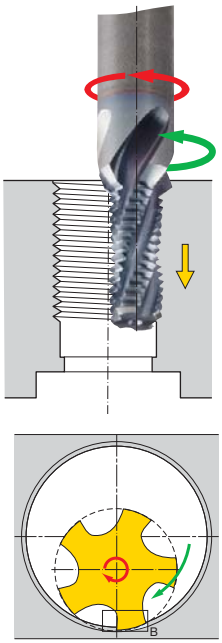
**Properties:**

- Tool rotation direction clockwise
- Tool moves clockwise
- Pitch “downwards”

- Right-hand thread

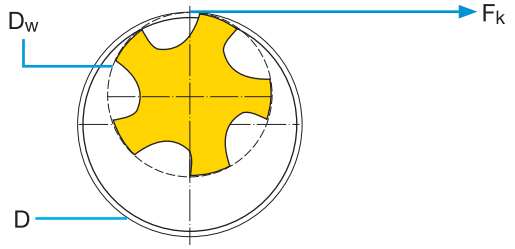
Conventional milling is always when the cutting edge goes out of the material with a chip thickness h = max



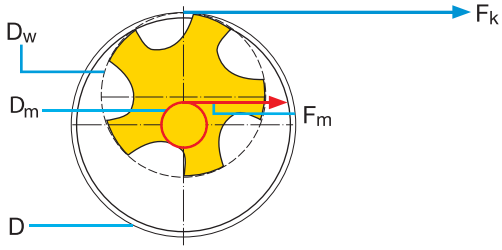

## Counter Feed $F_k$

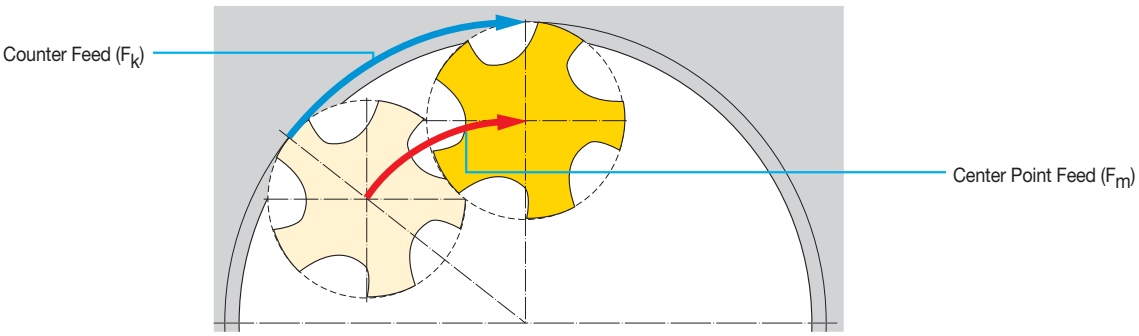
$$F_k = n \bullet f_z \bullet Z \text{ [mm/min]}$$




## Center Point Feed $F_m$

$$F_m = \frac{F_k \bullet (D-Dw)}{D} \text{ [mm/min]}$$



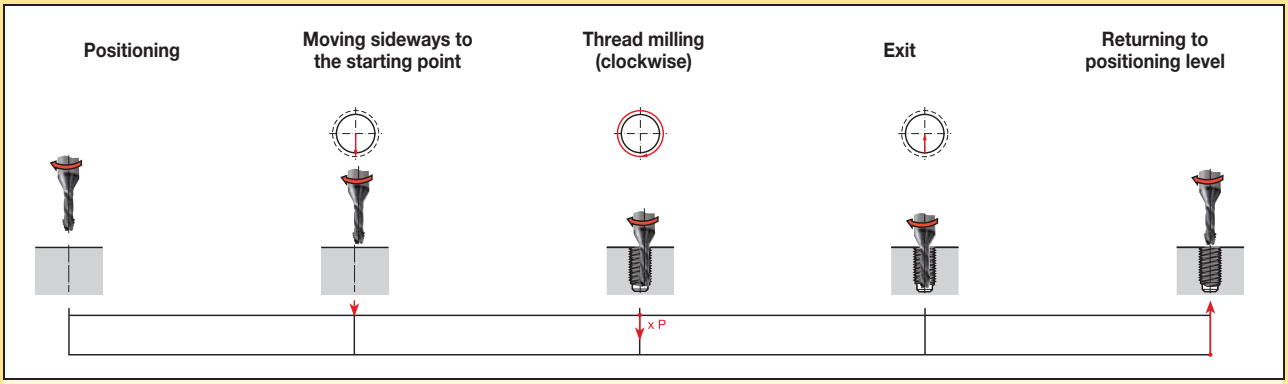




$D_W$ = Tool diameter [mm]
n = RPM [min$^{-1}$]
$f_Z$ = Feed per tooth [mm]
Z = Number of teeth on tool (radial)
D = Nominal diameter of thread = Diameter of external contour [mm]
$D_m$ = Diameter of the center point (D-$D_W$) [mm]

# Drill Thread Mill TM741 • Right Hand

| | |
|---|---|
| **Preparation** | None |
| **Process Principle** | Milling thread and core hole, countersinking (conventional milling) |

## Cycle




## Required Specification Values

## Example

**Size — M10-6H**
Thread diameter D ..... 10mm
Pitch P ..... 1,5mm
Core hole diameter $D_1$ ..... 8,5mm

**Material — Hard steel, 50 HRC**
**Grade — KCU36**

**Tool — TM741 Right Hand**
Catalog number ..... TM741M100X150R2DHA
Number of teeth Z ..... 4
Tool diameter $d_1$ ..... 7,75mm*
Tool radius compensation k[1] ..... 0,08mm**
Tool radius to be programmed[2] ..... 3,795mm***
Thread depth b[3] ..... 20mm
Cutting speed $v_c$ ..... 100 m/min
Feed (milling) $f_z$ ..... 0,04 mm/tooth
Number of turns [5] ..... 17

$N = \frac{v_c \bullet 1000}{d_1 \bullet \pi}$ **S = 4109**

$v_f = f_z \bullet Z \bullet n$ **F = 657 (contour)**

$N = \frac{v_f \text{ contour} \bullet (D-d_1)}{D}$ **F = 148 (center point)**

*(measured on the cutting part) **(0.01 x D; adjust to application) ***(1/2 $d_1$ - k)

## Program to DIN 66025 (conventional milling, on the contour, incremental)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Positioning the tool** | N 10 | G 54 | G 90 | G 00 | X… | Y… | Z 1.500 | S 4109 | T01 [2] | M03 |
| **Incremental programming** | N 20 | G 91 | | | | | | | | |
| **Moving sideways to the starting point** | N 30 | G 42 | G 01 | X 0 | Y-5 | F 657 (contour) | | [F 148] [4] (center point) | | |
| **Thread milling** | N 40 | G 02 | | X 0 | Y 0 | Z-1.500 | I 0 | J 5.000 | | |
| **Repeat thread milling** | … [5] | | | | | | | | | |
| **Exit** | N 50 | G 40 | G 01 | X 0 | Y 5 | | | | | |
| **Retracting tool to positioning level** | N 70 | G 90 | G 00 | Z 2 | | | | | | |

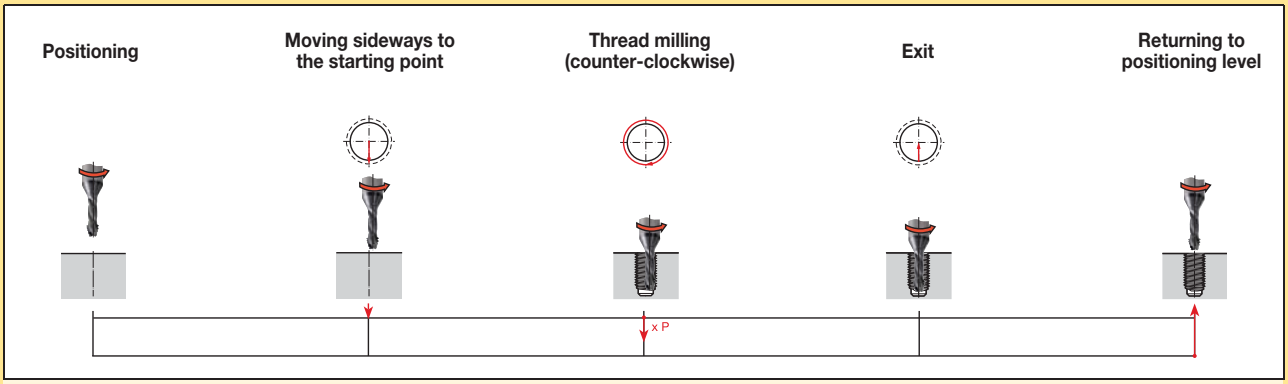
| | |
|---|---|
| **Cutting time $t_h$** | 51.6 seconds |

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The thread depth b must be divisible by the thread pitch P.
[4] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.
[5] **Set N40 must be repeated with the number of threads.** Repetitions N = thread depth b/pitch P (rounded up to the nearest integer).

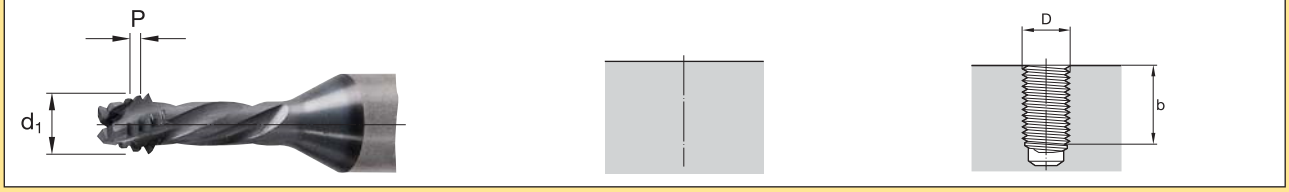
# Drill Thread Mill TM741 • Left Hand

| | |
|---|---|
| **Preparation** | None |
| **Process Principle** | Milling thread and core hole, countersinking (climb milling) |

## Cycle




## Required Specification Values




## Example

**Size — M10-6H**
Thread diameter D ..... 10mm
Pitch P ..... 1,5mm
Core hole diameter $D_1$ ..... 8,5mm

**Material — TiAl6V4 titanium**
**Grade — KCU36**

**Tool — TM741 Left Hand**
Catalog number ..... TM741M100X150L2DHA
Number of teeth Z ..... 4
Tool diameter $d_1$ ..... 7,75mm*
Tool radius compensation k[1] ..... 0,08mm**
Tool radius to be programmed[2] ..... 3,795mm***
Thread depth b[3] ..... 20mm
Cutting speed $v_c$ ..... 100 m/min
Feed (milling) $f_z$ ..... 0,03 mm/tooth
Number of turns [5] ..... 17

$N = \frac{V_c \bullet 1000}{d_1 \bullet \pi}$ **S = 4109**

$v_f = f_z \bullet Z \bullet n$ **F = 493 (contour)**

$v_f = \frac{v_f \text{ contour} \bullet (D - d_1)}{D}$ **F = 111 (center point)**

*(measured on the cutting part) **(0.01 x D) ***(1/2 $d_1$ - k)

## Program to DIN 66025 (climb milling, on the contour, incremental)

| | |
|---|---|
| **Positioning the tool** | N 10 G 54 G 90 G 00 X… Y… Z 1.500 S 4109 T01 [2] M04 |
| **Incremental programming** | N 20 G 91 |
| **Moving sideways to the starting point** | N 30 G 42 G 01 X 0 Y-5 F 493 (contour) [F 111] [4] (center point) |
| **Thread milling** | N 40 G 02 X 0 Y 0 Z-1.500 I 0 J 5.000 |
| **Repeat thread milling** | … [5] |
| **Exit** | N 50 G 40 G 01 X 0 Y 5 |
| **Retracting tool to positioning level** | N 70 G 90 G 00 Z 2 |

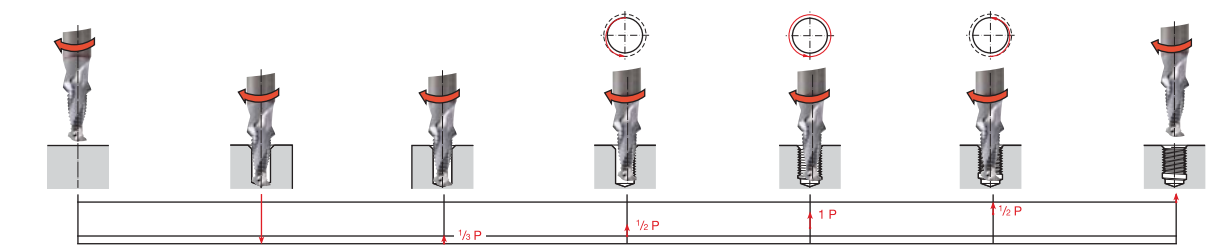
| | |
|---|---|
| **Cutting time $t_h$** | **68.8 seconds** |

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The thread depth b must be divisible by the thread pitch P.
[4] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.
[5] **Set N40 must be repeated with the number of threads.** Repetitions N = thread depth b/pitch P (rounded up to the nearest integer).

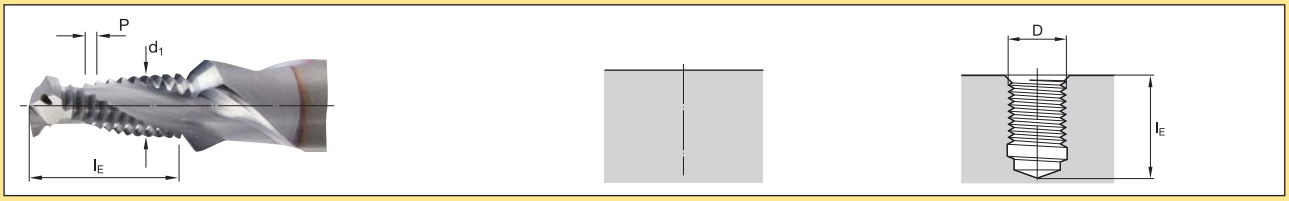
# Drill Thread Mill TM731

| | |
|---|---|
| **Preparation** | None |
| **Process Principle** | Drilling, countersinking, thread milling (climb milling) |

## Cycle




## Required Specification Values




## Example

**Size — M10-6H**
Thread diameter D ..... 10mm
Pitch P ..... 1,5mm
Core hole diameter $D_1$ ..... 8,5mm

**Material — Gray cast iron**
**Grade — KCU32**

**Tool — TM731**
Catalog number ..... TM731M100X150R2DHA
Number of teeth Z ..... 2
Tool diameter $d_1$ ..... 8,2mm*
Tool radius compensation k[1] ..... 0,1mm**
Tool radius to be programmed[2] ..... 4mm***
Dilling/Countersink depth $l_E$ ..... 19,11mm
Cutting speed $v_c$ ..... 250 m/min
Feed (drilling, countersinking) $f_b$ ..... 0,25 mm/U
Feed (milling) $f_z$ ..... 0,1 mm/tooth

*(measured on the cutting part) **(0.01 x D) ***(1/2 $d_1$ - k)

$N = \frac{v_c \bullet 1000}{d_1 \bullet \pi}$ **S = 9709**

$v_b = f_b \bullet n$ **F = 2427 (drilling, countersinking)**

$v_f = f_z \bullet Z \bullet n$ **F = 1942 (contour)**

$v_f = \frac{v_f \text{ contour} \bullet (D - d_1)}{D}$ **F = 350 (center point)**

## Program to DIN 66025 (climb milling, on the contour, incremental)

| | |
|---|---|
| **Positioning the tool** | N 10 G 54 G 90 G 00 X… Y… Z 2 S 9709 T01 [2] M03 |
| **Drilling and countersinking** | N 20 G 91 G 01 Z-21.110 F 2427 (drill, countersink) |
| **Raise** | N 30 G 01 Z 0.500 |
| **Moving sideways to the starting point** | N 40 G 41 Y-4.250 F 971 (milling, 1/2 contour) [F 175] [3] (1/2 center point) |
| **Run-in loop in arc** | N 50 G 03 X 0 Y 9.250 Z 0.750 I 0 J 4.625 |
| **Thread milling** | N 60 G 03 X 0 Y 0 Z 1.500 I 0 J -5.000 |
| **Run-out loop in arc** | N 70 G 03 X 0 Y-9.250 Z 0.750 I 0 J- 4.625 F1942 [F 350] [3] (center point) |
| **Exit** | N 80 G 00 G 40 X 0 Y 4.250 |
| **Retracting tool to positioning level** | N 90 G 90 Z 2 |

## Cutting time $t_h$

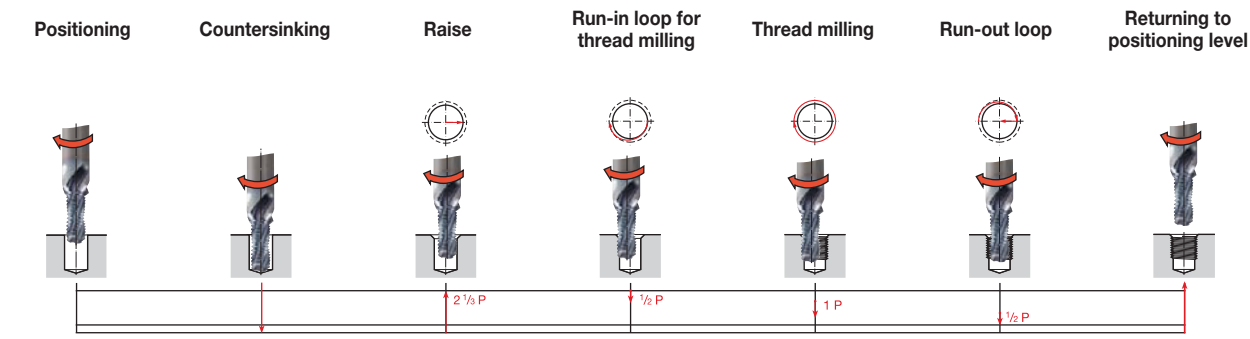
**2.3 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.

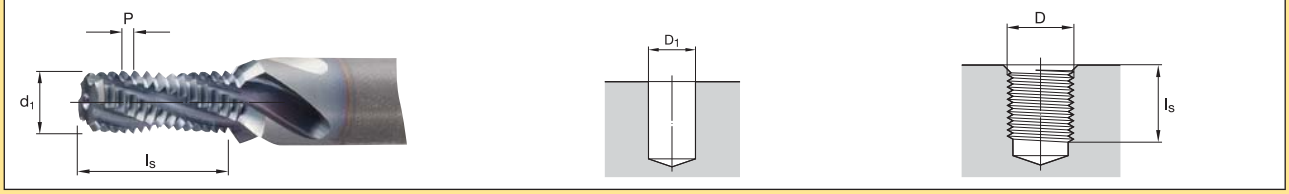
# Thread Mill TM721

| | |
|---|---|
| **Preparation** | Drilling of thread hole |
| **Process Principle** | Countersinking, thread milling (conventional milling) |

## Cycle




## Required Specification Values




## Example

**Size — M10-6H**
Thread diameter D ..... 10mm
Pitch P ..... 1,5mm
Core hole diameter $D_1$ ..... 8,5mm

**Material — Cast aluminum**
**Grade — KCU32**

**Tool — TM721**
Catalog number ..... TM721M100X150R2DHA
Number of teeth Z ..... 3
Tool diameter $d_1$ ..... 8,2mm*
Tool radius compensation k[1] ..... 0,1mm**
Tool radius to be programmed[2] ..... 4mm***
Countersink depth $l_s$ ..... 21,2mm
Cutting speed $v_c$ ..... 250 m/min
Feed (countersinking) $f_s$ ..... 0,3 mm/U
Feed (milling) $f_z$ ..... 0,09 mm/tooth

*(measured on the cutting part) **(0.01 x D) ***(1/2 $d_1$ - k)

$$N = \frac{V_c \bullet 1000}{d_1 \bullet \pi} \quad S = 9709$$

$$v_s = f_s \bullet n \quad F = 2913 \text{ (countersinking)}$$

$$v_f = f_z \bullet Z \bullet n \quad F = 2622 \text{ (contour)}$$

$$v_f = \frac{v_f \text{ contour} \bullet (D-d_1)}{D} \quad F = 472 \text{ (center point)}$$

## Program to DIN 66025 (conventional milling, on the contour, incremental)

| | |
|---|---|
| **Positioning the tool** | N 10 G 54 G 90 G 00 X… Y… Z 2 S 9709 T01 [2] M03 |
| **Advancing tool to full thread depth** | N 20 G 91 Z-21.200 |
| **Countersinking** | N 30 G 01 Z-2 F 2913 (countersink) |
| **Raise** | N 40 G 00 Z 3.450 |
| **Moving sideways to the starting point** | N 50 G 42 G01 X 4.250 F 1311 (milling, 1/2 contour) [F 236] [3] (milling,1/2 center point) |
| **Run-in loop in arc** | N 60 G 02 X-9.25 Y 0.000 Z-0.750 I-4.625 J 0 |
| **Thread milling** | N 70 G 02 X 0 Y 0 Z-1.500 I 5 J 0.000 F2622 [F 472] [3] (center point) |
| **Run-out loop in arc** | N 80 G 02 X 9.25 Y 0.000 Z-0.750 I 4.625 J 0 |
| **Exit** | N 90 G 40 G 01 X-4.25 |
| **Retracting tool to positioning level** | N 100 G 90 G 00 Z 2 |

| | |
|---|---|
| **Cutting time $t_h$** | **1.4 seconds** |

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.

## High-Performance Taps • Carbide • Metric

| Material Group | | Through Holes | | | | | Blind Holes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Range — m/min | | | | | Range — m/min | | |
| | | Tap Style | Grade | min | Starting Value | max | Tap Style | Grade | min | Starting Value | max |
| P | 1 | T320, T321 | KC7542 | 60 | **100** | 130 | T331 | KC7542 | 50 | **70** | 90 |
| | 2 | T320, T321 | KC7542 | 60 | **90** | 120 | T331 | KC7542 | 40 | **60** | 80 |
| | 3 | T320, T321 | KC7542 | 50 | **80** | 100 | T331 | KC7542 | 40 | **60** | 80 |
| K | 1 | T340, T353 | KC7542, KCK17 | 70 | **105** | 140 | T351, T353 | KC7542, KCK17 | 50 | **70** | 90 |
| | 2 | T340, T353 | KC7542, KCK17 | 60 | **100** | 130 | T351, T353 | KC7542, KCK17 | 50 | **70** | 90 |
| | 3 | T340, T353 | KC7542, KCK17 | 60 | **90** | 120 | T351, T353 | KC7542, KCK17 | 40 | **60** | 80 |
| N | 2 | – | – | – | **–** | – | T471, T491 | KCN14 | 60 | **80** | 100 |
| | 3 | – | – | – | **–** | – | T471, T491 | KCN14 | 50 | **70** | 90 |
| | 4 | – | – | – | **–** | – | T471, T491 | KCN14 | 40 | **60** | 80 |
| H | 1 | T410 | KCU36 | 1,2 | **1,5** | 2,0 | T410 | KCU36 | 0,8 | **1,1** | 1,4 |
| | 2 | T410 | KCU36 | 0,6 | **0,8** | 1,0 | T410 | KCU36 | 0,4 | **0,5** | 0,7 |

NOTE: Increase speed of T321 coolant taps by up to 25% of speeds listed for non-coolant T320 taps.



## High-Performance Taps • Carbide • Inch

| Material Group | | Through Holes | | | | | Blind Holes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Range — SFM | | | | | Range — SFM | | |
| | | Tap Style | Grade | min | Starting Value | max | Tap Style | Grade | min | Starting Value | max |
| P | 1 | T320, T321 | KC7542 | 200 | **330** | 430 | T331 | KC7542 | 160 | **230** | 300 |
| | 2 | T320, T321 | KC7542 | 200 | **300** | 390 | T331 | KC7542 | 130 | **200** | 260 |
| | 3 | T320, T321 | KC7542 | 160 | **260** | 330 | T331 | KC7542 | 130 | **200** | 260 |
| K | 1 | T340, T353 | KC7542, KCK17 | 230 | **340** | 460 | T351, T353 | KC7542, KCK17 | 160 | **230** | 300 |
| | 2 | T340, T353 | KC7542, KCK17 | 200 | **330** | 430 | T351, T353 | KC7542, KCK17 | 160 | **230** | 300 |
| | 3 | T340, T353 | KC7542, KCK17 | 200 | **300** | 390 | T351, T353 | KC7542, KCK17 | 130 | **200** | 260 |
| N | 2 | – | – | – | **–** | – | T471, T491 | KCN14 | 200 | **260** | 330 |
| | 3 | – | – | – | **–** | – | T471, T491 | KCN14 | 160 | **230** | 300 |
| | 4 | – | – | – | **–** | – | T471, T491 | KCN14 | 130 | **200** | 260 |
| H | 1 | T410 | KCU36 | 4 | **5** | 6 | T410 | KCU36 | 3 | **3** | 4 |
| | 2 | T410 | KCU36 | 2 | **2** | 3 | T410 | KCU36 | 1 | **2** | 2 |

NOTE: Increase speed of T321 coolant taps by up to 25% of speeds listed for non-coolant T320 taps.

## High-Performance Taps • HSS-E-PM • Metric

| Material Group | | Through Holes | | | | | Blind Holes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Range — m/min | | | | | Range — m/min | | |
| | | Tap Style | Grade | min | Starting Value | max | Tap Style | Grade | min | Starting Value | max |
| P | 1 | T620 | KP6525 | 20 | **30** | 45 | T630, T632, T650 | KP6525 | 14 | **21** | 32 |
| | | T622 | KSP21 | 18 | **30** | 50 | T622 | KSP21 | 13 | **21** | 35 |
| | 2 | T620 | KP6525 | 17 | **25** | 38 | T630, T632, T650 | KP6525 | 12 | **18** | 26 |
| | | T622 | KSP21 | 15 | **25** | 42 | T622 | KSP21 | 10 | **18** | 29 |
| | 3 | T620 | KP6525 | 12 | **15** | 20 | T630, T632, T650 | KP6525 | 8 | **11** | 14 |
| | 4 | T600 | KSP21 | 5 | **6** | 8 | T604 | KSH26 | 3 | **4** | 5 |
| | 5 | T620 | KP6525 | 12 | **15** | 20 | T630, T632, T650 | KP6525 | 8 | **11** | 14 |
| | 6 | T600 | KSP21 | 6 | **8** | 10 | T604 | KSH26 | 4 | **6** | 7 |
| M | 1 | T620 | KM6515 | 12 | **15** | 20 | T630, T632, T650 | KM6515 | 8 | **11** | 14 |
| | 2 | T620 | KM6515 | 9 | **12** | 16 | T630, T632, T650 | KM6515 | 6 | **8** | 11 |
| | 3 | T620 | KM6515 | 8 | **10** | 13 | T630, T632, T650 | KM6515 | 5 | **7** | 9 |
| K | 1 | T640 | KP6525 | 27 | **35** | 46 | T640, T642 | KP6525 | 19 | **25** | 32 |
| | 2 | T640 | KP6525 | 23 | **30** | 39 | T640, T642 | KP6525 | 16 | **21** | 27 |
| | 3 | T640 | KP6525 | 19 | **25** | 33 | T640, T642 | KP6525 | 13 | **18** | 23 |
| N | 1 | T670 | KSN38 | 42 | **55** | 72 | T680 | KSN38 | 30 | **39** | 50 |
| | | T622 | KSN28 | 37 | **55** | 72 | T622 | KSN28 | 26 | **39** | 50 |
| | 2 | T640 | KP6525 | 30 | **45** | 59 | T640, T642 | KP6525 | 21 | **32** | 41 |
| | | T622 | KSN28 | 33 | **50** | 65 | T622 | KSN28 | 23 | **35** | 46 |
| | 4 | T640 | KP6525 | 7 | **10** | 15 | T640, T642 | KP6525 | 5 | **7** | 11 |
| S | 1 | T620 | KP6525 | 8 | **12** | 18 | T630, T632 | KP6525 | 6 | **8** | 13 |

NOTE: Increase speed by up to 25% when using coolant taps (T621, T623, T625, T627, T631, T633, T641, T643, T651).

## High-Performance Taps • HSS-E-PM • Inch

| Material Group | | Through Holes | | | | | Blind Holes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Range — SFM | | | | | Range — SFM | | |
| | | Tap Style | Grade | min | Starting Value | max | Tap Style | Grade | min | Starting Value | max |
| P | 1 | T620 | KP6525 | 70 | **100** | 150 | T630, T632, T650 | KP6525 | 50 | **70** | 100 |
| | | T622 | KSP21 | 60 | **100** | 160 | T622 | KSP21 | 40 | **70** | 120 |
| | | T624 | KSP27 | 70 | **100** | 150 | T624, T626 | KSP27 | 50 | **70** | 100 |
| | 2 | T620 | KP6525 | 50 | **80** | 120 | T630, T632, T650 | KP6525 | 40 | **60** | 90 |
| | | T622 | KSP21 | 50 | **80** | 140 | T622 | KSP21 | 30 | **60** | 100 |
| | | T624 | KSP27 | 50 | **80** | 120 | T624, T626 | KSP27 | 40 | **60** | 90 |
| | 3 | T620 | KP6525 | 40 | **50** | 60 | T630, T632, T650 | KP6525 | 30 | **30** | 40 |
| | 4 | T600 | KSP21 | 15 | **20** | 26 | T604 | KSP21 | 11 | **14** | 18 |
| | 5 | T620 | KP6525 | 40 | **50** | 60 | T630, T632, T650 | KP6525 | 30 | **30** | 40 |
| | 6 | T600 | KSP21 | 20 | **30** | 30 | T604 | KSP21 | 10 | **20** | 20 |
| M | 1 | T620 | KM6515 | 40 | **50** | 60 | T630, T632, T650 | KM6515 | 30 | **30** | 40 |
| | 1 | T624 | KSP27 | 20 | **30** | 30 | T624, T626 | KSP27 | 10 | **20** | 20 |
| | 2 | T620 | KM6515 | 30 | **40** | 50 | T630, T632, T650 | KM6515 | 20 | **30** | 40 |
| | 3 | T620 | KM6515 | 30 | **30** | 40 | T630, T632, T650 | KM6515 | 20 | **20** | 30 |
| K | 1 | T640 | KP6525 | 90 | **110** | 150 | T640, T642 | KP6525 | 60 | **80** | 100 |
| | 2 | T640 | KP6525 | 80 | **100** | 130 | T640, T642 | KP6525 | 50 | **70** | 90 |
| | 3 | T640 | KP6525 | 60 | **80** | 110 | T640, T642 | KP6525 | 40 | **60** | 70 |
| N | 1 | T672 | KSMN34 | 110 | **160** | 210 | T682, T686 | KSMN34 | 80 | **110** | 150 |
| | | T622 | KSN28 | 120 | **180** | 230 | T622 | KSN28 | 80 | **130** | 160 |
| | 2 | T640 | KP6525 | 100 | **150** | 190 | T640, T642 | KP6525 | 70 | **100** | 130 |
| | | T672 | KSMN34 | 100 | **150** | 190 | T682, T686 | KSMN34 | 70 | **100** | 130 |
| | | T622 | KSN28 | 110 | **160** | 210 | T622 | KSN28 | 80 | **110** | 150 |
| | 4 | T640 | KP6525 | 22 | **30** | 49 | T640, T642 | KP6525 | 15 | **23** | 34 |
| S | 1 | T620 | KP6525 | 30 | **40** | 60 | T630, T632 | KP6525 | 18 | **28** | 41 |
| | 2 | T690 | KSP27 | 11 | **16** | 25 | T692, T694 | KSP27 | 8 | **11** | 17 |
| | 3 | T690 | KSS29 | 5 | **8** | 12 | T692, T694 | KSS29 | 4 | **6** | 9 |
| | 4 | T660 | KSSM24 | 9 | **13** | 20 | T662 | KSSM24 | 6 | **9** | 14 |
| | | T660 | KSS20 | 4 | **7** | 10 | T662 | KSS20 | 3 | **5** | 7 |

NOTE: Increase speed by up to 25% when using coolant taps (T621, T623, T625, T627, T631, T633, T641, T643, T651).

## GOtap™ • Metric

| Material Group | | Through Holes | | | | | Blind Holes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Range — m/min | | | | | Range — m/min | | |
| | | Tap Style | Grade | min | Starting Value | max | Tap Style | Grade | min | Starting Value | max |
| P | 1 | T820 | KSU31, KSP32 | 23 | **30** | 38 | T830, T832, T838, T839 | KSU31, KSP32 | 15 | **21** | 30 |
| | | T820 | KSP39, KSU30 | 11 | **15** | 19 | T830, T832, T838, T839 | KSP39, KSU30 | 7 | **11** | 15 |
| | | T854 | KSU31 | 6 | **8** | 10 | T854 | KSU31 | 6 | **8** | 10 |
| | | T854 | KSP39 | 5 | **6** | 8 | T854 | KSP39 | 5 | **6** | 8 |
| | | T877 | KSU31 | 17 | **22** | 28 | T857 | KSU31 | 11 | **15** | 22 |
| | | T877 | KSP39 | 8 | **10** | 13 | T857 | KSP39 | 5 | **7** | 10 |
| | | T848 | KSU30 | 5 | **6** | 8 | T848 | KSU30 | 3 | **4** | 6 |
| | 2 | T820 | KSU31, KSP32 | 18 | **24** | 30 | T830, T832, T838, T839 | KSU31, KSP32 | 12 | **17** | 24 |
| | | T820 | KSP39, KSU30 | 11 | **14** | 18 | T830, T832, T838, T839 | KSP39, KSU30 | 7 | **10** | 14 |
| | 3 | T820 | KSU31, KSP32 | 17 | **22** | 28 | T830, T832, T838, T839 | KSU31, KSP32 | 11 | **15** | 22 |
| | | T820 | KSP39, KSU30 | 9 | **12** | 15 | T830, T832, T838, T839 | KSP39, KSU30 | 6 | **8** | 12 |
| | | T846 | KSU31 | 6 | **8** | 10 | T846 | KSU31 | 6 | **8** | 10 |
| | | T846 | KSU30 | 4 | **5** | 6 | T846 | KSU30 | 4 | **5** | 6 |
| M | 1 | T820 | KSMN34, KSP32 | 14 | **18** | 23 | T830, T832, T838, T839 | KSMN34, KSP32 | 9 | **13** | 18 |
| | | T820 | KSP39, KSU30 | 8 | **10** | 13 | T830, T832, T838, T839 | KSP39, KSU30 | 5 | **7** | 10 |
| | | T854 | KSU31 | 6 | **8** | 10 | T854 | KSU31 | 6 | **8** | 10 |
| | | T854 | KSP39 | 4 | **5** | 6 | T854 | KSP39 | 4 | **5** | 6 |
| | | T877 | KSU31 | 9 | **12** | 15 | T857 | KSU31 | 6 | **8** | 11 |
| | | T877 | KSP39 | 5 | **7** | 9 | T857 | KSP39 | 4 | **5** | 7 |
| | | T848 | KSU30 | 4 | **5** | 6 | T848 | KSU30 | 3 | **4** | 6 |
| | 3 | T820 | KSMN34, KSP32 | 11 | **15** | 19 | T830, T832, T838, T839 | KSMN34, KSP32 | 7 | **11** | 15 |
| | | T820 | KSP39, KSU30 | 7 | **9** | 11 | T830, T832, T838, T839 | KSP39, KSU30 | 4 | **6** | 9 |
| K | 1 | T846 | KSU31 | 11 | **15** | 19 | T846 | KSU31 | 11 | **15** | 19 |
| | | T846 | KSU30 | 6 | **8** | 10 | T846 | KSU30 | 6 | **8** | 10 |
| | 2 | T820 | KSU31, KSP32 | 16 | **21** | 26 | T830, T832, T838, T839 | KSU31, KSP32 | 10 | **15** | 21 |
| | | T820 | KSP39, KSU30 | 9 | **12** | 15 | T830, T832, T838, T839 | KSP39, KSU30 | 6 | **8** | 12 |
| | | T877 | KSU31 | 14 | **18** | 23 | T857 | KSU31 | 9 | **13** | 18 |
| | | T877 | KSP39 | 7 | **9** | 11 | T857 | KSP39 | 4 | **6** | 9 |
| | | T848 | KSU30 | 4 | **5** | 6 | T848 | KSU30 | 2 | **4** | 5 |
| N | 1 | T820 | KSMN34, KSP32 | 37 | **49** | 61 | T830, T832, T838, T839 | KSMN34, KSP32 | 24 | **34** | 49 |
| | | T820 | KSU30 | 20 | **27** | 34 | T830, T832 | KSU30 | 13 | **19** | 27 |
| | 2 | T820 | KSMN34, KSP32 | 30 | **40** | 50 | T830, T832, T838, T839 | KSMN34, KSP32 | 20 | **28** | 40 |
| | | T820 | KSU30 | 16 | **21** | 26 | T830, T832 | KSU30 | 10 | **15** | 21 |
| | | T877 | KSU31 | 17 | **22** | 27 | T857 | KSU31 | 11 | **15** | 22 |
| | | T877 | KSP39 | 8 | **10** | 12 | T857 | KSP39 | 5 | **7** | 10 |
| | | T848 | KSU30 | 10 | **13** | 16 | T848 | KSU30 | 6 | **9** | 13 |
| | 4 | T820 | KSMN34, KSP32 | 37 | **49** | 61 | T830, T832, T838, T839 | KSMN34, KSP32 | 24 | **34** | 49 |
| | | T820 | KSU30 | 20 | **27** | 33 | T830, T832 | KSU30 | 13 | **19** | 27 |

KSU30 = Bright
KSP39 = Oxide
KSU31 = TiN
KSP32 = TiCN/TiN
KSMN34 = TiN + CrC/C

## GOtap™ • Inch

| Material Group | | Through Holes | | | | | Blind Holes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Range — SFM | | | | | Range — SFM | | |
| | | Tap Style | Grade | min | Starting Value | max | Tap Style | Grade | min | Starting Value | max |
| P | 1 | T820 | KSU31, KSP32 | 75 | **100** | 125 | T830, T832, T838, T839 | KSU31, KSP32 | 50 | **70** | 100 |
| | | T820 | KSP39, KSU30 | 35 | **50** | 60 | T830, T832, T838, T839 | KSP39, KSU30 | 25 | **35** | 50 |
| | | T854 | KSU31 | 20 | **25** | 35 | T854 | KSU31 | 20 | **25** | 35 |
| | | T854 | KSP39 | 15 | **20** | 25 | T854 | KSP39 | 15 | **20** | 25 |
| | | T877 | KSU31 | 55 | **70** | 90 | T857 | KSU31 | 35 | **50** | 70 |
| | | T877 | KSP39 | 25 | **35** | 40 | T857 | KSP39 | 15 | **25** | 35 |
| | | T848 | KSU30 | 15 | **20** | 25 | T848 | KSU30 | 10 | **15** | 20 |
| | 2 | T820 | KSU31, KSP32 | 60 | **80** | 100 | T830, T832, T838, T839 | KSU31, KSP32 | 40 | **55** | 80 |
| | | T820 | KSP39, KSU30 | 35 | **45** | 55 | T830, T832, T838, T839 | KSP39, KSU30 | 25 | **30** | 45 |
| | 3 | T820 | KSU31, KSP32 | 55 | **70** | 90 | T830, T832, T838, T839 | KSU31, KSP32 | 35 | **50** | 70 |
| | | T820 | KSP39, KSU30 | 30 | **40** | 50 | T830, T832, T838, T839 | KSP39, KSU30 | 20 | **30** | 40 |
| | | T846 | KSU31 | 20 | **25** | 35 | T846 | KSU31 | 20 | **25** | 35 |
| | | T846 | KSU30 | 10 | **15** | 20 | T846 | KSU30 | 10 | **15** | 20 |
| M | 1 | T820 | KSMN34, KSP32 | 45 | **60** | 75 | T830, T832, T838, T839 | KSMN34, KSP32 | 30 | **40** | 60 |
| | | T820 | KSP39, KSU30 | 25 | **35** | 40 | T830, T832, T838, T839 | KSP39, KSU30 | 15 | **25** | 35 |
| | | T854 | KSU31 | 20 | **25** | 35 | T854 | KSU31 | 20 | **25** | 35 |
| | | T854 | KSP39 | 10 | **15** | 20 | T854 | KSP39 | 10 | **15** | 20 |
| | | T877 | KSU31 | 30 | **40** | 50 | T857 | KSU31 | 20 | **25** | 40 |
| | | T877 | KSP39 | 15 | **25** | 30 | T857 | KSP39 | 10 | **15** | 25 |
| | | T848 | KSU30 | 10 | **15** | 20 | T848 | KSU30 | 10 | **15** | 20 |
| | 3 | T820 | KSMN34, KSP32 | 35 | **50** | 60 | T830, T832, T838, T839 | KSMN34, KSP32 | 25 | **35** | 50 |
| | | T820 | KSP39, KSU30 | 20 | **30** | 35 | T830, T832, T838, T839 | KSP39, KSU30 | 15 | **20** | 30 |
| K | 1 | T846 | KSU31 | 35 | **50** | 60 | T846 | KSU31 | 35 | **50** | 60 |
| | | T846 | KSU30 | 20 | **25** | 35 | T846 | KSU30 | 20 | **25** | 35 |
| | 2 | T820 | KSU31, KSP32 | 50 | **70** | 85 | T830, T832, T838, T839 | KSU31, KSP32 | 35 | **50** | 70 |
| | | T820 | KSP39, KSU30 | 30 | **40** | 50 | T830, T832, T838, T839 | KSP39, KSU30 | 20 | **30** | 40 |
| | | T877 | KSU31 | 45 | **60** | 75 | T857 | KSU31 | 30 | **40** | 60 |
| | | T877 | KSP39 | 20 | **30** | 35 | T857 | KSP39 | 15 | **20** | 30 |
| | | T848 | KSU30 | 10 | **15** | 20 | T848 | KSU30 | 10 | **10** | 15 |
| N | 1 | T820 | KSMN34, KSP32 | 120 | **160** | 200 | T830, T832, T838, T839 | KSMN34, KSP32 | 80 | **115** | 160 |
| | | T820 | KSU30 | 65 | **90** | 110 | T830, T832 | KSU30 | 45 | **60** | 90 |
| | 2 | T820 | KSMN34, KSP32 | 100 | **130** | 165 | T830, T832, T838, T839 | KSMN34, KSP32 | 65 | **90** | 130 |
| | | T820 | KSU30 | 50 | **70** | 85 | T830, T832 | KSU30 | 35 | **50** | 70 |
| | | T877 | KSU31 | 55 | **70** | 90 | T857 | KSU31 | 35 | **50** | 70 |
| | | T877 | KSP39 | 25 | **35** | 40 | T857 | KSP39 | 15 | **25** | 35 |
| | | T848 | KSU30 | 30 | **45** | 55 | T848 | KSU30 | 20 | **30** | 45 |
| | 4 | T820 | KSMN34, KSP32 | 55 | **70** | 90 | T830, T832, T838, T839 | KSMN34, KSP32 | 35 | **50** | 70 |
| | | T820 | KSU30 | 25 | **35** | 40 | T830, T832 | KSU30 | 15 | **25** | 35 |

KSU30 = Bright
KSP39 = Oxide
KSU31 = TiN
KSP32 = TiCN/TiN
KSMN34 = TiN + CrC/C

## General Purpose HSS • Metric

| Material Group | | Through Holes | | | | Blind Holes | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Range — m/min | | | | Range — m/min | | |
| | | Tap Style | min | Starting Value | max | Tap Style | min | Starting Value | max |
| P | 1 | KHSST Spiral Point | 13 | **17** | 21 | KHSST Spiral Flute | 7 | **8** | 10 |
| | 2 | KHSST Spiral Point | 10 | **12** | 15 | KHSST Spiral Flute | 5 | **6** | 8 |
| | 3 | KHSST Spiral Point | 6 | **8** | 10 | KHSST Spiral Flute | 3 | **4** | 5 |
| | 5 | KHSST Spiral Point | 5 | **6** | 8 | KHSST Spiral Flute | 2 | **3** | 4 |
| M | 1 | KHSST Spiral Point | 6 | **8** | 10 | KHSST Spiral Flute | 3 | **4** | 5 |
| | 2 | KHSST Spiral Point | 5 | **6** | 8 | KHSST Spiral Flute | 2 | **3** | 4 |
| | 3 | KHSST Spiral Point | 4 | **5** | 6 | KHSST Spiral Flute | 2 | **2** | 3 |
| K | 1 | KHSST Hand | 22 | **27** | 34 | KHSST Hand | 11 | **14** | 17 |
| | 2 | KHSST Hand | 18 | **23** | 29 | KHSST Hand | 9 | **11** | 14 |
| N | 1 | KHSST Spiral Point | 29 | **37** | 46 | KHSST Spiral Flute | 15 | **18** | 23 |
| | 2 | KHSST Spiral Point | 24 | **30** | 38 | KHSST Spiral Flute | 12 | **15** | 19 |

NOTE: Increase speed by up to 50% when using coated taps (TiN, TiCN).



## General Purpose HSS • Inch

| Material Group | | Through Holes | | | | Blind Holes | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Range — SFM | | | | Range — SFM | | |
| | | Tap Style | min | Starting Value | max | Tap Style | min | Starting Value | max |
| P | 1 | KHSST Spiral Point | 44 | **55** | 69 | KHSST Spiral Flute | 22 | **28** | 34 |
| | 2 | KHSST Spiral Point | 32 | **40** | 50 | KHSST Spiral Flute | 16 | **20** | 25 |
| | 3 | KHSST Spiral Point | 20 | **25** | 31 | KHSST Spiral Flute | 10 | **13** | 16 |
| | 5 | KHSST Spiral Point | 16 | **20** | 25 | KHSST Spiral Flute | 8 | **10** | 13 |
| M | 1 | KHSST Spiral Point | 20 | **25** | 31 | KHSST Spiral Flute | 10 | **13** | 16 |
| | 2 | KHSST Spiral Point | 16 | **20** | 25 | KHSST Spiral Flute | 8 | **10** | 13 |
| | 3 | KHSST Spiral Point | 12 | **15** | 19 | KHSST Spiral Flute | 6 | **8** | 9 |
| K | 1 | KHSST Hand | 72 | **90** | 113 | KHSST Hand | 36 | **45** | 56 |
| | 2 | KHSST Hand | 60 | **75** | 94 | KHSST Hand | 30 | **38** | 47 |
| N | 1 | KHSST Spiral Point | 96 | **120** | 150 | KHSST Spiral Flute | 48 | **60** | 75 |
| | 2 | KHSST Spiral Point | 80 | **100** | 125 | KHSST Spiral Flute | 40 | **50** | 63 |

NOTE: Increase speed by up to 50% when using coated taps (TiN, TiCN).

# Taps and Thread Milling Technical Information

Use the technical information offered here to assist with tapping and thread milling operations. This tech data includes information about tap dimensions and recommendations, as well as how to solve basic tapping and thread milling problems.

## Included in This Section:

- Illustrations of tap terms.
- Explanations of tap chamfers.
- Dimensional information for various tap styles and lengths.
- Tap limitation data.
- Chip handling methods for different tap styles.
- Tap recommendations.
- Descriptions of screw thread tolerance and tolerance information.
- Information regarding surface treatments and coatings.
- Guidelines and tables for determining tapping speeds.
- Troubleshooting charts.
- Hardness conversion table.
- Taps custom order worksheet.
- Thread milling application sheet.
- Tap drill size charts.

This section will help you learn more about tapping and thread milling applications to maximize the performance of your tools.

## How to Apply This Technical Information

Below is an example of how the technical information in this catalog can be useful:

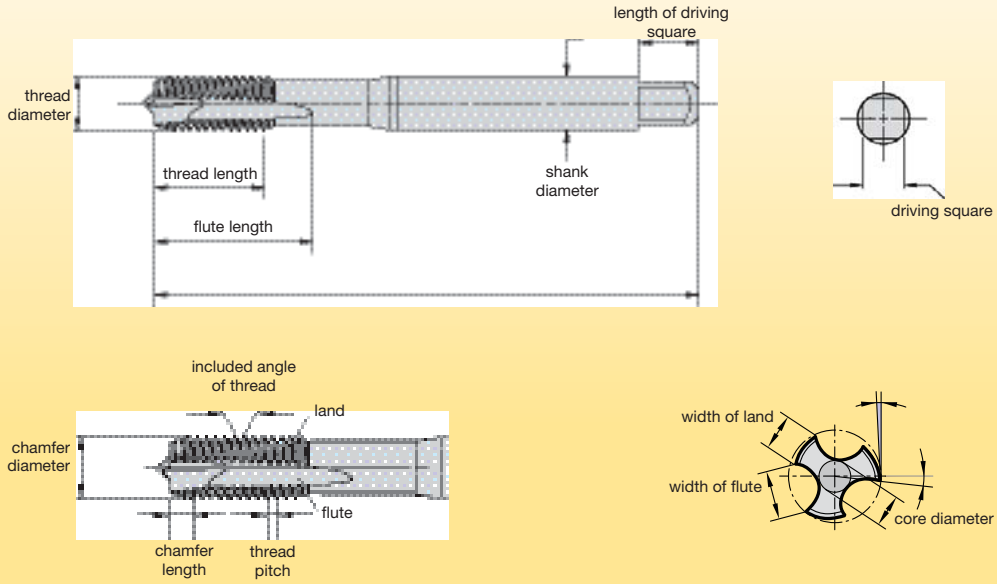
**Problem**

- Thread holes are oversized and taps are experiencing decreased tool life when used in stainless steel materials.

**Solution**

- Consult the troubleshooting portion of the technical information section to discover ways to correct the issue.

# Definitions and Angles, Centers, and Flute Forms




## Flute Forms

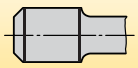
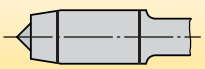
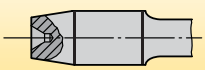
Straight-flute, form C plug chamfer **without spiral point**

Right-hand spiral flute

Straight-flute, form B plug chamfer **with spiral point**

Left-hand spiral flute

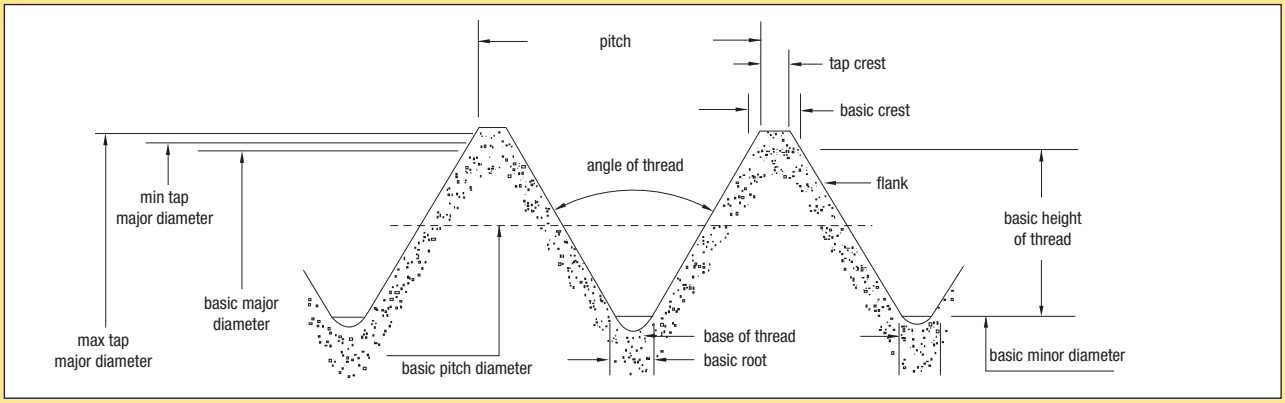
## Types of Centers (Standard to DIN 2197/DIN 2175)

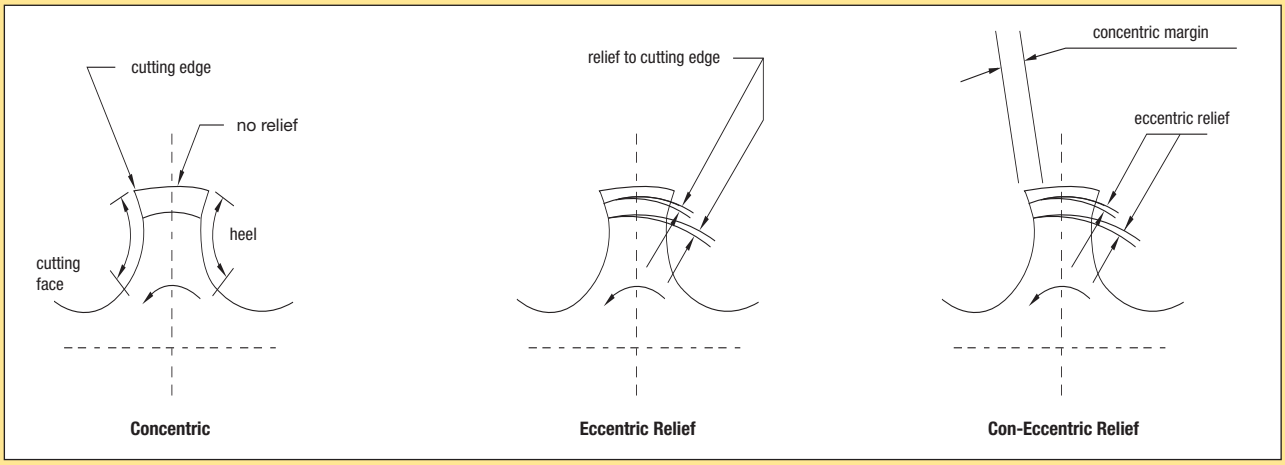
| center on thread section | | | |
|---|---|---|---|
| tap diameter range | | | |
| ≤M10, 3/8 bottom or semi-bottom chamfer | ≤M10, 3/8 plug chamfer | >M10, 3/8 all chamfers | |
|  | |  |  |
| external center removed | full external center | partial external center | internal center |

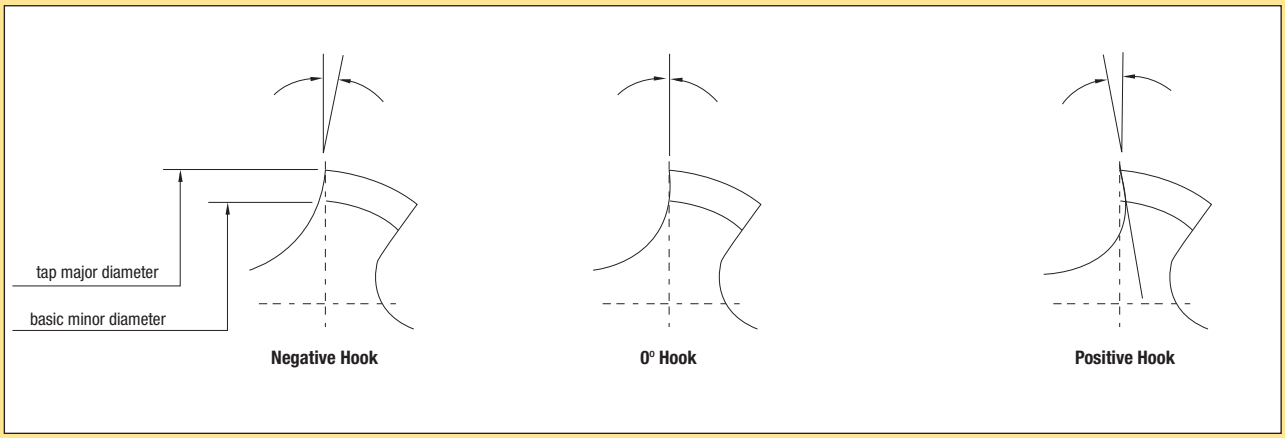
## Coolant Hole Types

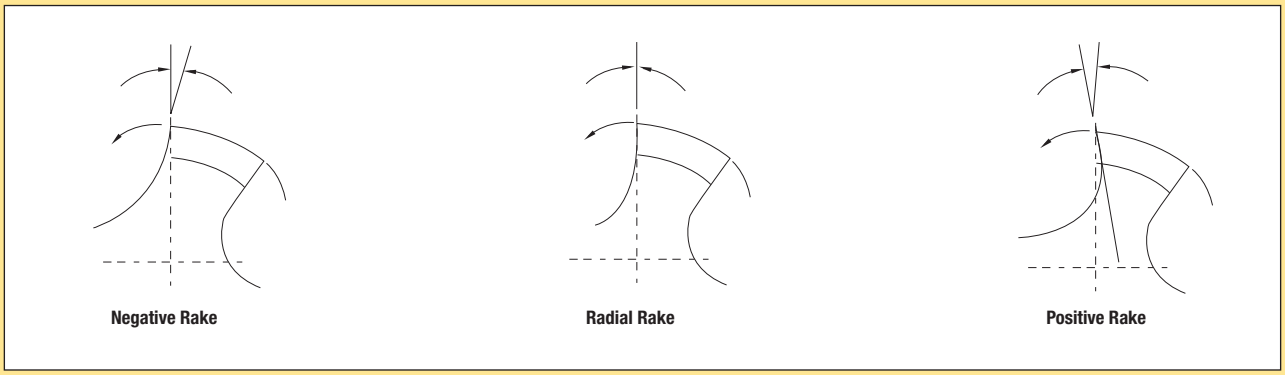
Axial coolant delivery with axial coolant exit hole

Axial coolant delivery with radial coolant hole exiting in the flutes

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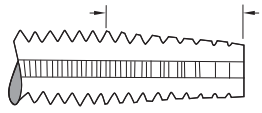
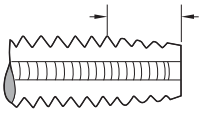
## Tap Chamfers • ANSI Taps

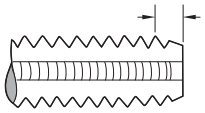
**Taper Chamfer**
**7–10 Pitches**



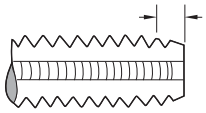
**Plug Chamfer**
**3–5 Pitches**



**Modified Bottoming Chamfer**
**2–2.5 Pitches**



**Full Bottoming Chamfer**
**1–2 Pitches**



### Tap Chamfers

**Taper** (7–10 pitches)

The taper chamfer has the longest standard chamfer ensuring easier starting. It requires less tapping torque because of more working teeth.

**Plug** (3–5 pitches)

The most common chamfer for use by hand or machine in through or blind holes. This chamfer is more efficient than a bottoming or modified bottoming chamfer.

**Semi-Bottom** (2–2.5 pitches)

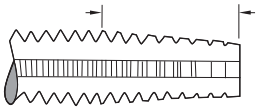
This short chamfer enables threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a bottoming chamfer.

**Bottoming** (1–2 pitches)

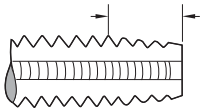
For threading close to the bottom of blind holes, the bottoming chamfer is the least efficient chamfer available.

## Tap Chamfers • DIN Taps

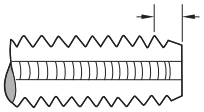
**Taper Chamfer**
**7–10 Pitches**



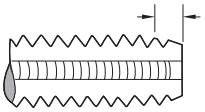
**Plug Chamfer**
**3–5 Pitches**



**Modified Bottoming Chamfer**
**2–2.5 Pitches**



**Full Bottoming Chamfer**
**1–2 Pitches**



### Hand Tap Chamfers

**Form A** (6–8 pitches)

The Form A chamfer has the longest standard chamfer ensuring easier starting. It requires less tapping torque because of more working teeth.

**Form B/D** (3.5–5 pitches)

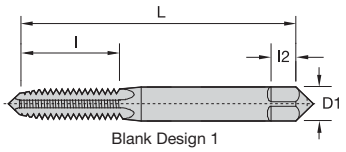
The most common chamfers for use by hand or machine in through or blind holes. Form B applies to spiral-point taps and Form D applies to straight-flute and spiral-flute taps. This chamfer is more efficient than Form E or Form C chamfers.

**Form C** (2–2.5 pitches)

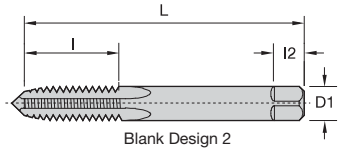
This short chamfer enables threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a Form E chamfer.

**Form E** (1.5–2 pitches)

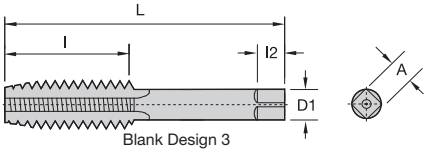
For threading close to the bottom of blind holes, the Form E chamfer is the least efficient chamfer available.



Blank Design 1



Blank Design 2



Blank Design 3

| nominal diameter range (in) | machine screw size number | (in) | nominal fractional diameter | (in) | nominal metric diameter mm | (in) | blank design number | overall length L | thread length l | square length l2 | shank diameter D1 | square size A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .052–.065 | 0 | (.0600) | – | | M1.6 | (.0630) | 1 | 1.63 | .31 | .19 | .1410 | .110 |
| .065–.078 | 1 | (.0730) | – | | M1.8 | (.0709) | 1 | 1.69 | .38 | .19 | .1410 | .110 |
| .078–.091 | 2 | (.0860) | – | | M2 (0787), | M2.2 (.0866) | 1 | 1.75 | .44 | .19 | .1410 | .110 |
| .091–.104 | 3 | (.0990) | – | | M2.5 | (.0984) | 1 | 1.81 | .50 | .19 | .1410 | .110 |
| .104–.117 | 4 | (.1120) | – | | – | – | 1 | 1.88 | .56 | .19 | .1410 | .110 |
| .117–.130 | 5 | (.1250) | – | | M3 | (.1181) | 1 | 1.94 | .63 | .19 | .1410 | .110 |
| .130–.145 | 6 | (.1380) | – | | M3.5 | (.1378) | 1 | 2.00 | .69 | .19 | .1410 | .110 |
| .145–.171 | 8 | (.1640) | – | | M4 | (.1575) | 1 | 2.13 | .75 | .25 | .1680 | .131 |
| .171–.197 | 10 | (.1900) | – | | M4.5 (.1772), | M5 (.1969) | 1 | 2.38 | .88 | .25 | .1940 | .152 |
| .197–.223 | 12 | (.2160) | – | | – | – | 1 | 2.38 | .94 | .28 | .2200 | .165 |
| .223–.260 | – | | 1/4 | (.2500) | M6 | (.2362) | 2 | 2.50 | 1.00 | .31 | .2550 | .191 |
| .260–.323 | – | | 5/16 | (.3125) | M7 (.2756), | M8 (.3150) | 2 | 2.72 | 1.13 | .38 | .3180 | .238 |
| .323–.395 | – | | 3/8 | (.3750) | M10 | (.3937) | 2 | 2.94 | 1.25 | .44 | .3810 | .286 |
| .395–.448 | – | | 7/16 | (.4375) | – | – | 3 | 3.16 | 1.44 | .41 | .3230 | .242 |
| .448–.510 | – | | 1/2 | (.5000) | M12 | (.4724) | 3 | 3.38 | 1.66 | .44 | .3670 | .275 |
| .510–.573 | – | | 9/16 | (.5625) | M14 | (.5512) | 3 | 3.59 | 1.66 | .50 | .4290 | .322 |
| .573–.635 | – | | 5/8 | (.6250) | M16 | (.6299) | 3 | 3.81 | 1.81 | .56 | .4800 | .360 |
| .635–.709 | – | | 11/16 | (.6875) | M18 | (.7087) | 3 | 4.03 | 1.81 | .63 | .5420 | .406 |
| .709–.760 | – | | 3/4 | (.7500) | – | – | 3 | 4.25 | 2.00 | .69 | .5900 | .442 |
| .760–.823 | – | | 13/16 | (.8125) | M20 | (.7874) | 3 | 4.47 | 2.00 | .69 | .6520 | .489 |
| .823–.885 | – | | 7/8 | (.8750) | M22 | (.8661) | 3 | 4.69 | 2.22 | .75 | .6970 | .523 |
| .885–.948 | – | | 15/16 | (.9375) | M24 | (.9449) | 3 | 4.91 | 2.22 | .75 | .7600 | .570 |
| .948–1.010 | – | | 1 | (1.0000) | M25 | (.9843) | 3 | 5.13 | 2.50 | .81 | .8000 | .600 |
| 1.010–1.073 | – | | 1-1/16 | (1.0625) | M27 | (1.0630) | 3 | 5.13 | 2.50 | .88 | .8960 | .672 |
| 1.073–1.135 | – | | 1-1/8 | (1.1250) | – | – | 3 | 5.44 | 2.56 | .88 | .8960 | .672 |
| 1.135–1.198 | – | | 1-3/16 | (1.1875) | M30 | (1.1811) | 3 | 5.44 | 2.56 | 1.00 | 1.0210 | .766 |
| 1.198–1.260 | – | | 1-1/4 | (1.2500) | – | – | 3 | 5.75 | 2.56 | 1.00 | 1.0210 | .766 |
| 1.260–1.323 | – | | 1-5/16 | (1.3125) | M33 | (1.2992) | 3 | 5.75 | 2.56 | 1.06 | 1.1080 | .831 |
| 1.323–1.385 | – | | 1-3/8 | (1.3750) | – | – | 3 | 6.06 | 3.00 | 1.06 | 1.1080 | .831 |
| 1.358–1.448 | – | | 1-7/16 | (1.4375) | M36 | (1.4173) | 3 | 6.06 | 3.00 | 1.13 | 1.2330 | .925 |
| 1.448–1.510 | – | | 1-1/2 | (1.5000) | – | – | 3 | 6.38 | 3.00 | 1.13 | 1.2330 | .925 |
| 1.510–1.635 | – | | 1-5/8 | (1.6250) | M39 | (1.5354) | 3 | 6.69 | 3.19 | 1.13 | 1.3050 | .979 |
| 1.635–1.760 | – | | 1-3/4 | (1.7500) | M42 | (1.6535) | 3 | 7.00 | 3.19 | 1.25 | 1.4300 | 1.072 |
| 1.760–1.885 | – | | 1-7/8 | (1.8750) | – | – | 3 | 7.31 | 3.56 | 1.25 | 1.5190 | 1.139 |
| 1.885–2.010 | – | | 2 | (2.0000) | M48 | (1.8898) | 3 | 7.63 | 3.56 | 1.38 | 1.6440 | 1.233 |
| 2.010–2.135 | – | | 2-1/8 | (2.1250) | – | – | 3 | 8.00 | 3.56 | 1.38 | 1.7690 | 1.327 |
| 2.135–2.260 | – | | 2-1/4 | (2.2500) | M56 | (2.2047) | 3 | 8.25 | 3.56 | 1.44 | 1.8940 | 1.420 |
| 2.260–2.385 | – | | 2-3/8 | (2.3750) | – | – | 3 | 8.50 | 4.00 | 1.44 | 2.0190 | 1.514 |
| 2.385–2.510 | – | | 2-1/2 | (2.5000) | – | – | 3 | 8.75 | 4.00 | 1.50 | 2.1000 | 1.575 |
| 2.510–2.635 | – | | 2-5/8 | (2.6250) | M64 | (2.5197) | 3 | 8.75 | 4.00 | 1.50 | 2.2250 | 1.669 |
| 2.635–2.760 | – | | 2-3/4 | (2.7500) | – | – | 3 | 9.25 | 4.00 | 1.56 | 2.3500 | 1.762 |
| 2.760–2.885 | – | | 2-7/8 | (2.8750) | M72 | (2.8346) | 3 | 9.25 | 4.00 | 1.56 | 2.4750 | 1.856 |
| 2.885–3.010 | – | | 3 | (3.0000) | – | – | 3 | 9.75 | 4.56 | 1.63 | 2.5430 | 1.907 |
| 3.010–3.135 | – | | 3-1/8 | (3.1250) | – | – | 3 | 9.75 | 4.56 | 1.63 | 2.6680 | 2.001 |
| 3.135–3.260 | – | | 3-1/4 | (3.2500) | M80 | (3.1496) | 3 | 10.00 | 4.56 | 1.75 | 2.7930 | 2.095 |
| 3.260–3.385 | – | | 3-3/8 | (3.3750) | – | – | 3 | 10.00 | 4.56 | 1.75 | 2.8830 | 2.162 |
| 3.385–3.510 | – | | 3-1/2 | (3.5000) | – | – | 3 | 10.25 | 4.94 | 2.00 | 3.0080 | 2.256 |
| 3.510–3.635 | – | | 3-5/8 | (3.6250) | M90 | (3.5433) | 3 | 10.25 | 4.94 | 2.00 | 3.1330 | 2.350 |
| 3.635–3.760 | – | | 3-3/4 | (3.7500) | – | – | 3 | 10.50 | 5.31 | 2.13 | 3.2170 | 2.413 |
| 3.760–3.885 | – | | 3-7/8 | (3.8750) | – | – | 3 | 10.50 | 5.31 | 2.13 | 3.3420 | 2.506 |
| 3.885–4.010 | – | | 4 | (4.0000) | M100 | (3.9370) | 3 | 10.75 | 5.31 | 2.25 | 3.4670 | 2.600 |

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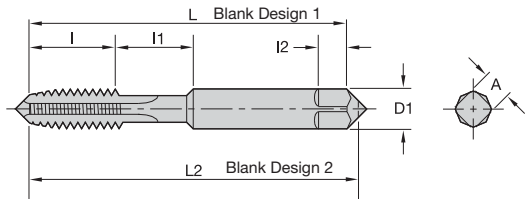


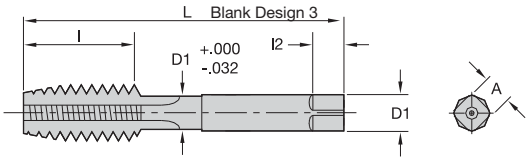


## General Dimensions

Tap Dimensions — Inches

| nominal diameter range (in) | | machine screw size number (in) | | nominal fractional diameter (in) | | nominal metric diameter mm (in) | | blank design number | overall length L | thread length l | neck length l1 | square length l2 | shank diameter D1 | square size A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .104 | .117 | 4 | (.1120) | — | | — | — | 1 | 1.88 | .31 | .25 | .19 | .1410 | .110 |
| .117 | .130 | 5 | (.1250) | | | M3 | (.1181) | 1 | 1.94 | .31 | .31 | .19 | .1410 | .110 |
| .130 | .145 | 6 | (.1380) | — | | M3.5 | (.1378) | 1 | 2.00 | .38 | .31 | .19 | .1410 | .110 |
| .145 | .171 | 8 | (.1640) | | | M4 | (.1575) | 1 | 2.13 | .38 | .38 | .25 | .1680 | .131 |
| .171 | .197 | 10 | (.1900) | — | | M4.5 | (.1772) | 1 | 2.38 | .50 | .38 | .25 | .1940 | .152 |
| — | — | — | — | | | M5 | (.1969) | — | — | — | — | — | — | — |
| .197 | .223 | 12 | (.2160) | — | — | — | — | 1 | 2.38 | .50 | .44 | .28 | .2200 | .165 |
| .223 | .260 | — | — | 1/4 | (.2500) | M6 | (.2362) | 2 | 2.50 | .63 | .38 | .31 | .2550 | .191 |
| .260 | .323 | — | | 5/16 | (.3125) | M7, M8 | (.2756), (.3150) | 2 | 2.72 | .69 | .44 | .38 | .3180 | .238 |
| .323 | .395 | | | 3/8 | (.3750) | M10 | (.3937) | 2 | 2.94 | .75 | .50 | .44 | .3810 | .286 |
| .395 | .448 | — | | 7/16 | (.4375) | — | — | 3 | 3.16 | .88 | – | .41 | .3230 | .242 |
| .448 | .510 | | | 1/2 | (.5000) | M12 | (.4724) | 3 | 3.38 | .94 | – | .44 | .3670 | .275 |
| .510 | .573 | — | | 9/16 | (.5625) | M14 | (.5541) | 3 | 3.59 | 1.00 | – | .50 | .4290 | .322 |
| .573 | .635 | | | 5/8 | (.6250) | M16 | (.6299) | 3 | 3.81 | 1.09 | – | .56 | .4800 | .360 |
| .635 | .709 | — | | 11/16 | (.6875) | M18 | (.7087) | 3 | 4.03 | 1.09 | – | .63 | .5420 | .406 |
| .709 | .760 | | | 3/4 | (.7500) | — | — | 3 | 4.25 | 1.22 | – | .69 | .5900 | .442 |
| .760 | .823 | — | | 13/16 | (.8125) | M20 | (.7874) | 3 | 4.47 | 1.22 | – | .69 | .6520 | .489 |
| .823 | .885 | | | 7/8 | (.8750) | M22 | (.8661) | 3 | 4.69 | 1.34 | – | .75 | .3670 | .523 |
| .885 | .948 | — | | 15/16 | (.9375) | M24 | (.9449) | 3 | 4.91 | 1.34 | – | .75 | .7600 | .570 |
| .948 | 1.010 | | | 1 | (1.0000) | M25 | (.9843) | 3 | 5.13 | 1.50 | – | .81 | .8000 | .600 |

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NOTE: Thread length l is based on a length of 12 pitches of the UNC thread series. Thread length "l" is a minimum value and has no tolerance. When thread length "l" is added to neck length "l1", the total shall be no less than the minimum USCTI Table 302 thread length "l". Unless otherwise specified, all tolerances are in accordance with USCTI Table 302. For eccentricity tolerances, see USCTI Table 317. Table 302 is provided for reference only. The Kennametal tap dimensions may differ.

## Tolerances

| element | nominal diameter range (in) | direction | tolerance (in) |
|---|---|---|---|
| length overall — L | .0520–1.0100 | plus or minus | .031 |
| | 1.0100–4.0100 | plus or minus | .063 |
| length of thread — l | .0520–.2230 | plus or minus | .047 |
| | .2230–.5100 | plus or minus | .063 |
| | .5100–1.5100 | plus or minus | .094 |
| | 1.5100–4.0100 | plus or minus | .125 |
| length of square — l2 | .0520–1.0100 | plus or minus | .031 |
| | 1.0100–4.0100 | plus or minus | .063 |
| diameter of shank — d1 | .0520–.2230 | minus | .0015 |
| | .2230–.6350 | minus | .0015 |
| | .6350–1.0100 | minus | .0020 |
| | 1.0100–1.5100 | minus | .0020 |
| | 1.5100–2.0100 | minus | .0030 |
| | 2.0100–4.0100 | minus | .0030 |
| size of square — a | .0520–.5100 | minus | .004 |
| | .5100–1.0100 | minus | .006 |
| | 1.0100–2.0100 | minus | .008 |
| | 2.0100–4.0100 | minus | .010 |

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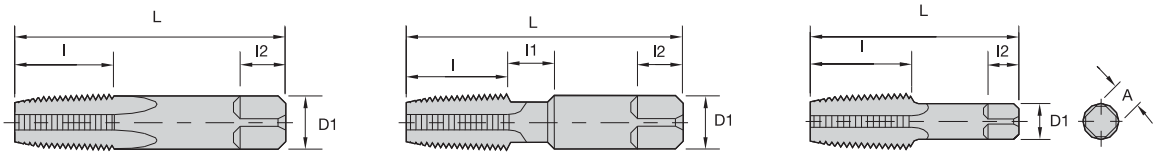
## Special Taps

Unless otherwise specified: Special taps over 1.010–1.510" diameter inclusive, having 14 or more threads per inch or 1,75mm pitch and finer, and sizes over 1.510" diameter with 10 or more threads per inch or 2,5mm pitch and finer, are made to general dimensions shown in USCTI Table 303. Special tap thread limits are determined using the formulas shown in USCTI Table 331 for Unified Inch Screw Threads and USCTI Table 341 for metric m-profile screw threads.

NOTE: Tap sizes .395" and smaller have an external center on the thread end (may be removed on bottoming taps). Sizes .125" and smaller have an external center on the shank end. Sizes .224–.395" have truncated partial cone centers on the shank end (length of cone approximately 1/4 of diameter of shank). Sizes over .395" have internal centers on both the thread and shank ends.

For standard thread limits and tolerances for Unified Inch Screw Threads, see USCTI Table 327, and for metric threads, see USCTI Table 337.

For eccentricity tolerances of tap elements, see USCTI Table 317.




## General Dimensions

dimensions (in)

| nominal size (in) | overall length L | thread length l | square length l2 | shank diameter D1 | square size A | optional neck length l1 |
|---|---|---|---|---|---|---|
| 1/16 | 2.13 | .69 | .38 | .3125 | .234 | .375 |
| 1/8 | 2.13 | .75 | .38 | .3125 | .234 | – |
| 1/8 | 2.13 | .75 | .38 | .4375 | .328 | .375 |
| 1/4 | 2.44 | 1.06 | .44 | .5625 | .421 | .375 |
| 3/8 | 2.56 | 1.06 | .50 | .7000 | .531 | .375 |
| 1/2 | 3.13 | 1.38 | .63 | .6875 | .515 | – |
| 3/4 | 3.25 | 1.38 | .69 | .9063 | .679 | – |
| 1 | 3.75 | 1.75 | .81 | 1.1250 | .843 | – |
| 1-1/4 | 4.00 | 1.75 | .94 | 1.3125 | .984 | – |
| 1-1/2 | 4.25 | 1.75 | 1.00 | 1.5000 | 1.125 | – |
| 2 | 4.25 | 1.75 | 1.13 | 1.8750 | 1.406 | – |
| 2-1/2 | 5.50 | 2.56 | 1.25 | 2.2500 | 1.687 | – |
| 3 | 6.00 | 2.63 | 1.38 | 2.6250 | 1.968 | – |
| 3-1/2 | 6.50 | 2.69 | 1.50 | 2.8125 | 2.108 | – |
| 4 | 6.75 | 2.75 | 1.56 | 3.0000 | 2.250 | – |

## Tolerances

| element | range | direction | tolerance |
|---|---|---|---|
| length overall — L | 1/16–3/4 inc. | plus/minus | .031 |
| | 1–4 inc. | plus/minus | .063 |
| length of thread — l | 1/16–3/4 inc. | plus/minus | .063 |
| | 1–1-1/4 inc. | plus/minus | .094 |
| | 1-1/2–4 | plus/minus | .125 |
| length of square — l2 | 1/16–3/4 inc. | plus/minus | .031 |
| | 1–4 inc. | plus/minus | .063 |
| diameter of shank — d1 | 1/16–1/8 | minus | .0015 |
| | 1/4–1 inc. | minus | .0020 |
| | 1-1/4–4 inc. | minus | .0030 |
| size of square — a | 1/16–1/8 | minus | .004 |
| | 1/4–3/4 inc. | minus | .006 |
| | 1–4 inc. | minus | .008 |

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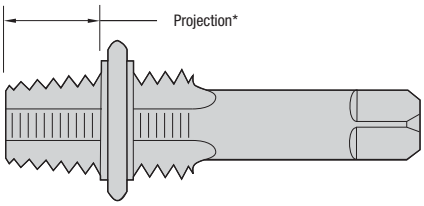
American National Standard Taper Pipe Thread Form (NPT)
Aeronautical National Taper Pipe Thread Form (ANPT)
Dryseal American National Standard Taper Pipe Thread Form (NPTF)




| | | | | taper per foot limits | | | |
|---|---|---|---|---|---|---|---|
| nominal size (in) | threads per inch | projection* (in) | projection tolerance + / – | min | max | length L1 | tap drill size** NPT, ANPT, NFTF |
| 1/16 | 27 | .312 | .063 | .719 | .781 | .160 | C |
| 1/8 | 27 | .312 | .063 | .719 | .781 | .1615 | Q |
| 1/4 | 18 | .459 | .063 | .719 | .781 | .2278 | 7/16 |
| 3/8 | 18 | .454 | .063 | .719 | .781 | .240 | 9/16 |
| 1/2 | 14 | .579 | .063 | .719 | .781 | .320 | 45/64 |
| 3/4 | 14 | .565 | .063 | .719 | .781 | .339 | 29/32 |
| 1 | 11-1/2 | .678 | .094 | .719 | .781 | .400 | 1-9/64 |
| 1-1/4 | 11-1/2 | .686 | .094 | .719 | .781 | .420 | 1-31/64 |
| 1-1/2 | 11-1/2 | .699 | .094 | .719 | .781 | .420 | 1-23/32 |
| 2 | 11-1/2 | .667 | .094 | .719 | .781 | .436 | 2-3/16 |
| 2-1/2 | 8 | .925 | .094 | .734 | .781 | .682 | 2-39/64 |
| 3 | 8 | .925 | .094 | .734 | .781 | .766 | 3-15/64 |
| 3-1/2 | 8 | .938 | .125 | .734 | .781 | .821 | — |
| 4 | 8 | .950 | .125 | .734 | .781 | .844 | — |

*Distance from small end of tap projects through L1 taper thread ring gage.
**Recommended size given permits direct tapping without reaming the hole, but only gives a full thread for approximately the L1 length.
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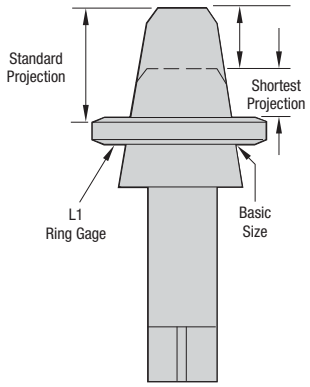
## Pipe Taps

General-purpose pipe taps are appropriate for threading a wide variety of materials, both ferrous and non-ferrous.

Ground thread pipe taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Form (NPFT). NPT threads require the use of a sealer, like Teflon® tape or pipe compound. Dryseal taps are used to tap fittings, which will give a pressure-tight joint without the use of a sealer.

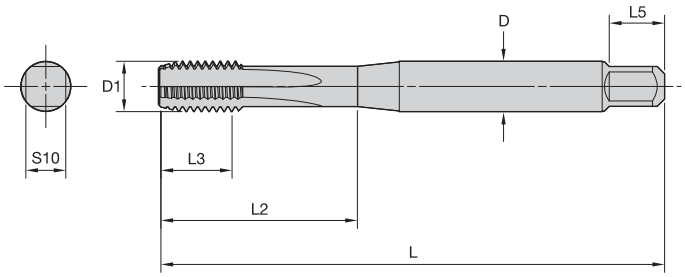
The nominal size of a pipe tap is that of the pipe fitting to be tapped, not the actual size of the tap. The thread tapers 3/4" per foot. All pipe taps are furnished with 2-1/2–3-1/2 thread chamfer.




Short projection pipe taps are made with a projection shorter than standard for taper pipe tapping where the depth of tapping is limited.

Special short projection taper pipe taps can be furnished with American National Standard Taper Pipe thread (ANPT) or Dryseal American National Standard Taper Pipe thread (NPTF, PTF-SAE Short, or PTF-SPL Extra Short).

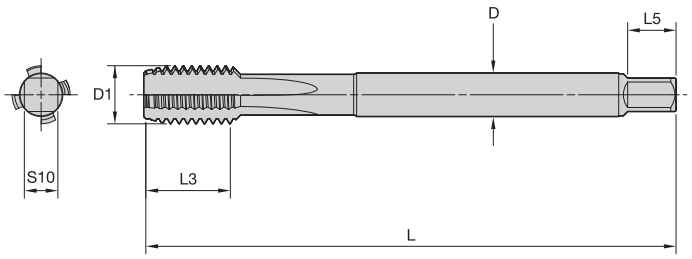
For information on short projection pipe taps and hole preparation for NPT, NPTF, and ANPT internal pipe threads, consult Kennametal Technical Bulletins.




## DIN 371

| D1 | pitch | D | L | L3* | L2 | L5 | S10 |
|---|---|---|---|---|---|---|---|
| M3 | 0.5 | 3.5 | 56 | 11 | 18 | 6 | 2.7 |
| M3.5 | 0.6 | 4 | 56 | 12 | 20 | 6 | 3 |
| M4 | 0.7 | 4.5 | 63 | 13 | 21 | 6 | 3.4 |
| M4.5 | 0.75 | 6 | 70 | 16 | 25 | 8 | 4.9 |
| M5 | 0.8 | 6 | 70 | 16 | 25 | 8 | 4.9 |
| M6 | 1 | 6 | 80 | 19 | 30 | 8 | 4.9 |
| M7 | 1 | 7 | 80 | 19 | 30 | 8 | 5.5 |
| M8 | 0.75 | 8 | 80 | 18 | 30 | 9 | 6.2 |
| M8 | 1.25 | 8 | 90 | 22 | 35 | 9 | 6.2 |
| M9 | 0.75 | 9 | 80 | 18 | 30 | 10 | 7 |
| M9 | 1.25 | 9 | 90 | 22 | 35 | 10 | 7 |
| M10 | 1 | 10 | 90 | 20 | 35 | 11 | 8 |
| M10 | 1.5 | 10 | 100 | 24 | 39 | 11 | 8 |

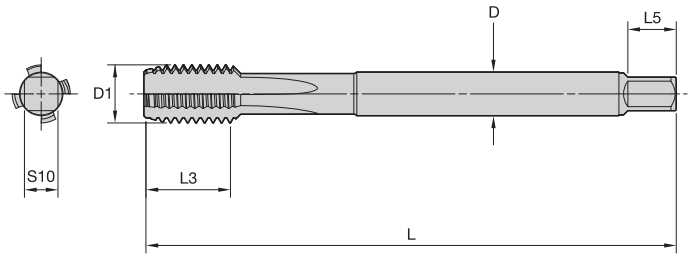
*Maximum




## DIN 376

| D1 | pitch | D | L | L3* | L5 | S10 |
|---|---|---|---|---|---|---|
| M8 | 1.25 | 6 | 90 | 22 | 8 | 4.9 |
| M9 | 1.25 | 7 | 90 | 22 | 8 | 5.5 |
| M10 | 1.5 | 7 | 100 | 24 | 8 | 5.5 |
| M11 | 1.5 | 8 | 100 | 24 | 9 | 6.2 |
| M12 | 1.75 | 9 | 110 | 28 | 10 | 7 |
| M14 | 2 | 11 | 110 | 30 | 12 | 9 |
| M16 | 2 | 12 | 110 | 32 | 12 | 9 |
| M18 | 2.5 | 14 | 125 | 34 | 14 | 11 |
| M20 | 2.5 | 16 | 140 | 34 | 15 | 12 |
| M22 | 2.5 | 18 | 140 | 34 | 17 | 14.5 |
| M24 | 3 | 18 | 160 | 38 | 17 | 14.5 |
| M27 | 3 | 20 | 160 | 38 | 19 | 16 |
| M30 | 3.5 | 22 | 180 | 45 | 21 | 18 |
| M33 | 3.5 | 25 | 180 | 50 | 23 | 20 |
| M36 | 4 | 28 | 200 | 56 | 25 | 22 |
| M39 | 4 | 32 | 200 | 60 | 27 | 24 |
| M42 | 4.5 | 32 | 200 | 60 | 27 | 24 |
| M45 | 4.5 | 36 | 220 | 65 | 32 | 29 |

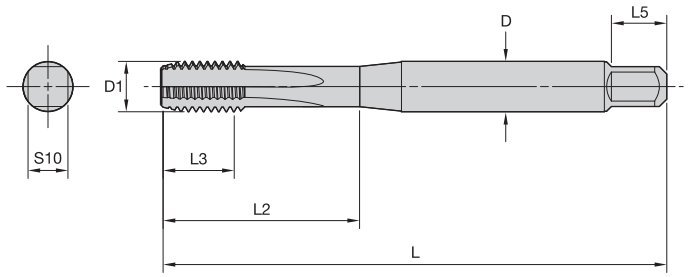
*Maximum




## DIN 374

| | pitch | | | | | | |
|---|---|---|---|---|---|---|---|
| **D1** | **minimum** | **maximum** | **D** | **L** | **L3*** | **L5** | **S10** |
| M8 | 0.2 | 0.75 | 6 | 80 | 18 | 8 | 4.9 |
| M8 | – | 1 | 6 | 90 | 22 | 8 | 4.9 |
| M9 | 0.2 | 0.75 | 7 | 80 | 18 | 8 | 5.5 |
| M9 | – | 1 | 7 | 90 | 22 | 8 | 5.5 |
| M10 | 0.2 | 1 | 7 | 90 | 20 | 8 | 5.5 |
| M10 | – | 1.25 | 7 | 100 | 24 | 8 | 5.5 |
| M11 | 0.35 | 1 | 8 | 90 | 20 | 9 | 6.2 |
| M12 | 0.35 | 1.5 | 9 | 100 | 22 | 10 | 7 |
| M14 | 0.35 | 1.5 | 11 | 100 | 22 | 12 | 9 |
| M16 | 0.35 | 1.5 | 12 | 100 | 22 | 12 | 9 |
| M16 | – | 2 | 12 | 110 | 32 | 12 | 9 |
| M18 | 0.35 | 1.5 | 14 | 110 | 25 | 14 | 11 |
| M18 | – | 2 | 14 | 125 | 34 | 14 | 11 |
| M20 | 0.35 | 1.5 | 16 | 125 | 25 | 15 | 12 |
| M20 | – | 2 | 16 | 140 | 34 | 15 | 12 |
| M22 | 0.35 | 1.5 | 18 | 125 | 25 | 17 | 14.5 |
| M22 | – | 2 | 18 | 140 | 34 | 17 | 14.5 |
| M24 | 0.35 | 2 | 18 | 140 | 28 | 17 | 14.5 |
| M27 | 0.35 | 2 | 20 | 140 | 28 | 19 | 16 |
| M30 | 0.35 | 2 | 22 | 150 | 28 | 21 | 18 |
| M30 | – | 3 | 22 | 180 | 45 | 21 | 18 |

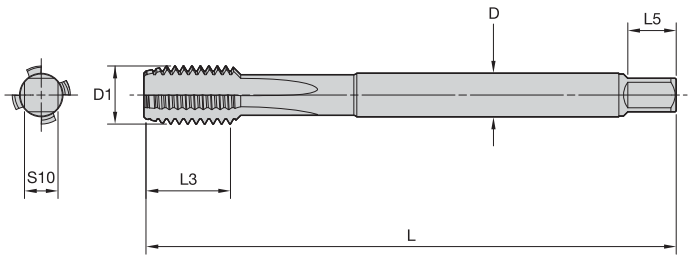
*Maximum




## JIS Type 2 Metric Coarse

| | | metric dimensions | | | | | |
|---|---|---|---|---|---|---|---|
| **D1** | **pitch** | **D** | **L** | **L3** | **L2** | **L5** | **S10** |
| M3 | 0.5 | 4 | 46 | 11 | 19 | 6 | 3.2 |
| M3.5 | 0.6 | 4 | 48 | 13 | 20 | 6 | 3.2 |
| M4 | 0.7 | 5 | 52 | 13 | 21 | 7 | 4 |
| M4.5 | 0.75 | 5 | 55 | 13 | 21 | 7 | 4 |
| M5 | 0.8 | 5.5 | 60 | 16 | 24 | 7 | 4.5 |
| M6 | 1 | 6 | 62 | 19 | 29 | 7 | 4.5 |






## JIS Type 3 Metric Coarse

| | | metric dimensions | | | | |
|---|---|---|---|---|---|---|
| **D1** | **pitch** | **D** | **L** | **L3** | **L5** | **S10** |
| M8 | 1.25 | 6.2 | 70 | 22 | 8 | 5 |
| M9 | 1.25 | 7 | 72 | 22 | 8 | 5.5 |
| M10 | 1.5 | 7 | 75 | 24 | 8 | 5.5 |
| M11 | 1.5 | 8 | 80 | 25 | 9 | 6 |
| M12 | 1.75 | 8.5 | 82 | 29 | 9 | 6.5 |
| M14 | 2 | 10.5 | 88 | 30 | 11 | 8 |
| M16 | 2 | 12.5 | 95 | 32 | 13 | 10 |
| M18 | 2.5 | 14 | 100 | 37 | 14 | 11 |
| M20 | 2.5 | 15 | 105 | 37 | 15 | 12 |
| M22 | 2.5 | 17 | 115 | 38 | 16 | 13 |
| M24 | 3 | 19 | 120 | 45 | 18 | 15 |

## Thread Cutting • UNC, UNF, and 8-pitch

| tap size | Threads per Inch | | | 65% thread | | | | | | 70% thread | | | | | | 75% thread | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Metric | | | Inch | | | Metric | | | Inch | | | Metric | | | Inch | | |
| | UNC | UNF | 8-pitch | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill |
| #0 | – | 80 | – | 1.20 | **1.26** | 1.30 | 0.0472 | **0.0494** | 0.0512 | 1.20 | **1.24** | 1.30 | 0.0472 | **0.0486** | 0.0512 | 1.20 | **1.21** | 1.30 | 0.0472 | **0.0478** | 0.0512 |
| #1 | 64 | – | – | 1.50 | **1.52** | 1.60 | 0.0591 | **0.0598** | 0.0630 | 1.40 | **1.49** | 1.50 | 0.0551 | **0.0588** | 0.0591 | 1.40 | **1.47** | 1.50 | 0.0551 | **0.0578** | 0.0591 |
| | – | 72 | – | 1.50 | **1.56** | 1.60 | 0.0591 | **0.0613** | 0.0630 | 1.50 | **1.53** | 1.60 | 0.0591 | **0.0604** | 0.0630 | 1.50 | **1.51** | 1.60 | 0.0591 | **0.0595** | 0.0630 |
| #2 | 56 | – | – | 1.80 | **1.80** | 1.80 | 0.0709 | **0.0709** | 0.0709 | 1.70 | **1.77** | 1.80 | 0.0669 | **0.0698** | 0.0709 | 1.70 | **1.74** | 1.80 | 0.0669 | **0.0686** | 0.0709 |
| | – | 64 | – | 1.80 | **1.85** | 1.90 | 0.0709 | **0.0728** | 0.0748 | 1.80 | **1.82** | 1.90 | 0.0709 | **0.0718** | 0.0748 | 1.80 | **1.80** | 1.80 | 0.0669 | **0.0708** | 0.0709 |
| #3 | 48 | – | – | 2.00 | **2.07** | 2.10 | 0.0787 | **0.0814** | 0.0827 | 2.00 | **2.03** | 2.10 | 0.0787 | **0.0801** | 0.0827 | 2.00 | **2.00** | 2.00 | 0.0787 | **0.0787** | 0.0787 |
| | – | 56 | – | 2.10 | **2.13** | 2.20 | 0.0827 | **0.0839** | 0.0866 | 2.10 | **2.10** | 2.10 | 0.0827 | **0.0828** | 0.0866 | 2.00 | **2.07** | 2.10 | 0.0787 | **0.0816** | 0.0827 |
| #4 | 40 | – | – | 2.30 | **2.31** | 2.38 | 0.0906 | **0.0909** | 0.0938 | 2.20 | **2.27** | 2.30 | 0.0866 | **0.0893** | 0.0906 | 2.20 | **2.23** | 2.30 | 0.0866 | **0.0876** | 0.0906 |
| | – | 48 | – | 2.40 | **2.40** | 2.40 | 0.0938 | **0.0944** | 0.0945 | 2.30 | **2.36** | 2.38 | 0.0906 | **0.0931** | 0.0938 | 2.30 | **2.33** | 2.38 | 0.0906 | **0.0917** | 0.0938 |
| #5 | 40 | – | – | 2.64 | **2.64** | 2.64 | 0.1024 | **0.1039** | 0.1040 | 2.60 | **2.60** | 2.60 | 0.1015 | **0.1023** | 0.1024 | 2.50 | **2.56** | 2.58 | 0.0984 | **0.1006** | 0.1015 |
| | – | 44 | – | 2.64 | **2.69** | 2.70 | 0.1040 | **0.1058** | 0.1063 | 2.64 | **2.65** | 2.70 | 0.1040 | **0.1043** | 0.1063 | 2.60 | **2.61** | 2.64 | 0.1024 | **0.1029** | 0.1040 |
| #6 | 32 | – | – | 2.82 | **2.83** | 2.87 | 0.1100 | **0.1116** | 0.1130 | 2.78 | **2.78** | 2.78 | 0.1094 | **0.1096** | 0.1102 | 2.71 | **2.73** | 2.78 | 0.1065 | **0.1076** | 0.1094 |
| | – | 40 | – | 2.95 | **2.97** | 3.00 | 0.1160 | **0.1169** | 0.1181 | 2.90 | **2.93** | 2.95 | 0.1142 | **0.1153** | 0.1160 | 2.87 | **2.89** | 2.90 | 0.1130 | **0.1136** | 0.1142 |
| #8 | 32 | – | – | 3.50 | **3.50** | 3.50 | 0.1360 | **0.1376** | 0.1378 | 3.40 | **3.44** | 3.46 | 0.1339 | **0.1356** | 0.1360 | 3.30 | **3.39** | 3.40 | 0.1299 | **0.1336** | 0.1339 |
| | – | 36 | – | 3.57 | **3.57** | 3.57 | 0.1378 | **0.1405** | 0.1406 | 3.50 | **3.52** | 3.57 | 0.1378 | **0.1387** | 0.1406 | 3.46 | **3.48** | 3.50 | 0.1360 | **0.1369** | 0.1378 |
| #10 | 24 | – | – | 3.90 | **3.93** | 3.97 | 0.1535 | **0.1548** | 0.1563 | 3.80 | **3.86** | 3.90 | 0.1496 | **0.1521** | 0.1535 | 3.73 | **3.79** | 3.80 | 0.1470 | **0.1494** | 0.1496 |
| | – | 32 | – | 4.10 | **4.16** | 4.20 | 0.1614 | **0.1636** | 0.1654 | 4.10 | **4.10** | 4.10 | 0.1614 | **0.1616** | 0.1654 | 4.04 | **4.05** | 4.09 | 0.1590 | **0.1596** | 0.1610 |
| #12 | 24 | – | – | 4.50 | **4.59** | 4.60 | 0.1772 | **0.1808** | 0.1811 | 4.50 | **4.52** | 4.60 | 0.1772 | **0.1781** | 0.1811 | 4.40 | **4.46** | 4.50 | 0.1732 | **0.1754** | 0.1772 |
| | – | 28 | – | 4.70 | **4.72** | 4.76 | 0.1850 | **0.1858** | 0.1875 | 4.62 | **4.66** | 4.70 | 0.1820 | **0.1835** | 0.1850 | 4.60 | **4.60** | 4.60 | 0.1811 | **0.1812** | 0.1820 |
| 1/4 | 20 | – | – | 5.20 | **5.28** | 5.30 | 0.2047 | **0.2078** | 0.2087 | 5.20 | **5.20** | 5.20 | 0.2031 | **0.2045** | 0.2047 | 5.11 | **5.11** | 5.11 | 0.2010 | **0.2013** | 0.2031 |
| | – | 28 | – | 5.56 | **5.58** | 5.60 | 0.2188 | **0.2198** | 0.2205 | 5.50 | **5.53** | 5.56 | 0.2165 | **0.2175** | 0.2188 | 5.41 | **5.47** | 5.50 | 0.2130 | **0.2152** | 0.2165 |
| 5/16 | 18 | – | – | 6.75 | **6.75** | 6.75 | 0.2656 | **0.2656** | 0.2656 | 6.63 | **6.65** | 6.70 | 0.2610 | **0.2620** | 0.2638 | 6.53 | **6.56** | 6.60 | 0.2570 | **0.2584** | 0.2598 |
| | – | 24 | – | 7.00 | **7.04** | 7.10 | 0.2756 | **0.2773** | 0.2795 | 6.90 | **6.98** | 7.00 | 0.2717 | **0.2746** | 0.2756 | 6.90 | **6.91** | 7.00 | 0.2717 | **0.2719** | 0.2756 |
| 3/8 | 16 | – | – | 8.10 | **8.18** | 8.20 | 0.3189 | **0.3222** | 0.3228 | 8.00 | **8.08** | 8.10 | 0.3150 | **0.3182** | 0.3189 | 7.94 | **7.98** | 8.00 | 0.3125 | **0.3141** | 0.3150 |
| | – | 24 | – | 8.60 | **8.63** | 8.70 | 0.3386 | **0.3398** | 0.3425 | 8.50 | **8.56** | 8.60 | 0.3346 | **0.3371** | 0.3386 | 8.43 | **8.49** | 8.50 | 0.3320 | **0.3344** | 0.3346 |
| 7/16 | 14 | – | – | 9.53 | **9.58** | 9.60 | 0.3750 | **0.3772** | 0.3780 | 9.40 | **9.46** | 9.50 | 0.3701 | **0.3726** | 0.3740 | 9.30 | **9.34** | 9.35 | 0.3661 | **0.3679** | 0.3680 |
| | – | 20 | – | 10.00 | **10.04** | 10.10 | 0.3937 | **0.3953** | 0.3976 | 9.92 | **9.96** | 10.00 | 0.3906 | **0.3920** | 0.3937 | 9.80 | **9.88** | 9.90 | 0.3858 | **0.3888** | 0.3898 |
| 1/2 | 13 | – | – | 11.00 | **11.05** | 11.10 | 0.4331 | **0.4351** | 0.4370 | 10.90 | **10.92** | 11.00 | 0.4291 | **0.4301** | 0.4331 | 10.80 | **10.80** | 10.80 | 0.4219 | **0.4251** | 0.4252 |
| | – | 20 | – | 11.60 | **11.63** | 11.70 | 0.4528 | **0.4578** | 0.4606 | 11.51 | **11.55** | 11.60 | 0.4528 | **0.4545** | 0.4606 | 11.40 | **11.46** | 11.50 | 0.4488 | **0.4513** | 0.4528 |
| 9/16 | 12 | – | – | 12.50 | **12.50** | 12.50 | 0.4921 | **0.4921** | 0.4921 | 12.30 | **12.36** | 12.40 | 0.4844 | **0.4867** | 0.4882 | 12.20 | **12.23** | 12.30 | 0.4803 | **0.4813** | 0.4843 |
| | – | 18 | – | 13.10 | **13.10** | 13.10 | 0.5118 | **0.5156** | 0.5157 | 13.00 | **13.00** | 13.00 | 0.5118 | **0.5120** | 0.5157 | 12.80 | **12.91** | 13.00 | 0.5039 | **0.5084** | 0.5118 |
| 5/8 | 11 | – | – | 13.80 | **13.93** | 14.00 | 0.5433 | **0.5482** | 0.5512 | 13.50 | **13.78** | 13.80 | 0.5315 | **0.5423** | 0.5433 | 13.50 | **13.63** | 13.80 | 0.5315 | **0.5364** | 0.5433 |
| | – | 18 | – | 14.50 | **14.68** | 15.00 | 0.5709 | **0.5781** | 0.5906 | 14.50 | **14.59** | 15.00 | 0.5709 | **0.5745** | 0.5906 | 14.50 | **14.50** | 14.50 | 0.5709 | **0.5709** | 0.5709 |
| 3/4 | 10 | – | – | 16.50 | **16.91** | 17.00 | 0.6496 | **0.6656** | 0.6693 | 16.50 | **16.74** | 17.00 | 0.6496 | **0.6591** | 0.6693 | 16.50 | **16.58** | 17.00 | 0.6496 | **0.6526** | 0.6560 |
| | – | 16 | – | 17.50 | **17.71** | 18.00 | 0.6890 | **0.6972** | 0.7087 | 17.50 | **17.61** | 18.00 | 0.6890 | **0.6932** | 0.7087 | 17.50 | **17.50** | 17.50 | 0.6890 | **0.6891** | 0.6969 |
| 7/8 | 9 | – | – | 19.50 | **19.84** | 20.00 | 0.7677 | **0.7812** | 0.7874 | 19.50 | **19.66** | 20.00 | 0.7677 | **0.7740** | 0.7874 | 19.00 | **19.48** | 19.50 | 0.7660 | **0.7668** | 0.7677 |
| | – | 14 | – | 20.50 | **20.69** | 21.00 | 0.8071 | **0.8147** | 0.8268 | 20.50 | **20.58** | 21.00 | 0.8071 | **0.8101** | 0.8268 | 20.00 | **20.46** | 20.50 | 0.8012 | **0.8054** | 0.8071 |
| 1 | 8 | – | – | 22.50 | **22.72** | 22.77 | 0.8858 | **0.8945** | 0.8965 | 22.50 | **22.51** | 22.77 | 0.8858 | **0.8863** | 0.8965 | 22.23 | **22.31** | 22.44 | 0.8750 | **0.8782** | 0.8840 |
| | – | 12 | – | 23.50 | **23.61** | 23.81 | 0.9252 | **0.9296** | 0.9375 | 23.42 | **23.48** | 23.50 | 0.9220 | **0.9242** | 0.9252 | 23.30 | **23.34** | 23.42 | 0.9173 | **0.9188** | 0.9220 |
| 1-1/8 | 7 | – | – | 25.50 | **25.51** | 25.60 | 1.0039 | **1.0044** | 1.0080 | 25.07 | **25.28** | 25.40 | 0.9870 | **0.9951** | 1.0000 | 25.00 | **25.04** | 25.07 | 0.9843 | **0.9858** | 0.9870 |
| | – | 12 | – | 26.70 | **26.79** | 27.00 | 1.0512 | **1.0546** | 1.0610 | 26.59 | **26.65** | 26.70 | 1.0470 | **1.0492** | 1.0512 | 26.50 | **26.51** | 26.59 | 1.0433 | **1.0438** | 1.0470 |
| | – | – | 8 | 25.81 | **25.89** | 26.00 | 1.0160 | **1.0195** | 1.0236 | 25.67 | **25.69** | 25.81 | 1.0110 | **1.0113** | 1.0160 | 25.40 | **25.48** | 25.50 | 1.0000 | **1.0032** | 1.0039 |
| 1-1/4 | 7 | – | – | 28.58 | **28.69** | 29.00 | 1.1250 | **1.1294** | 1.1417 | 28.18 | **28.45** | 28.50 | 1.1090 | **1.1201** | 1.1220 | 28.18 | **28.21** | 28.50 | 1.1090 | **1.1108** | 1.1220 |
| | – | 12 | – | 29.77 | **29.96** | 30.00 | 1.1720 | **1.1796** | 1.1811 | 29.77 | **29.83** | 30.00 | 1.1720 | **1.1742** | 1.1811 | 29.50 | **29.69** | 29.73 | 1.1614 | **1.1688** | 1.1720 |
| | – | – | 8 | 29.00 | **29.07** | 29.50 | 1.1417 | **1.1445** | 1.1560 | 28.58 | **28.86** | 29.00 | 1.1250 | **1.1363** | 1.1417 | 28.58 | **28.66** | 29.00 | 1.1250 | **1.1282** | 1.1417 |

(continued)

*(Thread Cutting • UNC, UNF, and 8-pitch — continued)*

| tap size | Threads per Inch | | | 65% thread | | | | | | 70% thread | | | | | | 75% thread | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Metric | | | Inch | | | Metric | | | Inch | | | Metric | | | Inch | | |
| | UNC | UNF | 8-pitch | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill |
| | 6 | – | – | 31.00 | **31.35** | 31.50 | 1.2200 | **1.2343** | 1.2402 | 31.00 | **31.08** | 31.50 | 1.2200 | **1.2235** | 1.2402 | 30.56 | **30.80** | 30.96 | 1.2030 | **1.2126** | 1.2190 |
| 1-3/8 | – | 12 | – | 33.00 | **33.14** | 33.34 | 1.2992 | **1.3046** | 1.3130 | 33.00 | **33.00** | 33.00 | 1.2992 | **1.2992** | 1.2992 | 32.54 | **32.86** | 32.94 | 1.2810 | **1.2938** | 1.2970 |
| | – | – | 8 | 32.00 | **32.24** | 32.50 | 1.2598 | **1.2695** | 1.2795 | 32.00 | **32.04** | 32.50 | 1.2598 | **1.2613** | 1.2795 | 31.75 | **31.83** | 32.00 | 1.2500 | **1.2532** | 1.2598 |
| | 6 | – | – | 34.50 | **34.53** | 34.93 | 1.3583 | **1.3593** | 1.3750 | 34.13 | **34.25** | 34.50 | 1.3440 | **1.3485** | 1.3583 | 33.73 | **33.98** | 34.00 | 1.3280 | **1.3376** | 1.3386 |
| 1-1/2 | – | 12 | – | 36.12 | **36.31** | 36.50 | 1.4220 | **1.4296** | 1.4375 | 36.12 | **36.18** | 36.50 | 1.4220 | **1.4242** | 1.4375 | 36.00 | **36.04** | 36.12 | 1.4173 | **1.4188** | 1.4220 |
| | – | – | 8 | 35.00 | **35.42** | 35.50 | 1.3780 | **1.3945** | 1.3976 | 35.00 | **35.21** | 35.50 | 1.3780 | **1.3863** | 1.3976 | 35.00 | **35.01** | 35.50 | 1.3780 | **1.3782** | 1.3976 |
| 1-5/8 | – | – | 8 | 38.50 | **38.59** | 39.00 | 1.5157 | **1.5195** | 1.5354 | 38.10 | **38.39** | 38.46 | 1.5000 | **1.5113** | 1.5140 | 38.10 | **38.18** | 38.46 | 1.5000 | **1.5032** | 1.5140 |
| 1-3/4 | 5 | – | – | 40.00 | **40.16** | 41.00 | 1.5750 | **1.5811** | 1.6140 | 39.50 | **39.83** | 40.00 | 1.5551 | **1.5681** | 1.5748 | 39.50 | **39.50** | 39.50 | 1.5551 | **1.5552** | 1.5748 |
| | – | – | 8 | 41.00 | **41.77** | 42.00 | 1.6140 | **1.6445** | 1.6540 | 41.00 | **41.56** | 42.00 | 1.6140 | **1.6363** | 1.6540 | 41.00 | **41.36** | 42.00 | 1.6140 | **1.6282** | 1.6540 |
| 1-7/8 | – | – | 8 | 44.00 | **44.94** | 45.00 | 1.7320 | **1.7695** | 1.7720 | 44.00 | **44.74** | 45.00 | 1.7320 | **1.7613** | 1.7720 | 44.00 | **44.53** | 45.00 | 1.7320 | **1.7532** | 1.7720 |
| 2 | 4 1/2 | – | – | 46.00 | **46.03** | 47.00 | 1.8110 | **1.8124** | 1.8500 | 45.00 | **45.67** | 46.00 | 1.7720 | **1.7979** | 1.8110 | 45.00 | **45.30** | 46.00 | 1.7720 | **1.7835** | 1.8110 |
| | – | – | 8 | 48.00 | **48.12** | 49.00 | 1.8900 | **1.8945** | 1.9290 | 47.00 | **47.91** | 48.00 | 1.8500 | **1.8863** | 1.8900 | 47.00 | **47.71** | 48.00 | 1.8500 | **1.8782** | 1.8900 |
| 2-1/4 | 4 1/2 | – | – | 52.00 | **52.38** | 53.00 | 2.0470 | **2.0624** | 2.0870 | 52.00 | **52.02** | 53.00 | 2.0470 | **2.0479** | 2.0870 | 51.00 | **51.65** | 52.00 | 2.0080 | **2.0335** | 2.0470 |
| | – | – | 8 | 54.00 | **54.47** | 55.00 | 2.1260 | **2.1445** | 2.1650 | 54.00 | **54.26** | 55.00 | 2.1260 | **2.1363** | 2.1650 | 54.00 | **54.06** | 55.00 | 2.1260 | **2.1282** | 2.1650 |
| 2-1/2 | 4 | – | – | 58.00 | **58.14** | 59.00 | 2.2840 | **2.2889** | 2.3230 | 57.00 | **57.73** | 58.00 | 2.2440 | **2.2727** | 2.2840 | 57.00 | **57.31** | 58.00 | 2.2440 | **2.2564** | 2.2840 |
| | – | – | 8 | 60.00 | **60.82** | 61.00 | 2.3620 | **2.3945** | 2.4020 | 60.00 | **60.61** | 61.00 | 2.3620 | **2.3863** | 2.4020 | 60.00 | **60.41** | 61.00 | 2.3620 | **2.3782** | 2.4020 |





## Thread Cutting • M and MF

| tap size | pitch | | 65% thread | | | | | | 70% thread | | | | | | 75% thread | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Metric | | | Inch | | | Metric | | | Inch | | | Metric | | | Inch | | |
| | M | MF | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill | smallest drill | theoretical | largest drill |
| M1.6 | 0.35 | – | 1.20 | **1.30** | 1.30 | 0.0512 | **0.0512** | 0.0512 | 1.20 | **1.28** | 1.30 | 0.0472 | **0.0504** | 0.0512 | 1.20 | **1.26** | 1.30 | 0.0472 | **0.0496** | 0.0512 |
| M1.7 | 0.35 | – | 1.40 | **1.40** | 1.40 | 0.0551 | **0.0551** | 0.0551 | 1.32 | **1.38** | 1.40 | 0.0520 | **0.0543** | 0.0550 | 1.32 | **1.36** | 1.40 | 0.0520 | **0.0535** | 0.0550 |
| M1.8 | 0.35 | – | 1.50 | **1.50** | 1.50 | 0.0591 | **0.0591** | 0.0591 | 1.40 | **1.48** | 1.50 | 0.0551 | **0.0583** | 0.0591 | 1.40 | **1.46** | 1.50 | 0.0551 | **0.0575** | 0.0591 |
| M2 | 0.4 | – | 1.60 | **1.66** | 1.70 | 0.0630 | **0.0654** | 0.0669 | 1.60 | **1.64** | 1.70 | 0.0630 | **0.0646** | 0.0669 | 1.60 | **1.61** | 1.70 | 0.0630 | **0.0634** | 0.0669 |
| M2.2 | 0.45 | – | 1.80 | **1.82** | 1.90 | 0.0709 | **0.0717** | 0.0748 | 1.70 | **1.79** | 1.80 | 0.0669 | **0.0705** | 0.0709 | 1.70 | **1.76** | 1.80 | 0.0669 | **0.0693** | 0.0709 |
| M2.5 | 0.45 | – | 2.10 | **2.12** | 2.20 | 0.0827 | **0.0835** | 0.0866 | 2.00 | **2.09** | 2.10 | 0.0787 | **0.0823** | 0.0827 | 2.00 | **2.06** | 2.10 | 0.0787 | **0.0811** | 0.0827 |
| M2.6 | 0.45 | – | 2.20 | **2.22** | 2.30 | 0.0866 | **0.0874** | 0.0906 | 2.10 | **2.19** | 2.20 | 0.0827 | **0.0862** | 0.0866 | 2.10 | **2.16** | 2.20 | 0.0827 | **0.0850** | 0.0866 |
| M3 | 0.5 | – | 2.58 | **2.58** | 2.58 | 0.1015 | **0.1016** | 0.1024 | 2.50 | **2.55** | 2.58 | 0.0984 | **0.1004** | 0.1015 | 2.50 | **2.51** | 2.58 | 0.0984 | **0.0988** | 0.1015 |
| | – | 0.35 | 2.70 | **2.70** | 2.70 | 0.1063 | **0.1063** | 0.1063 | 2.64 | **2.68** | 2.70 | 0.1040 | **0.1055** | 0.1063 | 2.64 | **2.66** | 2.70 | 0.1040 | **0.1047** | 0.1063 |
| M3.5 | 0.6 | – | 2.95 | **2.99** | 3.00 | 0.1160 | **0.1177** | 0.1181 | 2.95 | **2.95** | 3.00 | 0.1160 | **0.1161** | 0.1181 | 2.90 | **2.92** | 2.95 | 0.1142 | **0.1150** | 0.1160 |
| M4 | 0.7 | – | 3.40 | **3.41** | 3.46 | 0.1339 | **0.1343** | 0.1360 | 3.30 | **3.36** | 3.40 | 0.1299 | **0.1323** | 0.1339 | 3.30 | **3.32** | 3.40 | 0.1299 | **0.1307** | 0.1339 |
| | – | 0.5 | 3.57 | **3.58** | 3.60 | 0.1406 | **0.1409** | 0.1417 | 3.50 | **3.54** | 3.57 | 0.1378 | **0.1394** | 0.1406 | 3.50 | **3.51** | 3.57 | 0.1378 | **0.1382** | 0.1406 |
| M4.5 | 0.75 | – | 3.80 | **3.87** | 3.90 | 0.1496 | **0.1524** | 0.1535 | 3.80 | **3.82** | 3.90 | 0.1496 | **0.1504** | 0.1535 | 3.73 | **3.77** | 3.80 | 0.1470 | **0.1484** | 0.1496 |
| M5 | 0.8 | – | 4.30 | **4.32** | 4.37 | 0.1693 | **0.1701** | 0.1719 | 4.22 | **4.27** | 4.30 | 0.1660 | **0.1681** | 0.1693 | 4.22 | **4.22** | 4.30 | 0.1660 | **0.1661** | 0.1693 |
| | – | 0.5 | 4.50 | **4.58** | 4.60 | 0.1772 | **0.1803** | 0.1811 | 4.50 | **4.54** | 4.60 | 0.1772 | **0.1787** | 0.1811 | 4.50 | **4.51** | 4.60 | 0.1772 | **0.1776** | 0.1811 |
| M6 | 1 | – | 5.16 | **5.16** | 5.16 | 0.2031 | **0.2031** | 0.2031 | 5.00 | **5.09** | 5.10 | 0.1969 | **0.2004** | 0.2008 | 5.00 | **5.03** | 5.10 | 0.1969 | **0.1980** | 0.2008 |
| | – | 0.75 | 5.30 | **5.37** | 5.40 | 0.2087 | **0.2114** | 0.2126 | 5.30 | **5.32** | 5.40 | 0.2087 | **0.2094** | 0.2126 | 5.20 | **5.27** | 5.30 | 0.2047 | **0.2075** | 0.2087 |
| M7 | 1 | – | 6.10 | **6.16** | 6.20 | 0.2402 | **0.2425** | 0.2441 | 6.00 | **6.09** | 6.10 | 0.2362 | **0.2398** | 0.2402 | 6.00 | **6.03** | 6.10 | 0.2362 | **0.2374** | 0.2402 |

*(continued)*

*(Thread Cutting • M and MF — continued)*

| tap size | pitch M | pitch MF | 65% thread Metric smallest drill | 65% thread Metric theoretical | 65% thread Metric largest drill | 65% thread Inch smallest drill | 65% thread Inch theoretical | 65% thread Inch largest drill | 70% thread Metric smallest drill | 70% thread Metric theoretical | 70% thread Metric largest drill | 70% thread Inch smallest drill | 70% thread Inch theoretical | 70% thread Inch largest drill | 75% thread Metric smallest drill | 75% thread Metric theoretical | 75% thread Metric largest drill | 75% thread Inch smallest drill | 75% thread Inch theoretical | 75% thread Inch largest drill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.25 | – | 6.90 | **6.94** | 7.00 | 0.2717 | **0.2732** | 0.2756 | 6.80 | **6.86** | 6.90 | 0.2677 | **0.2701** | 0.2717 | 6.75 | **6.78** | 6.80 | 0.2656 | **0.2669** | 0.2677 |
| M8 | – | 1 | 7.15 | **7.16** | 7.20 | 0.2813 | **0.2819** | 0.2835 | 7.00 | **7.09** | 7.10 | 0.2756 | **0.2791** | 0.2795 | 7.00 | **7.03** | 7.10 | 0.2756 | **0.2768** | 0.2795 |
| | – | 0.75 | 7.30 | **7.37** | 7.40 | 0.2874 | **0.2902** | 0.2913 | 7.30 | **7.32** | 7.40 | 0.2874 | **0.2882** | 0.2913 | 7.20 | **7.27** | 7.30 | 0.2835 | **0.2862** | 0.2874 |
| | 1.5 | – | 8.70 | **8.73** | 8.73 | 0.3425 | **0.3437** | 0.3438 | 8.60 | **8.64** | 8.70 | 0.3386 | **0.3402** | 0.3425 | 8.50 | **8.54** | 8.60 | 0.3346 | **0.3362** | 0.3386 |
| M10 | – | 1.25 | 8.90 | **8.94** | 9.00 | 0.3504 | **0.3520** | 0.3543 | 8.80 | **8.86** | 8.90 | 0.3465 | **0.3488** | 0.3504 | 8.73 | **8.78** | 8.80 | 0.3438 | **0.3457** | 0.3465 |
| | – | 1 | 9.13 | **9.16** | 9.20 | 0.3594 | **0.3606** | 0.3622 | 9.00 | **9.09** | 9.10 | 0.3543 | **0.3579** | 0.3583 | 9.00 | **9.03** | 9.10 | 0.3543 | **0.3555** | 0.3583 |
| | – | 0.75 | 9.35 | **9.37** | 9.40 | 0.3680 | **0.3689** | 0.3701 | 9.30 | **9.32** | 9.35 | 0.3661 | **0.3669** | 0.3680 | 9.20 | **9.27** | 9.30 | 0.3622 | **0.3650** | 0.3661 |
| | 1.75 | – | 10.50 | **10.52** | 10.60 | 0.4134 | **0.4142** | 0.4173 | 10.40 | **10.41** | 10.50 | 0.4094 | **0.4098** | 0.4134 | 10.30 | **10.30** | 10.30 | 0.4055 | **0.4055** | 0.4055 |
| M12 | – | 1.5 | 10.72 | **10.73** | 10.80 | 0.4219 | **0.4224** | 0.4252 | 10.60 | **10.64** | 10.70 | 0.4173 | **0.4189** | 0.4213 | 10.50 | **10.54** | 10.60 | 0.4134 | **0.4150** | 0.4173 |
| | – | 1.25 | 10.90 | **10.94** | 11.00 | 0.4291 | **0.4307** | 0.4331 | 10.80 | **10.86** | 10.90 | 0.4252 | **0.4276** | 0.4291 | 10.72 | **10.78** | 10.80 | 0.4219 | **0.4244** | 0.4252 |
| | – | 1 | 11.15 | **11.16** | 11.20 | 0.4375 | **0.4394** | 0.4409 | 11.00 | **11.09** | 11.10 | 0.4331 | **0.4366** | 0.4370 | 11.00 | **11.03** | 11.10 | 0.4331 | **0.4343** | 0.4370 |
| M14 | 2 | – | 12.30 | **12.31** | 12.40 | 0.4844 | **0.4846** | 0.4882 | 12.10 | **12.18** | 12.20 | 0.4764 | **0.4795** | 0.4803 | 12.00 | **12.05** | 12.10 | 0.4724 | **0.4744** | 0.4764 |
| | – | 1.5 | 12.70 | **12.73** | 12.80 | 0.5000 | **0.5012** | 0.5039 | 12.60 | **12.64** | 12.70 | 0.4961 | **0.4976** | 0.5000 | 12.50 | **12.54** | 12.60 | 0.4921 | **0.4937** | 0.4961 |
| M16 | 2 | – | 14.20 | **14.31** | 14.50 | 0.5591 | **0.5634** | 0.5709 | 14.00 | **14.18** | 14.20 | 0.5512 | **0.5583** | 0.5591 | 14.00 | **14.05** | 14.20 | 0.5512 | **0.5531** | 0.5591 |
| | – | 1.5 | 14.50 | **14.73** | 15.00 | 0.5709 | **0.5799** | 0.5906 | 14.50 | **14.64** | 15.00 | 0.5709 | **0.5764** | 0.5906 | 14.50 | **14.54** | 15.00 | 0.5709 | **0.5724** | 0.5906 |
| M18 | 2.5 | – | 15.80 | **15.89** | 16.00 | 0.6220 | **0.6256** | 0.6299 | 15.50 | **15.73** | 15.80 | 0.6102 | **0.6193** | 0.6220 | 15.50 | **15.56** | 15.80 | 0.6102 | **0.6126** | 0.6220 |
| | – | 1.5 | 16.50 | **16.73** | 17.00 | 0.6496 | **0.6587** | 0.6693 | 16.50 | **16.64** | 17.00 | 0.6496 | **0.6551** | 0.6693 | 16.50 | **16.54** | 17.00 | 0.6496 | **0.6512** | 0.6693 |
| | 2.5 | – | 17.50 | **17.89** | 18.00 | 0.6890 | **0.7043** | 0.7087 | 17.50 | **17.73** | 18.00 | 0.6890 | **0.6980** | 0.7087 | 17.50 | **17.56** | 18.00 | 0.6890 | **0.6913** | 0.7087 |
| M20 | – | 1.5 | 18.50 | **18.73** | 19.00 | 0.7283 | **0.7374** | 0.7480 | 18.50 | **18.64** | 19.00 | 0.7283 | **0.7339** | 0.7480 | 18.50 | **18.54** | 19.00 | 0.7283 | **0.7299** | 0.7480 |
| | – | 1 | 19.00 | **19.16** | 19.50 | 0.7480 | **0.7543** | 0.7677 | 19.00 | **19.09** | 19.50 | 0.7480 | **0.7516** | 0.7677 | 19.00 | **19.03** | 19.50 | 0.7480 | **0.7492** | 0.7677 |
| | 2.5 | – | 19.50 | **19.89** | 20.00 | 0.7677 | **0.7831** | 0.7874 | 19.50 | **19.73** | 20.00 | 0.7677 | **0.7768** | 0.7874 | 19.50 | **19.56** | 20.00 | 0.7677 | **0.7701** | 0.7874 |
| M22 | – | 2 | 20.00 | **20.31** | 20.50 | 0.7874 | **0.7996** | 0.8071 | 20.00 | **20.18** | 20.50 | 0.7874 | **0.7945** | 0.8071 | 20.00 | **20.05** | 20.50 | 0.7874 | **0.7894** | 0.8071 |
| | – | 1.5 | 20.50 | **20.73** | 21.00 | 0.8071 | **0.8161** | 0.8268 | 20.50 | **20.64** | 21.00 | 0.8071 | **0.8126** | 0.8268 | 20.50 | **20.54** | 21.00 | 0.8071 | **0.8087** | 0.8268 |
| | 3 | – | 21.43 | **21.47** | 21.50 | 0.8440 | **0.8453** | 0.8460 | 21.15 | **21.27** | 21.33 | 0.8327 | **0.8374** | 0.8398 | 21.00 | **21.08** | 21.15 | 0.8268 | **0.8299** | 0.8327 |
| M24 | – | 2 | 22.23 | **22.31** | 22.44 | 0.8750 | **0.8783** | 0.8840 | 22.00 | **22.18** | 22.23 | 0.8661 | **0.8732** | 0.8750 | 22.00 | **22.05** | 22.23 | 0.8661 | **0.8681** | 0.8750 |
| | – | 1.5 | 22.50 | **22.73** | 22.77 | 0.8858 | **0.8949** | 0.8965 | 22.50 | **22.64** | 22.77 | 0.8858 | **0.8913** | 0.8965 | 22.50 | **22.54** | 22.77 | 0.8858 | **0.8874** | 0.8965 |
| | 3 | – | 24.30 | **24.47** | 24.50 | 0.9567 | **0.9634** | 0.9646 | 24.00 | **24.27** | 24.30 | 0.9449 | **0.9555** | 0.9567 | 24.00 | **24.08** | 24.30 | 0.9449 | **0.9480** | 0.9567 |
| M27 | – | 2 | 25.07 | **25.31** | 25.40 | 0.9870 | **0.9965** | 1.0000 | 25.07 | **25.18** | 25.40 | 0.9870 | **0.9913** | 1.0000 | 25.00 | **25.05** | 25.07 | 0.9843 | **0.9862** | 0.9870 |
| | – | 1.5 | 25.67 | **25.73** | 25.81 | 1.0110 | **1.0130** | 1.0160 | 25.61 | **25.64** | 25.65 | 1.0080 | **1.0094** | 1.0098 | 25.50 | **25.54** | 25.60 | 1.0039 | **1.0055** | 1.0080 |
| | 3.5 | – | 27.00 | **27.04** | 27.50 | 1.0630 | **1.0646** | 1.0827 | 26.70 | **26.82** | 27.00 | 1.0512 | **1.0559** | 1.0610 | 26.59 | **26.59** | 26.59 | 1.0433 | **1.0469** | 1.0470 |
| M30 | – | 2 | 28.18 | **28.31** | 28.50 | 1.1090 | **1.1146** | 1.1220 | 28.18 | **28.18** | 28.18 | 1.1090 | **1.1094** | 1.1220 | 28.00 | **28.05** | 28.10 | 1.1024 | **1.1043** | 1.1063 |
| | – | 1.5 | 28.58 | **28.73** | 29.00 | 1.1250 | **1.1311** | 1.1417 | 28.58 | **28.64** | 29.00 | 1.1250 | **1.1276** | 1.1417 | 28.50 | **28.54** | 28.58 | 1.1220 | **1.1236** | 1.1250 |
| M33 | 3.5 | – | 30.00 | **30.04** | 30.16 | 1.1811 | **1.1827** | 1.1875 | 29.77 | **29.82** | 30.00 | 1.1720 | **1.1740** | 1.1811 | 29.50 | **29.59** | 29.73 | 1.1614 | **1.1650** | 1.1720 |
| | – | 2 | 31.00 | **31.31** | 31.50 | 1.2200 | **1.2327** | 1.2402 | 31.00 | **31.18** | 31.50 | 1.2200 | **1.2276** | 1.2402 | 31.00 | **31.05** | 31.50 | 1.2200 | **1.2224** | 1.2402 |
| | 4 | – | 32.54 | **32.62** | 32.94 | 1.2810 | **1.2843** | 1.2970 | 32.00 | **32.36** | 32.50 | 1.2598 | **1.2740** | 1.2795 | 32.00 | **32.10** | 32.50 | 1.2598 | **1.2638** | 1.2795 |
| M36 | – | 3 | 33.40 | **33.47** | 33.50 | 1.3130 | **1.3177** | 1.3189 | 33.00 | **33.27** | 33.34 | 1.2992 | **1.3098** | 1.3130 | 33.00 | **33.08** | 33.34 | 1.2992 | **1.3024** | 1.3130 |
| | – | 2 | 34.13 | **34.31** | 34.50 | 1.3440 | **1.3508** | 1.3583 | 34.13 | **34.18** | 34.50 | 1.3440 | **1.3457** | 1.3583 | 34.00 | **34.05** | 34.13 | 1.3386 | **1.3406** | 1.3440 |
| M39 | 4 | – | 35.50 | **35.62** | 35.72 | 1.3976 | **1.4024** | 1.4060 | 35.00 | **35.36** | 35.50 | 1.3780 | **1.3921** | 1.3976 | 35.00 | **35.10** | 35.50 | 1.3780 | **1.3819** | 1.3976 |
| | – | 2 | 37.31 | **37.31** | 37.31 | 1.4567 | **1.4689** | 1.4690 | 37.00 | **37.18** | 37.31 | 1.4567 | **1.4638** | 1.4690 | 37.00 | **37.05** | 37.31 | 1.4567 | **1.4587** | 1.4690 |
| | 4.5 | – | 38.10 | **38.20** | 38.46 | 1.5000 | **1.5039** | 1.5140 | 37.50 | **37.91** | 38.00 | 1.4764 | **1.4925** | 1.4961 | 37.50 | **37.62** | 38.00 | 1.4764 | **1.4811** | 1.4961 |
| M42 | – | 3 | 39.00 | **39.47** | 39.50 | 1.5354 | **1.5539** | 1.5551 | 39.00 | **39.27** | 39.50 | 1.5354 | **1.5461** | 1.5551 | 39.00 | **39.08** | 39.50 | 1.5354 | **1.5386** | 1.5551 |
| | – | 2 | 40.00 | **40.31** | 41.00 | 1.5750 | **1.5870** | 1.6140 | 40.00 | **40.18** | 41.00 | 1.5750 | **1.5819** | 1.6140 | 40.00 | **40.05** | 41.00 | 1.5750 | **1.5768** | 1.6140 |

## Thread Forming • UNC and UNF

| tap size | pitch UNC | pitch UNF | 65% thread Metric smallest drill | 65% thread Metric theoretical | 65% thread Metric largest drill | 65% thread Inch smallest drill | 65% thread Inch theoretical | 65% thread Inch largest drill | 70% thread Metric smallest drill | 70% thread Metric theoretical | 70% thread Metric largest drill | 70% thread Inch smallest drill | 70% thread Inch theoretical | 70% thread Inch largest drill | 75% thread Metric smallest drill | 75% thread Metric theoretical | 75% thread Metric largest drill | 75% thread Inch smallest drill | 75% thread Inch theoretical | 75% thread Inch largest drill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #0 | – | 80 | 1.32 | **1.38** | 1.40 | 0.0520 | **0.0545** | 0.0550 | 1.32 | **1.38** | 1.40 | 0.0520 | **0.0540** | 0.0550 | 1.32 | **1.36** | 1.40 | 0.0520 | **0.0536** | 0.0550 |
| #1 | 64 | – | 1.60 | **1.68** | 1.70 | 0.0630 | **0.0661** | 0.0669 | 1.60 | **1.67** | 1.70 | 0.0630 | **0.0655** | 0.0669 | 1.60 | **1.65** | 1.70 | 0.0630 | **0.0650** | 0.0669 |
| | – | 72 | 1.70 | **1.70** | 1.70 | 0.0669 | **0.0669** | 0.0669 | 1.60 | **1.69** | 1.70 | 0.0630 | **0.0663** | 0.0669 | 1.60 | **1.67** | 1.70 | 0.0630 | **0.0659** | 0.0669 |
| #2 | 56 | – | 1.98 | **1.98** | 1.98 | 0.0781 | **0.0781** | 0.0781 | 1.90 | **1.97** | 1.98 | 0.0748 | **0.0774** | 0.0781 | 1.90 | **1.95** | 1.98 | 0.0748 | **0.0769** | 0.0781 |
| | – | 64 | 2.00 | **2.01** | 2.10 | 0.0787 | **0.0791** | 0.0827 | 2.00 | **2.00** | 2.00 | 0.0781 | **0.0785** | 0.0787 | 1.98 | **1.98** | 1.98 | 0.0748 | **0.0780** | 0.0781 |
| #3 | 48 | – | 2.20 | **2.28** | 2.30 | 0.0866 | **0.0898** | 0.0906 | 2.20 | **2.27** | 2.30 | 0.0866 | **0.0890** | 0.0906 | 2.20 | **2.25** | 2.30 | 0.0866 | **0.0884** | 0.0906 |
| | – | 56 | 2.30 | **2.31** | 2.38 | 0.0906 | **0.0911** | 0.0938 | 2.30 | **2.31** | 2.38 | 0.0866 | **0.0904** | 0.0906 | 2.20 | **2.28** | 2.30 | 0.0866 | **0.0899** | 0.0906 |
| #4 | 40 | – | 2.50 | **2.57** | 2.58 | 0.0984 | **0.1010** | 0.1015 | 2.50 | **2.55** | 2.58 | 0.0984 | **0.1000** | 0.1015 | 2.50 | **2.52** | 2.58 | 0.0984 | **0.0993** | 0.1015 |
| | – | 48 | 2.60 | **2.61** | 2.64 | 0.1024 | **0.1028** | 0.1040 | 2.60 | **2.60** | 2.60 | 0.1015 | **0.1020** | 0.1024 | 2.58 | **2.58** | 2.58 | 0.0984 | **0.1014** | 0.1015 |
| #5 | 40 | – | 2.90 | **2.90** | 2.90 | 0.1130 | **0.1140** | 0.1142 | 2.87 | **2.88** | 2.90 | 0.1130 | **0.1130** | 0.1130 | 2.82 | **2.85** | 2.87 | 0.1110 | **0.1123** | 0.1130 |
| | – | 44 | 2.90 | **2.92** | 2.95 | 0.1142 | **0.1150** | 0.1160 | 2.90 | **2.91** | 2.95 | 0.1130 | **0.1141** | 0.1142 | 2.87 | **2.88** | 2.90 | 0.1130 | **0.1134** | 0.1142 |
| #6 | 32 | – | 3.10 | **3.16** | 3.18 | 0.1220 | **0.1243** | 0.1250 | 3.10 | **3.14** | 3.18 | 0.1220 | **0.1230** | 0.1250 | 3.10 | **3.10** | 3.10 | 0.1220 | **0.1221** | 0.1250 |
| | – | 40 | 3.20 | **3.23** | 3.26 | 0.1260 | **0.1270** | 0.1285 | 3.20 | **3.21** | 3.26 | 0.1260 | **0.1260** | 0.1260 | 3.18 | **3.18** | 3.18 | 0.1250 | **0.1253** | 0.1260 |
| #8 | 32 | – | 3.80 | **3.82** | 3.90 | 0.1496 | **0.1503** | 0.1535 | 3.80 | **3.80** | 3.80 | 0.1470 | **0.1490** | 0.1496 | 3.73 | **3.76** | 3.80 | 0.1470 | **0.1481** | 0.1496 |
| | – | 36 | 3.80 | **3.86** | 3.90 | 0.1496 | **0.1518** | 0.1535 | 3.80 | **3.84** | 3.90 | 0.1496 | **0.1507** | 0.1535 | 3.80 | **3.80** | 3.80 | 0.1496 | **0.1498** | 0.1535 |
| #10 | 24 | – | 4.30 | **4.36** | 4.37 | 0.1693 | **0.1716** | 0.1719 | 4.30 | **4.34** | 4.37 | 0.1693 | **0.1700** | 0.1719 | 4.22 | **4.29** | 4.30 | 0.1660 | **0.1688** | 0.1693 |
| | – | 32 | 4.40 | **4.48** | 4.50 | 0.1732 | **0.1762** | 0.1772 | 4.40 | **4.46** | 4.50 | 0.1732 | **0.1750** | 0.1772 | 4.40 | **4.42** | 4.50 | 0.1732 | **0.1741** | 0.1772 |
| #12 | 24 | – | 5.00 | **5.02** | 5.10 | 0.1969 | **0.1976** | 0.2008 | 5.00 | **5.00** | 5.00 | 0.1929 | **0.1960** | 0.1969 | 4.90 | **4.95** | 5.00 | 0.1929 | **0.1948** | 0.1969 |
| | – | 28 | 5.00 | **5.09** | 5.10 | 0.1969 | **0.2002** | 0.2008 | 5.00 | **5.07** | 5.10 | 0.1969 | **0.1990** | 0.2008 | 5.00 | **5.02** | 5.10 | 0.1969 | **0.1978** | 0.2008 |
| 1/4 | 20 | – | 5.70 | **5.79** | 5.80 | 0.2244 | **0.2279** | 0.2283 | 5.70 | **5.76** | 5.80 | 0.2244 | **0.2260** | 0.2283 | 5.70 | **5.70** | 5.70 | 0.2244 | **0.2245** | 0.2283 |
| | – | 28 | 5.95 | **5.95** | 5.95 | 0.2323 | **0.2342** | 0.2344 | 5.90 | **5.94** | 5.95 | 0.2323 | **0.2329** | 0.2344 | 5.80 | **5.89** | 5.90 | 0.2283 | **0.2318** | 0.2323 |
| 5/16 | 18 | – | 7.30 | **7.31** | 7.40 | 0.2874 | **0.2879** | 0.2913 | 7.30 | **7.30** | 7.30 | 0.2835 | **0.2861** | 0.2874 | 7.20 | **7.22** | 7.30 | 0.2835 | **0.2842** | 0.2874 |
| | – | 24 | 7.40 | **7.47** | 7.50 | 0.2913 | **0.2941** | 0.2953 | 7.40 | **7.46** | 7.50 | 0.2913 | **0.2927** | 0.2953 | 7.40 | **7.40** | 7.40 | 0.2874 | **0.2912** | 0.2913 |
| 3/8 | 16 | – | 8.80 | **8.82** | 8.90 | 0.3465 | **0.3474** | 0.3504 | 8.80 | **8.80** | 8.80 | 0.3438 | **0.3452** | 0.3465 | 8.70 | **8.71** | 8.73 | 0.3425 | **0.3431** | 0.3438 |
| | – | 24 | 9.00 | **9.06** | 9.10 | 0.3543 | **0.3566** | 0.3583 | 9.00 | **9.06** | 9.10 | 0.3543 | **0.3552** | 0.3583 | 8.90 | **8.98** | 9.00 | 0.3504 | **0.3537** | 0.3543 |
| 7/16 | 14 | – | 10.30 | **10.31** | 10.32 | 0.4055 | **0.4059** | 0.4063 | 10.20 | **10.29** | 10.30 | 0.4016 | **0.4035** | 0.4055 | 10.10 | **10.19** | 10.20 | 0.3976 | **0.4011** | 0.4016 |
| | – | 20 | 10.50 | **10.55** | 10.60 | 0.4134 | **0.4154** | 0.4173 | 10.50 | **10.55** | 10.60 | 0.4134 | **0.4137** | 0.4173 | 10.40 | **10.46** | 10.50 | 0.4094 | **0.4120** | 0.4134 |
| 1/2 | 13 | – | 11.80 | **11.84** | 11.90 | 0.4646 | **0.4660** | 0.4685 | 11.80 | **11.82** | 11.90 | 0.4606 | **0.4634** | 0.4646 | 11.70 | **11.70** | 11.70 | 0.4606 | **0.4608** | 0.4646 |
| | – | 20 | 12.10 | **12.14** | 12.20 | 0.4764 | **0.4779** | 0.4803 | 12.10 | **12.14** | 12.20 | 0.4724 | **0.4762** | 0.4764 | 12.00 | **12.05** | 12.10 | 0.4724 | **0.4745** | 0.4764 |
| 9/16 | 12 | – | 13.10 | **13.35** | 13.50 | 0.5157 | **0.5257** | 0.5315 | 13.10 | **13.33** | 13.50 | 0.5157 | **0.5229** | 0.5315 | 13.10 | **13.21** | 13.50 | 0.5157 | **0.5200** | 0.5315 |
| | – | 18 | 13.50 | **13.66** | 13.80 | 0.5315 | **0.5379** | 0.5433 | 13.50 | **13.67** | 13.80 | 0.5315 | **0.5361** | 0.5433 | 13.50 | **13.57** | 13.80 | 0.5315 | **0.5342** | 0.5433 |
| 5/8 | 11 | – | 14.50 | **14.85** | 15.00 | 0.5709 | **0.5848** | 0.5906 | 14.50 | **14.83** | 15.00 | 0.5709 | **0.5817** | 0.5906 | 14.50 | **14.70** | 15.00 | 0.5709 | **0.5787** | 0.5906 |
| | – | 18 | 15.10 | **15.25** | 15.50 | 0.5945 | **0.6004** | 0.6102 | 15.10 | **15.26** | 15.50 | 0.5945 | **0.5986** | 0.6102 | 15.10 | **15.16** | 15.50 | 0.5945 | **0.5967** | 0.6102 |
| 3/4 | 10 | – | 17.50 | **17.93** | 18.00 | 0.6890 | **0.7058** | 0.7087 | 17.50 | **17.91** | 18.00 | 0.6890 | **0.7024** | 0.7087 | 17.50 | **17.75** | 18.00 | 0.6890 | **0.6990** | 0.7087 |
| | – | 16 | 18.00 | **18.35** | 18.50 | 0.7087 | **0.7224** | 0.7283 | 18.00 | **18.37** | 18.50 | 0.7087 | **0.7202** | 0.7283 | 18.00 | **18.24** | 18.50 | 0.7087 | **0.7181** | 0.7283 |
| 7/8 | 9 | – | 20.50 | **20.98** | 21.00 | 0.8071 | **0.8259** | 0.8268 | 20.50 | **20.96** | 21.00 | 0.8071 | **0.8221** | 0.8268 | 20.50 | **20.78** | 21.00 | 0.8071 | **0.8183** | 0.8268 |
| | – | 14 | 21.33 | **21.42** | 21.43 | 0.8398 | **0.8434** | 0.8440 | 21.43 | **21.45** | 21.50 | 0.8398 | **0.8410** | 0.8440 | 21.15 | **21.30** | 21.33 | 0.8327 | **0.8386** | 0.8398 |
| 1 | 8 | – | 24.00 | **24.00** | 24.00 | 0.9380 | **0.9448** | 0.9449 | 23.81 | **23.98** | 24.00 | 0.9380 | **0.9405** | 0.9449 | 23.50 | **23.78** | 23.81 | 0.9252 | **0.9363** | 0.9375 |
| | – | 12 | 24.30 | **24.47** | 24.50 | 0.9567 | **0.9632** | 0.9646 | 24.30 | **24.49** | 24.50 | 0.9567 | **0.9603** | 0.9646 | 24.30 | **24.32** | 24.50 | 0.9567 | **0.9575** | 0.9646 |

## Thread Forming • M and MF

| tap size | pitch M | pitch MF | 65% thread Metric smallest drill | 65% thread Metric theoretical | 65% thread Metric largest drill | 65% thread Inch smallest drill | 65% thread Inch theoretical | 65% thread Inch largest drill | 70% thread Metric smallest drill | 70% thread Metric theoretical | 70% thread Metric largest drill | 70% thread Inch smallest drill | 70% thread Inch theoretical | 70% thread Inch largest drill | 75% thread Metric smallest drill | 75% thread Metric theoretical | 75% thread Metric largest drill | 75% thread Inch smallest drill | 75% thread Inch theoretical | 75% thread Inch largest drill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M1.6 | 0.35 | – | 1.40 | **1.45** | 1.50 | 0.0551 | **0.0571** | 0.0591 | 1.40 | **1.43** | 1.50 | 0.0551 | **0.0563** | 0.0591 | 1.40 | **1.42** | 1.50 | 0.0551 | **0.0559** | 0.0591 |
| M1.7 | 0.35 | – | 1.50 | **1.58** | 1.60 | 0.0591 | **0.0623** | 0.0630 | 1.50 | **1.57** | 1.60 | 0.0591 | **0.0620** | 0.0630 | 1.50 | **1.56** | 1.60 | 0.0591 | **0.0617** | 0.0630 |
| M1.8 | 0.35 | – | 1.60 | **1.65** | 1.70 | 0.0630 | **0.0650** | 0.0669 | 1.60 | **1.63** | 1.70 | 0.0630 | **0.0642** | 0.0669 | 1.60 | **1.62** | 1.70 | 0.0630 | **0.0638** | 0.0669 |
| M2 | 0.4 | – | 1.80 | **1.82** | 1.90 | 0.0709 | **0.0717** | 0.0748 | 1.80 | **1.81** | 1.90 | 0.0709 | **0.0713** | 0.0748 | 1.80 | **1.80** | 1.80 | 0.0709 | **0.0709** | 0.0709 |
| M2.2 | 0.45 | – | 2.00 | **2.00** | 2.00 | 0.0787 | **0.0787** | 0.0787 | 1.98 | **1.99** | 2.00 | 0.0781 | **0.0783** | 0.0787 | 1.90 | **1.97** | 1.98 | 0.0748 | **0.0776** | 0.0781 |
| M2.5 | 0.45 | – | 2.30 | **2.30** | 2.30 | 0.0906 | **0.0906** | 0.0906 | 2.20 | **2.29** | 2.30 | 0.0866 | **0.0902** | 0.0906 | 2.20 | **2.27** | 2.30 | 0.0866 | **0.0894** | 0.0906 |
| M2.6 | 0.45 | – | 2.40 | **2.43** | 2.44 | 0.0945 | **0.0957** | 0.0960 | 2.40 | **2.42** | 2.44 | 0.0945 | **0.0953** | 0.0960 | 2.40 | **2.41** | 2.44 | 0.0945 | **0.0949** | 0.0960 |
| M3 | 0.5 | – | 2.78 | **2.78** | 2.80 | 0.1094 | **0.1094** | 0.1094 | 2.71 | **2.76** | 2.78 | 0.1065 | **0.1087** | 0.1094 | 2.71 | **2.75** | 2.78 | 0.1065 | **0.1083** | 0.1094 |
| | – | 0.35 | 2.87 | **2.88** | 2.90 | 0.1130 | **0.1134** | 0.1142 | 2.87 | **2.87** | 2.87 | 0.1130 | **0.1130** | 0.1130 | 2.82 | **2.86** | 2.87 | 0.1110 | **0.1126** | 0.1130 |
| M3.5 | 0.6 | – | 3.20 | **3.23** | 3.26 | 0.1260 | **0.1272** | 0.1285 | 3.20 | **3.21** | 3.26 | 0.1260 | **0.1264** | 0.1285 | 3.18 | **3.19** | 3.20 | 0.1250 | **0.1256** | 0.1260 |
| M4 | 0.7 | – | 3.66 | **3.69** | 3.70 | 0.1440 | **0.1453** | 0.1457 | 3.66 | **3.67** | 3.70 | 0.1440 | **0.1445** | 0.1457 | 3.60 | **3.64** | 3.66 | 0.1417 | **0.1433** | 0.1440 |
| | – | 0.5 | 3.73 | **3.78** | 3.80 | 0.1470 | **0.1488** | 0.1496 | 3.73 | **3.76** | 3.80 | 0.1470 | **0.1480** | 0.1496 | 3.73 | **3.75** | 3.80 | 0.1470 | **0.1476** | 0.1496 |
| M4.5 | 0.75 | – | 4.10 | **4.17** | 4.20 | 0.1614 | **0.1642** | 0.1654 | 4.10 | **4.14** | 4.20 | 0.1614 | **0.1630** | 0.1654 | 4.10 | **4.12** | 4.20 | 0.1614 | **0.1622** | 0.1654 |
| M5 | 0.8 | – | 4.62 | **4.65** | 4.70 | 0.1820 | **0.1831** | 0.1850 | 4.60 | **4.62** | 4.62 | 0.1811 | **0.1819** | 0.1820 | 4.50 | **4.59** | 4.60 | 0.1772 | **0.1807** | 0.1811 |
| | – | 0.5 | 4.76 | **4.78** | 4.80 | 0.1875 | **0.1882** | 0.1890 | 4.70 | **4.76** | 4.76 | 0.1850 | **0.1874** | 0.1875 | 4.70 | **4.75** | 4.76 | 0.1850 | **0.1870** | 0.1875 |
| M6 | 1 | – | 5.56 | **5.56** | 5.60 | 0.2188 | **0.2189** | 0.2205 | 5.50 | **5.52** | 5.56 | 0.2165 | **0.2173** | 0.2188 | 5.41 | **5.49** | 5.50 | 0.2130 | **0.2161** | 0.2165 |
| | – | 0.75 | 5.62 | **5.67** | 5.70 | 0.2211 | **0.2232** | 0.2244 | 5.62 | **5.64** | 5.70 | 0.2211 | **0.2220** | 0.2244 | 5.62 | **5.62** | 5.70 | 0.2211 | **0.2213** | 0.2244 |
| M7 | 1 | – | 6.53 | **6.56** | 6.60 | 0.2570 | **0.2583** | 0.2598 | 6.50 | **6.52** | 6.53 | 0.2559 | **0.2567** | 0.2570 | 6.40 | **6.49** | 6.50 | 0.2520 | **0.2555** | 0.2559 |
| M8 | 1.25 | – | 7.40 | **7.45** | 7.50 | 0.2913 | **0.2933** | 0.2953 | 7.40 | **7.41** | 7.50 | 0.2913 | **0.2917** | 0.2953 | 7.30 | **7.36** | 7.40 | 0.2874 | **0.2898** | 0.2913 |
| | – | 1 | 7.54 | **7.56** | 7.60 | 0.2969 | **0.2976** | 0.2992 | 7.50 | **7.52** | 7.54 | 0.2953 | **0.2961** | 0.2969 | 7.40 | **7.49** | 7.50 | 0.2913 | **0.2949** | 0.2953 |
| | – | 0.75 | 7.60 | **7.67** | 7.70 | 0.2992 | **0.3020** | 0.3031 | 7.60 | **7.64** | 7.70 | 0.2992 | **0.3008** | 0.3031 | 7.60 | **7.62** | 7.70 | 0.2992 | **0.3000** | 0.3031 |
| M10 | 1.5 | – | 9.30 | **9.34** | 9.35 | 0.3661 | **0.3677** | 0.3680 | 9.20 | **9.29** | 9.30 | 0.3622 | **0.3657** | 0.3661 | 9.20 | **9.24** | 9.30 | 0.3622 | **0.3638** | 0.3661 |
| | – | 1.25 | 9.40 | **9.45** | 9.50 | 0.3701 | **0.3720** | 0.3740 | 9.40 | **9.41** | 9.50 | 0.3701 | **0.3705** | 0.3740 | 9.35 | **9.36** | 9.40 | 0.3680 | **0.3685** | 0.3701 |
| | – | 1 | 9.53 | **9.56** | 9.60 | 0.3750 | **0.3764** | 0.3780 | 9.50 | **9.52** | 9.53 | 0.3740 | **0.3748** | 0.3750 | 9.40 | **9.49** | 9.50 | 0.3701 | **0.3736** | 0.3740 |
| | – | 0.75 | 9.60 | **9.67** | 9.70 | 0.3780 | **0.3807** | 0.3819 | 9.60 | **9.64** | 9.70 | 0.3780 | **0.3795** | 0.3819 | 9.60 | **9.62** | 9.70 | 0.3780 | **0.3787** | 0.3819 |
| M12 | 1.75 | – | 11.20 | **11.23** | 11.30 | 0.4409 | **0.4421** | 0.4449 | 11.15 | **11.17** | 11.20 | 0.4375 | **0.4398** | 0.4409 | 11.10 | **11.11** | 11.15 | 0.4370 | **0.4374** | 0.4375 |
| | – | 1.5 | 11.30 | **11.34** | 11.40 | 0.4449 | **0.4465** | 0.4488 | 11.20 | **11.29** | 11.30 | 0.4449 | **0.4484** | 0.4488 | 11.20 | **11.24** | 11.30 | 0.4409 | **0.4425** | 0.4449 |
| | – | 1.25 | 11.40 | **11.45** | 11.50 | 0.4488 | **0.4508** | 0.4528 | 11.40 | **11.41** | 11.50 | 0.4488 | **0.4492** | 0.4528 | 11.30 | **11.36** | 11.40 | 0.4449 | **0.4472** | 0.4488 |
| | – | 1 | 11.51 | **11.56** | 11.60 | 0.4531 | **0.4551** | 0.4567 | 11.51 | **11.52** | 11.60 | 0.4531 | **0.4535** | 0.4567 | 11.40 | **11.49** | 11.50 | 0.4488 | **0.4524** | 0.4528 |
| M14 | 2 | – | 13.10 | **13.12** | 13.50 | 0.5157 | **0.5165** | 0.5315 | 13.00 | **13.05** | 13.10 | 0.5118 | **0.5138** | 0.5157 | 12.80 | **12.98** | 13.00 | 0.5039 | **0.5110** | 0.5118 |
| | – | 1.5 | 13.10 | **13.34** | 13.50 | 0.5157 | **0.5252** | 0.5315 | 13.10 | **13.29** | 13.50 | 0.5157 | **0.5232** | 0.5315 | 13.10 | **13.24** | 13.50 | 0.5157 | **0.5213** | 0.5315 |
| M16 | 2 | – | 15.10 | **15.12** | 15.50 | 0.5945 | **0.5953** | 0.6102 | 15.00 | **15.05** | 15.10 | 0.5906 | **0.5925** | 0.5945 | 14.50 | **14.98** | 15.00 | 0.5709 | **0.5898** | 0.5906 |
| | – | 1.5 | 15.10 | **15.34** | 15.50 | 0.5945 | **0.6039** | 0.6102 | 15.10 | **15.29** | 15.50 | 0.5945 | **0.6020** | 0.6102 | 15.10 | **15.24** | 15.50 | 0.5945 | **0.6000** | 0.6102 |
| M18 | 2.5 | – | 16.50 | **16.90** | 17.00 | 0.6496 | **0.6654** | 0.6693 | 16.50 | **16.81** | 17.00 | 0.6496 | **0.6618** | 0.6693 | 16.50 | **16.73** | 17.00 | 0.6496 | **0.6587** | 0.6693 |
| | – | 1.5 | 17.00 | **17.34** | 17.50 | 0.6693 | **0.6827** | 0.6890 | 17.00 | **17.29** | 17.50 | 0.6693 | **0.6807** | 0.6890 | 17.00 | **17.24** | 17.50 | 0.6693 | **0.6787** | 0.6890 |
| M20 | 2.5 | – | 18.50 | **18.90** | 19.00 | 0.7283 | **0.7441** | 0.7480 | 18.50 | **18.81** | 19.00 | 0.7283 | **0.7406** | 0.7480 | 18.50 | **18.73** | 19.00 | 0.7283 | **0.7374** | 0.7480 |
| | – | 1.5 | 19.00 | **19.34** | 19.50 | 0.7480 | **0.7614** | 0.7677 | 19.00 | **19.29** | 19.50 | 0.7480 | **0.7594** | 0.7677 | 19.00 | **19.24** | 19.50 | 0.7480 | **0.7575** | 0.7677 |
| | – | 1 | 19.50 | **19.56** | 20.00 | 0.7677 | **0.7701** | 0.7874 | 19.50 | **19.52** | 20.00 | 0.7677 | **0.7685** | 0.7874 | 19.00 | **19.49** | 19.50 | 0.7480 | **0.7673** | 0.7677 |
| M22 | 2.5 | – | 20.50 | **20.90** | 21.00 | 0.8071 | **0.8228** | 0.8268 | 20.50 | **20.81** | 21.00 | 0.8071 | **0.8193** | 0.8268 | 20.50 | **20.73** | 21.00 | 0.8071 | **0.8161** | 0.8268 |
| | – | 2 | 21.00 | **21.12** | 21.15 | 0.8268 | **0.8315** | 0.8327 | 21.00 | **21.05** | 21.15 | 0.8268 | **0.8287** | 0.8327 | 20.50 | **20.98** | 21.00 | 0.8071 | **0.8260** | 0.8268 |
| | – | 1.5 | 21.33 | **21.34** | 21.43 | 0.8398 | **0.8402** | 0.8440 | 21.15 | **21.29** | 21.33 | 0.8327 | **0.8382** | 0.8398 | 21.15 | **21.24** | 21.33 | 0.8327 | **0.8362** | 0.8398 |
| M24 | 3 | – | 22.50 | **22.67** | 22.77 | 0.8858 | **0.8925** | 0.8965 | 22.50 | **22.57** | 22.77 | 0.8858 | **0.8886** | 0.8965 | 22.44 | **22.47** | 22.50 | 0.8840 | **0.8846** | 0.8858 |
| | – | 2 | 23.10 | **23.12** | 23.30 | 0.9094 | **0.9102** | 0.9173 | 23.00 | **23.05** | 23.10 | 0.9055 | **0.9075** | 0.9094 | 22.77 | **22.98** | 23.00 | 0.8965 | **0.9047** | 0.9055 |
| | – | 1.5 | 23.30 | **23.34** | 23.42 | 0.9173 | **0.9189** | 0.9220 | 23.10 | **23.29** | 23.30 | 0.9094 | **0.9169** | 0.9173 | 23.10 | **23.24** | 23.30 | 0.9094 | **0.9150** | 0.9173 |

## Pipe Taps

| pipe tap size | NPT and NPTF | | NPSM | NPSC | NPSF |
|---|---|---|---|---|---|
| | without reamer | with reamer | | | |
| 1/16-27 | 0.2420 | 0.2344 | – | 0.2500 | 0.2460 |
| 1/8-27 | 0.3320 | 0.3281 | 0.3580 | 0.3320 | 0.3390 |
| 1/4-18 | 0.4375 | 0.4219 | 0.4688 | 0.4375 | 0.4375 |
| 3/8-18 | 0.5625 | 0.5625 | 0.6030 | 0.5781 | 0.5781 |
| 1/2-14 | 0.7031 | 0.6875 | 0.7480 | 0.7087 | 0.7087 |
| 3/4-14 | 0.9063 | 0.8906 | 0.9531 | 0.9219 | 0.9219 |
| 1-11 1/2 | 1.1406 | 1.1250 | 1.2031 | 1.1563 | 1.1563 |
| 1 1/4-11 1/2 | 1.4844 | 1.4688 | 1.5460 | 1.5000 | – |
| 1 1/2-11 1/2 | 1.7188 | 1.7031 | 1.7813 | 1.7344 | – |
| 2-11 1/2 | 2.1875 | 2.1719 | 2.2500 | 2.2031 | – |

## Through Holes Push Chips

Spiral Point

LHSF

- Spiral point or LHSF (Left-Hand Spiral Flute).
- Ideal for materials with long chips.

## Blind Holes Pull Chips

RHSF

- RHSF (Right-Hand Spiral Flute).
- Ideal for materials with long chips.

## Blind or Through Holes Store Chips

STFL

- STFL (Straight Flute).
- Ideal for materials with short chips.

## Blind or Through Holes No Chips

Forming Tap

- Forming.
- Ideal for ductile materials <32 HRC.

## Unified Inch Screw Threads

| thread size/pitch | recommended tap limits[1] class 2B | recommended tap limits[1] class 3B | internal thread pitch diameter limits min all classes (Basic) | internal thread pitch diameter limits max class 2B | internal thread pitch diameter limits max class 3B |
|---|---|---|---|---|---|
| 0 - 80 | H2 | H2 | 0.0519 | 0.0542 | 0.0536 |
| 1 - 64 | H2 | H2 | 0.0629 | 0.0655 | 0.0648 |
| 1 - 72 | H2 | H2 | 0.0640 | 0.0665 | 0.0659 |
| 2 - 56 | H2 | H2 | 0.0744 | 0.0772 | 0.0765 |
| 2 - 64 | H2 | H2 | 0.0759 | 0.0786 | 0.0779 |
| 3 - 48 | H3 | H2 | 0.0855 | 0.0885 | 0.0877 |
| 3 - 56 | H2 | H2 | 0.0874 | 0.0902 | 0.0895 |
| 4 - 40 | H3 | H2 | 0.0958 | 0.0991 | 0.0982 |
| 4 - 48 | H3 | H2 | 0.0985 | 0.1016 | 0.1008 |
| 5 - 40 | H3 | H2 | 0.1088 | 0.1121 | 0.1113 |
| 5 - 44 | H3 | H2 | 0.1102 | 0.1134 | 0.1126 |
| 6 - 32 | H3 | H2 | 0.1177 | 0.1214 | 0.1204 |
| 6 - 40 | H3 | H2 | 0.1218 | 0.1252 | 0.1243 |
| 8 - 32 | H3 | H3 | 0.1437 | 0.1475 | 0.1465 |
| 8 - 36 | H3 | H3 | 0.1460 | 0.1496 | 0.1487 |
| 10 - 24 | H3 | H3 | 0.1629 | 0.1672 | 0.1661 |
| 10 - 32 | H3 | H3 | 0.1697 | 0.1736 | 0.1726 |
| 12 - 24 | H3 | H3 | 0.1889 | 0.1933 | 0.1922 |
| 12 - 28 | H3 | H3 | 0.1928 | 0.1970 | 0.1959 |
| 1/4 - 20 | H5 | H3 | 0.2175 | 0.2224 | 0.2211 |
| 1/4 - 28 | H4 | H3 | 0.2268 | 0.2311 | 0.2300 |
| 5/16 - 18 | H5 | H3 | 0.2764 | 0.2817 | 0.2803 |
| 5/16 - 24 | H4 | H3 | 0.2854 | 0.2902 | 0.2890 |
| 3/8 - 16 | H5 | H3 | 0.3344 | 0.3401 | 0.3387 |
| 3/8 - 24 | H4 | H3 | 0.3479 | 0.3528 | 0.3516 |
| 7/16 - 14 | H5 | H3 | 0.3911 | 0.3972 | 0.3957 |
| 7/16 - 20 | H5 | H3 | 0.4050 | 0.4104 | 0.4091 |
| 1/2 - 13 | H5 | H4 | 0.4500 | 0.4565 | 0.4548 |
| 1/2 - 20 | H5 | H3 | 0.4675 | 0.4731 | 0.4717 |
| 9/16 - 12 | H5 | H4 | 0.5084 | 0.5152 | 0.5135 |
| 9/16 - 18 | H5 | H3 | 0.5264 | 0.5323 | 0.5308 |
| 5/8 - 11 | H5 | H4 | 0.5660 | 0.5732 | 0.5714 |
| 5/8 - 18 | H5 | H3 | 0.5889 | 0.5949 | 0.5934 |
| 3/4 - 10 | H5 | H4 | 0.6850 | 0.6927 | 0.6907 |

[1]Tap H limit selected for 3B will also produce thread to 2B.

*(continued)*

NOTE: The above recommended taps normally produce the class of thread indicated in average materials when used with reasonable care. However, if the specified tap does not provide a satisfactory gage fit, choose an alternate tap limit.

## Unified Inch Screw Threads *(continued)*

| thread size/pitch | recommended tap limits[1] class 2B | recommended tap limits[1] class 3B | internal thread pitch diameter limits min all classes (Basic) | internal thread pitch diameter limits max class 2B | internal thread pitch diameter limits max class 3B |
|---|---|---|---|---|---|
| 3/4 - 16 | H5 | H4 | 0.7094 | 0.7159 | 0.7143 |
| 7/8 - 9 | H6 | H4 | 0.8028 | 0.8110 | 0.8089 |
| 7/8 - 14 | H6 | H4 | 0.8286 | 0.8356 | 0.8339 |
| 1" - 8 | H6 | H5 | 0.9188 | 0.9276 | 0.9254 |
| 1" - 12 | H6 | H4 | 0.9459 | 0.9535 | 0.9516 |
| 1-1/8 - 7 | H8 | H6 | 1.0322 | 1.0416 | 1.0393 |
| 1-1/8 - 8 | H8 | H6 | 1.0438 | 1.0528 | 1.0505 |
| 1-1/8 - 12 | H6 | H5 | 1.0709 | 1.0787 | 1.0768 |
| 1-1/4 - 7 | H8 | H6 | 1.1572 | 1.1668 | 1.1644 |
| 1-1/4 - 8 | H8 | H6 | 1.1688 | 1.1780 | 1.1757 |
| 1-1/4 - 12 | H6 | H5 | 1.1959 | 1.2039 | 1.2019 |
| 1-3/8 - 6 | H8 | H6 | 1.2667 | 1.2771 | 1.2745 |
| 1-3/8 - 8 | H8 | H6 | 1.2938 | 1.3031 | 1.3008 |
| 1-3/8 - 12 | H6 | H5 | 1.3209 | 1.3291 | 1.3270 |
| 1-1/2 - 6 | H8 | H6 | 1.3917 | 1.4022 | 1.3996 |
| 1-1/2 - 8 | H8 | H6 | 1.4188 | 1.4283 | 1.4259 |
| 1-1/2 - 12 | H6 | H5 | 1.4459 | 1.4542 | 1.4522 |
| 1-3/4 - 5 | H8 | H7 | 1.6201 | 1.6317 | 1.6288 |
| 2 - 4 1/2 | H8 | H7 | 1.8557 | 1.8681 | 1.8650 |

[1]Tap H limit selected for 3B will also produce thread to 2B.



## Tap Recommendations for Class 6H Metric Screw Threads

| thread size nominal diameter (mm) | thread size pitch (mm) | recommended tap limit number | internal thread product limits — class 6H pitch diameter (mm) min | pitch diameter (mm) max | pitch diameter (in) min | pitch diameter (in) max |
|---|---|---|---|---|---|---|
| 1,6 | 0,35 | D3 | 1,373 | 1,458 | .05406 | .05740 |
| 2 | 0,4 | D3 | 1,740 | 1,830 | .06850 | .07205 |
| 2,5 | 0,45 | D3 | 2,208 | 2,303 | .08693 | .09067 |
| 3 | 0,5 | D3 | 2,675 | 2,775 | .10531 | .10925 |
| 3,5 | 0,6 | D4 | 3,110 | 3,222 | .12244 | .12685 |
| 4 | 0,7 | D4 | 3,545 | 3,663 | .13957 | .14421 |
| 4,5 | 0,75 | D4 | 4,013 | 4,131 | .15789 | .16264 |
| 5 | 0,8 | D4 | 4,480 | 4,605 | .17638 | .18130 |
| 6 | 1 | D5 | 5,350 | 5,500 | .21063 | .21654 |
| 7 | 1 | D5 | 6,350 | 6,500 | .25000 | .25591 |
| 8 | 1,25 | D5 | 7,188 | 7,348 | .28299 | .28929 |
| 10 | 1,5 | D6 | 9,026 | 9,206 | .35535 | .36244 |
| 12 | 1,75 | D6 | 10,863 | 11,063 | .42768 | .43555 |
| 14 | 2 | D7 | 12,701 | 12,913 | .50004 | .50839 |
| 16 | 2 | D7 | 14,701 | 14,913 | .57878 | .58713 |
| 20 | 2,5 | D7 | 18,376 | 18,600 | .72346 | .73228 |
| 24 | 3 | D8 | 22,051 | 22,316 | .86815 | .87858 |
| 30 | 3,5 | D9 | 27,727 | 28,007 | 1.09161 | 1.10264 |
| 36 | 4 | D9 | 33,402 | 33,702 | 1.31504 | 1.32685 |

In addition to the nominal size and pitch of a tap, there is another important dimensional factor to be considered when selecting a ground thread tap for a given job. This factor is the pitch diameter tap limit, "H" and "L". "H" represents (high) above basic pitch diameter; "L" (low) is below basic pitch diameter. Tap limits have been established to provide a choice in the selection of the tap size best suited to produce the class of thread desired.

**Figure 1** Illustrates the numbering system and the .0005" diameter increment separation between successive limits. Because the starting point is basic pitch diameter, dividing the limit number by two establishes, in thousandths of an inch, the amount the maximum tap pitch diameter is above basic in the "H" series and the amount the minimum tap pitch diameter is under basic in the "L" series.

**Figure 2** Illustrates the positioning of the tap limits in relation to the various classes of threads for a 1/4–20 size.

**Figure 1**

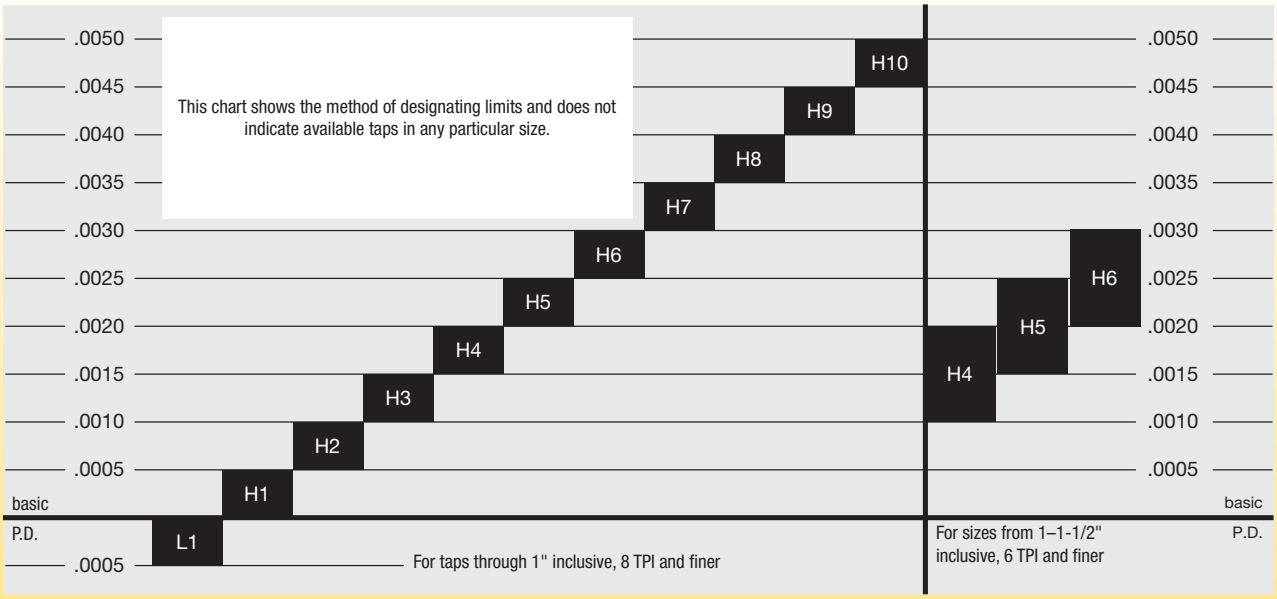
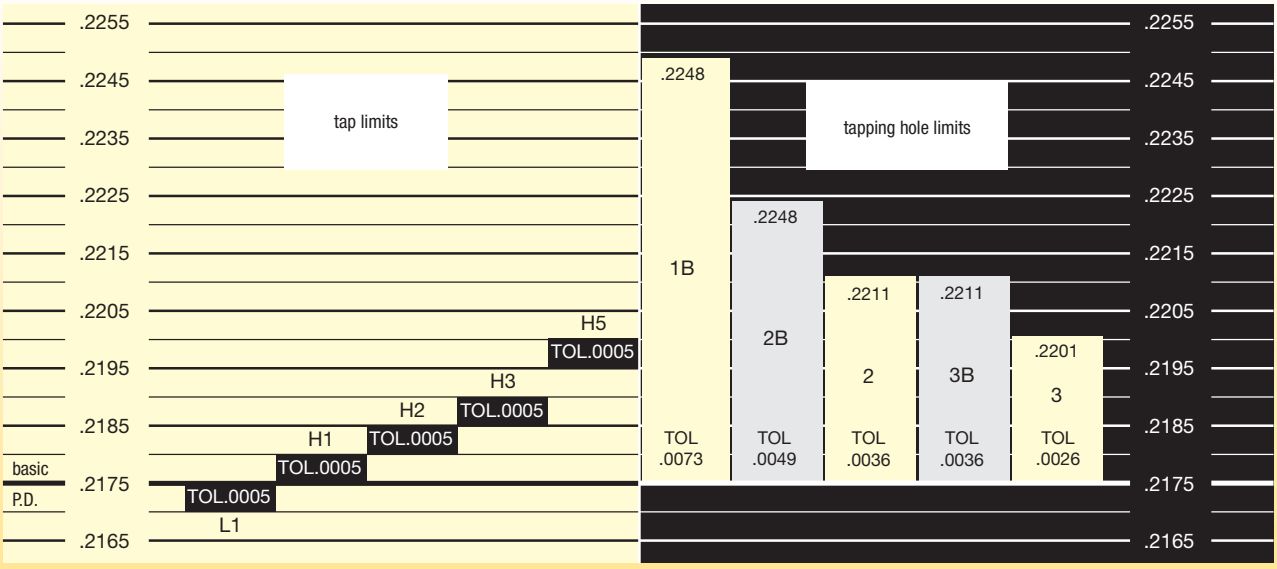
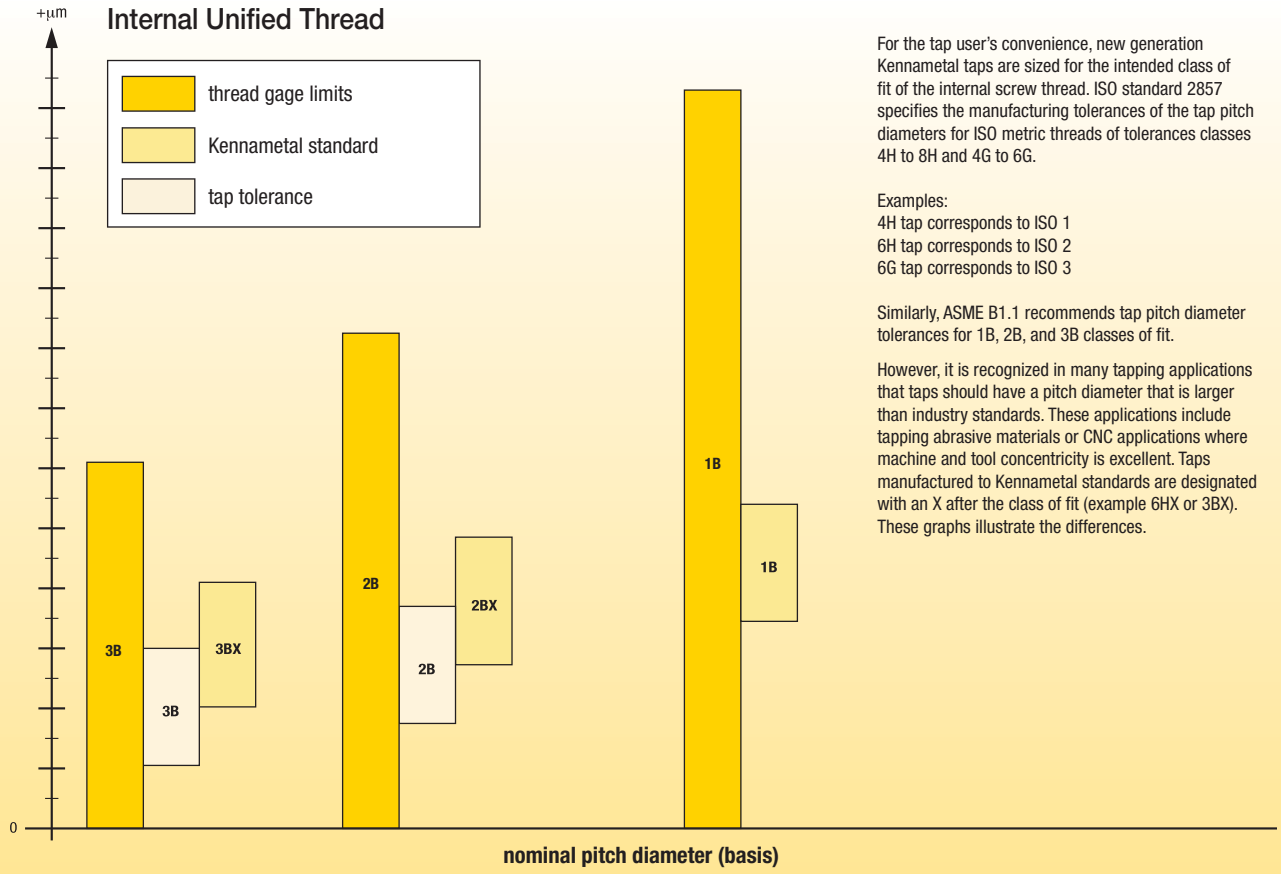



**Figure 2**

Class of Thread – 1/4–20 UNC and NC



## Internal Unified Thread



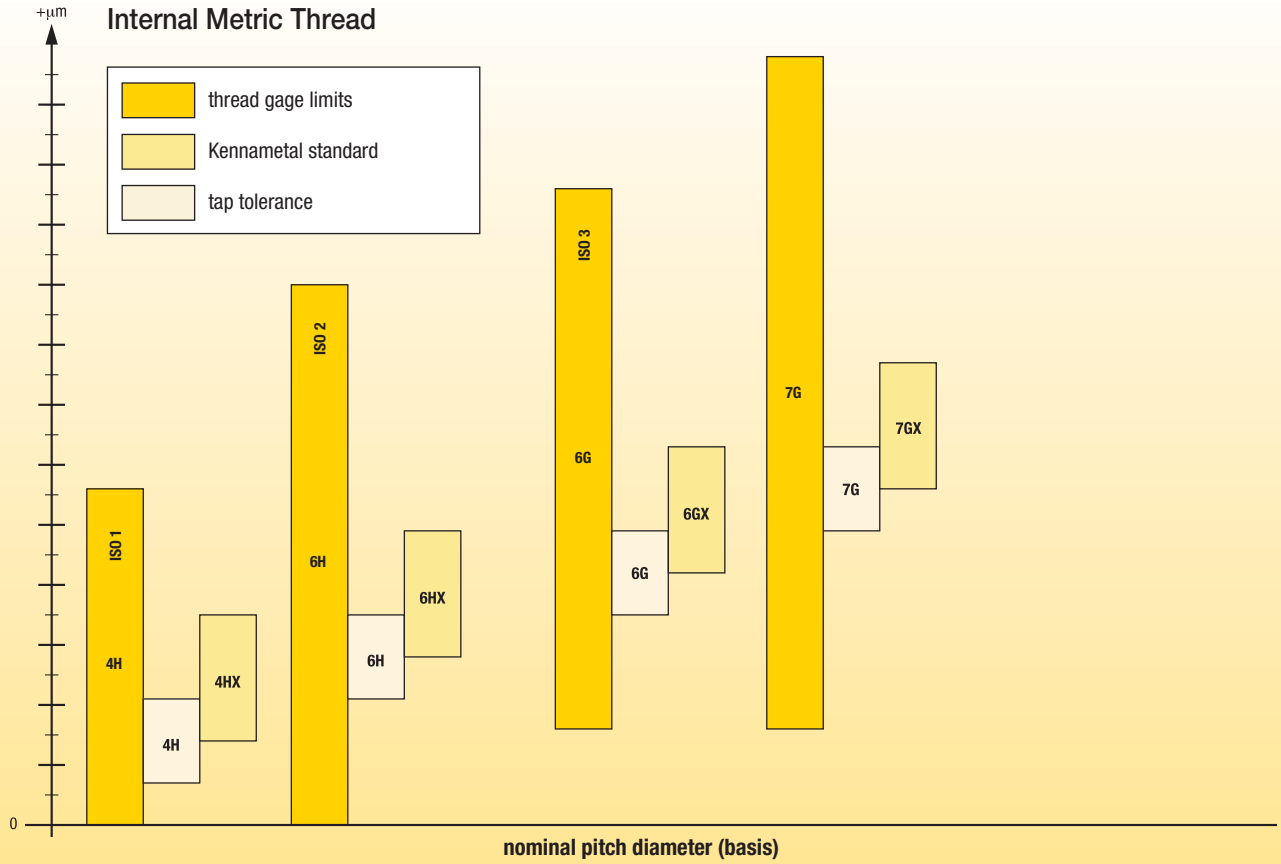

For the tap user's convenience, new generation Kennametal taps are sized for the intended class of fit of the internal screw thread. ISO standard 2857 specifies the manufacturing tolerances of the tap pitch diameters for ISO metric threads of tolerances classes 4H to 8H and 4G to 6G.

Examples:
4H tap corresponds to ISO 1
6H tap corresponds to ISO 2
6G tap corresponds to ISO 3

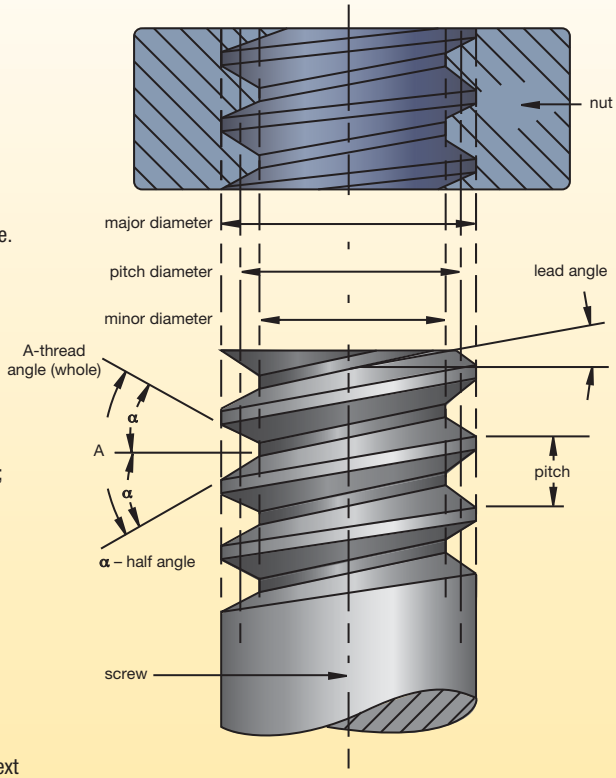
Similarly, ASME B1.1 recommends tap pitch diameter tolerances for 1B, 2B, and 3B classes of fit.

However, it is recognized in many tapping applications that taps should have a pitch diameter that is larger than industry standards. These applications include tapping abrasive materials or CNC applications where machine and tool concentricity is excellent. Taps manufactured to Kennametal standards are designated with an X after the class of fit (example 6HX or 3BX). These graphs illustrate the differences.

## Internal Metric Thread



It is generally recognized that, in mass production, it is impossible to reproduce in exact detail the theoretically perfect product as laid out on the drawing board. The allowed slight variation between the theoretically perfect product drawing and each unit of the actual product is called the tolerance.




**Allowance**

An intentional difference in correlated dimensions of mating parts. It is the minimum clearance or maximum interference between such parts.

**Angle of Thread**

The angle included between the flanks of the thread measured in an axial plane.

**Half Angle of Thread**

The angle included between a flank of the thread and the normal (90°) to the axis, measured in an axial plane.

**Lead of Thread**

The distance a screw thread advances axially in one turn. On a single-thread screw, the lead and pitch are identical. On a double thread, the lead is 2x pitch; on a triple thread, the lead is 3x pitch, etc.

**Major Diameter**

The largest diameter of a straight-screw thread.

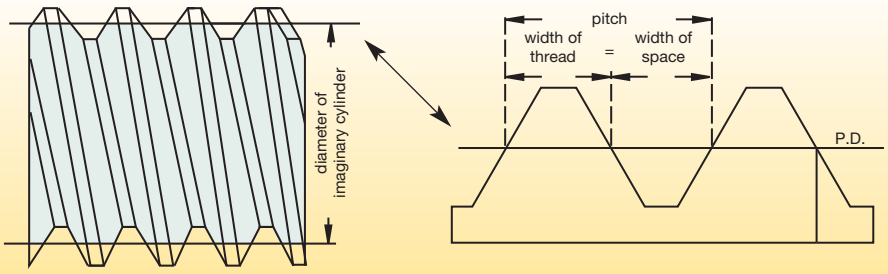
**Minor Diameter**

The smallest diameter of a straight-screw thread.

**Pitch**

The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the axis.

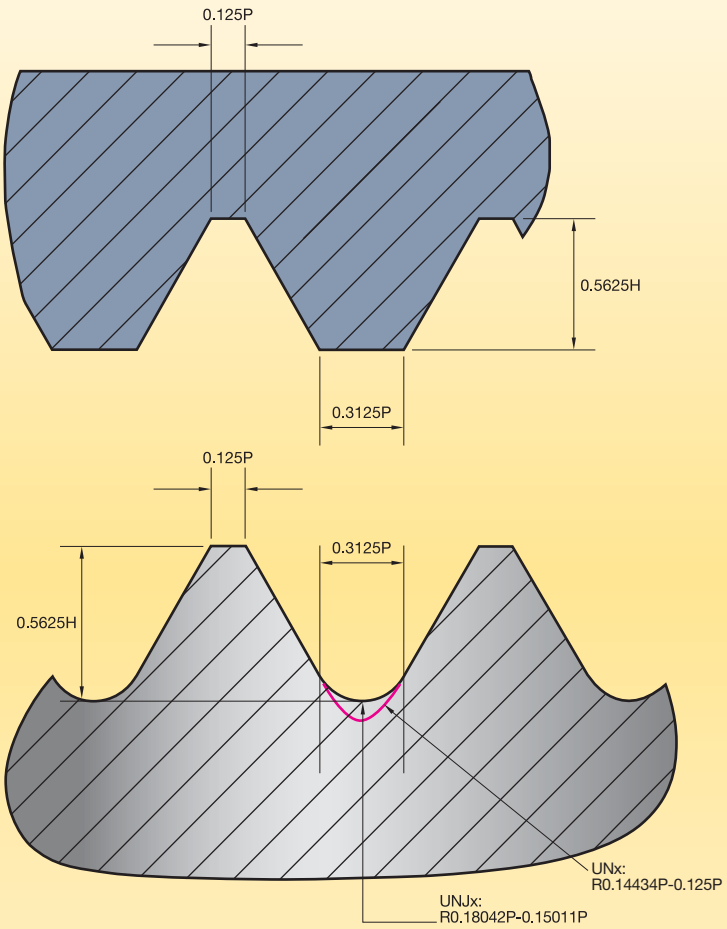
The pitch in inches = $\frac{1}{\text{number of threads per inch}}$




**Pitch Diameter**

On a straight-screw thread, the diameter of an imaginary cylinder that would pass through the threads at such points as to make equal the width of the threads and the width of the spaces cut by the surface of the cylinder.

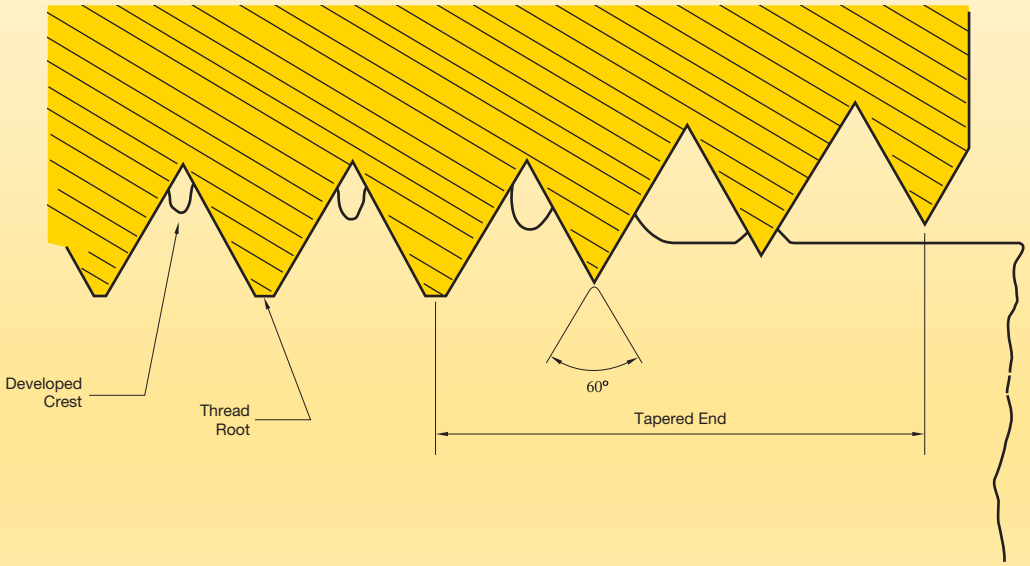
A thread system is available for aerospace and other applications where high fatigue strength is required. The UNJ thread form is defined by ASME B1.15 and is similar to Military Specification MIL-S-8879. Screw thread assemblies consist of external and internal threads. In order to minimize the stress on the external UNJ thread, a controlled root radius is required that is equal to 0.15011P to 0.18042P, where P is the thread pitch. Internal UNJ threads are not required to have a radius at either the major or minor diameters.




Because external UNJ threads must be produced with a defined root radius, standard UN tooling may not be used. However, internal UNF threads may be produced with ground thread UN taps sized to produce the proper class of fit. The tap does not need to be marked with a letter J. Attention must be paid to the tap drill since the minor diameter has to be specified so as to provide clearance with the root radius on the external thread.

For UNJ thread specifications, the reader is referred to ASME B1.15. Please note this standard includes Class 3 and Class 2 UNJ screw threads. However, only Class 3 UNJ threads meet the requirements of Military Specification MIL-S-8879. For Unified Inch (UN) thread specifications, refer to ASME B1.1.

Unlike cutting taps, which remove material, forming taps generate an internal screw thread by displacing material and forming it into the V-shaped thread. A common misconception is that a thread rolling action occurs. Instead, the threads are formed over the tapered entry section of the tap as the tap rotates into the hole. A succession of deeper penetrating lobes over the entry plastically displaces material radially between the tap's thread flanks until the entry length is reached. At this point, the thread is fully formed at the correct thread height.




Forming taps have numerous advantages over cutting taps. The most obvious advantage is that forming taps do not create chips. There are no chip removal problems. Bird nesting is a situation that occurs when chips wrap around the shank of spiral-fluted taps when tapping blind holes in long chipping materials. Forming taps help this to be avoided. Since forming taps avoid this problem, they are stronger and more resistant to breakage. Another misconception is that forming taps produce stronger threads. Although the forming process strain hardens the thread flanks, it has very little effect on the major diameter, the location where internal threads strip.

Forming taps can only be used in ductile materials. Due to increased friction relative to cutting, forming taps require higher torque than cutting taps. In some situations, oil-based lubrications are required, and this might not be convenient on CNC machining centers that use water soluble coolant. In this situation, the lubricant concentration should be increased.

Since forming taps displace material, larger diameter pre-tap holes are required. This is especially important when converting from cutting taps to forming taps. If a cutting tap hole size is used, the displaced material will over-fill the tap's threads and breakage will result. Please consult hole size charts for forming taps.

| coating | properties and application | precautions |
|---|---|---|
| **Titanium Nitride (TiN)** | Proprietary TiN coating (hardness 2300 Vickers) offers significantly improved wear life and thread finish, often at higher tapping speeds, in a broad range of materials, especially steels, irons, and plastics. Golden color. | Use with caution in non-ferrous materials such as aluminum because of tendency to gall. |
| **Titanium Carbonitride (TiCN)** | Proprietary TiCN coating (hardness 3000 Vickers) is harder, tougher, and more wear resistant than TiN under conditions of moderate cutting temperatures. Like TiN, TiCN may be used at higher cutting speeds in a broad range of materials, especially steels and irons. Blue-gray color. | Use with caution in non-ferrous materials such as aluminum because of tendency to gall. TiAlN is a better choice when used at extreme temperatures. |
| **Titanium Nitride + Chromium Carbide Carbon (TiN + CrC/C)** | Proprietary coating (hardness 2300 Vickers) that combines the wear resistance of smooth TiN coating with a lubricous top layer of chromium carbide carbon. Effective in stainless steel and non-ferrous materials including aluminum and titanium. Ideal choice for 300 series stainless steels, wrought, and die cast aluminums. Black/gray color. | Effective in both ferrous and non-ferrous materials. |
| **Titanium Aluminum Nitride (TiAlN)** | Nanolayer TiAlN coating (hardness 3300 Vickers) offers improved wear life and thread finish, especially in conditions where high temperatures can be generated. Use for PH stainless steels and nickel-based alloys like INCONEL®. Violet/gray color. | Use with caution in non-ferrous materials because of tendency to gall. |
| **Chromium Nitride (CrN)** | CrN is medium hard (hardness 1800 Vickers) and has a lower wear resistance than TiN, TiCN, and TiAlN. However, unlike these coatings, CrN does not gall when used in some non-ferrous work materials. Use for brass, bronze, zinc alloys, and magnesium alloys. Silver color. | Ineffective in ferrous materials. |
| **Nitride** | Hardened case extends wear life in abrasive materials. Use for aluminum and other non-ferrous materials. | Avoid on taper pipe, fast spiral, and small diameter (<#6) or fine pitch taps due to tendency for thread chipping. |
| **Oxide** | Helps prevent galling in ferrous (iron-based) materials. For free machining steel. Use for steels, stainless steels, and irons. | Has a tendency to cause galling in non-ferrous materials such as aluminum. |
| **Nitride and Oxide** | Combines the benefits of nitride and oxide surface treatments. For steels, stainless steels, and nickel alloys. | See precautions for nitride and oxide surface treatments. |

Factors when trying to determine the best tapping speeds:

- Material to be tapped
- Length of chamfer on tap
- Percentage of full thread to be cut
- Length of hole (depth of thread)
- Pitch of thread
- Cutting fluids
- Machine equipment
- Horizontal or vertical tapping

The best and most efficient operating speeds for taps cannot be calculated with the same certainty, as for many other metalcutting tools.

With other tools, the feed per revolution can be set at any desired point and can be varied as conditions demand. Taps, on the other hand, must always be advanced at a rate equal to one pitch for every revolution. The style of tap may vary the conditions.

For example, with a bottoming tap, the first thread on each land cuts the full height of thread, while, with a taper or starting tap, a number of threads do their share of the cutting before the full height of thread is reached.

The depth of thread also varies, depending on the pitch. The coarser the thread, the greater the advance of the tap per revolution and the greater the amount of material removed.

The method of feeding the tap, and the type of equipment for driving, also influences the permissible speeds. If taps are mechanically fed at the proper rate of advance, they can be operated at higher speeds than if they are required to feed themselves and pull some part of the machine along with them.

**Speeds may be modified to take into account any or all of these factors:**

- Speeds must be lowered as length of thread increases because, in deep thread holes, the accumulated chips increase friction and interfere with lubrication.
- Bottoming taps must be run slower than plug taps.
- Tapping full height of thread calls for slower speed than if the commercial 75% height only is required.
- Coarse-thread taps in the larger diameters should be run more slowly than fine-thread taps of the same diameters.
- The quantity and quality of cutting fluid may affect the permissible speeds as much as 100%.
- Taper threaded taps, such as pipe taps, should be operated from 1/2–3/4 the speed of a straight thread tap of comparable major diameter.

## RPM Formulas

SFM = Surface Feet per Minute
RPM = Revolutions per Minute
IPM = Inches per Minute
TPI = Threads per Inch

S m/min = Surface Meters per Minute
$\pi = 3.1416$
mm/min = millimeters per minute
P = Pitch (1/number of threads per inch)

**Inch Sizes**

| | | | | |
|---|---|---|---|---|
| SFM | = | $\frac{\text{RPM x tool diameter}}{3.82}$ | or | 0.26 x RPM x tool diameter |
| RPM | = | $\frac{3.82 \text{ x SFM}}{\text{tool diameter}}$ | | |
| IPM | = | $\frac{\text{RPM}}{\text{TPI*}}$ | or | *P x RPM |

**Metric Sizes**

| | | |
|---|---|---|
| S m/min | = | $\frac{\pi \text{ x tool diameter x RPM}}{1000}$ |
| RPM | = | $\frac{\text{mm/min x 1000}}{\pi \text{ x tool diameter}}$ |
| mm/min | = | mm P x RPM |

## UNC/UNF and NPT/NPTF

| tap size | taper pipe taps | surface feet per minute (SFM) 5' | 10' | 15' | 20' | 25' | 30' | 40' | 50' | 60' | 70' | 80' | 90' | 100' | 110' | 120' | 130' | 140' | 150' |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | revolutions per minute (RPM) | | | | | | | | | | | | | | | | | |
| 0 | – | 318 | 637 | 955 | 1273 | 1592 | 1910 | 2546 | 3183 | 3820 | 4456 | 5093 | 5729 | 6366 | 7003 | 7639 | 8276 | 8913 | 9549 |
| 1 | – | 273 | 546 | 819 | 1046 | 1308 | 1570 | 2093 | 2617 | 3140 | 3663 | 4186 | 4710 | 5233 | 5756 | 6279 | 6805 | 7326 | 1849 |
| 2 | – | 212 | 424 | 637 | 888 | 1110 | 1333 | 1777 | 2221 | 2665 | 3109 | 3554 | 3999 | 4442 | 4886 | 5330 | 5774 | 6218 | 6662 |
| 3 | – | 191 | 382 | 573 | 772 | 964 | 1157 | 1543 | 1929 | 2315 | 2701 | 3086 | 3472 | 3858 | 4244 | 4629 | 5015 | 5401 | 5787 |
| 4 | – | 174 | 347 | 521 | 682 | 853 | 1023 | 1364 | 1705 | 2046 | 2387 | 2728 | 3069 | 3411 | 3751 | 4092 | 4434 | 4775 | 5115 |
| 5 | – | 147 | 294 | 441 | 611 | 764 | 917 | 1222 | 1528 | 1833 | 2139 | 2445 | 2750 | 3056 | 3361 | 3667 | 3973 | 4278 | 4584 |
| 6 | – | 136 | 273 | 409 | 553 | 691 | 829 | 1106 | 1382 | 1859 | 1935 | 2212 | 2488 | 2766 | 3042 | 3318 | 3595 | 3871 | 4148 |
| 8 | – | 119 | 239 | 358 | 466 | 583 | 699 | 932 | 1165 | 1398 | 1631 | 1864 | 2097 | 2330 | 2563 | 2796 | 3029 | 3262 | 3495 |
| 10 | – | 101 | 201 | 302 | 402 | 502 | 603 | 804 | 1005 | 1205 | 1406 | 1607 | 1808 | 2009 | 2210 | 2411 | 2612 | 2813 | 3014 |
| 12 | – | 87 | 174 | 260 | 354 | 442 | 531 | 707 | 884 | 1061 | 1238 | 1415 | 1592 | 1769 | 1945 | 2122 | 2300 | 2476 | 2653 |
| 1/4 | – | 76 | 153 | 229 | 306 | 382 | 458 | 611 | 764 | 917 | 1070 | 1222 | 1375 | 1528 | 1681 | 1833 | 1986 | 2139 | 2292 |
| 5/16 | – | 62 | 123 | 185 | 245 | 306 | 367 | 489 | 611 | 733 | 856 | 978 | 1100 | 1222 | 1345 | 1467 | 1589 | 1711 | 1833 |
| 3/8 | – | 50 | 101 | 151 | 204 | 255 | 305 | 407 | 509 | 611 | 713 | 815 | 917 | 1019 | 1120 | 1222 | 1324 | 1426 | 1528 |
| 7/16 | 1/8 | 43 | 87 | 130 | 175 | 219 | 262 | 349 | 437 | 524 | 611 | 698 | 786 | 873 | 960 | 1048 | 1135 | 1222 | 1310 |
| 1/2 | – | 38 | 76 | 115 | 153 | 191 | 229 | 305 | 382 | 458 | 535 | 611 | 688 | 764 | 840 | 917 | 993 | 1070 | 1146 |
| 9/16 | 1/4 | 34 | 68 | 102 | 137 | 172 | 206 | 274 | 342 | 410 | 478 | 547 | 616 | 683 | 752 | 820 | 888 | 952 | 1020 |
| 5/8 | – | 32 | 64 | 96 | 122 | 153 | 183 | 244 | 306 | 367 | 428 | 489 | 550 | 611 | 672 | 733 | 794 | 856 | 917 |
| 11/16 | 3/8 | 28 | 55 | 83 | 111 | 138 | 167 | 222 | 278 | 333 | 389 | 444 | 500 | 556 | 611 | 667 | 722 | 778 | 833 |
| 3/4 | – | 25 | 51 | 76 | 102 | 128 | 153 | 203 | 255 | 305 | 357 | 407 | 458 | 509 | 560 | 611 | 662 | 713 | 764 |
| 7/8 | 1/2 | 22 | 43 | 65 | 87 | 109 | 131 | 175 | 218 | 262 | 306 | 350 | 392 | 437 | 480 | 524 | 568 | 611 | 655 |
| 1 | – | 19 | 38 | 57 | 76 | 96 | 115 | 153 | 191 | 230 | 268 | 305 | 344 | 382 | 420 | 458 | 497 | 535 | 573 |
| 1-1/8 | 3/4 | 17 | 34 | 51 | 68 | 84 | 102 | 136 | 170 | 204 | 238 | 272 | 306 | 340 | 373 | 407 | 441 | 475 | 509 |
| 1-1/4 | – | 15 | 31 | 46 | 61 | 76 | 92 | 122 | 153 | 183 | 214 | 244 | 275 | 305 | 336 | 367 | 397 | 428 | 458 |
| 1-3/8 | 1 | 14 | 28 | 42 | 56 | 69 | 83 | 111 | 139 | 167 | 194 | 222 | 250 | 278 | 306 | 333 | 361 | 389 | 417 |
| 1-1/2 | – | 13 | 25 | 38 | 51 | 63 | 76 | 102 | 127 | 153 | 178 | 204 | 229 | 255 | 280 | 305 | 331 | 356 | 382 |
| 1-5/8 | – | 12 | 23 | 35 | 47 | 59 | 71 | 94 | 118 | 141 | 165 | 188 | 212 | 235 | 259 | 282 | 306 | 329 | 353 |
| 1-3/4 | – | 11 | 22 | 33 | 44 | 55 | 65 | 87 | 109 | 131 | 153 | 175 | 196 | 218 | 240 | 262 | 284 | 306 | 327 |
| 1-7/8 | – | 10 | 20 | 30 | 41 | 51 | 61 | 81 | 102 | 122 | 143 | 163 | 183 | 204 | 224 | 244 | 265 | 285 | 306 |
| 2 | – | 9 | 19 | 29 | 38 | 48 | 57 | 76 | 96 | 115 | 134 | 153 | 172 | 191 | 210 | 229 | 248 | 267 | 287 |

## Metric

| metric taps | vc = meters per minute (m/min) 1,5 | 3 | 4,5 | 6 | 7,5 | 10 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | revolutions per minute (RPM) | | | | | | | | | | | | | | | | | |
| M1 | 490 | 979 | 1469 | 1959 | 2449 | 2938 | 3918 | 4897 | 5877 | 6856 | 7836 | 8815 | 9795 | 10774 | 11754 | 12733 | 13713 | 14692 |
| M2 | 242 | 484 | 725 | 967 | 1209 | 1451 | 1934 | 2418 | 2901 | 3385 | 3868 | 4352 | 4835 | 5319 | 5803 | 6286 | 6770 | 7253 |
| M3 | 162 | 324 | 486 | 347 | 809 | 971 | 1295 | 1619 | 1942 | 2266 | 2590 | 2914 | 3237 | 3561 | 3885 | 4208 | 4532 | 4856 |
| M3.5 | 138 | 277 | 415 | 554 | 692 | 830 | 1107 | 1384 | 1661 | 1938 | 2214 | 1491 | 2768 | 3045 | 3322 | 3599 | 3875 | 4152 |
| M4 | 122 | 243 | 365 | 487 | 608 | 730 | 973 | 1217 | 1460 | 1703 | 1946 | 2190 | 2433 | 2676 | 2920 | 3163 | 3406 | 3650 |
| M5 | 97 | 194 | 291 | 388 | 485 | 582 | 776 | 970 | 1163 | 1357 | 1551 | 1745 | 1939 | 2133 | 2327 | 2521 | 2715 | 2905 |
| M6 | 81 | 162 | 243 | 324 | 405 | 486 | 647 | 809 | 971 | 1133 | 1295 | 1457 | 1619 | 1781 | 1942 | 2104 | 2266 | 2428 |
| M7 | 69 | 138 | 208 | 277 | 346 | 415 | 554 | 692 | 830 | 969 | 1107 | 1246 | 1384 | 1522 | 1661 | 1799 | 1938 | 2076 |
| M8 | 61 | 121 | 182 | 243 | 303 | 364 | 485 | 606 | 728 | 849 | 970 | 1091 | 1213 | 1334 | 1455 | 1577 | 1698 | 1819 |
| M10 | 48 | 97 | 145 | 194 | 242 | 291 | 388 | 485 | 582 | 679 | 776 | 873 | 970 | 1067 | 1163 | 1260 | 1357 | 1454 |
| M12 | 40 | 81 | 121 | 162 | 202 | 243 | 324 | 405 | 486 | 567 | 647 | 728 | 809 | 890 | 971 | 1052 | 1133 | 1214 |
| M14 | 35 | 69 | 104 | 139 | 173 | 208 | 277 | 347 | 416 | 485 | 555 | 624 | 693 | 763 | 832 | 901 | 971 | 1040 |
| M16 | 30 | 61 | 91 | 121 | 152 | 182 | 243 | 303 | 364 | 424 | 485 | 546 | 606 | 667 | 728 | 788 | 849 | 910 |
| M18 | 27 | 54 | 81 | 108 | 135 | 162 | 216 | 269 | 323 | 377 | 431 | 485 | 539 | 593 | 647 | 700 | 754 | 808 |
| M20 | 24 | 49 | 73 | 97 | 121 | 146 | 194 | 243 | 291 | 340 | 388 | 437 | 485 | 534 | 582 | 631 | 680 | 728 |
| M22 | 22 | 44 | 66 | 88 | 110 | 132 | 176 | 221 | 265 | 309 | 353 | 397 | 441 | 485 | 529 | 573 | 618 | 662 |
| M24 | 20 | 40 | 61 | 81 | 101 | 121 | 162 | 202 | 243 | 283 | 323 | 364 | 404 | 445 | 485 | 526 | 566 | 606 |
| M27 | 18 | 36 | 54 | 72 | 90 | 108 | 144 | 180 | 216 | 252 | 287 | 323 | 359 | 395 | 431 | 467 | 503 | 539 |
| M30 | 16 | 32 | 49 | 65 | 81 | 97 | 129 | 162 | 194 | 226 | 259 | 291 | 323 | 356 | 388 | 420 | 453 | 485 |

## Partial List of Solutions to Tapping Problems

| application | symptom | common cause | remedy |
|---|---|---|---|
| general | gage out of limits | tap size and gage mismatch | select tap size for gage |
| | oversize thread | alignment, spindle feed | correct |
| | oversize at top | runout or alignment | correct |
| | go gage binds part way | worn tool, tap cuts off lead | replace tap, synchronous holder |
| | thread shaving | feed error, high axial force | program, synchronous holder |
| | chipping | high cutting force, worn tap | tap geometry, replace tap |
| | breakage | chip jamming flutes | tap geometry, tapping depth |
| | – | worn tool, high torque | replace tap with new tool |
| | short life, low speed | excessive wear | SC or HSS-E-PM HP taps |
| steel | birdnest blind hole | long, ductile chips | T630 KP6505 (oxide), peck feed |
| | chipping | high material hardness | T600, T602 KSP21 (TiN) |
| | breakage in blind holes | hole depth >2D, chip jamming | T604 KHS26 (TiN/$MoS_2$) |
| stainless steel | oversize thread, low life | galling | T620, T630 KM6515 (TiN-CrC/C) |
| | short life | work hardened core hole | replace drill |
| cast iron | excessive wear | abrasion | T640 KP6525 (TiCN) |
| aluminum, cast | excessive wear | high silicon | T640 KP6525 (TiCN) |
| aluminum, wrought | oversize thread | galling | T672, T682, T686 KSMN34 (TiN-CrC/C) |
| nickel, cobalt alloys | short life | high cutting temperature | T690, T692, T694 KSP27 (AlCrTiN) |
| titanium | short life | high cutting temperature | T660, T662 KSSM24 (TiN-CrC/C) |

## Thread Mills

| | vibration marks | major crest wear | edge chipping | cone-shaped thread | entry marks |
|---|---|---|---|---|---|
| cutting speed | check | reduce | – | – | – |
| feed per tooth | check | increase | reduce | – | – |
| workpiece clamping | improve | improve | improve | – | improve |
| machine tool stability | improve | improve | improve | – | improve |
| cantilever arm | shorten | shorten | – | – | shorten |
| helix angle | increase | reduce | – | – | – |
| radial runout | check | check | – | – | – |
| coating | – | improve | improve | – | – |
| milling operation | – | climb mill | climb mill | climb mill | – |
| line feed/entry ramp | check | check | – | – | improve |
| coolant pressure | – | check (>20 bar, 290 psi) | check (>20 bar, 290 psi) | – | – |

| drill size | decimal (in) | drill size | decimal (in) | drill size | decimal (in) | drill size | decimal (in) | drill size | decimal (in) | drill size | decimal (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,30mm | .0118 | 54 | .0550 | 3,10mm | .1220 | 5,50mm | .2165 | 8,50mm | .3346 | 9/16 | .5625 |
| 0,32mm | .0126 | 1,40mm | .0551 | 1/18 | .1250 | 7/32 | .2188 | 8,60mm | .3386 | 14,50mm | .5709 |
| 80 | .0135 | 1,45mm | .0571 | 3,20mm | .1260 | 5,60mm | .2205 | R | .3390 | 37/64 | .5781 |
| 0,35mm | .0138 | 1,50mm | .0591 | 30 | .1285 | 2 | .2210 | 8,70mm | .3425 | 14,75mm | .5807 |
| 79 | .0145 | 53 | .0595 | 3,30mm | .1299 | 5,70mm | .2244 | 11/32 | .3438 | 15,00mm | .5906 |
| 0,38mm | .0150 | 1,55mm | .0610 | 3,40mm | .1339 | 1 | .2280 | 8,80mm | .3465 | 19/32 | .5938 |
| 1/64 | .0156 | 1/16 | .0625 | 29 | .1360 | 5,80mm | .2283 | S | .3480 | 15,25mm | .6004 |
| 0,40mm | .0157 | 1,60mm | .0630 | 3,50mm | .1378 | 5,90mm | .2323 | 8,90mm | .3504 | 39/64 | .6094 |
| 78 | .0160 | 52 | .0635 | 28 | .1405 | A | .2340 | 9,00mm | .3543 | 15,50mm | .6102 |
| 0,42mm | .0165 | 1,65mm | .0650 | 9/64 | .1406 | 15/64 | .2344 | T | .3580 | 15,75mm | .6201 |
| 0,45mm | .0177 | 1,70mm | .0669 | 3,60mm | .1417 | 6,00mm | .2362 | 9,10mm | .3583 | 5/8 | .6250 |
| 77 | .0180 | 51 | .0670 | 27 | .1440 | B | .2380 | 23/64 | .3594 | 16,00mm | .6299 |
| 0,48mm | .0189 | 1,75mm | .0689 | 3,70mm | .1457 | 6,10mm | .2402 | 9,20mm | .3622 | 16,25mm | .6398 |
| 0,50mm | .0197 | 50 | .0700 | 26 | .1470 | C | .2420 | 9,30mm | .3661 | 41/64 | .6406 |
| 76 | .0200 | 1,80mm | .0709 | 25 | .1495 | 6,20mm | .2441 | U | .3680 | 16,50mm | .6496 |
| 75 | .0210 | 1,85mm | .0728 | 3,80mm | .1496 | D | .2460 | 9,40mm | .3701 | 21/32 | .6562 |
| 0,55mm | .0217 | 49 | .0730 | 24 | .1520 | 6,30mm | .2480 | 9,50mm | .3740 | 16,75mm | .6594 |
| 74 | .0225 | 1,90mm | .0748 | 3,90mm | .1535 | 1/4, E | .2500 | 3/8 | .3750 | 17,00mm | .6693 |
| 0,60mm | .0236 | 48 | .0760 | 23 | .1540 | 6,40mm | .2520 | V | .3770 | 43/64 | .6719 |
| 73 | .0240 | 1,95mm | .0768 | 5/32 | .1562 | 6,50mm | .2559 | 9,60mm | .3780 | 17,25mm | .6791 |
| 0,62mm | .0244 | 5/64 | .0781 | 22 | .1570 | F | .2570 | 9,70mm | .3819 | 11/16 | .6875 |
| 72 | .0250 | 47 | .0785 | 4,00mm | .1575 | 6,60mm | .2598 | 9,80mm | .3858 | 17,50mm | .6890 |
| 0,65mm | .0256 | 2,00mm | .0787 | 21 | .1590 | G | .2610 | W | .3860 | 45/64 | .7031 |
| 71 | .0260 | 2,05mm | .0807 | 20 | .1610 | 6,70mm | .2638 | 9,90mm | .3898 | 18,00mm | .7087 |
| 0,70mm | .0276 | 46 | .0810 | 4,10mm | .1614 | 17/64 | .2656 | 25/64 | .3906 | 23/32 | .7188 |
| 70 | .0280 | 45 | .0820 | 4,20mm | .1654 | H | .2660 | 10,00mm | .3937 | 18,50mm | .7283 |
| 69 | .0292 | 2,10mm | .0827 | 19 | .1660 | 6,80mm | .2677 | X | .3970 | 47/64 | .7344 |
| 0,75mm | .0295 | 2,15mm | .0846 | 4,30mm | .1693 | 6,90mm | .2717 | 10,20mm | .4016 | 19,00mm | .7480 |
| 68 | .0310 | 44 | .0860 | 18 | .1695 | I | .2720 | Y | .4040 | 3/4 | .7500 |
| 1/32 | .0312 | 2,20mm | .0866 | 11/64 | .1719 | 7,00mm | .2756 | 13/32 | .4062 | 49/64 | .7656 |
| 0,80mm | .0315 | 2,25mm | .0886 | 17 | .1730 | J | .2770 | Z | .4130 | 19,50mm | .7677 |
| 67 | .0320 | 43 | .0890 | 4,40mm | .1732 | 7,10mm | .2795 | 10,50mm | .4134 | 25/32 | .7812 |
| 66 | .0330 | 2,30mm | .0906 | 16 | .1770 | K | .2810 | 27/64 | .4219 | 20,00mm | .7874 |
| 0,85mm | .0335 | 2,35mm | .0925 | 4,50mm | .1772 | 9/32 | .2812 | 10,80mm | .4252 | 51/64 | .7969 |
| 65 | .0350 | 42 | .0935 | 15 | .1800 | 7,20mm | .2835 | 11,00mm | .4331 | 20,50mm | .8071 |
| 0,90mm | .0354 | 3/32 | .0938 | 4,60mm | .1811 | 7,30mm | .2874 | 7/16 | .4375 | 13/16 | .8125 |
| 64 | .0360 | 2,40mm | .0945 | 14 | .1820 | L | .2900 | 11,20mm | .4409 | 21,00mm | .8268 |
| 63 | .0370 | 41 | .0960 | 4,70mm, 13 | .1850 | 7,40mm | .2913 | 11,50mm | .4528 | 53/64 | .8281 |
| 0,95mm | .0374 | 2,45mm | .0965 | 3/16 | .1875 | M | .2950 | 29/64 | .4531 | 27/32 | .8438 |
| 62 | .0380 | 40 | .0980 | 4,80mm, 12 | .1890 | 7,50mm | .2953 | 11,80mm | .4646 | 21,50mm | .8465 |
| 61 | .0390 | 2,50mm | .0984 | 11 | .1910 | 19/64 | .2969 | 15/32 | .4688 | 55/64 | .8594 |
| 1,00mm | .0394 | 39 | .0995 | 4,90mm | .1929 | 7,60mm | .2992 | 12,00mm | .4724 | 22,00mm | .8661 |
| 60 | .0400 | 38 | .1015 | 10 | .1935 | N | .3020 | 12,20mm | .4803 | 7/8 | .8750 |
| 59 | .0410 | 2,60mm | .1024 | 9 | .1960 | 7,70mm | .3031 | 31/64 | .4844 | 22,50mm | .8858 |
| 1,05mm | .0413 | 37 | .1040 | 5,00mm | .1969 | 7,80mm | .3071 | 12,50mm | .4921 | 57/64 | .8906 |
| 58 | .0420 | 2,70mm | .1063 | 8 | .1990 | 7,90mm | .3110 | 1/2 | .5000 | 23,00mm | .9055 |
| 57 | .0430 | 36 | .1065 | 5,10mm | .2008 | 5/16 | .3125 | 12,80mm | .5039 | 29/32 | .9062 |
| 1,10mm | .0433 | 7/64 | .1094 | 7 | .2010 | 8,00mm | .3150 | 13,00mm | .5118 | 59/64 | .9219 |
| 1,15mm | .0453 | 35 | .1100 | 13/64 | .2031 | O | .3160 | 33/64 | .5156 | 23,50mm | .9252 |
| 56 | .0465 | 2,80mm | .1102 | 6 | .2040 | 8,10mm | .3189 | 13,20mm | .5197 | 15/16 | .9375 |
| 3/64 | .0469 | 34 | .1110 | 5,20mm | .2047 | 8,20mm | .3228 | 17/32 | .5312 | 24,00mm | .9449 |
| 1,20mm | .0472 | 33 | .1130 | 5 | .2055 | P | .3230 | 13,50mm | .5315 | 61/64 | .9531 |
| 1,25mm | .0492 | 2,90mm | .1142 | 5,30mm | .2087 | 8,30mm | .3268 | 13,80mm | .5433 | 24,50mm | .9646 |
| 1,30mm | .0512 | 32 | .1160 | 4 | .2090 | 21/64 | .3281 | 35/64 | .5469 | 31/32 | .9688 |
| 55 | .0520 | 3,00mm | .1181 | 5,40mm | .2126 | 8,40mm | .3307 | 14,00mm | .5512 | 25,00mm | .9843 |
| 1,35mm | .0531 | 31 | .1200 | 3 | .2130 | Q | .3320 | 14,25mm | .5610 | 63/64 | .9844 |
| – | – | – | – | – | – | – | – | – | – | 1" | 1.0000 |

Metric  Fractional  Wire gage  Letter size

## Tap Custom-Order Worksheet

Use this Custom-Order Worksheet to modify an existing product to meet your specifications. If your custom requirements do not fall into these categories, simply contact your Kennametal Distributor.

Trust our experienced distributors and Kennametal engineering team to design the best solution for you.

**1. Start with the standard product most similar to your specifications:**

**catalog number** _____ **grade/coating** _____

**2. Type of tap needed:**

❑ solid carbide ❑ high-performance HSS ❑ general purpose ❑ spiral point

❑ hand ❑ forming ❑ spiral flute

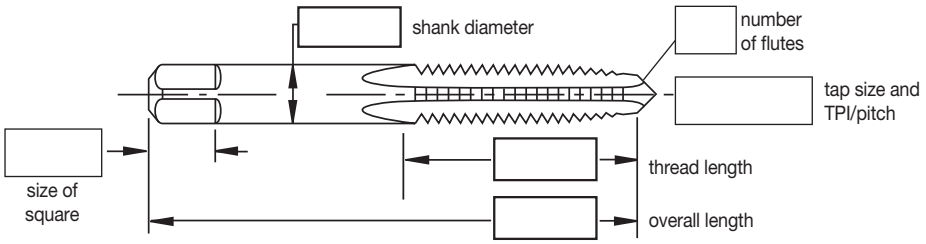
_____ pipe (and style) _____ other

**3. Direction of cut** (circle one)**:** left hand right hand

**4. Material overview:**

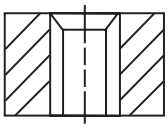
❑ ANSI ❑ DIN ❑ JIS ❑ other

**5. Desired dimension:**

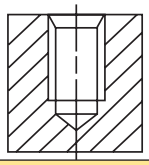



**6. Choose one:**

**through hole:**
hole diameter _____
hole depth _____



**blind hole:**
hole diameter _____
hole depth _____



**7. Chamfer:**

❑ taper: 7–10 pitch ❑ plug: 3–5 pitch ❑ semi-bottom: 2–3 pitch ❑ bottom: 1–2 pitch

**8. Class of fit:** **H limit** _____ **metric D limit** _____ **diameter pitch limit** _____

**9. Workpiece material:** _____

**10. Hardness:** _____

**11. Number of taps required:** _____

**12. Price**

*Contact your Authorized Kennametal Distributor partners.*

**13. Other comments or special characteristics:**

| | |
|---|---|
| **customer company name** | **date** |
| **address** | **phone number** |
| **city, state, zip** | **fax number** |
| **customer contact** | **customer email address** |
| **sales representative** | |

## Application Sheet for Thread Milling

| | | | | | |
|---|---|---|---|---|---|
| **Test form thread data:** | | | **Date:** | | |
| **Customer Data** | | | | | |
| **Company:** | | | **Department:** | | |
| **Street:** | | | **Position:** | | |
| **Postal code:** | | | **Telephone:** | | |
| **City:** | | | **Fax:** | | |
| **Country:** | | | **E-mail:** | | |
| **Tool Data** | | | | | |
| **Engaged Kennametal tool:** | | | **Tool life:** | | |
| | | | | | |
| **Competitive tool:** | | | | | |
| **Workpiece Data** | | | | | |
| **Thread size:** | | | **Name of workpiece:** | | |
| **Class of fit:** | | | **Picture, sketch...** | | |
| **Thread depth:** | | mm | | | |
| **Thread type:** | ❑ Through hole | ❑ Blind hole | | | |
| **Drill hole ø:** | | mm | | | |
| **Depth of drill hole:** | | mm | | | |
| **Type of drilled hole:** | ❑ Drilled | ❑ No hole | | | |
| **Material:** | | | | | |
| **Hardness:** | | | | | |
| **Machine Data** | | | | | |
| **Manufacturer:** | | | **Description:** | | |
| **CNC-machine type:** | ❑ Turning machine | ❑ Milling machine | **Working direction:** | ❑ Horizontal | ❑ Vertical |
| **Control type:** | ❑ DIN | ❑ Heidenhain | **Coolant:** | ❑ Emulsion | ❑ MQL |
| | | | | ❑ Compressed air | ❑ Dry |
| **Coolant supply type:** | ❑ Internal | ❑ External | **Coolant pressure:** | | Bar |
| **Revolutions max:** | | ❑ 1/min | **Spindle power:** | | kW |
| **Clamping device:** | ❑ Weldon® | ❑ Collet | | | |
| | ❑ Shrinking | ❑ Hydraulic expansion | | | |
| **Cutting Conditions** | | | | | |
| **Cutting speed vc:** | | m/min | **Revolutions:** | | 1/min |
| **Feed fz:** | | mm/tooth | **Programmed feed:** | | mm/min |
| **Milling direction:** | ❑ Climb milling | ❑ Down milling | **Type of feed:** | ❑ Feed on contour | ❑ Feed on center |
| **Allocated cut over depth of thread:** | ❑ Yes | ❑ No | **Allocated cut over profile:** | ❑ By depth of profile | ❑ By thread depth |
| **Number of cuts:** | | | **Number of cuts:** | | |

Knowing the hardness of the work material to be tapped is essential in selecting the best tap for the job.

| 10 mm/min ball 3000 kg | 120° cone 150 kg | 1/16" ball 100 kg | model C | 1000 lb per sq. in. | 10 mm/min ball 3000 kg | 120° cone 150 kg | 1/16" ball 100 kg | model C | 1000 lb per sq. in. |
|---|---|---|---|---|---|---|---|---|---|
| Brinell | Rockwell C | Rockwell B | Shore Scleroscope | tensile strength | Brinell | Rockwell C | Rockwell B | Shore Scleroscope | tensile strength |
| 800 | 72 | – | 100 | – | 276 | 30 | 105 | 42 | 136 |
| 780 | 71 | – | 99 | – | 269 | 29 | 104 | 41 | 132 |
| 760 | 70 | – | 98 | – | 261 | 28 | 103 | 40 | 129 |
| 745 | 68 | – | 97 | 367 | 258 | 27 | 102 | 39 | 127 |
| 725 | 67 | – | 96 | 357 | 255 | 26 | 102 | 39 | 125 |
| 712 | 66 | – | 95 | 350 | 249 | 25 | 101 | 38 | 123 |
| 682 | 65 | – | 93 | 337 | 245 | 24 | 100 | 37 | 119 |
| 668 | 64 | – | 91 | 326 | 240 | 23 | 99 | 36 | 117 |
| 652 | 63 | – | 89 | 318 | 237 | 23 | 99 | 35 | 115 |
| 626 | 62 | – | 87 | 306 | 229 | 22 | 98 | 34 | 113 |
| 614 | 61 | – | 85 | 299 | 224 | 21 | 97 | 33 | 110 |
| 601 | 60 | – | 83 | 292 | 217 | 20 | 96 | 33 | 107 |
| 590 | 59 | – | 81 | 290 | 211 | 19 | 95 | 32 | 104 |
| 576 | 57 | – | 79 | 281 | 206 | 18 | 94 | 32 | 102 |
| 552 | 56 | – | 76 | 270 | 203 | 17 | 94 | 31 | 100 |
| 545 | 55 | – | 75 | 268 | 200 | 16 | 93 | 31 | 98 |
| 529 | 54 | – | 74 | 259 | 196 | 15 | 92 | 30 | 96 |
| 514 | 53 | 120 | 72 | 254 | 191 | 14 | 92 | 30 | 94 |
| 502 | 52 | 119 | 70 | 247 | 187 | 13 | 91 | 29 | 92 |
| 495 | 51 | 119 | 69 | 244 | 185 | 12 | 91 | 29 | 91 |
| 477 | 49 | 118 | 67 | 233 | 183 | 11 | 90 | 28 | 90 |
| 461 | 48 | 117 | 66 | 227 | 180 | 10 | 89 | 28 | 89 |
| 451 | 47 | 117 | 65 | 223 | 175 | 9 | 88 | 27 | 86 |
| 444 | 46 | 116 | 64 | 219 | 170 | 7 | 87 | 27 | 84 |
| 427 | 46 | 115 | 62 | 209 | 167 | 6 | 87 | 27 | 82 |
| 415 | 44 | 115 | 60 | 204 | 165 | 5 | 86 | 26 | 81 |
| 401 | 43 | 114 | 58 | 196 | 163 | 4 | 85 | 26 | 80 |
| 388 | 42 | 114 | 57 | 191 | 160 | 3 | 84 | 25 | 78 |
| 375 | 41 | 113 | 55 | 184 | 156 | 2 | 83 | 25 | 76 |
| 370 | 40 | 112 | 54 | 182 | 154 | 1 | 82 | 25 | 75 |
| 362 | 39 | 111 | 53 | 179 | 152 | – | 82 | 24 | 74 |
| 351 | 38 | 111 | 51 | 173 | 150 | – | 81 | 24 | 74 |
| 346 | 37 | 110 | 50 | 170 | 147 | – | 80 | 24 | 72 |
| 341 | 37 | 110 | 49 | 168 | 145 | – | 79 | 23 | 71 |
| 331 | 36 | 109 | 47 | 163 | 143 | – | 79 | 23 | 70 |
| 323 | 35 | 109 | 46 | 158 | 141 | – | 78 | 23 | 69 |
| 311 | 34 | 108 | 46 | 153 | 140 | – | 77 | 22 | 69 |
| 301 | 33 | 107 | 45 | 148 | 135 | – | 75 | 22 | 67 |
| 293 | 32 | 106 | 44 | 144 | 130 | – | 72 | 22 | 65 |
| 285 | 31 | 105 | 43 | 140 | – | – | – | – | – |

# High-Performance Multipurpose HSS-E GOtap™

GOtap is the solution for high-performance multipurpose tapping. GOtap includes optimized flute geometries and PVD coatings capable of tapping a broad assortment of ductile materials, such as stainless steels, carbon and alloy steels, cast aluminum, and ductile iron. The unmatched versatility of GOtap means lower inventory costs with no loss of productivity, consistent tool life, and high-quality thread finish.

## ADVANCED TECHNOLOGY

- Manufactured with high-vanadium HSS-E material for exceptional wear characteristics and longer tool life.
- Optimized geometries for efficient chip evacuation in both through and blind holes.
- Advanced PVD coatings to reduce tapping torque resulting in high-quality thread finish and longer tool life.

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

# Solid End Milling


Solid End Milling Introduction ..... N2–N3

Duo-Lock Modular Milling ..... O1–O57

High-Performance Solid Carbide End Mills ..... P1–P171

General Purpose Solid Carbide End Mills ..... Q1–Q47

# Solid End Milling Products

Our latest Metalcutting Innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

For more information about the latest products and services from Kennametal, please contact your Kennametal Representative or Authorized Kennametal Distributor, or visit **kennametal.com**.

## MODULAR END MILLS

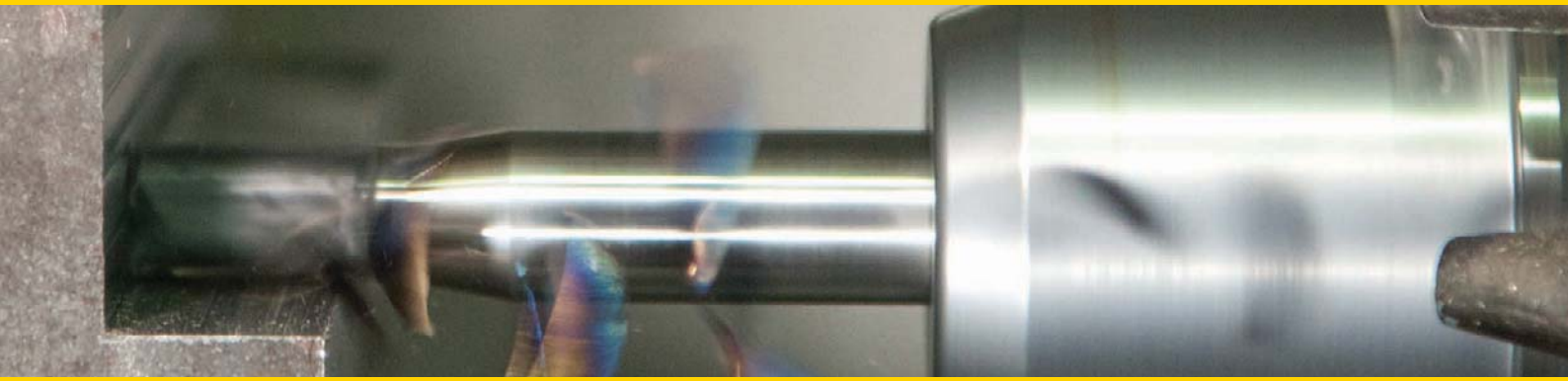
See Section O for more details.

HARVI™ I
HARVI II
HARVI III
MaxiMet™
High-Performance Rougher
High-Performance Finisher
Corner Tooling

## HIGH CAPABILITY END MILLS

See Section P for more details.

HARVI I
HARVI II
HARVI II Long
HARVI III
CXE/CXER



## MATERIAL SPECIFIC END MILLS

See Section P for more details.

Aluminum Machining
CFRP Machining
Hard Materials Machining

## APPLICATION SPECIFIC END MILLS

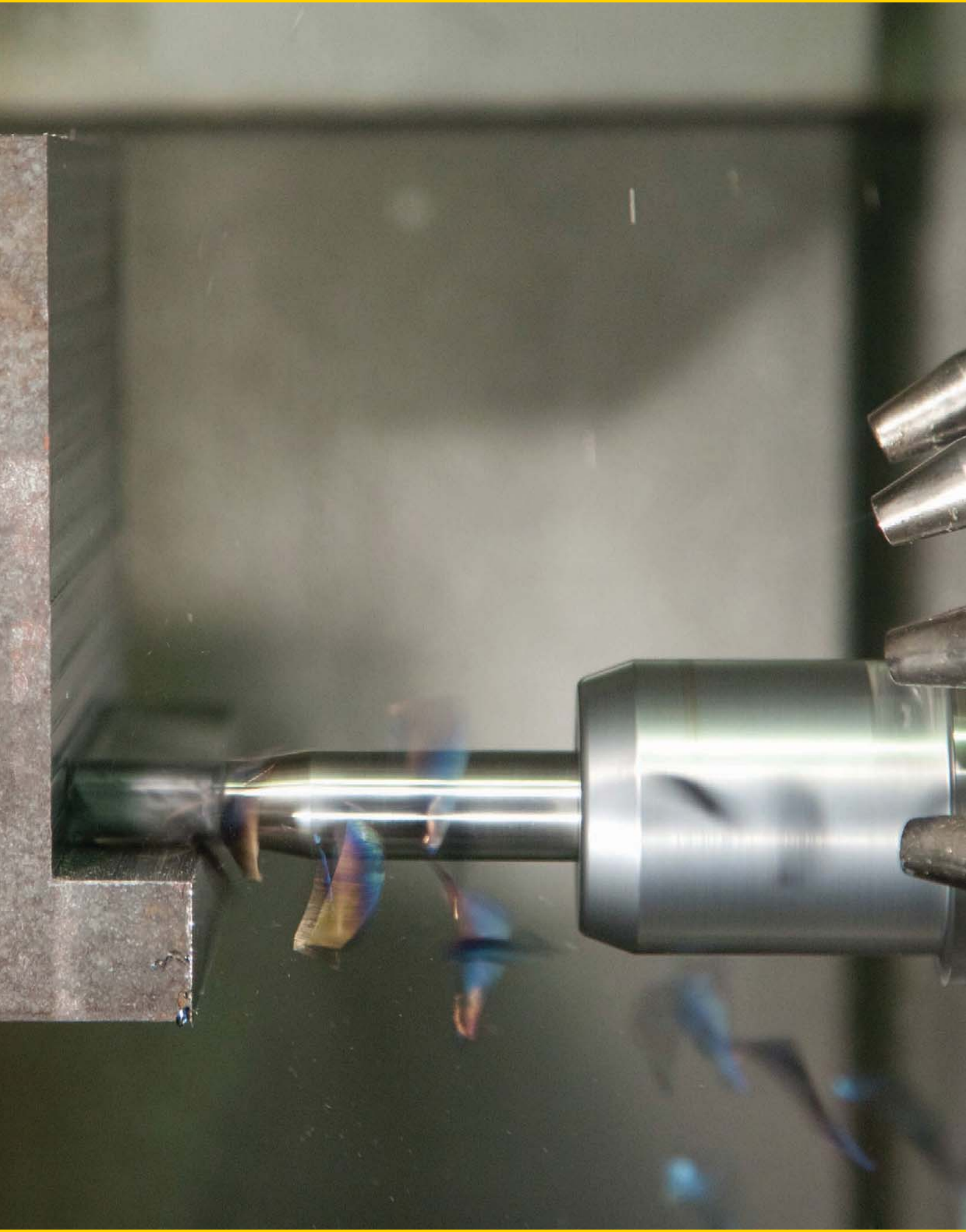
See Section P for more details.

High-Performance Roughing End Mills
High-Performance Finishing End Mills
RSM II
KenFeed™
GOmill™

## GENERAL PURPOSE END MILLS

See Section Q for more details.

GOmill GP 2FL
GOmill GP 3FL
GOmill GP 4FL



# Solid End Milling • Duo-Lock Modular Milling


Duo-Lock Tool Selector and Grades ..... O2–O4

HARVI Modular End Mills ..... O6–O24

MaxiMet Modular End Mills ..... O26–O30

Modular Roughing End Mills ..... O32–O39

Modular Finishing End Mills ..... O40–O45

Modular Corner Rounding and Chamfering End Mills ..... O46–O51

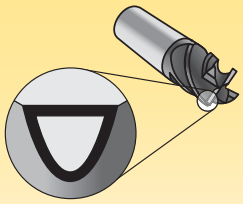
Adapters ..... O52–O56

Assembly Information ..... O57

| product line | | series | D1 diameter (inch) | length of cut | flute Z | helix | internal coolant | |
|---|---|---|---|---|---|---|---|---|
| HARVI™ I | | UKDV | 3/8–1 1/4 | 1.5 x D | ZU=4 | 37.5° | | |
| HARVI I | | ULDV | 3/8–1 1/4 | 1.5 x D | ZU=4 | 37.5° | | |
| HARVI II | | UCDV | 3/8–1 1/4 | 1.5 x D | ZU=5 | 37.5° | | |
| HARVI II | | UDDV | 3/8–1 1/4 | 1.5 x D | ZU=5 | 37.5° | | |
| HARVI III | | UJDV | 3/8–1 1/4 | 1.5 x D | ZU=6 | 37.5° | | |
| HARVI Ball Nose | | UKBV | 3/8–1 | 1.5 x D | ZU=4 | 37.5° | | |
| HARVI III Ball Nose | | UJBV | 3/8–1 | 1.5 x D | ZU=6 | 37.5° | | |
| MaxiMet™ | | ABDF | 3/8–3/4 | 1.5 x D | ZU=2 | 45° | | |
| MaxiMet | | ABDE | 3/8–1 | 1.5 x D | ZU=3 | 38° | | |
| KenFeed™ | | KMDA | 3/8–3/4 | 0.75 x D | ZU=6 | 20° | | |
| HP Rougher | | RQDB | 3/8–1 | 1.5 x D | ZU=X | 20° | | |
| HP Rougher | | RKDF | 3/8–1 | 1.5 x D | ZU=X | 45° | | |
| HP Rougher | | RQBB | 3/8–1 | 1.5 x D | ZU=4 | 30° | | |
| HP Finisher | | FMDF | 3/8–1 | 1.5 x D | ZU=6 | 45° | | |
| HP Finisher | | FSDE | 3/8–1 | 1.5 x D | ZU=X | 36° | | |
| Corner Tooling | | XADA | 3/8–5/8 | .359–.605 | ZU=X | 0° | | |
| Corner Tooling | | XRDA | 3/8–5/8 | .359–.730 | ZU=X | 0° | | |

| | | | | | | | shank | center cutting | neck | P | M | K | N | S | H | | | | | | | product page(s) | cutting data page(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ✓ | ✓ | | | | ✓ | ✓ | ● | ● | | | ○ | | ✓ | ✓ | ✓ | ✓ | | | O8 | O10 |
| | | | | | ✓ | | | ✓ | ✓ | ● | ● | ○ | | ● | ○ | ✓ | ✓ | ✓ | ✓ | | | O9 | O11 |
| | | | ✓ | ✓ | | | | | ✓ | ● | ● | ● | | ○ | ○ | ✓ | ✓ | ✓ | | | | O12 | O14 |
| | | | | | ✓ | | | | ✓ | ● | | | | ● | ○ | ✓ | ✓ | ✓ | | | | O13 | O15 |
| | | | | | ✓ | | | ✓ | ✓ | ○ | ● | | | ● | ○ | ✓ | | ✓ | | | | O16 | O17 |
| | | | | | | ✓ | | ✓ | ✓ | ● | ● | ● | | ○ | ○ | ✓ | ✓ | | | ✓ | | O18 | O20 |
| | | | | | | ✓ | | ✓ | ✓ | ○ | ● | ○ | | ● | ○ | ✓ | | | | ✓ | | O19 | O21–O22 |
| | | ✓ | | | | | | ✓ | ✓ | | | | ● | | | ✓ | ✓ | ✓ | ✓ | | | O28 | O30 |
| | | | | | ✓ | | | ✓ | ✓ | | | | ● | | | ✓ | ✓ | ✓ | ✓ | | | O29 | O30 |
| | ✓ | | | | | | | | ✓ | ○ | | | | | ● | | | ✓ | | ✓ | | contact us | contact us |
| | | | | ✓ | | | | ✓ | ✓ | ● | ● | ● | | ○ | ○ | ✓ | ✓ | ✓ | | | | O34 | O37 |
| | | | | ✓ | | | | ✓ | ✓ | ○ | ● | ○ | | ● | ○ | ✓ | ✓ | ✓ | | | | O35 | O38 |
| | | | | | | ✓ | | ✓ | ✓ | ● | ● | ● | | ○ | ○ | ✓ | ✓ | | | ✓ | | O36 | O39 |
| | | | | | ✓ | | | ✓ | ✓ | ● | ● | ● | | ○ | ○ | ✓ | | | | | | O42 | O44 |
| | | | | | ✓ | | | | ✓ | ○ | ● | | | ● | ○ | ✓ | | | | | | O43 | O45 |
| | | | | | | | | | ✓ | ● | ● | ● | ● | ○ | ○ | | | | | | | O48 | O50 |
| | | | | | | | | | ✓ | ● | ● | ● | ● | ○ | ○ | | | | | | | O49 | O51 |

● first choice
○ alternate choice



**Coatings provide high-speed capability and are engineered for roughing to finishing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

**Grades**

| Coating | Grade Description | wear resistance ⟷ toughness: 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|
| K600 | Carbide grade made from high-quality, micrograin materials for cutting all types of workpiece materials. Very high toughness ensures a controlled wear rate. The micrograin structure enables extremely sharp cutting edges. | | | | | | | | | |
| KCPM15 | Coated carbide grade with thick PVD coating and optimized chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. | | | | | | | | | |
| KC643M | Coated fine-grain grade with PVD multilayer (AlTiN). KC643M™ is a very thin and hard PVD coating particularly suited for cutting steel, cast iron, stainless steel (wet), and titanium (wet). This grade can be used for materials with hardness up to 52 HRC. | | | | | | | | | |
| KC639M | PVD- (AlTiN) coated carbide on a submicron carbide substrate. This hard coating provides outstanding performance in milling hardened materials (58–65 HRC). | | | | | | | | | |
| KCSM15 | Coated carbide grade with thick PVD coating and optimized chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. | | | | | | | | | |

# Kennametal on the Web

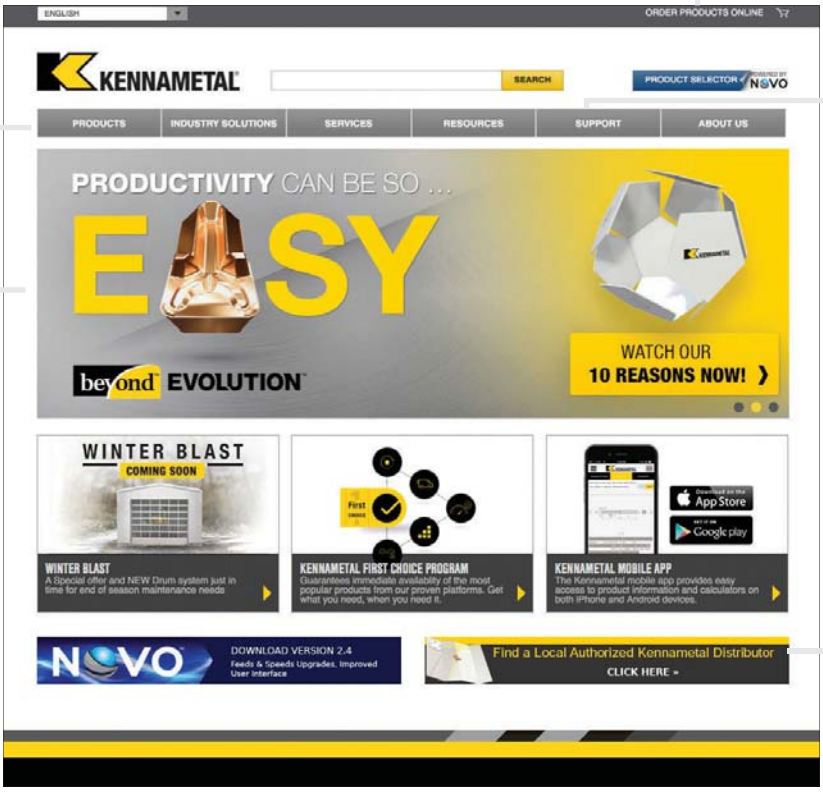
kennametal.com

## FIND THE LATEST PRODUCT INFORMATION

Whether your operation is turning, milling, or holemaking, Kennametal brands are the high-performance tooling you need. We offer standard and custom solutions for a wide range of applications.

Find information about our most current campaigns and catalogs.

Register on Konnect for the full functionality of the Kennametal online ordering website.




## CONTACT US

Our customers are important to us. We want to provide you the best customer service in the industry. If you have a comment or question, please send it to us. We strive to respond to all inquiries within 24 hours.

## FIND A LOCAL AUTHORIZED DISTRIBUTOR IN YOUR AREA

Kennametal offers world-class products and services globally. Our distributors know us, and more importantly, they know you. They know better than anyone in the industry how to put the global power of Kennametal to work for you — in your industry, in your region, and for your business.

# DUO-λOCK® HARVI™

## Primary Application

HARVI geometries for Duo-Lock™ target applications where solid carbide end mills are currently used. The Duo-Lock™ system combines the highest runout accuracy and length repeatability with maximum coupling stability. This enables the Duo-Lock™ system to use the full potential of Kennametal cutting geometries and grades with the flexibility of a modular system. Significant metal removal rates can be achieved. A wide range of diameters and corner configurations, such as chamfer, radii, and sharp edges, are available from stock.

- Cutting data and tool life comparable to high-performance solid carbide.
- Proprietary HARVI geometries enable roughing and finishing with one tool.
- 1.5 x D standard cutting edge length enables fewer passes.
- Up to 1 x D full slotting increases metal removal rates, increasing productivity significantly.
- Extensive offering of straight and conical shank tools, and integral adapters that include DV, BT, and HSK.

# Features and Benefits

## Advanced Technology

- New asymmetrical HARVI 4-flute geometry for higher feed-per-tooth rates.
- Variable helix design for chatter-free machining at high feed rates.
- Less pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core for highest tool stability when roughing and finishing.

## Tailored Grades

- KCSM15™ Beyond™ grade for exceptional tool life in titanium and stainless steels.
- KCPM15™ Beyond grade for outstanding wear protection in stainless steel to mitigate cratering, depth-of-cut notching, and flank wear.
- Universal KC643M™ grade for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

## Customization

- Intermediate diameters are available between 3/8–1 1/4".
- Chip divider geometry helps reduce power usage and improve chip formation in difficult-to-cut materials.
- Engineered solutions including shank and non-standard length versions available.
- Custom solutions within standard blank dimension are available.

## Extensive Standard Offering

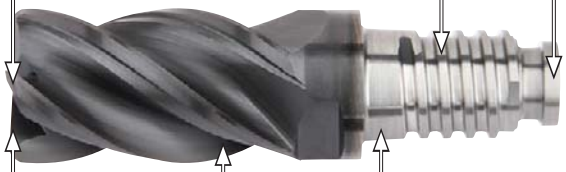
- Diameter ranges 3/8–1 1/4".
- Necked, corner radii, chamfer, and square-end tips available.
- Integral adapters to reduce interface for maximum accuracy.
- Steel extensions with Safe-Lock™ by HAIMER shanks to prevent pullout.
- Cut-to-size extra-long extensions available upon request off the shelf.

# High-performance modular solid carbide end mills.

**Intelligent Thread**
Ensures that stress levels remain below critical values.

**High-Performance Geometries**
Highest metal removal rates with up to 1 x D full slotting and up to 1.5 x D side milling at 50% ae capability.

**3rd Contact Surface**
Delivers high stiffness and highest accuracy below .0002" runout.



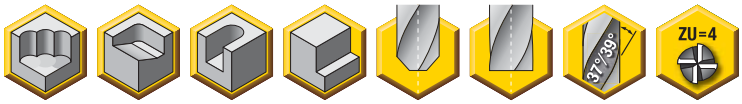
DUO-LOCK® by HAIMER® and Kennametal

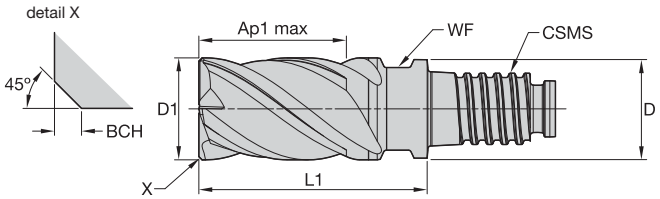
**Unequal Flute Spacing**
Reduces vibrations. Improves surface finish.

**Double Cone**
Eliminates expensive presetting processes by providing an axial .0004" repeatability.

**37°/ 39° Variable Helix Technology**
Minimizes chatter and harmonics for smoother machining.

- Asymmetrical flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.

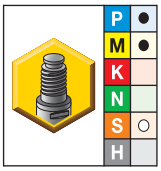


**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |
| > 1-3/16" | -0,00197"/-0,00350" |

## UKDV • 4 Flute • Inch

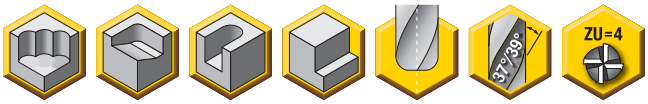


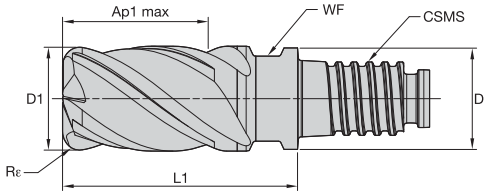

● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | BCH |
|---|---|---|---|---|---|---|---|
| **UKDV0375Y4CU** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | — |
| **UKDV0375Y4CV** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .020 |
| **UKDV0500Y4CU** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | — |
| **UKDV0500Y4CV** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .020 |
| **UKDV0625Y4CU** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | — |
| **UKDV0625Y4CV** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .020 |
| **UKDV0750Y4CU** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | — |
| **UKDV0750Y4CV** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .020 |
| **UKDV1000Y4CU** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | — |
| **UKDV1000Y4CV** | 1 | .961 | 1 1/2 | 2.264 | DL25 | .827 | .020 |
| **UKDV1250Y4CU** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | — |
| **UKDV1250Y4CV** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .020 |

NOTE: For application data, please see page O10.

- Asymmetrical flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.

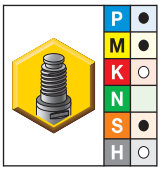


**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |
| > 1-3/16" | -0,00197"/-0,00350" |

## ULDV • 4 Flute • Inch




● first choice
○ alternate choice

| KCSM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε |
|---|---|---|---|---|---|---|---|
| **ULDV0375Y4CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 |
| **ULDV0375Y4CQB** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .030 |
| **ULDV0375Y4CQC** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .060 |
| **ULDV0375Y4CQD** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .090 |
| **ULDV0500Y4CQA** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .015 |
| **ULDV0500Y4CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 |
| **ULDV0500Y4CQC** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .060 |
| **ULDV0500Y4CQD** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .090 |
| **ULDV0500Y4CQE** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .120 |
| **ULDV0625Y4CQA** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .015 |
| **ULDV0625Y4CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 |
| **ULDV0625Y4CQD** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .120 |
| **ULDV0625Y4CQE** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .120 |
| **ULDV0625Y4CQC** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .060 |
| **ULDV0750Y4CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 |
| **ULDV0750Y4CQC** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .060 |
| **ULDV0750Y4CQD** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .090 |
| **ULDV0750Y4CQE** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .120 |
| **ULDV1000Y4CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 |
| **ULDV1000Y4CQC** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .060 |
| **ULDV1000Y4CQD** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .090 |
| **ULDV1000Y4CQE** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .120 |
| **ULDV1000Y4CQF** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .250 |
| **ULDV1250Y4CQD** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .090 |
| **ULDV1250Y4CQF** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .250 |

NOTE: For application data, please see page O11.

## HARVI • UKDV • Asymmetrical Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.0000 | 1.2500 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 4 | 1.5 x D | 0.4 x D | 0.75 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 5 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 6 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| M | 1 | 1.5 x D | 0.4 x D | 1 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 3 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 4 | 1.5 x D | 0.4 x D | 1 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 | .0030 |

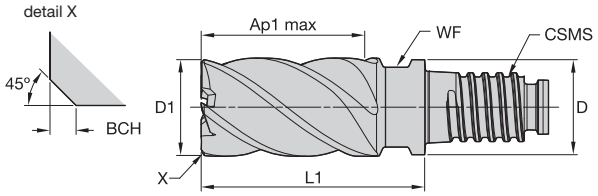
NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with ap larger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## HARVI • ULDV • Asymmetrical Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | | KCSM15 | | | KCSM15 | | | KCSM15 | | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 | 1.2500 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 4 | 1.5 x D | 0.4 x D | 0.75 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 5 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 6 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| M | 1 | 1.5 x D | 0.4 x D | 1 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 3 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 4 | 1.5 x D | 0.4 x D | 1 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 | .0030 |
| H | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 2 | 1.5 x D | 0.2 x D | 0.5 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |

NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with ap larger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

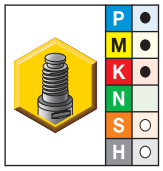
- Unequal flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Non-center cutting.
- Ramping up to 3°.
- Five-flute geometry able to slot up to 1 x D.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |
| > 1–3/16" | -0,00197"/-0,00350" |

## UCDV • 5 Flute • Inch

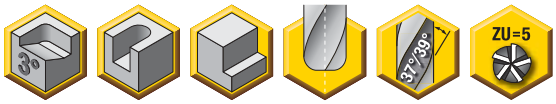


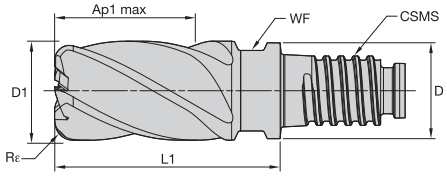

● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | BCH |
|---|---|---|---|---|---|---|---|
| **UCDV0375Y5CU** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | — |
| **UCDV0375Y5CV** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .020 |
| **UCDV0500Y5CU** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | — |
| **UCDV0500Y5CV** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .020 |
| **UCDV0625Y5CU** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | — |
| **UCDV0625Y5CV** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .020 |
| **UCDV0750Y5CU** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | — |
| **UCDV0750Y5CV** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .020 |
| **UCDV1000Y5CU** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | — |
| **UCDV1000Y5CV** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .020 |
| **UCDV1250Y5CU** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | — |
| **UCDV1250Y5CV** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .020 |

NOTE: For application data, please see page O14.

- Unequal flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Non-center cutting.
- Ramping up to 3°.
- Five-flute geometry able to slot up to 1 x D.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.

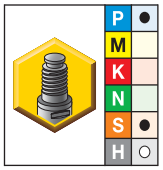


**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |
| > 1–3/16" | -0,00197"/-0,00350" |

## UDDV • 5 Flute • Inch




● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε |
|---|---|---|---|---|---|---|---|
| **UDDV0375Y5CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 |
| **UDDV0375Y5CQB** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .030 |
| **UDDV0375Y5CQC** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .060 |
| **UDDV0375Y5CQD** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .090 |
| **UDDV0500Y5CQA** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .015 |
| **UDDV0500Y5CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 |
| **UDDV0500Y5CQC** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .060 |
| **UDDV0500Y5CQD** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .090 |
| **UDDV0500Y5CQE** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .120 |
| **UDDV0625Y5CQA** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .015 |
| **UDDV0625Y5CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 |
| **UDDV0625Y5CQC** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .060 |
| **UDDV0625Y5CQD** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .090 |
| **UDDV0625Y5CQE** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .120 |
| **UDDV0750Y5CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 |
| **UDDV0750Y5CQC** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .060 |
| **UDDV0750Y5CQD** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .090 |
| **UDDV0750Y5CQE** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .120 |
| **UDDV1000Y5CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 |
| **UDDV1000Y5CQC** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .060 |
| **UDDV1000Y5CQD** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .090 |
| **UDDV1000Y5CQE** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .120 |
| **UDDV1000Y5CQF** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .250 |
| **UDDV1250Y5CQD** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .090 |
| **UDDV1250Y5CQF** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .250 |

NOTE: For application data, please see page O15.

## HARVI II • UCDV • Unequal Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 | 1.2500 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 4 | 1.5 x D | 0.4 x D | 0.75 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 5 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 6 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| M | 1 | 1.5 x D | 0.4 x D | 1 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 3 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 4 | 1.5 x D | 0.4 x D | 1 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 | .0030 |
| H | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 2 | 1.5 x D | 0.2 x D | 0.5 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |

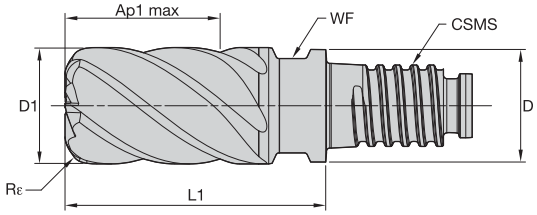
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D reduce Fz by 20%!
Cylindrical shanks not recommended for full slotting.

## HARVI II • UDDV • Unequal Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | | KC643M | | | KC643M | | | KC643M | | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 | 1.2500 |
| P | 5 | 1.5 x D | 0.4 x D | 1 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 6 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 4 | 1.5 x D | 0.4 x D | 1 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 | .0030 |
| H | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 2 | 1.5 x D | 0.2 x D | 0.5 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D reduce Fz by 20%!
Cylindrical shanks not recommended for full slotting.

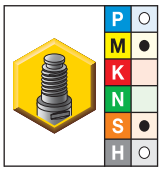
- Unequal flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Center cutting.
- Optimized geometry for titanium machining.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |
| >1–3/16" | -0,00197"/-0,00350" |

## UJDV • 6 Flute with Eccentric Relief Grind • Inch




● first choice
○ alternate choice

| KCSM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε |
|---|---|---|---|---|---|---|---|
| **UJDV0375Y6CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 |
| **UJDV0375Y6CQB** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .030 |
| **UJDV0375Y6CQC** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .060 |
| **UJDV0375Y6CQD** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .090 |
| **UJDV0500Y6CQA** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .015 |
| **UJDV0500Y6CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 |
| **UJDV0500Y6CQC** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .060 |
| **UJDV0500Y6CQD** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .090 |
| **UJDV0500Y6CQE** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .120 |
| **UJDV0625Y6CQA** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .015 |
| **UJDV0625Y6CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 |
| **UJDV0625Y6CQC** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .060 |
| **UJDV0625Y6CQD** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .090 |
| **UJDV0625Y6CQE** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .120 |
| **UJDV0750Y6CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 |
| **UJDV0750Y6CQC** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .060 |
| **UJDV0750Y6CQD** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .090 |
| **UJDV0750Y6CQE** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .120 |
| **UJDV1000Y6CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 |
| **UJDV1000Y6CQC** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .090 |
| **UJDV1000Y6CQD** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .090 |
| **UJDV1000Y6CQE** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .120 |
| **UJDV1000Y6CQF** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 |
| **UJDV1250Y6CQD** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .090 |
| **UJDV1250Y6CQF** | 1 1/4 | 1.211 | 1 7/8 | 2.803 | DL32 | 1.102 | .250 |

NOTE: For application data, please see page O17.

## HARVI III • UJDV • Unequal Flute Spacing • Roughing

| Material Group | | Side Milling (A) | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | KCSM15 | | | KCSM15 | | | KCSM15 | | | | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 | 1.2500 |
| P | 4 | Ap max | 0.4 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 5 | Ap max | 0.4 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| M | 1 | Ap max | 0.4 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | Ap max | 0.4 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 3 | Ap max | 0.4 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| S | 1 | Ap max | 0.4 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | Ap max | 0.4 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 3 | Ap max | 0.4 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 4 | Ap max | 0.4 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 | .0030 |
| H | 1 | Ap max | 0.4 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 2 | Ap max | 0.4 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |

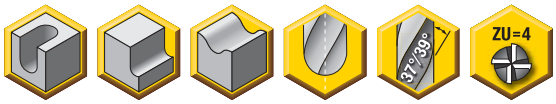
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

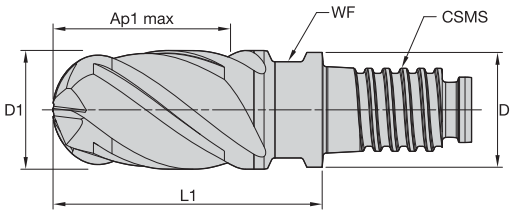
## HARVI III • UJDV • Unequal Flute Spacing • Finishing

| Material Group | | Side Milling (A) | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | KCSM15 | | | KCSM15 | | | KCSM15 | | | | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 | 1.2500 |
| P | 4 | Ap max | 0.06 x D | 560 | – | 940 | 504 | – | 846 | 504 | – | 846 | IPT | .0021 | .0026 | .0031 | .0034 | .0041 | .0041 |
| | 5 | Ap max | 0.06 x D | 370 | – | 620 | 314.5 | – | 527 | 296 | – | 496 | IPT | .0019 | .0024 | .0028 | .0031 | .0040 | .0040 |
| M | 1 | Ap max | 0.06 x D | 560 | – | 720 | 448 | – | 576 | 392 | – | 504 | IPT | .0023 | .0029 | .0035 | .0039 | .0049 | .0049 |
| | 2 | Ap max | 0.06 x D | 370 | – | 500 | 296 | – | 400 | 259 | – | 350 | IPT | .0019 | .0024 | .0028 | .0031 | .0040 | .0040 |
| | 3 | Ap max | 0.06 x D | 370 | – | 440 | 296 | – | 352 | 259 | – | 308 | IPT | .0016 | .0020 | .0023 | .0025 | .0029 | .0029 |
| S | 1 | Ap max | 0.06 x D | 310 | – | 560 | 248 | – | 448 | 186 | – | 336 | IPT | .0023 | .0029 | .0035 | .0039 | .0049 | .0049 |
| | 2 | Ap max | 0.06 x D | 160 | – | 250 | 128 | – | 200 | 96 | – | 150 | IPT | .0012 | .0016 | .0019 | .0021 | .0027 | .0027 |
| | 3 | Ap max | 0.06 x D | 160 | – | 250 | 128 | – | 200 | 96 | – | 150 | IPT | .0012 | .0016 | .0019 | .0021 | .0027 | .0027 |
| | 4 | Ap max | 0.06 x D | 310 | – | 370 | 248 | – | 296 | 186 | – | 222 | IPT | .0017 | .0022 | .0026 | .0029 | .0036 | .0036 |
| H | 1 | Ap max | 0.06 x D | 500 | – | 870 | 400 | – | 696 | 300 | – | 522 | IPT | .0021 | .0026 | .0031 | .0034 | .0041 | .0041 |
| | 2 | Ap max | 0.06 x D | 440 | – | 750 | 352 | – | 600 | 264 | – | 450 | IPT | .0016 | .0020 | .0023 | .0025 | .0029 | .0029 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

- Asymmetrical flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.



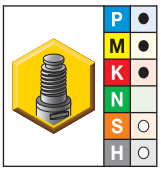



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |



## UKBV • 4 Flute Ball Nose • Inch

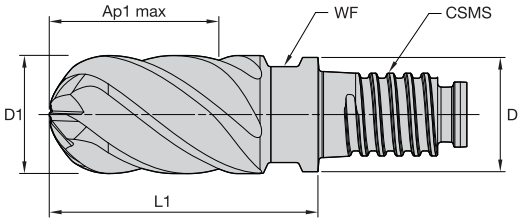



● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF |
|---|---|---|---|---|---|---|
| **UKBV0375Y4CN** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 |
| **UKBV0500Y4CN** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 |
| **UKBV0625Y4CN** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 |
| **UKBV0750Y4CN** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 |
| **UKBV1000Y4CN** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 |

NOTE: For application data, please see page O20.

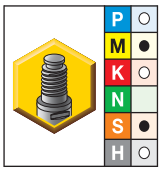
- Unequal flute spacing and variable helix configuration minimize chatter and harmonics for smoother machining.
- Center cutting.
- Optimized geometry for titanium machining.
- Single tool for both roughing and finishing, reducing setups.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |

## UJBV • 6 Flute Ball Nose with Eccentric Relief Grind • Inch

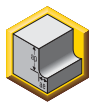



● first choice
○ alternate choice

| KCSM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF |
|---|---|---|---|---|---|---|
| **UJBV0375Y6CN** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 |
| **UJBV0500Y6CN** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 |
| **UJBV0625Y6CN** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 |
| **UJBV0750Y6CN** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 |
| **UJBV1000Y6CN** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 |

NOTE: For application data, please see pages O21–O22.

## HARVI Ball Nose • UKBV • Asymmetrical Flute Spacing • Roughing • Finishing



| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | | |
| | | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 | 1.2500 |
| P | 0 | 1.25 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 1 | 1.25 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.25 x D | 0.5 x D | 1 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 3 | 1.25 x D | 0.5 x D | 1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 4 | 1.25 x D | 0.4 x D | 0.75 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 5 | 1.25 x D | 0.4 x D | 1 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 6 | 1.25 x D | 0.4 x D | 0.75 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| M | 1 | 1.25 x D | 0.4 x D | 1 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1.25 x D | 0.4 x D | 1 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| | 3 | 1.25 x D | 0.4 x D | 1 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |
| K | 1 | 1.25 x D | 0.5 x D | 1 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 | .0042 |
| | 2 | 1.25 x D | 0.5 x D | 1 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 3 | 1.25 x D | 0.5 x D | 1 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 | .0033 |
| S | 1 | 1 x D | 0.3 x D | 0.3 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 | .0041 |
| | 2 | 1 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 3 | 1.25 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 | .0022 |
| | 4 | 1.25 x D | 0.4 x D | 1 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 | .0030 |
| H | 1 | 1.25 x D | 0.4 x D | 0.75 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 | .0034 |
| | 2 | 1.25 x D | 0.2 x D | 0.5 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 | .0024 |

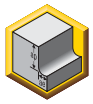
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with ap larger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## HARVI III Ball Nose • UJBV • Unequal Flute Spacing • Roughing

| Material Group | | Side Milling (A) | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | KCSM15 | | | KCSM15 | | | KCSM15 | | | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 |
| P | 0 | Ap max | 0.4 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 1 | Ap max | 0.4 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 2 | Ap max | 0.4 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 3 | Ap max | 0.4 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 |
| | 4 | Ap max | 0.4 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 |
| | 5 | Ap max | 0.4 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 |
| | 6 | Ap max | 0.4 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 |
| M | 1 | Ap max | 0.4 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 |
| | 2 | Ap max | 0.4 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 |
| | 3 | Ap max | 0.4 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 |
| K | 1 | Ap max | 0.4 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 2 | Ap max | 0.4 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 |
| | 3 | Ap max | 0.4 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0016 | .0020 | .0023 | .0026 | .0033 |
| S | 1 | Ap max | 0.4 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0041 |
| | 2 | Ap max | 0.4 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 |
| | 3 | Ap max | 0.4 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0022 |
| | 4 | Ap max | 0.4 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0030 |
| H | 1 | Ap max | 0.4 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0034 |
| | 2 | Ap max | 0.4 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## HARVI III Ball Nose • UJBV • Unequal Flute Spacing • Finishing



| Material Group | | Side Milling (A) | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | KCSM15 | | | KCSM15 | | | KCSM15 | | | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 |
| P | 0 | Ap max | 0.06 x D | 940 | – | 1250 | 846 | – | 1125 | 846 | – | 1125 | IPT | .0028 | .0035 | .0040 | .0045 | .0050 |
| | 1 | Ap max | 0.06 x D | 940 | – | 1250 | 846 | – | 1125 | 846 | – | 1125 | IPT | .0028 | .0035 | .0040 | .0045 | .0050 |
| | 2 | Ap max | 0.06 x D | 870 | – | 1180 | 783 | – | 1062 | 783 | – | 1062 | IPT | .0028 | .0035 | .0040 | .0045 | .0050 |
| | 3 | Ap max | 0.06 x D | 750 | – | 1000 | 675 | – | 900 | 675 | – | 900 | IPT | .0023 | .0029 | .0035 | .0039 | .0049 |
| | 4 | Ap max | 0.06 x D | 560 | – | 940 | 504 | – | 846 | 504 | – | 846 | IPT | .0021 | .0026 | .0031 | .0034 | .0041 |
| | 5 | Ap max | 0.06 x D | 370 | – | 620 | 314.5 | – | 527 | 296 | – | 496 | IPT | .0019 | .0024 | .0028 | .0031 | .0040 |
| | 6 | Ap max | 0.06 x D | 310 | – | 470 | 263.5 | – | 399.5 | 248 | – | 376 | IPT | .0016 | .0020 | .0023 | .0025 | .0029 |
| M | 1 | Ap max | 0.06 x D | 560 | – | 720 | 448 | – | 576 | 392 | – | 504 | IPT | .0023 | .0029 | .0035 | .0039 | .0049 |
| | 2 | Ap max | 0.06 x D | 370 | – | 500 | 296 | – | 400 | 259 | – | 350 | IPT | .0019 | .0024 | .0028 | .0031 | .0040 |
| | 3 | Ap max | 0.06 x D | 370 | – | 440 | 296 | – | 352 | 259 | – | 308 | IPT | .0016 | .0020 | .0023 | .0025 | .0029 |
| K | 1 | Ap max | 0.06 x D | 750 | – | 940 | 675 | – | 846 | 675 | – | 846 | IPT | .0028 | .0035 | .0040 | .0045 | .0050 |
| | 2 | Ap max | 0.06 x D | 690 | – | 870 | 621 | – | 783 | 621 | – | 783 | IPT | .0023 | .0029 | .0035 | .0039 | .0049 |
| | 3 | Ap max | 0.06 x D | 690 | – | 810 | 621 | – | 729 | 621 | – | 729 | IPT | .0019 | .0024 | .0028 | .0031 | .0040 |
| S | 1 | Ap max | 0.06 x D | 310 | – | 560 | 248 | – | 448 | 186 | – | 336 | IPT | .0023 | .0029 | .0035 | .0039 | .0049 |
| | 2 | Ap max | 0.06 x D | 160 | – | 250 | 128 | – | 200 | 96 | – | 150 | IPT | .0012 | .0016 | .0019 | .0021 | .0027 |
| | 3 | Ap max | 0.06 x D | 160 | – | 250 | 128 | – | 200 | 96 | – | 150 | IPT | .0012 | .0016 | .0019 | .0021 | .0027 |
| | 4 | Ap max | 0.06 x D | 310 | – | 370 | 248 | – | 296 | 186 | – | 222 | IPT | .0017 | .0022 | .0026 | .0029 | .0036 |
| H | 1 | Ap max | 0.06 x D | 500 | – | 870 | 400 | – | 696 | 300 | – | 522 | IPT | .0021 | .0026 | .0031 | .0034 | .0041 |
| | 2 | Ap max | 0.06 x D | 440 | – | 750 | 352 | – | 600 | 264 | – | 450 | IPT | .0016 | .0020 | .0023 | .0025 | .0029 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with ap larger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## Duo-Lock™ HARVI™ III

**CHALLENGE**

- Facing steel (1215) material.
- External emulsion.
- Current solution solid carbide.

**SOLUTION**

- Duo-Lock Ø 5/8".
- HARVI III UJDV.
- Corner radius R = .015".

**CUTTING DATA**

- $v_c$ 699 SFM
- $f_z$ .0020 IPT
- $a_p$ .050"
- $a_e$ .472"

**RESULT**

- 40% higher feed per tooth.
- 15% increase in cutting speed.
- Good surface finish and minimum wear on edges.

**BENEFIT**

- Reduced machining time.
- Increased productivity.
- Reduced tooling cost.

## Duo-Lock™ HARVI

**CHALLENGE**

- Roughing of sensor mounting slot in cast iron.
- External emulsion.
- Current solution solid carbide.

**SOLUTION**

- Duo-Lock Ø .630" — cylindrical shank.
- HARVI UKDV.
- Corner radius R = .020".

**CUTTING DATA**

- $v_c$ 190 SFM
- $f_z$ .0026
- $a_p$ .863"
- $a_e$ .314"

**RESULT**

- Less wear.
- More stable process.

**BENEFIT**

- No unpredictable breakage like with competitive solid carbide tool.
- Stable machining process.

## Duo-Lock™ HARVI™ III

**CHALLENGE**

- Finishing contour milling with lightly interrupted cut.
- Blade machining of X20Cr and X22Cr (M3).
- External emulsion.
- Current solution solid carbide.

**SOLUTION**

- Duo-Lock Ø .630" — cylindrical shank.
- HydroForce™ with reducer sleeve.
- HARVI III UJDV geometry in KCSM15™.
- Corner radius R = .157".

**CUTTING DATA**

- $v_c$ 1148 SFM
- $f_z$ .0047 IPT
- $a_p$ .020"
- $a_e$ .157"

**RESULT**

- Tool life increased from 34 to 103 parts.
- Machining time per part reduced by 50%.

**BENEFIT**

- Increase of productivity.
- Cost reduction through almost triple tool life.
- Improved surface finish.

## Duo-Lock™ HARVI III

**CHALLENGE**

- Hard machining — side milling.
- Hardened steel (17–4 PH) — 35 HRC.
- External emulsion.
- Current solution solid carbide.

**SOLUTION**

- Duo-Lock Ø 5/8".
- HARVI III UJDV.
- Corner radius R = .015".

**CUTTING DATA**

- $v_c$ 736 SFM
- $f_z$ .0044 IPT
- $a_p$ .600"
- $a_e$ .030"

**RESULT**

- 15% increase in cutting speed.
- Good surface finish and minimum wear on edges.

**BENEFIT**

- Reduced machining time.
- Increased productivity.
- Reduced tooling cost.

# CFRP Machining Tooling

# KCN05™

**Engineered for machining difficult CFRP (Carbon-Fiber Reinforced Polymer) and non-ferrous components. KCN05 solid carbide tooling provides excellent tool life and produces smooth finishes with improved edge quality.**

- Excellent tool life due to KCN05 diamond-film coating.
- Proprietary substrate improves coating adhesion to extend tool life.
- Design minimizes delamination and bur formation.
- Compression-style end mills for trimming operations.
- Left-hand down cut and ball nose cutters for machining cavities.
- Bur-style router for highest Metal Removal Rates (MRR).

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# DUO-λOCK® MaxiMet™

## High-Performance Modular Solid Carbide End Mills

### Primary Application

The MaxiMet system provides extraordinary metal removal rates by combining roughing and finishing operations with any aluminum plunging, slotting, and profiling application. Its proprietary flute geometry is designed for high stiffness and improved chip evacuation to generate exceptional wall-to-floor perpendicularity, even in thin-wall applications. To ensure a superior floor surface finish, the MaxiMet front geometry is equipped with a wiper facet grind.

- Only one tool needed for roughing and finishing operations.
- Slotting depths up to 1 x D and side milling up to 0.5 x D radial and 1.5 x D axial engagement.
- Unequal flute spacing for chatter-free performance with 3-flute series.
- Multiple corner radii and extended neck configurations available as standard.

## Features and Benefits

### Advanced Technology

- Increase output with fewer tool changes and higher metal removal rates.
- No specific tools necessary for roughing and finishing.
- Fewer passes due to 1 x D slotting capability.
- Perfect for MQL (minimum quantity lubrication) methods.

### Tailored Grades

- K600 uncoated grade for longest tool life in aluminum and other non-ferrous materials.

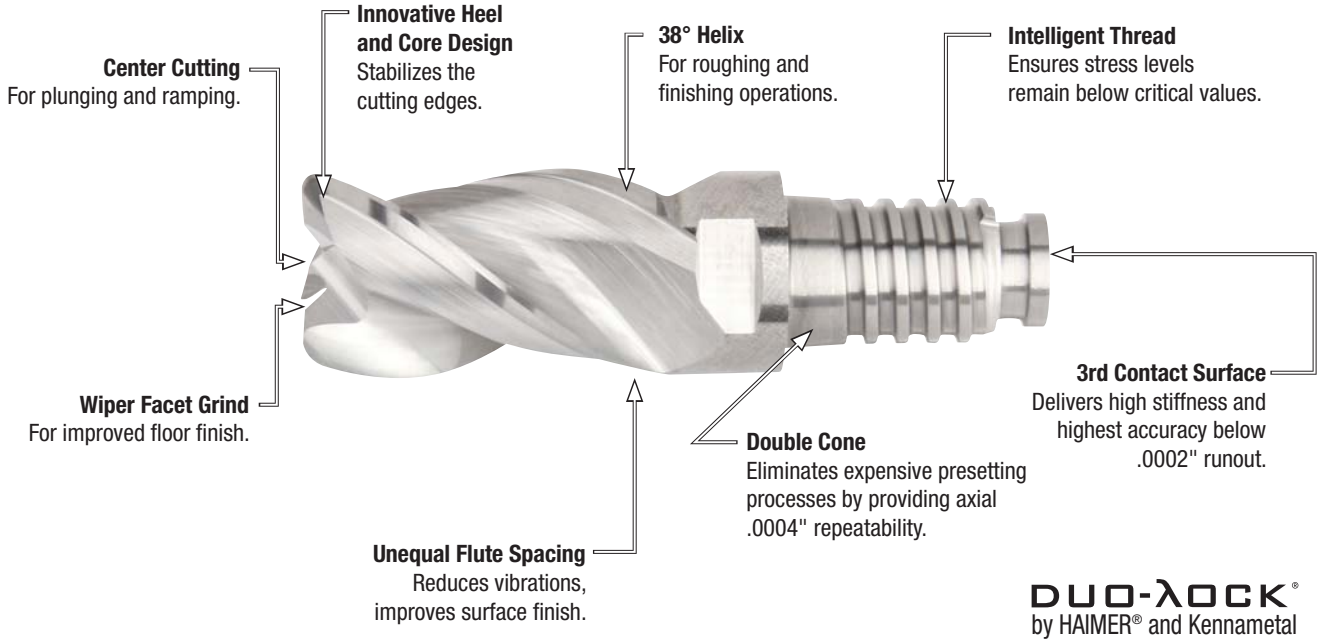
### Customization

- Intermediate diameters are available between 3/8–1 1/4".

### Extensive Standard Offering

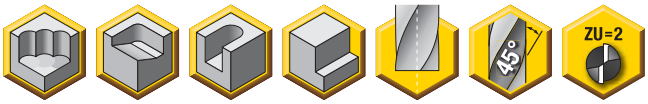
- Diameter ranges 3/8–1".
- Necked, corner radii, and square-end tips available.
- Integral adapters reduce the amount of interface for maximum accuracy. Steel extensions with Safe-Lock™ by HAIMER shanks prevent pullout.
- Cut-to-size extra-long extensions available upon request off the shelf.

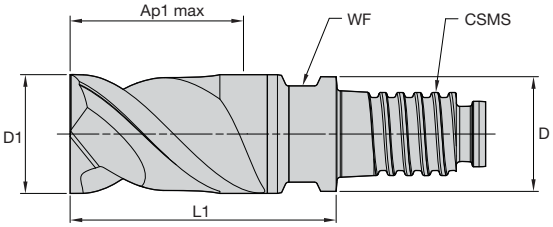
# For high metal removal rates and superior surface finishes.




DUO-LOCK®
by HAIMER® and Kennametal

- Center cutting.
- Optimized for thin-wall applications.
- Wiper facet, special end gash, and flute geometry enable improved surface finishes.
- Standard items listed. Additional styles and coatings made-to-order.



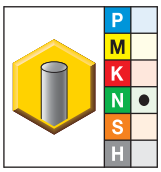



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |



## ABDF • 2 Flute • Inch

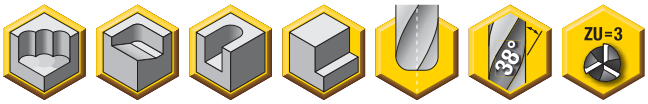


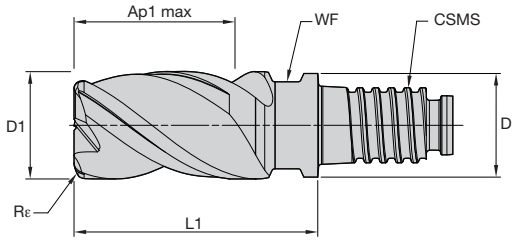

● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L1 | CSMS system size | WF |
|---|---|---|---|---|---|---|
| **ABDF0375Y2CU** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 |
| **ABDF0500Y2CU** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 |
| **ABDF0625Y2CU** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 |
| **ABDF0750Y2CU** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 |

NOTE: For application data, please see page O30.

- Center cutting.
- Optimized for thin-wall applications.
- Wiper facet, special end gash, and flute geometry enable improved surface finishes.
- Standard items listed. Additional styles and coatings made-to-order.

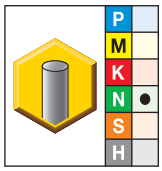


**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |

## ABDE • 3 Flute • Inch

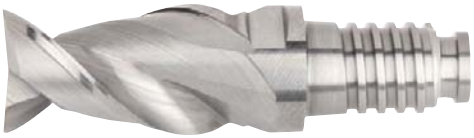



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε |
|---|---|---|---|---|---|---|---|
| **ABDE0375Y3CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 |
| **ABDE0375Y3CQB** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .030 |
| **ABDE0375Y3CQC** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .060 |
| **ABDE0375Y3CQD** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .090 |
| **ABDE0500Y3CQA** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .015 |
| **ABDE0500Y3CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 |
| **ABDE0500Y3CQC** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .060 |
| **ABDE0500Y3CQD** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .090 |
| **ABDE0500Y3CQE** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .120 |
| **ABDE0625Y3CQA** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .015 |
| **ABDE0625Y3CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 |
| **ABDE0625Y3CQC** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .060 |
| **ABDE0625Y3CQD** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .090 |
| **ABDE0625Y3CQE** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .120 |
| **ABDE0750Y3CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 |
| **ABDE0750Y3CQC** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .060 |
| **ABDE0750Y3CQD** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .090 |
| **ABDE0750Y3CQE** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .120 |
| **ABDE1000Y3CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 |
| **ABDE1000Y3CQC** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .060 |
| **ABDE1000Y3CQD** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .090 |
| **ABDE1000Y3CQE** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .120 |
| **ABDE1000Y3CQF** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .250 |

NOTE: For application data, please see page O30.

## MaxiMet • ABDF • Wiper Facet

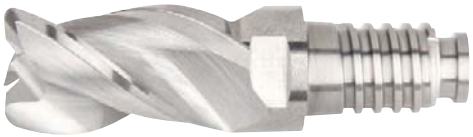


| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | |
| | | | | | K600 | | | K600 | | | K600 | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 |
| N | 1 | 1.5 x D | 0.3 x D | 1.0 x D | 1640 | – | 6560 | 1312 | – | 3936 | 984 | – | 3936 | IPT | .0029 | .0038 | .0048 | .0057 |
| | 2 | 1.5 x D | 0.3 x D | 1.0 x D | 1640 | – | 4920 | 1312 | – | 2952 | 984 | – | 2952 | IPT | .0023 | .0031 | .0038 | .0046 |
| | 3 | 1.5 x D | 0.3 x D | 1.0 x D | 1640 | – | 4920 | 1312 | – | 2952 | 984 | – | 2952 | IPT | .0020 | .0027 | .0033 | .0040 |
| | 4 | 1.5 x D | 0.3 x D | 1.0 x D | 1310 | – | 2460 | 1048 | – | 1476 | 786 | – | 1476 | IPT | .0020 | .0027 | .0033 | .0040 |
| | 5 | 1.5 x D | 0.3 x D | 1.0 x D | 820 | – | 3280 | 656 | – | 1968 | 492 | – | 1968 | IPT | .0026 | .0034 | .0043 | .0052 |

NOTE: Ap for spindle with ceramic bearings multiply by 0.5.
For better surface finish reduce feed per tooth.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D reduce Fz by 20%!
Cylindrical shanks not recommended for full slotting.



## MaxiMet • ABDE • Wiper Facet • Unequal Flute Spacing



| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | |
| | | | | | K600 | | | K600 | | | K600 | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 |
| N | 1 | 1.5 x D | 0.3 x D | 1.0 x D | 1640 | – | 6560 | 1312 | – | 3936 | 984 | – | 3936 | IPT | .0029 | .0038 | .0048 | .0057 |
| | 2 | 1.5 x D | 0.3 x D | 1.0 x D | 1640 | – | 4920 | 1312 | – | 2952 | 984 | – | 2952 | IPT | .0023 | .0031 | .0038 | .0046 |
| | 3 | 1.5 x D | 0.3 x D | 1.0 x D | 1640 | – | 4920 | 1312 | – | 2952 | 984 | – | 2952 | IPT | .0020 | .0027 | .0033 | .0040 |
| | 4 | 1.5 x D | 0.3 x D | 1.0 x D | 1310 | – | 2460 | 1048 | – | 1476 | 786 | – | 1476 | IPT | .0020 | .0027 | .0033 | .0040 |
| | 5 | 1.5 x D | 0.3 x D | 1.0 x D | 820 | – | 3280 | 656 | – | 1968 | 492 | – | 1968 | IPT | .0026 | .0034 | .0043 | .0052 |

NOTE: Ap for spindle with ceramic bearings multiply by 0.5.
For better surface finish reduce feed per tooth.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D reduce Fz by 20%!
Cylindrical shanks not recommended for full slotting.

# HARVI™ II Long

- Long wall semi- and fine-finishing.
- Significant straight wall accuracy.
- Thin wall machining up to 5 x D.
- Eliminates feed rate reduction in corner machining.
- For machining titanium, steels, and stainless steels.

**KC643M™**

- Universal grade suitable for cutting steel, cast iron, stainless steel, and titanium.

**Advanced Technology**

- Five unequally spaced flutes for chatter-free machining at high feed rates, improving surface finish and tool life.
- Innovative core design increases stability for exceptionally straight walls.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# DUO-λOCK®

## High-Performance Modular Roughing Solid Carbide End Mills

### Primary Application

Duo-Lock™ high-performance roughing tools provide superior metal removal rates while reducing machine power consumption. Applicable on a wide range of workpiece materials such as steels, stainless steels, and difficult-to-machine materials. Tailored to roughing profiles, provides excellent chip management, and reduces cutting forces to the necessary level. Combines roughing and semi-finishing for fewer tool changes.

- High-performance universal tools for almost all cutting materials.
- Lowering cutting forces and spindle power consumption.
- Center cutting for ramping, profiling, high-feed slotting, and side milling.

## Features and Benefits

### Advanced Technology

- Up to full length of cut for:
  - — Slotting
  - — Side milling
  - — Profiling
  - — Semi-finishing
- Various roughing profiles available to choose from for the right balance between cutting forces, feed rates, and surface quality.
- Fewer passes due to 1 x D slotting capability.

### Tailored Grades

- KCPM15™ Beyond™ grade for outstanding wear protection in stainless steel to mitigate crater, depth-of-cut notching, and flank wear.
- KCSM15™ Beyond grade for exceptional tool life in titanium and stainless steels.

### Customization

- Intermediate diameters are available between 3/8–1 1/4".

### Extensive Standard Offering

- Diameter ranges 3/8–1".
- Necked, corner radii, and chamfered tips offered.
- Integral adapters reduce the amount of interface for maximum accuracy. Steel extensions with Safe-Lock™ by HAIMER shanks prevent pullout.
- Cut-to-size extra-long extensions available upon request off the shelf.

# For high metal removal rates and low power consumption.

**Various Roughing Profiles**
Tailored cord and shallow-pitch profile for improved chip formation.

**Center Cutting**
For plunging and ramping.

**Intelligent Thread**
Ensures stress levels remain below critical values.

**Various Helix Configurations**
20° for roughing ISO P-M-K materials.
45° for roughing ISO S-M materials.

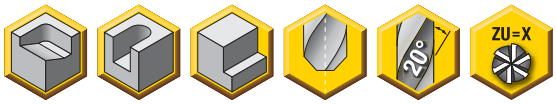
**KCPM15™ and KCSM15™ Grades**
Long tool life.
Enables higher cutting speeds.

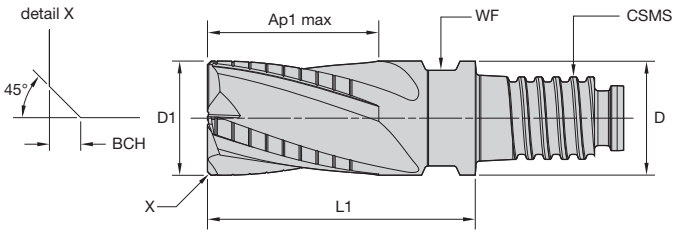
**Double Cone**
Eliminates expensive presetting processes by providing axial .0004" repeatability.

**3rd Contact Surface**
Delivers high stiffness and highest accuracy below .0002" runout.

DUO-LOCK®
by HAIMER® and Kennametal

- Center cutting.
- Cord profile reduces machine power consumption.
- Standard items listed. Additional styles and coatings made-to-order.



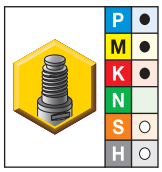



**End Mill Tolerances**

| D1 | tolerance d11 |
|---|---|
| 13/32–11/16" | -0.002/-0.0063" |
| 23/32–1-3/16" | -0.026/ -0.0077" |



## RQDB • Inch

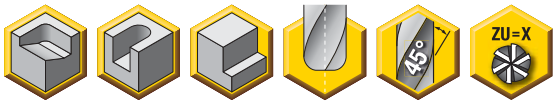


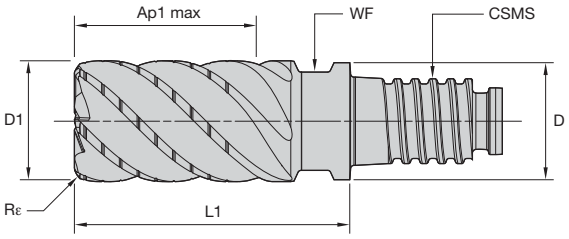

● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | BCH | Z U |
|---|---|---|---|---|---|---|---|---|
| **RQDB0375Y4CV** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .020 | 4 |
| **RQDB0500Y4CV** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .020 | 4 |
| **RQDB0625Y4CV** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .020 | 4 |
| **RQDB0750Y4CV** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .020 | 4 |
| **RQDB1000Y5CV** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .020 | 5 |

NOTE: For application data, please see page O37.

- Center cutting.
- Shallow-pitch profile reduces machine power consumption.
- Standard items listed. Additional styles and coatings made-to-order.

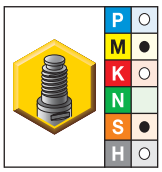


**End Mill Tolerances**

| D1 | tolerance d11 |
|---|---|
| 13/32–11/16" | -0.002/-0.0063" |
| 23/32–1-3/16" | -0.026/ -0.0077" |

## RKDF • Inch

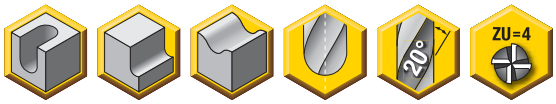


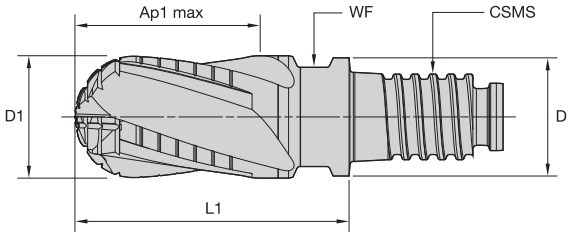

● first choice
○ alternate choice

| KCSM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε | Z U |
|---|---|---|---|---|---|---|---|---|
| **RKDF0375Y4CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 | 4 |
| **RKDF0500Y4CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 | 4 |
| **RKDF0625Y4CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 | 4 |
| **RKDF0750Y6CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 | 6 |
| **RKDF1000Y6CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 | 6 |

NOTE: For application data, please see page O38.

- Center cutting.
- Cord profile reduces machine power consumption.
- Standard items listed. Additional styles and coatings made-to-order.

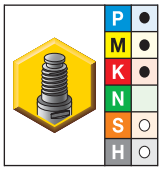


**End Mill Tolerances**

| D1 | tolerance d11 |
|---|---|
| 13/32–11/16" | -0.002/-0.0063" |
| 23/32–1-3/16" | -0.026/ -0.0077" |

## RQBB • Inch




● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF |
|---|---|---|---|---|---|---|
| **RQBB0375Y4CN** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 |
| **RQBB0500Y4CN** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 |
| **RQBB0625Y4CN** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 |
| **RQBB0750Y4CN** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 |
| **RQBB1000Y4CN** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 |

NOTE: For application data, please see page O39.

## RQDB • Inch

| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.2500 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0020 | .0025 | .0029 | .0032 | .0036 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0020 | .0025 | .0029 | .0032 | .0036 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 370 | – | 500 | 333 | – | 450 | 333 | – | 450 | IPT | .0020 | .0025 | .0029 | .0032 | .0036 |
| | 3 | 1.5 x D | 0.4 x D | 0.75 x D | 310 | – | 420 | 279 | – | 378 | 279 | – | 378 | IPT | .0017 | .0021 | .0025 | .0028 | .0035 |
| | 4 | 1.5 x D | 0.3 x D | 0.3 x D | 240 | – | 390 | 216 | – | 351 | 216 | – | 351 | IPT | .0015 | .0019 | .0022 | .0024 | .0029 |
| | 5 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 260 | 136 | – | 221 | 128 | – | 208 | IPT | .0013 | .0017 | .0020 | .0022 | .0028 |
| M | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 240 | – | 300 | 192 | – | 240 | 168 | – | 210 | IPT | .0017 | .0021 | .0025 | .0028 | .0035 |
| | 2 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 210 | 128 | – | 168 | 112 | – | 147 | IPT | .0013 | .0017 | .0020 | .0022 | .0028 |
| | 3 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 180 | 128 | – | 144 | 112 | – | 126 | IPT | .0011 | .0014 | .0016 | .0018 | .0021 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 310 | – | 390 | 279 | – | 351 | 279 | – | 351 | IPT | .0020 | .0025 | .0029 | .0032 | .0036 |
| | 2 | 1.5 x D | 0.4 x D | 1 x D | 290 | – | 370 | 261 | – | 333 | 261 | – | 333 | IPT | .0017 | .0021 | .0025 | .0028 | .0035 |
| | 3 | 1.5 x D | 0.4 x D | 1 x D | 290 | – | 340 | 261 | – | 306 | 261 | – | 306 | IPT | .0013 | .0017 | .0020 | .0022 | .0028 |
| S | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 130 | – | 240 | 104 | – | 192 | 78 | – | 144 | IPT | .0017 | .0021 | .0025 | .0028 | .0035 |
| | 3 | 1.5 x D | 0.4 x D | 0.75 x D | 70 | – | 100 | 56 | – | 80 | 42 | – | 60 | IPT | .0009 | .0011 | .0013 | .0015 | .0019 |
| H | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 210 | – | 370 | 168 | – | 296 | 126 | – | 222 | IPT | .0015 | .0019 | .0022 | .0024 | .0029 |

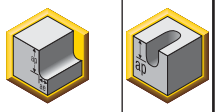
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## RKDF • Inch

| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | | KCSM15 | | | KCSM15 | | | KCSM15 | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.000 |
| P | 3 | 1.0 x D | 0.5 x D | 0.75 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0033 |
| | 4 | 1.0 x D | 0.3 x D | 0.75 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0028 |
| | 5 | 1.0 x D | 0.4 x D | 0.75 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0026 |
| | 6 | 1.0 x D | 0.3 x D | 0.3 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0020 |
| M | 1 | 1.0 x D | 0.4 x D | 0.75 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0033 |
| | 2 | 1.0 x D | 0.4 x D | 0.75 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0026 |
| | 3 | 1.0 x D | 0.4 x D | 0.75 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0020 |
| K | 1 | 1.0 x D | 0.5 x D | 1 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0023 | .0029 | .0034 | .0037 | .0035 |
| | 2 | 1.0 x D | 0.5 x D | 1 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0019 | .0025 | .0029 | .0033 | .0033 |
| | 3 | 1.0 x D | 0.5 x D | 1 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0016 | .0020 | .0023 | .0026 | .0026 |
| S | 1 | 1.0 x D | 0.3 x D | 0.75 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0033 |
| | 2 | 1.0 x D | 0.3 x D | 0.75 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0018 |
| | 3 | 1.0 x D | 0.3 x D | 0.75 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0018 |
| | 4 | 1.0 x D | 0.4 x D | 0.75 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0024 |
| H | 1 | 1.0 x D | 0.3 x D | 0.3 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0028 |
| | 2 | 1.0 x D | 0.2 x D | 0.2 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0020 |
| | 3 | 1.0 x D | 0.2 x D | 0.2 x D | 200 | – | 300 | 160 | – | 240 | 120 | – | 180 | IPT | .0010 | .0013 | .0015 | .0018 | .0018 |

NOTE: Lower value of cuting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cuting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## RQBB • Inch



| Material Group | | Side Milling (A) and Slotting (B) | | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | | | |
| | | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | | max | min | | max | min | | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.000 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 3 | 1.5 x D | 0.4 x D | 0.75 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 4 | 1.5 x D | 0.3 x D | 0.3 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0017 | .0022 | .0026 | .0029 | .0033 |
| | 5 | 1.5 x D | 0.4 x D | 0.75 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0016 | .0020 | .0023 | .0026 | .0031 |
| | 6 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 |
| M | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 2 | 1.5 x D | 0.4 x D | 0.75 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0016 | .0020 | .0023 | .0026 | .0031 |
| | 3 | 1.5 x D | 0.4 x D | 0.75 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 2 | 1.5 x D | 0.4 x D | 1 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 3 | 1.5 x D | 0.4 x D | 1 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0016 | .0020 | .0023 | .0026 | .0031 |
| S | 1 | 1.5 x D | 0.4 x D | 0.75 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0021 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0013 | .0015 | .0018 | .0021 |
| | 4 | 1.5 x D | 0.3 x D | 0.75 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0014 | .0018 | .0021 | .0024 | .0028 |
| H | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0017 | .0022 | .0026 | .0029 | .0033 |
| | 2 | 1.5 x D | 0.2 x D | 0.2 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0013 | .0016 | .0019 | .0021 | .0024 |
| | 3 | 1.5 x D | 0.2 x D | 0.2 x D | 200 | – | 300 | 160 | – | 240 | 120 | – | 180 | IPT | .0010 | .0013 | .0015 | .0018 | .0021 |

NOTE: Lower value of cuting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cuting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

# DUO-λOCK®

## High-Performance Modular Finishing Solid Carbide End Mills

### Primary Application

Duo-Lock™ high-performance finishing tools are designed for machining titanium, steels, and stainless steels with excellent surface finishes at maximum Metal Removal Rates (MRR) in two basic geometries. The FMDF geometry is perfectly suited for finishing steels and stainless steels. The Duo-Lock™ RSM II geometry is designed for high-speed peel milling with secure chip formation and evacuation in deep cavities with the maximum amount of edges at a given diameter.

- Specifically designed geometries for finishing in a wide range of materials.
- Higher number of flutes and higher helix angles for super finishing applications.
- High metal removal rates for fewer passes, longer tool life, and superior surface finishes.

## Features and Benefits

### Advanced Technology

- RSM II FSDE geometry:
  - — Maximum number of flutes increases feed rates and reduces vibration.
  - — Proprietary W-shaped flute form improves chip formation and reduces cutting forces.
  - — Unequal flute spacing increases tool life and surface quality.
- FMDF geometry:
  - — Excellent geometry for steels and stainless steel.
  - — Protection radii helps extend tool life.

### Tailored Grades

- KCPM15™ Beyond™ grade for outstanding wear protection in stainless steel to mitigate cratering, depth-of-cut notching, and flank wear.
- KC643M™ grade provides highest fine finishing and longest tool life.

### Customization

- Intermediate diameters are available from 3/8–1".

### Extensive Standard Offering

- Diameter ranges 3/8–1 1/4".
- Necked and corner radii tips available.
- Integral adapters reduce the amount of interface for maximum accuracy. Steel extensions with Safe-Lock™ by HAIMER shanks prevent pullout.
- Cut-to-size extra-long extensions available upon request off the shelf.

# For highest surface quality.

**45° Helix Angle with FMDF**
Specifically engineered for fine finishing steels and stainless steels.

**KCPM15™ Grade**
Longest tool life.
Enables higher cutting speeds.

**36° Helix Angle with FSDE**
Specifically engineered for fine finishing titanium and other ISO S-M materials.

**Intelligent Thread**
Ensures stress levels remain below critical values.

DUO-LOCK®
by HAIMER® and Kennametal

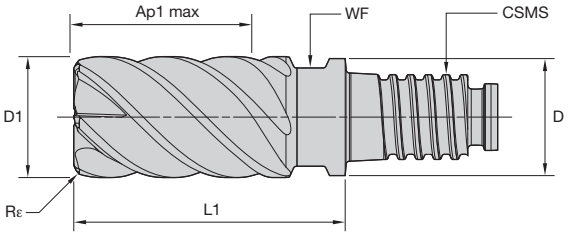
**3rd Contact Surface**
Delivers high stiffness and highest accuracy below .0002" runout.

**W-Shaped Flute Design with FSDE**
Wider flute space for optimized chip evacuation.

**KC643M™ Grade**
Unmatched fine finishing and tool life.

**Double Cone**
Eliminates expensive presetting processes by providing axial .0004" repeatability.

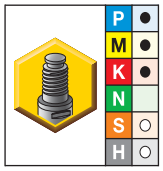
- Center cutting.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |

## FMDF • Inch

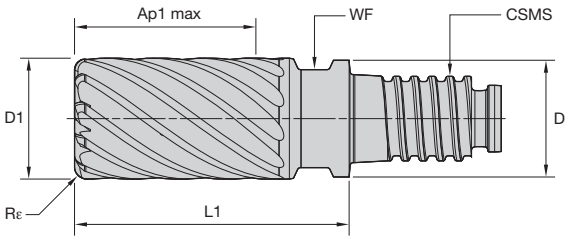



● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε |
|---|---|---|---|---|---|---|---|
| **FMDF0375Y6CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 |
| **FMDF0500Y6CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 |
| **FMDF0625Y6CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 |
| **FMDF0750Y6CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 |
| **FMDF1000Y6CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 |

NOTE: For application data, please see page O44.

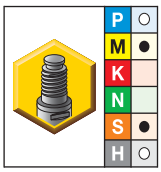
- Non-center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |

## FSDE • Inch




● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε | Z U |
|---|---|---|---|---|---|---|---|---|
| **FSDE0375Y9CQA** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .015 | 9 |
| **FSDE0375Y9CQB** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .030 | 9 |
| **FSDE0375Y9CQC** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .060 | 9 |
| **FSDE0375Y9CQD** | 3/8 | .359 | 9/16 | .843 | DL10 | .315 | .090 | 9 |
| **FSDE0500Y9CQA** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .015 | 9 |
| **FSDE0500Y9CQB** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .030 | 9 |
| **FSDE0500Y9CQC** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .060 | 9 |
| **FSDE0500Y9CQD** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .090 | 9 |
| **FSDE0500Y9CQE** | 1/2 | .480 | 3/4 | 1.126 | DL12 | .374 | .120 | 9 |
| **FSDE0625Y11CQA** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .015 | 11 |
| **FSDE0625Y11CQB** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .030 | 11 |
| **FSDE0625Y11CQC** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .060 | 11 |
| **FSDE0625Y11CQD** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .090 | 11 |
| **FSDE0625Y11CQE** | 5/8 | .605 | 15/16 | 1.406 | DL16 | .512 | .120 | 11 |
| **FSDE0750Y15CQB** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .030 | 15 |
| **FSDE0750Y15CQC** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .060 | 15 |
| **FSDE0750Y15CQD** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .090 | 15 |
| **FSDE0750Y15CQE** | 3/4 | .730 | 1 1/8 | 1.689 | DL20 | .630 | .120 | 15 |
| **FSDE1000Y19CQB** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .030 | 19 |
| **FSDE1000Y19CQC** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .060 | 19 |
| **FSDE1000Y19CQD** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .090 | 19 |
| **FSDE1000Y19CQE** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .120 | 19 |
| **FSDE1000Y19CQF** | 1 | .961 | 1 1/2 | 2.252 | DL25 | .827 | .250 | 19 |

NOTE: For application data, please see page O45.

## FMDF • Inch

| Material Group | | Side Milling (A) | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .375 | .500 | .625 | .750 | 1.000 |
| P | 0 | 1.5 x D | 0.1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 1.5 x D | 0.1 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.5 x D | 0.1 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 1.5 x D | 0.1 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 1.5 x D | 0.1 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 1.5 x D | 0.1 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.5 x D | 0.1 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 1.5 x D | 0.1 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.1 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 1.5 x D | 0.1 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0015 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 1.5 x D | 0.1 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.5 x D | 0.1 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 1.5 x D | 0.1 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 1.5 x D | 0.1 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.1 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.5 x D | 0.1 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.5 x D | 0.15 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 1.5 x D | 0.1 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 2 | 1.5 x D | 0.1 x D | 230 | – | 390 | 184 | – | 312 | 138 | – | 234 | IPT | .0015 | .0019 | .0022 | .0025 | .0028 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. Please adjust parameters according to system stability.
For side milling with Ap bigger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

## FSDE • Inch

| Material Group | | Side Milling (A) | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | | | |
| | | | | KC643M | | | KC643M | | | KC643M | | | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .375 | .500 | .625 | .750 | 1.000 |
| P | 4 | Ap max | 0.008–0.012" | 445 | – | 1628 | 401 | – | 1465 | 401 | – | 1465 | IPT | .0045 | .0053 | .0058 | .0061 | .0066 |
| | 5 | Ap max | 0.008–0.012" | 295 | – | 1078 | 251 | – | 916 | 236 | – | 862 | IPT | .0040 | .0048 | .0052 | .0056 | .0061 |
| M | 1 | Ap max | 0.008–0.012" | 445 | – | 1243 | 356 | – | 994 | 312 | – | 870 | IPT | .0050 | .0060 | .0066 | .0070 | .0077 |
| | 2 | Ap max | 0.008–0.012" | 295 | – | 869 | 236 | – | 695 | 207 | – | 608 | IPT | .0040 | .0048 | .0052 | .0056 | .0061 |
| | 3 | Ap max | 0.008–0.012" | 295 | – | 759 | 236 | – | 607 | 207 | – | 531 | IPT | .0033 | .0040 | .0043 | .0045 | .0048 |
| S | 1 | Ap max | 0.008–0.012" | 245 | – | 979 | 196 | – | 783 | 147 | – | 587 | IPT | .0050 | .0060 | .0066 | .0070 | .0077 |
| | 2 | Ap max | 0.008–0.012" | 125 | – | 429 | 100 | – | 343 | 75 | – | 257 | IPT | .0026 | .0032 | .0035 | .0037 | .0041 |
| | 3 | Ap max | 0.008–0.012" | 125 | – | 429 | 100 | – | 343 | 75 | – | 257 | IPT | .0026 | .0032 | .0035 | .0037 | .0041 |
| | 4 | Ap max | 0.008–0.012" | 245 | – | 649 | 196 | – | 519 | 147 | – | 389 | IPT | .0037 | .0044 | .0048 | .0051 | .0056 |
| H | 1 | Ap max | 0.008–0.012" | 395 | – | 1518 | 316 | – | 1214 | 237 | – | 911 | IPT | .0045 | .0053 | .0058 | .0061 | .0066 |
| | 2 | Ap max | 0.008–0.012" | 345 | – | 1298 | 276 | – | 1038 | 207 | – | 779 | IPT | .0033 | .0040 | .0043 | .0045 | .0048 |

NOTE: For better surface, finish reduce feed per tooth.
For side milling with Ap bigger than 1 x D, reduce fz by 20%!
Cylindrical shanks not recommended for full slotting.

# DUO-λOCK®

## Corner Rounding and Chamfering Solid Carbide Tips

### Primary Application

Duo-Lock™ XRDA corner rounding and XADA chamfering tools perfectly complete the offering of high-performance end mills.

- Universal tools for almost all workpiece materials.
- Able to be reconditioned multiple times.

## Features and Benefits

### Advanced Technology

- Tailored amount of edges for each diameter.

### Tailored Grades

- KCPM15™ Beyond™ grade for outstanding wear protection in various materials to mitigate crater, depth-of-cut notching, and flank wear.

### Customization

- Intermediate diameters are available between 3/8–1 1/4".
- Various angles and inverse radii possible.

### Extensive Standard Offering

- Diameter ranges 3/8–5/8".
- Integral adapters reduce the amount of interface for maximum accuracy. Steel extensions with Safe-Lock™ by HAIMER shanks prevent pullout.
- Cut-to-size extra-long extensions available upon request off the shelf.

**Intelligent Thread**
Ensures stress levels remain below critical values.

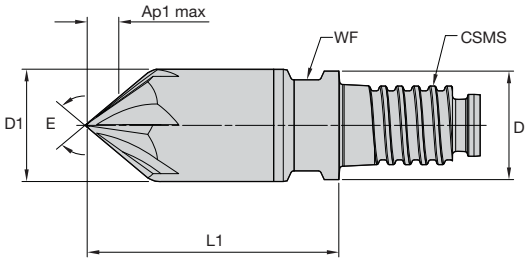
**3rd Contact Surface**
Delivers high stiffness and highest accuracy below .0002" runout.

**KCPM15™ Grade**
Longest tool life.

**Double Cone**
Eliminates expensive presetting processes by providing axial .0004" repeatability.

DUO-LOCK®
by HAIMER® and Kennametal

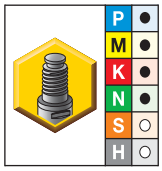
- Non-center cutting.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |

## XADA • Inch

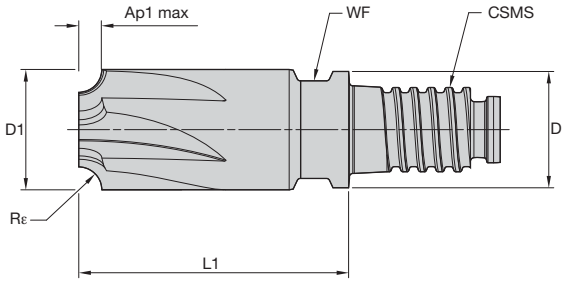



● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | E | Z U |
|---|---|---|---|---|---|---|---|---|
| **XADA0375Y4CU60** | 3/8 | .359 | .075 | .847 | DL10 | .315 | 60 | 4 |
| **XADA0375Y4CU45** | 3/8 | .359 | .178 | .847 | DL10 | .315 | 90 | 4 |
| **XADA0500Y5CU60** | 1/2 | .480 | .100 | 1.126 | DL12 | .374 | 60 | 5 |
| **XADA0500Y5CU45** | 1/2 | .480 | .100 | 1.130 | DL12 | .374 | 90 | 5 |
| **XADA0625Y6CU45** | 5/8 | .605 | .125 | 1.402 | DL16 | .512 | 90 | 6 |
| **XADA0625Y6CU60** | 5/8 | .605 | .125 | 1.406 | DL16 | .512 | 60 | 6 |

NOTE: For application data, please see page O50.

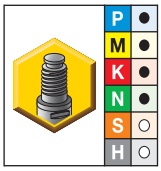
- Non-center cutting.
- Standard items listed. Additional styles and coatings made-to-order.



**End Mill Tolerances**

| D1 | tolerance e8 |
|---|---|
| 13/32–23/32" | -0,00126"/-0,00232" |
| 23/32–1-3/16" | -0,00157"/-0,00287" |

## XRDA • Inch

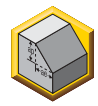



● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L1 | CSMS system size | WF | Rε | Z U |
|---|---|---|---|---|---|---|---|---|
| **XRDA0375Y4CUC** | 3/8 | .359 | .060 | .843 | DL10 | .315 | .060 | 4 |
| **XRDA0375Y4CUE** | 3/8 | .359 | .120 | .852 | DL10 | .315 | .120 | 4 |
| **XRDA0500Y5CUB** | 1/2 | .480 | .030 | 1.126 | DL12 | .374 | .030 | 5 |
| **XRDA0500Y5CUC** | 1/2 | .480 | .060 | 1.131 | DL12 | .374 | .060 | 5 |
| **XRDA0500Y5CUE** | 1/2 | .480 | .120 | 1.136 | DL12 | .374 | .120 | 5 |
| **XRDA0625Y6CUC** | 5/8 | .605 | .060 | 1.406 | DL16 | .512 | .060 | 6 |
| **XRDA0625Y6CUE** | 5/8 | .605 | .120 | 1.406 | DL16 | .512 | .120 | 6 |

NOTE: For application data, please see page O51.

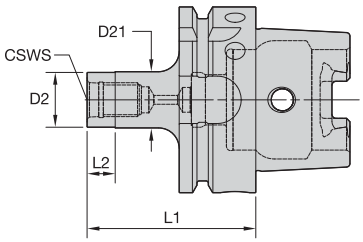
## XADA • Inch

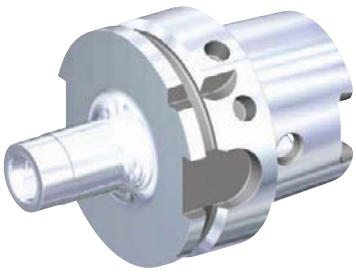


| Material Group | | Chamfering | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | |
| | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .375 | .500 | .625 |
| P | 0 | 0.35 x D | 0.35 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0022 | .0027 | .0032 |
| | 1 | 0.35 x D | 0.35 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0022 | .0027 | .0032 |
| | 2 | 0.35 x D | 0.35 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0022 | .0027 | .0032 |
| | 3 | 0.35 x D | 0.35 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0018 | .0023 | .0027 |
| | 4 | 0.35 x D | 0.35 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0016 | .0021 | .0024 |
| | 5 | 0.35 x D | 0.35 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0015 | .0018 | .0022 |
| | 6 | 0.35 x D | 0.35 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0012 | .0015 | .0018 |
| M | 1 | 0.35 x D | 0.35 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0018 | .0023 | .0027 |
| | 2 | 0.35 x D | 0.35 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0015 | .0018 | .0022 |
| | 3 | 0.35 x D | 0.35 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0012 | .0015 | .0018 |
| K | 1 | 0.35 x D | 0.35 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0022 | .0027 | .0032 |
| | 2 | 0.35 x D | 0.35 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0018 | .0023 | .0027 |
| | 3 | 0.35 x D | 0.35 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0015 | .0018 | .0022 |
| N | 1 | 0.35 x D | 0.35 x D | 1640 | – | 6560 | 1312 | – | 5248 | 984 | – | 3936 | IPT | .0030 | .0040 | .0050 |
| | 2 | 0.35 x D | 0.35 x D | 1640 | – | 4920 | 1312 | – | 3936 | 984 | – | 2952 | IPT | .0024 | .0032 | .0040 |
| | 3 | 0.35 x D | 0.35 x D | 1640 | – | 4920 | 1312 | – | 3936 | 984 | – | 2952 | IPT | .0021 | .0028 | .0035 |
| | 4 | 0.35 x D | 0.35 x D | 1310 | – | 2460 | 1048 | – | 1968 | 786 | – | 1476 | IPT | .0021 | .0028 | .0035 |
| | 5 | 0.35 x D | 0.35 x D | 820 | – | 3280 | 656 | – | 2624 | 492 | – | 1968 | IPT | .0027 | .0036 | .0045 |
| | 6 | 0.35 x D | 0.35 x D | 330 | – | 2460 | 264 | – | 1968 | 198 | – | 1476 | IPT | .0030 | .0040 | .0050 |
| | 7 | 0.35 x D | 0.35 x D | 330 | – | 2460 | 264 | – | 1968 | 198 | – | 1476 | IPT | .0021 | .0028 | .0035 |
| S | 1 | 0.35 x D | 0.35 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0018 | .0023 | .0027 |
| | 2 | 0.35 x D | 0.35 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0012 | .0015 |
| | 3 | 0.35 x D | 0.35 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0012 | .0015 |
| | 4 | 0.35 x D | 0.35 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0013 | .0017 | .0020 |
| H | 1 | 0.35 x D | 0.35 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0016 | .0021 | .0024 |

## XRDA • Inch

| Material Group | | Corner Rounding | | short | | | medium | | | long | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | adapter reach | | | | | | | | | D1 — Diameter | | | |
| | | | | KCPM15 | | | KCPM15 | | | KCPM15 | | | | | | |
| | | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | Cutting Speed — vc SFM | | | frac. | 3/8 | 1/2 | 5/8 |
| | | ap | ae | min | | max | min | | max | min | | max | dec. | .375 | .500 | .625 |
| P | 0 | 0.35 x D | 0.35 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0022 | .0027 | .0032 |
| | 1 | 0.35 x D | 0.35 x D | 490 | – | 660 | 441 | – | 594 | 441 | – | 594 | IPT | .0022 | .0027 | .0032 |
| | 2 | 0.35 x D | 0.35 x D | 460 | – | 620 | 414 | – | 558 | 414 | – | 558 | IPT | .0022 | .0027 | .0032 |
| | 3 | 0.35 x D | 0.35 x D | 390 | – | 520 | 351 | – | 468 | 351 | – | 468 | IPT | .0018 | .0023 | .0027 |
| | 4 | 0.35 x D | 0.35 x D | 300 | – | 490 | 270 | – | 441 | 270 | – | 441 | IPT | .0016 | .0021 | .0024 |
| | 5 | 0.35 x D | 0.35 x D | 200 | – | 330 | 170 | – | 280.5 | 160 | – | 264 | IPT | .0015 | .0018 | .0022 |
| | 6 | 0.35 x D | 0.35 x D | 160 | – | 250 | 136 | – | 212.5 | 128 | – | 200 | IPT | .0012 | .0015 | .0018 |
| M | 1 | 0.35 x D | 0.35 x D | 300 | – | 380 | 240 | – | 304 | 210 | – | 266 | IPT | .0018 | .0023 | .0027 |
| | 2 | 0.35 x D | 0.35 x D | 200 | – | 260 | 160 | – | 208 | 140 | – | 182 | IPT | .0015 | .0018 | .0022 |
| | 3 | 0.35 x D | 0.35 x D | 200 | – | 230 | 160 | – | 184 | 140 | – | 161 | IPT | .0012 | .0015 | .0018 |
| K | 1 | 0.35 x D | 0.35 x D | 390 | – | 490 | 351 | – | 441 | 351 | – | 441 | IPT | .0022 | .0027 | .0032 |
| | 2 | 0.35 x D | 0.35 x D | 360 | – | 460 | 324 | – | 414 | 324 | – | 414 | IPT | .0018 | .0023 | .0027 |
| | 3 | 0.35 x D | 0.35 x D | 360 | – | 430 | 324 | – | 387 | 324 | – | 387 | IPT | .0015 | .0018 | .0022 |
| N | 1 | 0.35 x D | 0.35 x D | 1640 | – | 6560 | 1312 | – | 5248 | 984 | – | 3936 | IPT | .0030 | .0040 | .0050 |
| | 2 | 0.35 x D | 0.35 x D | 1640 | – | 4920 | 1312 | – | 3936 | 984 | – | 2952 | IPT | .0024 | .0032 | .0040 |
| | 3 | 0.35 x D | 0.35 x D | 1640 | – | 4920 | 1312 | – | 3936 | 984 | – | 2952 | IPT | .0021 | .0028 | .0035 |
| | 4 | 0.35 x D | 0.35 x D | 1310 | – | 2460 | 1048 | – | 1968 | 786 | – | 1476 | IPT | .0021 | .0028 | .0035 |
| | 5 | 0.35 x D | 0.35 x D | 820 | – | 3280 | 656 | – | 2624 | 492 | – | 1968 | IPT | .0027 | .0036 | .0045 |
| | 6 | 0.35 x D | 0.35 x D | 330 | – | 2460 | 264 | – | 1968 | 198 | – | 1476 | IPT | .0030 | .0040 | .0050 |
| | 7 | 0.35 x D | 0.35 x D | 330 | – | 2460 | 264 | – | 1968 | 198 | – | 1476 | IPT | .0021 | .0028 | .0035 |
| S | 1 | 0.35 x D | 0.35 x D | 160 | – | 300 | 128 | – | 240 | 96 | – | 180 | IPT | .0018 | .0023 | .0027 |
| | 2 | 0.35 x D | 0.35 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0012 | .0015 |
| | 3 | 0.35 x D | 0.35 x D | 80 | – | 130 | 64 | – | 104 | 48 | – | 78 | IPT | .0010 | .0012 | .0015 |
| | 4 | 0.35 x D | 0.35 x D | 160 | – | 200 | 128 | – | 160 | 96 | – | 120 | IPT | .0013 | .0017 | .0020 |
| H | 1 | 0.35 x D | 0.35 x D | 260 | – | 460 | 208 | – | 368 | 156 | – | 276 | IPT | .0016 | .0021 | .0024 |



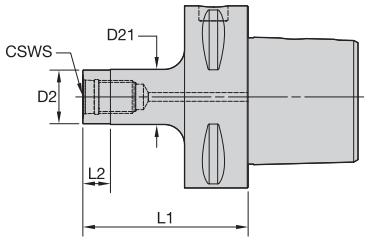



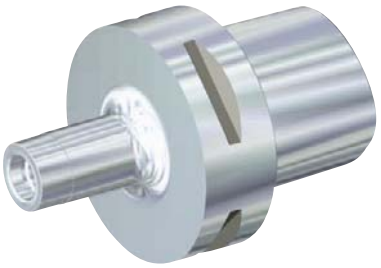
## DL HSK Form A Inch

| order number | catalog number | CSWS system size | D2 | D21 | L1 | L2 | ft. lbs. |
|---|---|---|---|---|---|---|---|
| **6136895** | **HSK63ADL10200** | DL10 | .36 | .38 | 2.00 | .19 | 18.40 |
| **6136896** | **HSK63ADL12225** | DL12 | .48 | .50 | 2.25 | .25 | 21.10 |
| **6136897** | **HSK63ADL16225** | DL16 | .61 | .63 | 2.25 | .31 | 44.20 |
| **6136898** | **HSK63ADL20225** | DL20 | .73 | .75 | 2.25 | .37 | 59.00 |
| **6136899** | **HSK63ADL25250** | DL25 | .96 | 1.00 | 2.50 | .49 | 73.80 |
| **6136900** | **HSK63ADL32288** | DL32 | 1.21 | 1.25 | 2.88 | .61 | 98.90 |



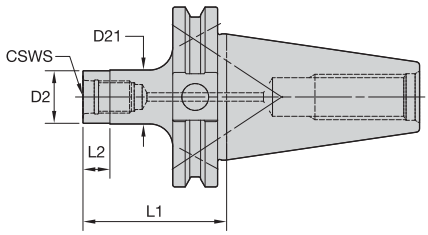
## PSC63 Duo-Lock™ Integrated



## DL PSC63 Inch

| order number | catalog number | CSWS system size | D2 | D21 | L1 | L2 | lbs |
|---|---|---|---|---|---|---|---|
| **6136931** | **PSC63DL10200** | DL10 | .36 | .37 | 2.00 | .19 | 1.69 |
| **6136932** | **PSC63DL12200** | DL12 | .48 | .50 | 2.00 | .25 | 1.70 |
| **6136933** | **PSC63DL16225** | DL16 | .61 | .63 | 2.25 | .31 | 1.73 |
| **6136934** | **PSC63DL20225** | DL20 | .73 | .75 | 2.25 | .37 | 1.75 |
| **6136935** | **PSC63DL25238** | DL25 | .96 | 1.00 | 2.38 | .49 | 1.84 |
| **6136936** | **PSC63DL32275** | DL32 | 1.21 | 1.25 | 2.75 | .61 | 2.02 |

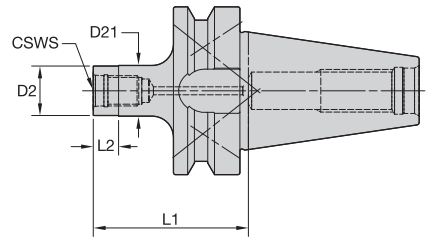


## DL CV40 Inch

| order number | catalog number | CSWS system size | D2 | D21 | L1 | L2 | lbs |
|---|---|---|---|---|---|---|---|
| 6136937 | CV40BDL10162 | DL10 | .36 | .38 | 1.62 | .19 | 1.77 |
| 6136938 | CV40BDL12162 | DL12 | .48 | .50 | 1.62 | .25 | 1.78 |
| 6136939 | CV40BDL16200 | DL16 | .61 | .63 | 2.00 | .31 | 1.82 |
| 6136940 | CV40BDL20200 | DL20 | .73 | .75 | 2.00 | .37 | 1.84 |
| 6136941 | CV40BDL25225 | DL25 | .96 | 1.00 | 2.25 | .49 | 1.94 |
| 6136942 | CV40BDL32250 | DL32 | 1.21 | 1.25 | 2.50 | .61 | 2.07 |

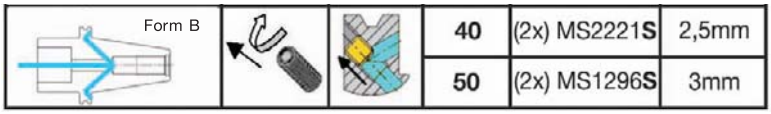


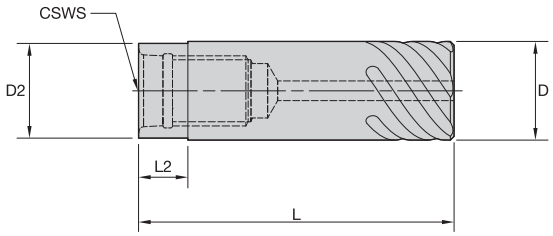
## BT40 Duo-Lock™ Integrated



## DL BT40 Inch

| order number | catalog number | CSWS system size | D2 | D21 | L1 | L2 | lbs |
|---|---|---|---|---|---|---|---|
| 6136943 | BT40BDL10200 | DL10 | .36 | .38 | 2.00 | .19 | 2.14 |
| 6136944 | BT40BDL12200 | DL12 | .48 | .50 | 2.00 | .25 | 2.15 |
| 6136945 | BT40BDL16225 | DL16 | .61 | .63 | 2.25 | .31 | 2.19 |
| 6136946 | BT40BDL20225 | DL20 | .73 | .75 | 2.25 | .37 | 2.19 |
| 6136947 | BT40BDL25238 | DL25 | .96 | 1.00 | 2.38 | .49 | 2.26 |
| 6136948 | BT40BDL32275 | DL32 | 1.21 | 1.25 | 2.75 | .61 | 2.41 |

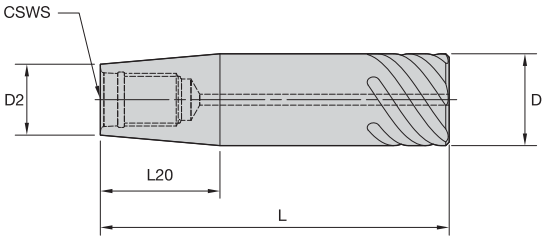




## DL SS SL Cylindrical Inch

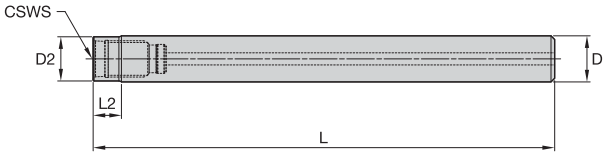
| order number | catalog number | CSWS system size | D | D2 | L | L2 | ft. lbs. |
|---|---|---|---|---|---|---|---|
| 6136800 | SS038SLDL100225 | DL10 | .38 | .36 | 2.25 | .19 | 18.40 |
| 6136868 | SS050SLDL120250 | DL12 | .50 | .48 | 2.50 | .25 | 22.10 |
| 6136874 | SS062SLDL160275 | DL16 | .63 | .61 | 2.75 | .33 | 44.20 |
| 6136880 | SS075SLDL200300 | DL20 | .75 | .73 | 3.00 | .39 | 59.00 |
| 6136884 | SS100SLDL250350 | DL25 | 1.00 | .96 | 3.50 | .52 | 73.80 |
| 6136888 | SS125SLDL320400 | DL32 | 1.25 | 1.21 | 4.00 | .64 | 95.90 |

NOTE: Cylindrical shanks not recommended for full slotting.



## DL SS SL Conical Inch

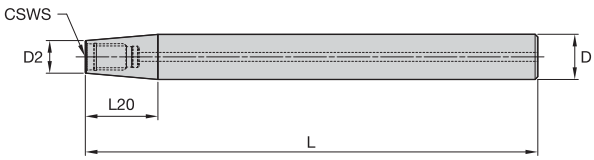
| order number | catalog number | CSWS system size | D | D2 | L | L20 | lbs |
|---|---|---|---|---|---|---|---|
| 6136862 | SS050SLDL100250 | DL10 | .50 | .36 | 2.50 | .80 | .11 |
| 6136864 | SS062SLDL100350 | DL10 | .63 | .36 | 3.50 | 1.52 | .24 |
| 6136866 | SS075SLDL100450 | DL10 | .75 | .36 | 4.50 | 2.23 | .42 |
| 6136870 | SS062SLDL120325 | DL12 | .63 | .48 | 3.25 | .82 | .24 |
| 6136872 | SS075SLDL120425 | DL12 | .75 | .48 | 4.25 | 1.53 | .45 |
| 6136876 | SS075SLDL160325 | DL16 | .75 | .61 | 3.25 | .82 | .34 |
| 6136878 | SS100SLDL160450 | DL16 | 1.00 | .61 | 4.50 | 2.25 | .78 |
| 6136882 | SS100SLDL200375 | DL20 | 1.00 | .73 | 3.75 | 1.53 | .67 |
| 6136886 | SS125SLDL250425 | DL25 | 1.25 | .96 | 4.25 | 1.64 | 1.19 |
| 6136890 | SS150SLDL320550 | DL32 | 1.50 | 1.21 | 5.50 | 1.64 | 2.29 |
| 6136892 | SS200SLDL320750 | DL32 | 2.00 | 1.21 | 7.50 | 4.50 | 4.92 |



## DL SS Cylindrical Cut Off to Modify Length Inch

| order number | catalog number | CSWS system size | D | D2 | L | L2 | ft. lbs. |
|---|---|---|---|---|---|---|---|
| 6136861 | SS038DL100375 | DL10 | .38 | .36 | 3.75 | .19 | 18.40 |
| 6136869 | SS050DL120500 | DL12 | .50 | .48 | 5.00 | .25 | 22.10 |
| 6136875 | SS062DL160625 | DL16 | .63 | .61 | 6.25 | .31 | 44.20 |
| 6136881 | SS075DL200750 | DL20 | .75 | .73 | 7.50 | .38 | 59.00 |
| 6136885 | SS100DL251000 | DL25 | 1.00 | .96 | 10.00 | .50 | 73.80 |
| 6136889 | SS125DL321000 | DL32 | 1.25 | 1.21 | 10.00 | .63 | 95.90 |

NOTE: Standard catalog cutting data does not apply. Consult tooling application expert before use.



## DL SS Conical Cut Off to Modify Length Inch

| order number | catalog number | CSWS system size | D | D2 | L | L20 | lbs |
|---|---|---|---|---|---|---|---|
| 6136863 | SS050DL100500 | DL10 | .50 | .36 | 5.00 | .80 | .25 |
| 6136865 | SS062DL100625 | DL10 | .63 | .36 | 6.25 | 1.52 | .47 |
| 6136867 | SS075DL100750 | DL10 | .75 | .36 | 7.50 | 2.23 | .79 |
| 6136871 | SS062DL120625 | DL12 | .63 | .48 | 6.25 | .82 | .50 |
| 6136873 | SS075DL120750 | DL12 | .75 | .48 | 7.50 | 1.53 | .85 |
| 6136877 | SS075DL160750 | DL16 | .75 | .61 | 7.50 | .82 | .86 |
| 6136879 | SS100DL161000 | DL16 | 1.00 | .61 | 10.00 | 2.25 | 1.99 |
| 6136883 | SS100DL201000 | DL20 | 1.00 | .73 | 10.00 | 1.53 | 2.04 |
| 6136887 | SS125DL251000 | DL25 | 1.25 | .96 | 10.00 | 1.64 | 3.14 |
| 6136891 | SS150DL321000 | DL32 | 1.50 | 1.21 | 10.00 | 1.64 | 4.51 |
| 6136893 | SS200DL321000 | DL32 | 2.00 | 1.21 | 10.00 | 4.50 | 7.18 |

NOTE: Standard catalog cutting data does not apply. Consult tooling application expert before use.

## Torque Wrench

| order number | catalog number | Description |
|---|---|---|
| 6135413 | TWDLTM | BASIC DUO LOCK WRENCH |
| 6135414 | TWTMINSERTDL10 | TORQUE WRENCH INSERT DL10 |
| 6135415 | TWTMINSERTDL12 | TORQUE WRENCH INSERT DL12 |
| 6135416 | TWTMINSERTDL16 | TORQUE WRENCH INSERT DL16 |
| 6135417 | TWTMINSERTDL20 | TORQUE WRENCH INSERT DL20 |
| 6135418 | TWTMINSERTDL25 | TORQUE WRENCH INSERT DL25 |
| 6135419 | TWTMINSERTDL32 | TORQUE WRENCH INSERT DL32 |
| 6135420 | TWTMINSERTDL10W | TORQUE WRENCH INSERT DL10 WEAR |
| 6135421 | TWTMINSERTDL12W | TORQUE WRENCH INSERT DL12 WEAR |
| 6135422 | TWTMEXT | TORQUE WRENCH EXTENSION HANDLE |
| 6135423 | TWTMBC | TORQUE WRENCH BOLT SET |

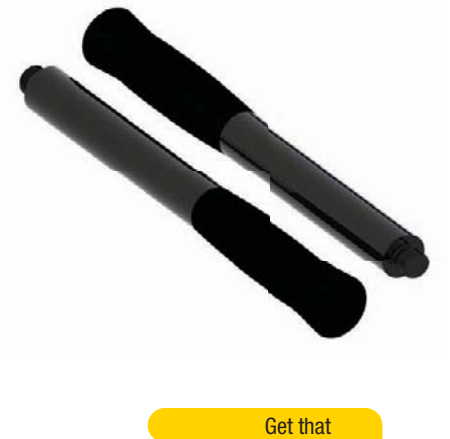
NOTE: Combine basic Duo-Lock™ wrench with selected torque wrench inserts needed.

## Wrench Kit

1 Basic Duo-Lock™ Wrench

2 Insert

3 Extension Handle



Order this

Get that

| order number | catalog number | kit description | |
|---|---|---|---|
| 6342967 | TWDL10TM | D-L WRENCH WITH DL10 INSERT AND HANDLES | 1+2+3 |
| 6342968 | TWDL12TM | D-L WRENCH WITH DL12 INSERT AND HANDLES | |
| 6342969 | TWDL16TM | D-L WRENCH WITH DL16 INSERT AND HANDLES | |
| 6342970 | TWDL20TM | D-L WRENCH WITH DL20 INSERT AND HANDLES | |
| 6343061 | TWDL25TM | D-L WRENCH WITH DL25 INSERT AND HANDLES | |
| 6343062 | TWDL32TM | D-L WRENCH WITH DL32 INSERT AND HANDLES | |

## Assembly

**Please wear sufficient personal safety equipment such as gloves and eye protection during assembly.**

**1** Clean the Duo-Lock™ cutting insert and shank coupling.

**2** Mount the Duo-Lock™ adapter in a mounting block with a clamping chuck sufficient to enable torque transmission.

**3** Screw the Duo-Lock™ cutting tip into adapter by hand.

Attention: Use of protective gloves is mandatory!

**4** A gap of approx. 0.06–0.12" should be visible.

**5** Apply the torque shown in the table. Use of a high quality common torque wrench is mandatory. The ERICKSON™ Torque Master wrench is recommended.

| Duo-Lock™ Size | Torque Nm | Torque ft. lbs. |
|---|---|---|
| DL 10 | 20 | 15 |
| DL 12 | 30 | 22 |
| DL 16 | 60 | 44 |
| DL 20 | 80 | 59 |
| DL 25 | 100 | 74 |
| DL 32 | 130 | 96 |

# Solid End Milling •
# High-Performance Solid Carbide End Mills


High-Performance Tool Selector and Grades ..... P2–P11

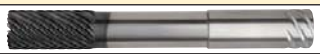
High-Performance Capability End Mills ..... P12–P86

High-Performance Solid Carbide Roughing End Mills ..... P88–P104

High-Performance Solid Carbide Finishing End Mills ..... P106–P112

High-Performance Material Specific End Mills ..... P114–P163

High-Performance Application Specific End Mills ..... P164–P171

| beyond | *Beyond™ grade | | series | D1 diameter (inch) | length of cut | flute Z | helix | internal coolant |
|---|---|---|---|---|---|---|---|---|
| HARVI™ I* | | | HPHV | 1/8–1 1/4 | 1.8–2 x D1 | ZU=4 | 35° | |
| HARVI I* | | | UBDE/UADE | 1/4–1 | 1.25 x D | ZU=4 | 35° | |
| HARVI I* | | | HPRSHV | 1/2–1 | 1–1.2 x D1 | ZU=4 | 35° | |
| HARVI I* | | | HPHVBN | 1/8–1 | 1.5–4 x D1 | ZU=4 | 35° | |
| HARVI I | | | HPHVT | 1/2–1 | 1.25–1.8 x D1 | ZU=4 | 35° | |
| CXE | | | CXE | 1/8–1 | 2 x D | ZU=4 | 35° VP | |
| CXER | | | CXER | 1/8–1 | 2 x D | ZU=4 | 35° VP | |
| HARVI II* | | | UCDE | 3/16–1 | 1.75–3.3 x D1 | ZU=5 | 35° | |
| HARVI II* | | | UCDE | 1/4–1 | 1.75–2 x D1 | ZU=5 | 35° | |
| HARVI II | | | UDDE | 1/2–1 | 1.75–2.5 x D1 | ZU=5 | 35° | |
| HARVI II Long | | | UGDE | 1/4–1 | 3 x D | ZU=5 | 45° | |
| HARVI II Long | | | UGDE | 1/4–1 | 5 x D | ZU=5 | 45° | |
| HARVI III | | | UJDE | 3/8–1 1/4 | 1.75–2 x D | ZU=6 | 35° | |
| HARVI III | | | UJDE | 3/8–1 | 1.75–2.25 x D | ZU=6 | 35° | |
| HARVI III Ball Nose | | | UJBE | 3/8–1 | 1.5–2 x D | ZU=6 | 35° | |
| HARVI III Ball Nose | | | UJBE | 3/8–1 | 1.5 x D1 | ZU=6 | 35° | |
| HARVI™ III Aerospace Expansion | | | UJDE | 1/2–1.5 | 1.3–5.3 x D | ZU=6 | 35° | |
| HARVI III Aerospace Expansion | | | UJBE | 1/2–1.5 | 1.3–5.3 x D | ZU=6 | 35° | |
| HARVI III Taper Ball Nose | | | UJBE | 1/8–7/16 | 5–6 x D | ZU=6 | 35° | |
| HP Rougher | | | HPRSS | 1/4–3/4 | 2–3 x D1 | ZU=3 | 35° | |
| HP Rougher | | | MDRHEC | 1/4–1 | 1–2.5 x D1 | ZU=X | 40° | |
| HP Rougher | | | HPRST | 1/4–1 | 1.5–2.5 x D1 | ZU=X | 45° | |
| RSM II Short | | | FSDE | 3/8–1 | 2 x D | ZU=X | 35° | |
| RSM II with neck | |  | FSDE | 1/4–1 | 2 x D1 | ZU=X | 30° | |
| HP Finisher | | | HPFSS | 1/8–3/4 | 2–4 x D1 | ZU=3 | 45° | |
| HP Finisher | | | HPFSS | 1/8–3/8 | 2–3.25 x D1 | ZU=5 | 45° | |
| HP Finisher | | | HPFT | 1/8–3/4 | 2–4 x D1 | ZU=6 | 45° | |
| Aluminum MaxiMet™ | | | ABDF | 3/16–1 | 2 x D1 | ZU=2 | 45° | |
| Aluminum MaxiMet | | | ABDE | 3/16–1 | 1.2–2 x D1 | ZU=3 | 35° | |
| Aluminum MaxiMet | | | ABDF | 1/4–1 | 1–4 x D1 | ZU=2 | 45° | |
| Aluminum MaxiMet | | | ABDE | 1/4–1 | 1.25–4 x D1 | ZU=3 | 35° | |
| Aluminum | | | AADF | 1/8–1 | 1–4 x D1 | ZU=2 | 45° | |
| Aluminum | | | AADE | 1/8–1 | 1.25–4 x D1 | ZU=3 | 45° | |
| Aluminum | | | SFRHEC | 1/4–1 | 2.25–3 x D1 | ZU=3 | 50° | |

| | | | | | | | shank | center cutting | neck | P | M | K | N | C | S | H | | | | | | | product page(s) | cutting data page(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ● | ● | ● | | | ○ | ○ | ✓ | ✓ | ✓ | ✓ | | ✓ | P16–P20 | P25 |
| | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ● | ● | ● | | | ● | ○ | ✓ | ✓ | ✓ | ✓ | | ✓ | P21 | P25 |
| | | | ✓ | ✓ | | | ✓ | ✓ | | ● | ● | ● | | | | | ✓ | ✓ | ✓ | | | | P22 | P26 |
| | | | | | | ✓ | ✓ | ✓ | | ● | ● | ● | | | ○ | ○ | ✓ | ✓ | | | ✓ | | P23 | P26 |
| | | | ✓ | ✓ | | | ✓ | ✓ | | ● | | | | | ● | ○ | ✓ | ✓ | ✓ | ✓ | | ✓ | P24 | P27 |
| | | | | | ✓ | | ✓ | ✓ | ✓ | ○ | ● | | | | ○ | | ✓ | ✓ | ✓ | ✓ | | ✓ | P84 | P86 |
| | | | | | ✓ | | ✓ | ✓ | ✓ | ○ | ● | | | | ○ | | ✓ | ✓ | ✓ | ✓ | | ✓ | P85 | P86 |
| | | | ✓ | | ✓ | | ✓ | | | ● | ● | ● | | | ○ | ○ | ✓ | ✓ | ✓ | | | ✓ | P30–P31 | P34 |
| | | | ✓ | | ✓ | | ✓ | | ✓ | ● | ● | ● | | | ● | ○ | ✓ | ✓ | ✓ | | | ✓ | P32 | P35 |
| | | | ✓ | | ✓ | | ✓ | | | ● | | | | | ● | | ✓ | ✓ | ✓ | | | ✓ | P33 | P35 |
| | | | ✓ | | ✓ | | ✓ | | | ● | ● | ○ | | | ● | ○ | ✓ | | | | | ✓ | P38 | P40 |
| | | | ✓ | | ✓ | | ✓ | | | ● | ● | ○ | | | ● | ○ | ✓ | | | | | ✓ | P39 | P41 |
| | | | ✓ | | ✓ | | ✓ | ✓ | | ○ | ● | | | | ● | ○ | ✓ | | ✓ | | | ✓ | P44–P45 | P47 |
| | | | | | ✓ | | ✓ | ✓ | ✓ | ○ | ● | | | | ● | ○ | ✓ | | ✓ | | | ✓ | P46 | P48 |
| | | | | | | ✓ | ✓ | ✓ | | ○ | ● | | | | ● | ○ | ✓ | | | | ✓ | ✓ | P52 | P56 |
| | | | | | | ✓ | ✓ | ✓ | ✓ | ○ | ● | | | | ● | ○ | ✓ | | | | ✓ | ✓ | P53 | P56 |
| | | | | | ✓ | | ✓ | ✓ | ✓ | ○ | ● | | | | ● | ○ | ✓ | | ✓ | | | ✓ | P60–P65 | P70 |
| | | | | | | | ✓ | ✓ | | ○ | ● | | | | ● | ○ | ✓ | | | | ✓ | ✓ | P66–P67 | P71 |
| ✓ | | | | | | | ✓ | ✓ | | ● | ● | | | | ● | ○ | ✓ | | | | ✓ | ✓ | P74 | P80 |
| | | | | | ✓ | | ✓ | ✓ | | ● | ● | ● | | | | ○ | ✓ | ✓ | ✓ | | | | P90 | P93 |
| | | | | ✓ | | | ✓ | ✓ | | ● | ● | ● | | | ○ | ○ | ✓ | ✓ | ✓ | | | | P91 | P94 |
| | | | | | ✓ | | ✓ | ✓ | | ○ | ● | ○ | | | ● | ● | ✓ | ✓ | ✓ | | | | P92 | P95 |
| | | | | | ✓ | | ✓ | | | ○ | ● | | | | ● | ○ | ✓ | | | | | | P98 | P99 |
| | | | | | ✓ | | ✓ | | | ○ | ● | | | | ● | ○ | ✓ | | | | | | P100 | P101 |
| | | | | | ✓ | | ✓ | ✓ | | ● | ● | ● | | | ○ | | ✓ | ✓ | ✓ | | | ✓ | P108 | P111 |
| | | | ✓ | | | | ✓ | ✓ | | ● | ● | ○ | | | ● | ○ | ✓ | | ✓ | | | ✓ | P109 | P111 |
| | | | ✓ | | | | ✓ | ✓ | | ● | ● | ● | | | ● | ○ | ✓ | | | | | ✓ | P110 | P112 |
| | | | ✓ | | ✓ | | ✓ | ✓ | | | | | ● | | | | ✓ | ✓ | ✓ | ✓ | | | P116 | P122 |
| | | | ✓ | | ✓ | | ✓ | ✓ | | | | | ● | | | | ✓ | ✓ | ✓ | | | | P117 | P122 |
| | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | | ● | | | | ✓ | ✓ | ✓ | | | | P118–P119 | P123 |
| | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | | ● | | | | ✓ | ✓ | ✓ | | | | P120–P121 | P123 |
| | | | ✓ | | ✓ | | ✓ | ✓ | | | | | ● | | | | ✓ | ✓ | ✓ | ✓ | | | P126–P127 | P132 |
| | | | ✓ | | ✓ | | ✓ | ✓ | | | | | ● | | | | ✓ | ✓ | ✓ | | | | P128–P130 | P132 |
| | | | | ✓ | | | ✓ | ✓ | | | | | ● | | | | ✓ | ✓ | ✓ | | | | P131 | P132 |

● first choice
○ alternate choice

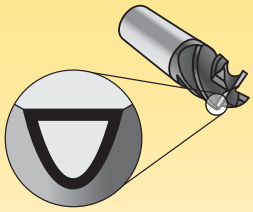
*(continued)*

*(Solid Carbide End Mills — continued)*

| beyond | *Beyond™ grade | | series | D1 diameter (inch) | length of cut | flute Z | helix | internal coolant |
|---|---|---|---|---|---|---|---|---|
| CFRP | | | CCNC | 1/4–1/2 | 3 x D1 | ZU=X | 45° | |
| CFRP | | | CDDC | 1/4–1/2 | 3 x D1 | ZU=6 | 35° | |
| CFRP | | | CBDB | 1/4–1/2 | 3 x D1 | ZU=12 | 15° | |
| KenFeed™ | | | KMDA | 1/4–3/4 | 0.5 x D1 | ZU=6 | 30° | |
| KenFeed | | | KHDA | 1/4–3/4 | 0.3 x D1 | ZU=6 | 30° | |
| Hard Steels | | | HPFDM | 1/4–1 | 1.5–3.5 x D1 | ZU=X | 50° | |
| Hard Steels | | | HPRDM | 3/16–1/2 | 1 x D1 | ZU=X | 45° | |
| Hard Steels Ball Nose | | | HPBNDM | 1/8–3/4 | 1 x D1 | ZU=4 | 15° | |
| Ceramic Rougher | | | EADE | 3/16–1/2 | 0,75 x D | ZU=4 | 40° | |
| Ceramic Rougher | | | EADE | 3/16–1/2 | 0,75 x D | ZU=6 | 40° | |
| GOmill™ | | | UEDE | 5/64–1/2 | 1.25 x D1 | ZU=3 | 35° | |
| GOmill | | | UEDE | 5/32–1/2 | 1.25 x D1 | ZU=4 | 35° | |
| GOmill | | | UEBD | 5/64–1/2 | 1.25 x D1 | ZU=2 | 30° | |
| GOmill | | | UEBD | 5/64–1/2 | 1.25 x D1 | ZU=3 | 35° | |

| | | | | | | | shank | center cutting | neck | P | M | K | N | C | S | H | | | | | | | product page(s) | cutting data page(s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ✓ | | | | | | | | | | ● | | | ✓ | | ✓ | | | | | P136 | P139 |
| | | | | ✓ | | | | | | | | | | ● | | | ✓ | ✓ | ✓ | | | | | P137 | P139 |
| | | | | ✓ | | | | | | | | | | ● | | | ✓ | ✓ | ✓ | | | | | P138 | P139 |
| | | ✓ | | | | | | | ✓ | ● | | | | | | ○ | | | ✓ | | ✓ | | | P142 | P144 |
| | | ✓ | | | | | | | ✓ | | | | | | | ● | | | ✓ | | ✓ | | | P143 | P144 |
| | | | ✓ | | | | | ✓ | | ● | | | | | | ● | ✓ | ✓ | ✓ | | | | | P148 | P151 |
| | | | | | ✓ | | | ✓ | ✓ | ● | ○ | ○ | | | ○ | ● | ✓ | ✓ | ✓ | | | | | P149 | P151 |
| | | | | | | ✓ | | ✓ | ✓ | ● | | | | | | ● | ✓ | ✓ | | | ✓ | | | P150 | P152 |
| | | | | | ✓ | | | | | | | | | ● | | | ✓ | ✓ | ✓ | | | | | P156 | P158 |
| | | | | | ✓ | | | | | | | | | ● | | | ✓ | ✓ | ✓ | | | | | P157 | P158 |
| | | | ✓ | | | | | ✓ | | ● | ● | ● | | | ○ | ○ | ✓ | ✓ | ✓ | | | | | P166 | P170 |
| | | | | ✓ | | | | ✓ | | ● | ● | ● | | | ● | ○ | ✓ | ✓ | ✓ | ✓ | | | | P167 | P170 |
| | | | | | | ✓ | | ✓ | | ● | ○ | ● | | | ○ | ○ | ✓ | ✓ | | | | | | P168 | P171 |
| | | | | | | ✓ | | ✓ | | ● | ○ | ● | | | ○ | ○ | ✓ | ✓ | | | | | | P169 | P171 |

● first choice
○ alternate choice



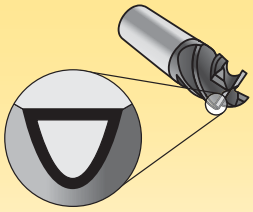
**Coatings provide high-speed capability and are engineered for roughing to finishing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

**Grades**

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K600 | Carbide grade made from high-quality, micrograin materials for cutting all types of workpiece materials. Very high toughness ensures a controlled wear rate. The micrograin structure enables extremely sharp cutting edges. | N | | | ■ | ■ | ■ | ■ | | | |
| KCPM15 | Coated carbide grade with thick PVD coating and optimized chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. | P | | | ■ | ■ | ■ | ■ | | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |
| KC643M | Coated fine-grain grade with PVD multilayer (AlTiN). KC643M™ is a very thin and hard PVD coating particularly suited for cutting steel, cast iron, stainless steel (wet), and titanium (wet). This grade can be used for materials with hardness up to 52 HRC. | P | | | ■ | ■ | ■ | ■ | | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |
| | | S | | | ■ | ■ | ■ | ■ | | | |
| KC637M | Coated, tough, wear-resistant carbide grade with hard PVD coating, particularly suitable for machining steels above 48 HRC. | S | ■ | ■ | ■ | ■ | | | | | |
| | | H | ■ | ■ | ■ | ■ | | | | | |
| KC635M | Coated carbide grade with TiAlN coating. KC635M is a high-performance grade for higher speeds and is the first choice for stainless steels. KC635M grade is characterized by a high hardness and wear resistance. This grade is suitable for cutting hard materials (up to 65HRC). | P | | | ■ | ■ | ■ | ■ | | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |
| | | S | | | ■ | ■ | ■ | ■ | | | |

wear resistance ← → toughness



**Coatings provide high-speed capability and are engineered for roughing to finishing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |
| C | CFRP Materials |

**Grades**

| Coating | Grade Description | | wear resistance ← → toughness | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
| KC625M | Coated carbide grade with PVD (TiCN) coating. For universal use due to its high wear resistance and hardness. Only use wet or with MQL (minimum quantity lubrication). | P | | | ■ | ■ | ■ | ■ | | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |
| | | S | | | ■ | ■ | ■ | ■ | | | |
| KC639M | PVD- (AlTiN) coated carbide on a submicron carbide substrate. This hard coating provides outstanding performance in milling hardened materials (58–65 HRC). | P | | | ■ | ■ | ■ | ■ | | | |
| | | H | ■ | ■ | ■ | | | | | | |
| KCSM15 | Coated carbide grade with thick PVD coating and optimized chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. | M | | ■ | ■ | ■ | ■ | | | | |
| | | S | ■ | ■ | ■ | ■ | ■ | | | | |
| | | H | ■ | ■ | ■ | ■ | ■ | | | | |
| KCN05 | High-performance grade A pure, diamond-coated carbide for milling CFRP and graphite. It is a very tough and wear-resistant grade. | C | ■ | ■ | | | | | | | |
| KC633M | Coated carbide grade with PVD multilayer coating. KC633M™ is designed for dry milling most types of material, apart from the hardened variety. This grade is characterized by good hardness and wear resistance. It provides outstanding protection for solid carbide tools against cratering and abrasion. | P | | | ■ | ■ | ■ | ■ | | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | S | | | ■ | ■ | ■ | ■ | | | |

# Beyond™ Solid Carbide End Milling

## High-Performance milling in a new dimension

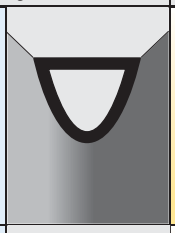
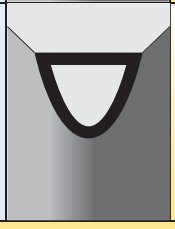
Kennametal is pleased to announce the KCPM15™ and KCSM15™ grades — the first Beyond grades for solid carbide end mills. KCPM15 and KCSM15 grades feature an improved high-performance carbide substrate with proprietary aluminum titanium nitride (AlTiN) PVD coating.

## Features and Benefits

- Engineered to increase tool life and productivity by up to 30%.
- For use in milling steels and stainless steels.
- Improved resistance to cratering, flank wear, and depth-of-cut notching.

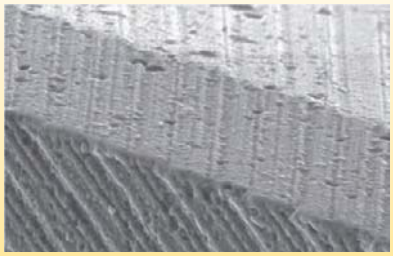
### Workpiece Materials:

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

| Coating | | Grade Description | |
|---|---|---|---|
| KCPM15 |  | Coated carbide grade with thick PVD coating and optimized chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. | P M K |
| KCSM15 |  | Coated carbide grade with thick PVD coating and optimized chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. | M S H |

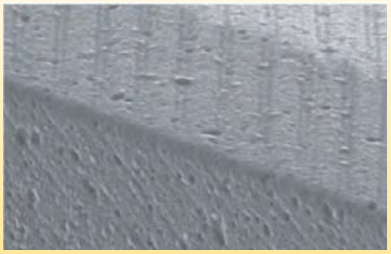
## Conventional End Mill Cutting Edge

### Conventional



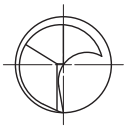
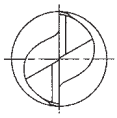
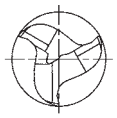
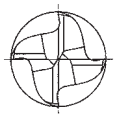
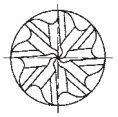
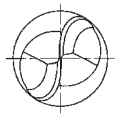
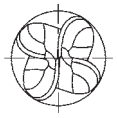
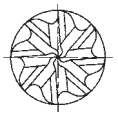
## KCPM15™/KCSM15™ End Mill Cutting Edge

### KCPM15/KCSM15 grade



View: 1st and 2nd relief.

## End Mill Type Recommendation

| End Mills | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Z = number of teeth | | Fine Finishing | Finishing | Roughing | Slot Milling | Plunging | Contour Milling | Peel Milling | Trochoidal Milling |
| end mill Z = 1 |  | ○ | ○ | ● | ● | ● | ○ | ○ | ○ |
| end mill Z = 2 |  | ○ | ○ | ◑ | ● | ● | ○ | ○ | ○ |
| end mill Z = 3 |  | ○ | ◑ | ◑ | ● | ◑ | ○ | ○ | ○ |
| end mill Z = 4/5 |  | ◑ | ● | ● | ● | ○ | ○ | ● | ● |
| multi-flute cutter Z = 6–19 |  | ● | ● | ○ | ○ | ○ | ○ | ● | ● |
| **Ball Nose and Torus End Mills** | | | | | | | | | |
| ball nose end mill Z = 2 |  | | | | ● | | ● | | |
| ball nose end mill Z = 4 |  | | | | ◑ | | ● | | |
| ball nose end mill Z = 6 |  | | | | | | ● | | |

● first choice

◑ suitable with limitations

○ not recommended

Always select a tool with the shortest possible flute length whenever possible. This will increase the stability of the tool and give the best results.

When selecting an end mill, the following machining factors will affect your selection of the correct end mill for your application:

1. Tool overhang.
2. Coolant flow.
3. Machine and setup stability.
4. Machine power and torque.
5. Material to be machined.
6. Machine adapter size (DV40, DV50, HSK63, etc.).
7. See Tool Reference Guides on pages P2–P5.

## Recommended Adapters per End Mill Platform

| SCEM Platform | Recommended Adapters | |
|---|---|---|
| | First Choice | Alternate Choice |
| HARVI™ I | HydroForce™ | Shrink Fit |
| HARVI II | HydroForce | Shrink Fit |
| HARVI III | HydroForce | Shrink Fit |
| HARVI II Long | HydroForce | Shrink Fit |
| High-Performance Roughers | HydroForce | Weldon® Adapter |
| RSM II | Shrink Fit | Shrink Fit |
| High-Performance Finishers | HydroForce | Shrink Fit |
| MaxiMet™/Aluminum Tools | HydroForce | Shrink Fit |
| Hard Material End Mills/KenFeed™ | HydroForce | Shrink Fit |
| GOmill™ | Shrink Fit | Weldon Adapter |

## Select Adapter per Technical Data/Characteristics

| Technical data/characteristics | Toolholders | | | | |
|---|---|---|---|---|---|
| | HydroForce high torque | Shrink Fit | Milling chuck | ER collet chuck | Weldon adapter |
| torque transmission | ★★★★★ | ★★★★ | ★★★★★ | ★★ | ★★★★★ |
| radial runout (T.I.R.)[1] | ★★★★★ | ★★★★★ | ★★★★ | ★★★ | ★ |
| radial rigidity[2] | ★★★★ | ★★★★★ | ★★★ | ★★★ | ★★★ |
| tool length adjustment | ★★★★★ | ★★★★ | ★ | ★★★★ | ★★ |
| tool shank tolerance requirement | ★★★★ | ★★ | ★★★ | ★★★★★ | ★★★ |
| through coolant | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★★ |
| minimum quantity lubrication (MQL) | ★★★★★ | ★★★★★ | ★ | ★ | ★ |
| dampening capability | ★★★★★ | ★ | ★★★ | ★★★ | ★★★ |
| shank diameter range[3] | ★★★★★ | ★ | ★★★★★ | ★★★★★ | ★ |
| cost of toolholder | ★★ | ★★★ | ★ | ★★★★ | ★★★★★ |
| low requirement of external devices[4] | ★★★★★ | ★ | ★★★★ | ★★★★ | ★★★★★ |
| ease of handling | ★★★★★ | ★★★ | ★★ | ★★★★ | ★★★★ |
| dust resistance | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★★★★ |
| high-speed capability | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★ |
| balancing accuracy | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★ |

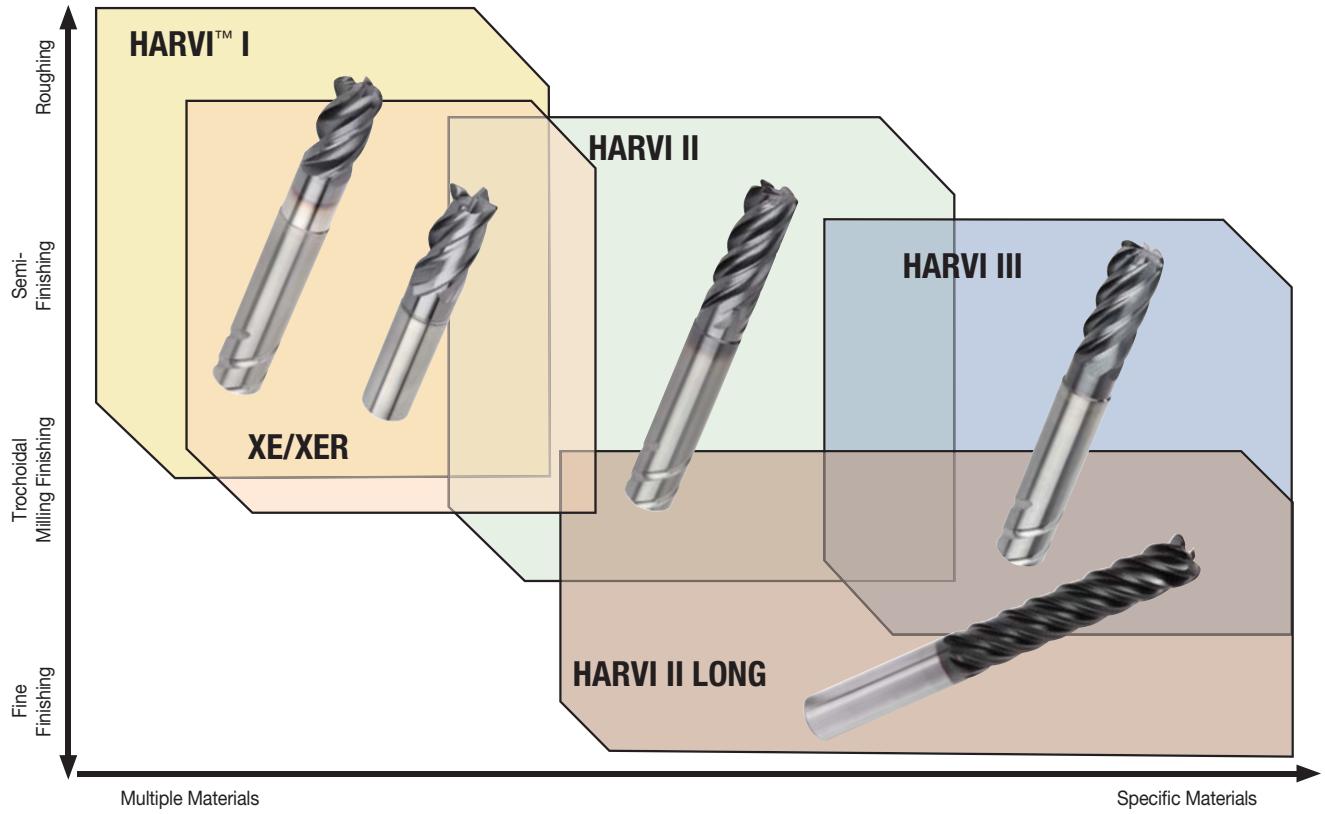
[1] Radial runout may affect tool life.
[2] Radial rigidity for Weldon holder is low at a direction perpendicular to the screw.
[3] Accepts different shank diameters through the use of reduction sleeves or due to collapse range.
[4] Collet chucks and milling chucks may require the use of a torque or special wrench; Shrink Fit adapter requires a shrinking unit.

# High-Performance Capability End Mills

## Primary Application

High-performance capability offers plunging, slotting, and profiling at the highest possible feed rates for a wide range of materials from steel, stainless steel, cast iron, and high-temperature alloys to hard materials. These end mills are designed to provide maximum Metal Removal Rates (MRR) and to achieve superior surface conditions.

Several platforms with a wide range of diameters and corner configurations, such as chamfer, radii, sharp edges, and ball nose, are available from stock.



# Designed for roughing and finishing with one tool in a wide range of applications and workpiece materials.

- Roughing, semi-finishing, and finishing with one tool.
- Outstanding metal removal rates increase productivity.
- Excellent surface quality and accuracy.
- KCPM15™ and KCSM15™ Beyond™ grades for long tool life.
- Increased process safety with Safe-Lock™ by HAIMER® shanks.

# HARVI™ I

## High-Performance Solid Carbide End Mills

### Primary Application

The HARVI I system offers plunging, slotting, and profiling at the highest possible feed rates for a wide range of materials. These end mills are designed to provide maximum Metal Removal Rates (MRR) and to achieve superior surface conditions. A wide range of diameters and corner configurations, such as chamfer, radii, and sharp edges, are available from stock. To prevent pull out of end mills during heavy cuts, the HARVI I system is available equipped with Safe-Lock™ system by HAIMER®.

- Roughing and finishing with one tool.
- Outstanding metal removal rates increase productivity.
- KCPM15™ and KCSM15™ Beyond™ grades for long tool life.

## Features and Benefits

### Advanced Technology

- Four unequally spaced flutes for chatter-free machining at high feed rates.
- Center cutting design for plunging and improved ramping and helical interpolation capabilities.
- 1 x D full slotting capability in:
  — Steel
  — Stainless steel
  — Titanium

### Tailored Grades

- KCPM15 Beyond grade for outstanding wear protection in stainless steel to mitigate crater, depth-of-cut notching, and flank wear.
- KCSM15 Beyond grade for exceptional tool life in titanium.
- Universal KC643M™ grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

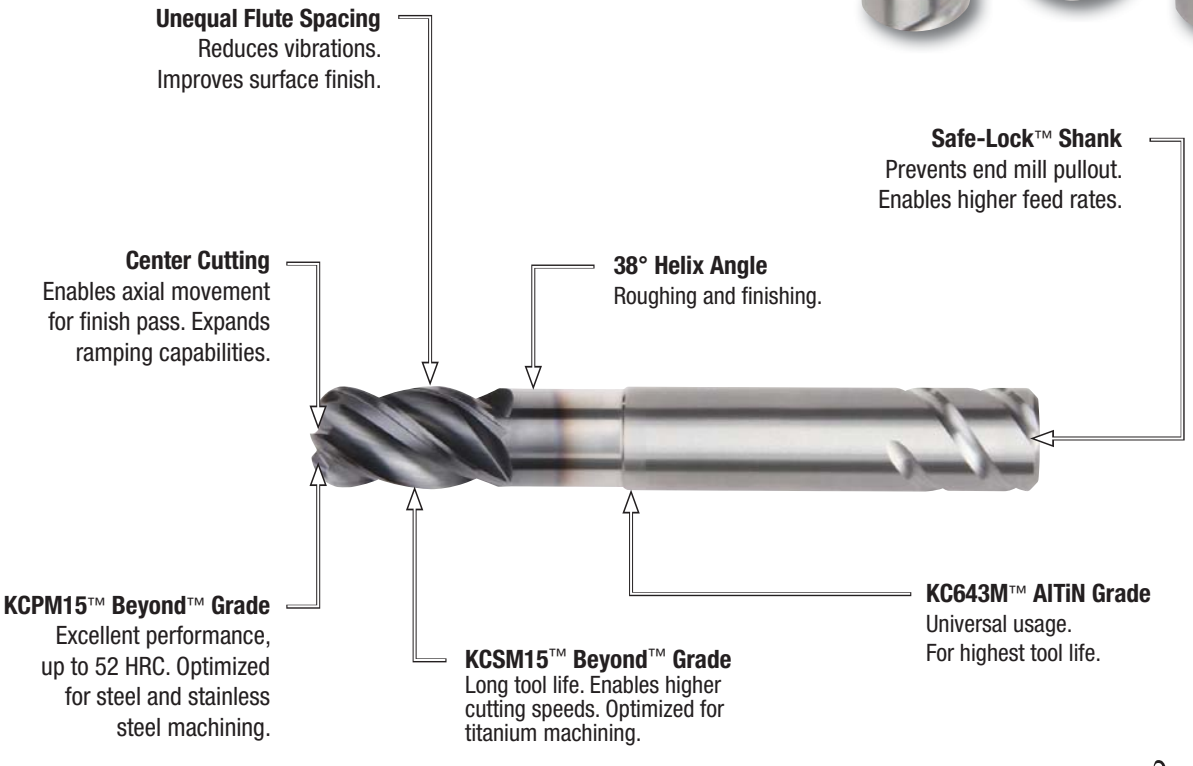
### Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.
- Chip divider geometry reduces power consumption and improves chip formation in difficult-to-cut materials.
- Internal coolant axial and radial available.
- Various shanks and non-standard coatings available.
- Multiple steps possible.

### Extensive Standard Offering

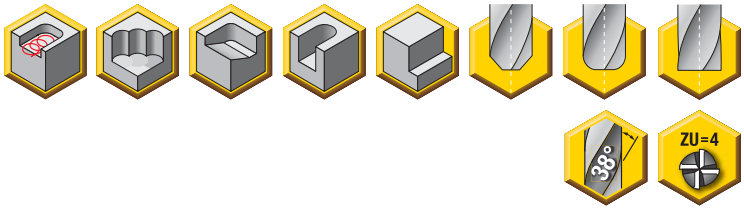
- Diameter range 1/8–1-1/4".
- Necked, corner radii, chamfer, and square-end offering.
- Extended-reach length.
- Ball nose with extended length of cut.

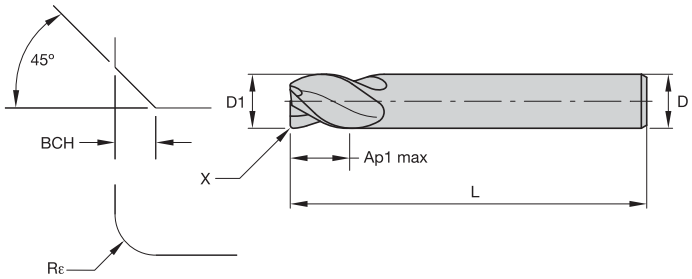
# Designed for roughing and finishing with one tool in almost all materials.




SAFE-λOCK®
by HAIMER®

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



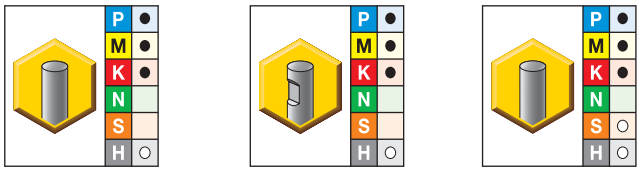



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

beyond

## HPHV • UADE • 4 Flute • Inch

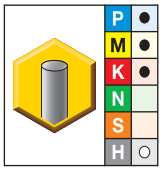


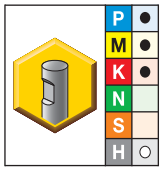

● first choice
○ alternate choice

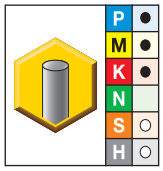
| KCPM15 | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε | BCH |
|---|---|---|---|---|---|---|---|---|
| HPHV125S4025CH | – | – | 1/8 | 1/8 | 1/4 | 1 1/2 | – | .015 |
| HPHV125S4025 | – | – | 1/8 | 1/8 | 1/4 | 1 1/2 | – | – |
| HPHV125S4025LR015 | – | – | 1/8 | 1/8 | 1/4 | 2 1/2 | .015 | – |
| HPHV125S4050R015 | – | – | 1/8 | 1/8 | 1/2 | 2 | .015 | – |
| HPHV125S4050CH | – | – | 1/8 | 1/8 | 1/2 | 2 | – | .015 |
| HPHV125S4050 | – | – | 1/8 | 1/8 | 1/2 | 2 | – | – |
| HPHV125S4050L | – | – | 1/8 | 1/8 | 1/2 | 2 1/2 | – | – |
| HPHV188S4031CH | – | – | 3/16 | 3/16 | 5/16 | 1 1/2 | – | .015 |
| HPHV188S4031 | – | – | 3/16 | 3/16 | 5/16 | 1 1/2 | – | – |
| HPHV188S4031LR015 | – | – | 3/16 | 3/16 | 5/16 | 2 1/2 | .015 | – |
| HPHV188S4031L | – | – | 3/16 | 3/16 | 5/16 | 2 1/2 | – | – |
| HPHV188S4063R015 | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | .015 | – |
| HPHV188S4063R030 | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | .030 | – |
| HPHV188S4063CH | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | – | .015 |
| HPHV188S4063 | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | – | – |
| HPHV188S4063LR015 | – | – | 3/16 | 3/16 | 5/8 | 2 1/2 | .015 | – |
| HPHV188S4063LR030 | – | – | 3/16 | 3/16 | 5/8 | 2 1/2 | .030 | – |
| HPHV188S4063L | – | – | 3/16 | 3/16 | 5/8 | 2 1/2 | – | – |
| HPHV250S4038R030 | – | – | 1/4 | 1/4 | 3/8 | 2 | .030 | – |
| HPHV250S4038CH | – | – | 1/4 | 1/4 | 3/8 | 2 | – | .015 |
| HPHV250S4038 | – | – | 1/4 | 1/4 | 3/8 | 2 | – | – |
| HPHV250S4038LR015 | – | – | 1/4 | 1/4 | 3/8 | 2 1/2 | .015 | – |
| HPHV250S4050R015 | – | – | 1/4 | 1/4 | 1/2 | 2 1/2 | .015 | – |
| HPHV250S4050R030 | – | – | 1/4 | 1/4 | 1/2 | 2 1/2 | .030 | – |
| HPHV250S4050R060 | – | – | 1/4 | 1/4 | 1/2 | 2 1/2 | .060 | – |
| HPHV250S4050 | – | – | 1/4 | 1/4 | 1/2 | 2 1/2 | – | – |
| HPHV250S4075R015 | – | UADE250J4ARA | 1/4 | 1/4 | 3/4 | 2 1/2 | .015 | – |
| HPHV250S4075R030 | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 | .030 | – |

*(continued)*

*(HPHV • UADE • 4 Flute • Inch — continued)*



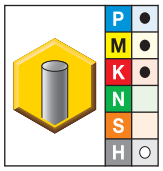



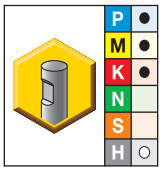

● first choice
○ alternate choice

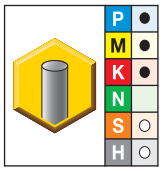
| KCPM15 | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε | BCH |
|---|---|---|---|---|---|---|---|---|
| HPHV250S4075R060 | – | UADE250J4ARC | 1/4 | 1/4 | 3/4 | 2 1/2 | .060 | – |
| HPHV250S4075CH | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 | – | .015 |
| HPHV250S4075 | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 | – | – |
| HPHV250S4100R015 | – | – | 1/4 | 1/4 | 1 | 3 | .015 | – |
| HPHV250S4100 | – | – | 1/4 | 1/4 | 1 | 3 | – | – |
| HPHV250S4125R030 | – | – | 1/4 | 1/4 | 1 1/4 | 3 1/4 | .030 | – |
| HPHV250S4125CH | – | – | 1/4 | 1/4 | 1 1/4 | 3 1/4 | – | .015 |
| HPHV250S4125 | – | – | 1/4 | 1/4 | 1 1/4 | 3 1/4 | – | – |
| HPHV250S4175R015 | – | – | 1/4 | 1/4 | 1 3/4 | 4 | .015 | – |
| HPHV250S4175R030 | – | – | 1/4 | 1/4 | 1 3/4 | 4 | .030 | – |
| HPHV312S4050R030 | – | – | 5/16 | 5/16 | 1/2 | 2 | .030 | – |
| HPHV312S4050CH | – | – | 5/16 | 5/16 | 1/2 | 2 | – | .015 |
| HPHV312S4050 | – | – | 5/16 | 5/16 | 1/2 | 2 | – | – |
| HPHV312S4050LR015 | – | – | 5/16 | 5/16 | 1/2 | 2 1/2 | .015 | – |
| HPHV312S4050L | – | – | 5/16 | 5/16 | 1/2 | 2 1/2 | – | – |
| HPHV312S4075R015 | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | .015 | – |
| HPHV312S4075R030 | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | .030 | – |
| HPHV312S4075R060 | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | .060 | – |
| HPHV312S4075CH | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | – | .015 |
| HPHV312S4075 | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | – | – |
| HPHV312S4125R030 | – | – | 5/16 | 5/16 | 1 1/4 | 3 1/4 | .030 | – |
| HPHV375S4050R030 | – | – | 3/8 | 3/8 | 1/2 | 2 | .030 | – |
| HPHV375S4050CH | – | – | 3/8 | 3/8 | 1/2 | 2 | – | .020 |
| HPHV375S4050 | – | – | 3/8 | 3/8 | 1/2 | 2 | – | – |
| HPHV375S4050LR015 | – | – | 3/8 | 3/8 | 1/2 | 2 1/2 | .015 | – |
| HPHV375S4050LR030 | – | – | 3/8 | 3/8 | 1/2 | 2 1/2 | .030 | – |
| HPHV375S4050L | – | – | 3/8 | 3/8 | 1/2 | 2 1/2 | – | – |
| HPHV375S4088R015 | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .015 | – |
| HPHV375S4088R030 | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .030 | – |
| HPHV375S4088R060 | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .060 | – |
| HPHV375S4088R090 | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .090 | – |
| HPHV375S4088CH | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | – | .020 |
| HPHV375S4088 | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | – | – |
| HPHV375S4088LR015 | – | – | 3/8 | 3/8 | 7/8 | 3 | .015 | – |
| HPHV375S4088LR030 | – | – | 3/8 | 3/8 | 7/8 | 3 | .030 | – |
| HPHV375S4088LR090 | – | – | 3/8 | 3/8 | 7/8 | 3 | .090 | – |
| HPHV375S4088L | – | – | 3/8 | 3/8 | 7/8 | 3 | – | – |
| HPHV375S4100R015 | – | – | 3/8 | 3/8 | 1 | 3 | .015 | – |
| HPHV375S4100R030 | – | – | 3/8 | 3/8 | 1 | 3 | .030 | – |
| HPHV375S4100R060 | – | – | 3/8 | 3/8 | 1 | 3 | .060 | – |
| HPHV375S4100 | – | – | 3/8 | 3/8 | 1 | 3 | – | – |
| HPHV375S4125R015 | – | – | 3/8 | 3/8 | 1 1/4 | 3 | .015 | – |
| HPHV375S4125R030 | – | – | 3/8 | 3/8 | 1 1/4 | 3 | .030 | – |
| HPHV375S4125R060 | – | – | 3/8 | 3/8 | 1 1/4 | 3 | .060 | – |
| HPHV375S4125 | – | – | 3/8 | 3/8 | 1 1/4 | 3 | – | – |
| HPHV375S4150R030 | – | – | 3/8 | 3/8 | 1 1/2 | 4 | .030 | – |
| HPHV375S4150R060 | – | – | 3/8 | 3/8 | 1 1/2 | 4 | .060 | – |
| HPHV375S4150 | – | – | 3/8 | 3/8 | 1 1/2 | 4 | – | – |
| HPHV375S4250R030 | – | – | 3/8 | 3/8 | 2 1/2 | 4 | .030 | – |
| HPHV375S4250R060 | – | – | 3/8 | 3/8 | 2 1/2 | 4 | .060 | – |
| – | – | UADE375J4ARA | 3/8 | 3/8 | 1/2 | 2 | .015 | – |
| – | – | UADE375J4ARB | 3/8 | 3/8 | 1/2 | 2 | .030 | – |

*(continued)*

*(HPHV • UADE • 4 Flute • Inch — continued)*



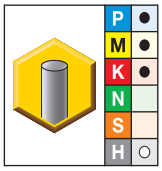



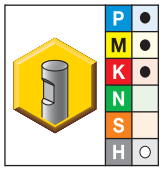

● first choice
○ alternate choice

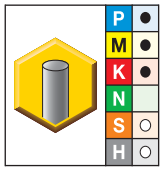
| KCPM15 | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε | BCH |
|---|---|---|---|---|---|---|---|---|
| – | – | UADE375J4ARC | 3/8 | 3/8 | 1/2 | 2 | .060 | – |
| – | – | UADE375J4BRA | 3/8 | 3/8 | 7/8 | 2 1/2 | .015 | – |
| – | – | UADE375J4BRB | 3/8 | 3/8 | 7/8 | 2 1/2 | .030 | – |
| HPHV438S4063CH | – | – | 7/16 | 7/16 | 5/8 | 2 1/2 | – | .020 |
| HPHV438S4088CH | – | – | 7/16 | 7/16 | 7/8 | 2 1/2 | – | .020 |
| HPHV438S4113R015 | – | – | 7/16 | 7/16 | 1 1/8 | 3 1/2 | .015 | – |
| – | HPHV500S4063R030 | – | 1/2 | 1/2 | 5/8 | 2 1/2 | .030 | – |
| – | HPHV500S4063R060 | – | 1/2 | 1/2 | 5/8 | 2 1/2 | .060 | – |
| – | HPHV500S4063CH | – | 1/2 | 1/2 | 5/8 | 2 1/2 | – | .020 |
| – | HPHV500S4063 | – | 1/2 | 1/2 | 5/8 | 2 1/2 | – | – |
| – | HPHV500S4063LR015 | – | 1/2 | 1/2 | 5/8 | 3 | .015 | – |
| – | HPHV500S4063LR030 | – | 1/2 | 1/2 | 5/8 | 3 | .030 | – |
| – | HPHV500S4063LR060 | – | 1/2 | 1/2 | 5/8 | 3 | .060 | – |
| – | HPHV500S4063L | – | 1/2 | 1/2 | 5/8 | 3 | – | – |
| – | – | UADE500J4ARA | 1/2 | 1/2 | 5/8 | 2 1/2 | .015 | – |
| – | – | UADE500J4ARB | 1/2 | 1/2 | 5/8 | 2 1/2 | .030 | – |
| – | – | UADE500J4ARC | 1/2 | 1/2 | 5/8 | 2 1/2 | .060 | – |
| – | – | UADE500J4ARE | 1/2 | 1/2 | 5/8 | 2 1/2 | .120 | – |
| – | HPHV500S4100R030 | – | 1/2 | 1/2 | 1 | 3 | .030 | – |
| – | HPHV500S4100R060 | – | 1/2 | 1/2 | 1 | 3 | .060 | – |
| – | HPHV500S4100CH | – | 1/2 | 1/2 | 1 | 3 | – | .020 |
| – | HPHV500S4100 | – | 1/2 | 1/2 | 1 | 3 | – | – |
| – | HPHV500S4125R015 | UADE500J4BRA | 1/2 | 1/2 | 1 1/4 | 3 | .015 | – |
| – | HPHV500S4125R030 | UADE500J4BRB | 1/2 | 1/2 | 1 1/4 | 3 | .030 | – |
| – | HPHV500S4125R060 | UADE500J4BRC | 1/2 | 1/2 | 1 1/4 | 3 | .060 | – |
| – | HPHV500S4125R090 | UADE500J4BRD | 1/2 | 1/2 | 1 1/4 | 3 | .090 | – |
| – | HPHV500S4125R120 | UADE500J4BRE | 1/2 | 1/2 | 1 1/4 | 3 | .120 | – |
| – | HPHV500S4125CH | – | 1/2 | 1/2 | 1 1/4 | 3 | – | .020 |
| – | HPHV500S4125 | – | 1/2 | 1/2 | 1 1/4 | 3 | – | – |
| – | – | UADE500J4CRA | 1/2 | 1/2 | 1 1/2 | 4 | .015 | – |
| – | HPHV500S4150R030 | UADE500J4CRB | 1/2 | 1/2 | 1 1/2 | 4 | .030 | – |
| – | HPHV500S4150R060 | UADE500J4CRC | 1/2 | 1/2 | 1 1/2 | 4 | .060 | – |
| – | – | UADE500J4CRD | 1/2 | 1/2 | 1 1/2 | 4 | .090 | – |
| – | – | UADE500J4CRE | 1/2 | 1/2 | 1 1/2 | 4 | .120 | – |
| – | HPHV500S4150CH | – | 1/2 | 1/2 | 1 1/2 | 4 | – | .020 |
| – | HPHV500S4150 | – | 1/2 | 1/2 | 1 1/2 | 4 | – | – |
| – | HPHV500S4163R030 | – | 1/2 | 1/2 | 1 5/8 | 4 | .030 | – |
| – | HPHV500S4163R060 | – | 1/2 | 1/2 | 1 5/8 | 4 | .060 | – |
| – | HPHV500S4163R120 | – | 1/2 | 1/2 | 1 5/8 | 4 | .120 | – |
| – | HPHV500S4163 | – | 1/2 | 1/2 | 1 5/8 | 4 | – | – |
| – | HPHV500S4200R030 | – | 1/2 | 1/2 | 2 | 4 | .030 | – |
| – | HPHV500S4200CH | – | 1/2 | 1/2 | 2 | 4 | – | .020 |
| – | HPHV500S4200 | – | 1/2 | 1/2 | 2 | 4 | – | – |
| – | HPHV500S4250R030 | – | 1/2 | 1/2 | 2 1/2 | 4 1/2 | .030 | – |
| – | HPHV500S4300R030 | – | 1/2 | 1/2 | 3 | 5 | .030 | – |
| – | HPHV500S4300R060 | – | 1/2 | 1/2 | 3 | 5 | .060 | – |
| – | HPHV625S4075R060 | – | 5/8 | 5/8 | 3/4 | 3 | .060 | – |
| – | HPHV625S4075CH | – | 5/8 | 5/8 | 3/4 | 3 | – | .020 |
| – | HPHV625S4075 | – | 5/8 | 5/8 | 3/4 | 3 | – | – |
| – | HPHV625S4075LR015 | – | 5/8 | 5/8 | 3/4 | 3 1/2 | .015 | – |
| – | HPHV625S4075LR030 | – | 5/8 | 5/8 | 3/4 | 3 1/2 | .030 | – |
| – | HPHV625S4075LR060 | – | 5/8 | 5/8 | 3/4 | 3 1/2 | .060 | – |

*(continued)*

*(HPHV • UADE • 4 Flute • Inch — continued)*



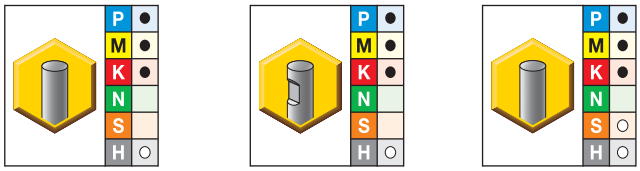




● first choice
○ alternate choice

| KCPM15 | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε | BCH |
|---|---|---|---|---|---|---|---|---|
| – | HPHV625S4075L | – | 5/8 | 5/8 | 3/4 | 3 1/2 | – | – |
| – | HPHV625S4125R030 | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .030 | – |
| – | HPHV625S4125R060 | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .060 | – |
| – | HPHV625S4125R090 | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .090 | – |
| – | HPHV625S4125CH | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – | .020 |
| – | HPHV625S4125 | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – | – |
| – | HPHV625S4163R030 | – | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .030 | – |
| – | HPHV625S4163R060 | – | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .060 | – |
| – | HPHV625S4163R120 | – | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .120 | – |
| – | HPHV625S4163 | – | 5/8 | 5/8 | 1 5/8 | 3 1/2 | – | – |
| – | HPHV625S4213R030 | – | 5/8 | 5/8 | 2 1/8 | 4 | .030 | – |
| – | HPHV625S4213R120 | – | 5/8 | 5/8 | 2 1/8 | 4 | .120 | – |
| – | HPHV625S4213 | – | 5/8 | 5/8 | 2 1/8 | 4 | – | – |
| – | HPHV625S4225R060 | – | 5/8 | 5/8 | 2 1/4 | 5 | .060 | – |
| – | – | UADE625J4ARB | 5/8 | 5/8 | 3/4 | 3 | .030 | – |
| – | – | UADE625J4ARC | 5/8 | 5/8 | 3/4 | 3 | .060 | – |
| – | HPHV750S4088CH | – | 3/4 | 3/4 | 7/8 | 3 1/2 | – | .020 |
| – | HPHV750S4088 | – | 3/4 | 3/4 | 7/8 | 3 1/2 | – | – |
| – | HPHV750S4088LR030 | – | 3/4 | 3/4 | 7/8 | 4 | .030 | – |
| – | HPHV750S4088L | – | 3/4 | 3/4 | 7/8 | 4 | – | – |
| – | – | UADE750J4ARB | 3/4 | 3/4 | 7/8 | 3 1/2 | .030 | – |
| – | – | UADE750J4ARE | 3/4 | 3/4 | 7/8 | 3 1/2 | .120 | – |
| – | HPHV750S4150R015 | UADE750J4BRA | 3/4 | 3/4 | 1 1/2 | 4 | .015 | – |
| – | HPHV750S4150R030 | UADE750J4BRB | 3/4 | 3/4 | 1 1/2 | 4 | .030 | – |
| – | HPHV750S4150R060 | UADE750J4BRC | 3/4 | 3/4 | 1 1/2 | 4 | .060 | – |
| – | HPHV750S4150R090 | – | 3/4 | 3/4 | 1 1/2 | 4 | .090 | – |
| – | HPHV750S4150R120 | UADE750J4BRE | 3/4 | 3/4 | 1 1/2 | 4 | .120 | – |
| – | HPHV750S4150CH | – | 3/4 | 3/4 | 1 1/2 | 4 | – | .020 |
| – | HPHV750S4150 | – | 3/4 | 3/4 | 1 1/2 | 4 | – | – |
| – | HPHV750S4163R030 | – | 3/4 | 3/4 | 1 5/8 | 4 | .030 | – |
| – | HPHV750S4163R060 | – | 3/4 | 3/4 | 1 5/8 | 4 | .060 | – |
| – | HPHV750S4163R120 | – | 3/4 | 3/4 | 1 5/8 | 4 | .120 | – |
| – | HPHV750S4163CH | – | 3/4 | 3/4 | 1 5/8 | 4 | – | .020 |
| – | HPHV750S4225R030 | – | 3/4 | 3/4 | 2 1/4 | 5 | .030 | – |
| – | HPHV750S4225R060 | – | 3/4 | 3/4 | 2 1/4 | 5 | .060 | – |
| – | HPHV750S4225CH | – | 3/4 | 3/4 | 2 1/4 | 5 | – | .020 |
| – | HPHV750S4225 | – | 3/4 | 3/4 | 2 1/4 | 5 | – | – |
| – | HPHV750S4300CH | – | 3/4 | 3/4 | 3 | 6 | – | .020 |
| – | HPHV750S4300 | – | 3/4 | 3/4 | 3 | 6 | – | – |
| – | HPHV750S4400R030 | – | 3/4 | 3/4 | 4 | 6 1/4 | .030 | – |
| – | HPHV750S4400R060 | – | 3/4 | 3/4 | 4 | 6 1/4 | .060 | – |
| – | – | UADE1000J4ARA | 1 | 1 | 1 1/2 | 4 | .015 | – |
| – | HPHV1000S4150R030 | UADE1000J4ARB | 1 | 1 | 1 1/2 | 4 | .030 | – |
| – | – | UADE1000J4ARC | 1 | 1 | 1 1/2 | 4 | .060 | – |
| – | – | UADE1000J4ARD | 1 | 1 | 1 1/2 | 4 | .090 | – |
| – | HPHV1000S4150R120 | – | 1 | 1 | 1 1/2 | 4 | .120 | – |
| – | HPHV1000S4150R250 | UADE1000J4ARF | 1 | 1 | 1 1/2 | 4 | .250 | – |
| – | HPHV1000S4150 | – | 1 | 1 | 1 1/2 | 4 | – | – |
| – | HPHV1000S4150CH | – | 1 | 1 | 1 1/2 | 4 | – | .020 |
| – | HPHV1000S4200R030 | – | 1 | 1 | 2 | 4 | .030 | – |
| – | HPHV1000S4200R060 | – | 1 | 1 | 2 | 4 | .060 | – |
| – | HPHV1000S4200R120 | – | 1 | 1 | 2 | 4 | .120 | – |

*(continued)*

*(HPHV • UADE • 4 Flute • Inch — continued)*

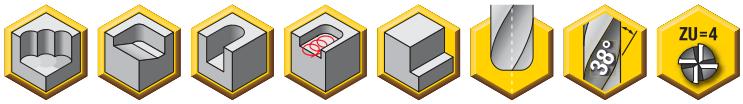


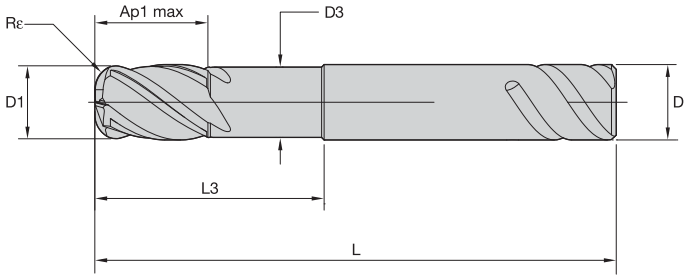

● first choice
○ alternate choice

| KCPM15 | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε | BCH |
|---|---|---|---|---|---|---|---|---|
| – | **HPHV1000S4200** | – | 1 | 1 | 2 | 4 | – | – |
| – | **HPHV1000S4225R030** | – | 1 | 1 | 2 1/4 | 5 | .030 | – |
| – | **HPHV1000S4225R060** | – | 1 | 1 | 2 1/4 | 5 | .060 | – |
| – | **HPHV1000S4225CH** | – | 1 | 1 | 2 1/4 | 5 | – | .020 |
| – | **HPHV1000S4225** | – | 1 | 1 | 2 1/4 | 5 | – | – |
| – | **HPHV1000S4263R030** | – | 1 | 1 | 2 5/8 | 5 | .030 | – |
| – | **HPHV1000S4263CH** | – | 1 | 1 | 2 5/8 | 5 | – | .020 |
| – | **HPHV1000S4263** | – | 1 | 1 | 2 5/8 | 5 | – | – |
| – | **HPHV1000S4300R030** | – | 1 | 1 | 3 | 6 | .030 | – |
| – | **HPHV1000S4300R060** | – | 1 | 1 | 3 | 6 | .060 | – |
| – | **HPHV1000S4300CH** | – | 1 | 1 | 3 | 6 | – | .020 |
| – | **HPHV1000S4400R030** | – | 1 | 1 | 4 | 7 | .030 | – |
| – | **HPHV1000S4400R060** | – | 1 | 1 | 4 | 7 | .060 | – |
| – | **HPHV1000S4400CH** | – | 1 | 1 | 4 | 7 | – | .020 |
| – | **HPHV1250S4225R030** | – | 1 1/4 | 1 1/4 | 2 1/4 | 5 | .030 | – |
| – | **HPHV1250S4225CH** | – | 1 1/4 | 1 1/4 | 2 1/4 | 5 | – | .020 |

NOTE: For application data, see page P25.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



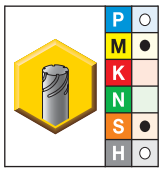


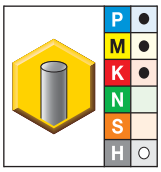

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 +/- |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | +0/-.00051" |

beyond

## UADE • UBDE • 4 Flute with Neck • Inch



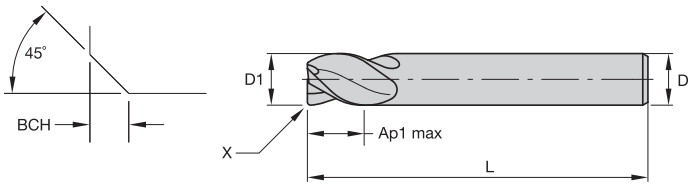




● first choice
○ alternate choice

| KCSM15 | KCPM15 | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|---|
| – | UADE0250J4AQA | 1/4 | 1/4 | .235 | 3/8 | 1 1/4 | 4 | .015 |
| – | UADE0250J4AQB | 1/4 | 1/4 | .235 | 3/8 | 1 1/4 | 4 | .030 |
| – | UADE0375J4AQA | 3/8 | 3/8 | .345 | 1/2 | 2 | 4 | .015 |
| – | UADE0375J4AQB | 3/8 | 3/8 | .345 | 1/2 | 2 | 4 | .030 |
| UBDE0500N4AQA * | – | 1/2 | 3/4 | .470 | 5/8 | 2 1/4 | 4 | .015 |
| – | UADE0500J4AQB | 1/2 | 1/2 | .470 | 5/8 | 2 1/4 | 4 | .030 |
| UBDE0500N4AQB * | – | 1/2 | 3/4 | .470 | 5/8 | 2 1/4 | 4 | .030 |
| UBDE0625N4AQB * | UADE0625J4AQB | 5/8 | 5/8 | .587 | 3/4 | 2 1/4 | 4 | .030 |
| UBDE0625N4AQC * | – | 5/8 | 5/8 | .587 | 3/4 | 2 1/4 | 4 | .060 |
| UBDE0750N4AQB * | UADE0750J4AQB | 3/4 | 3/4 | .700 | 1 | 2 1/4 | 4 1/2 | .030 |
| UBDE0750N4AQC * | – | 3/4 | 3/4 | .700 | 1 | 2 1/4 | 4 1/2 | .060 |
| UBDE0750N4AQD * | – | 3/4 | 3/4 | .700 | 1 | 2 1/4 | 4 1/2 | .090 |
| UBDE0750N4AQE * | – | 3/4 | 3/4 | .700 | 1 | 2 1/4 | 4 1/2 | .120 |
| UBDE0750N4BQB * | UADE0750J4BQB | 3/4 | 3/4 | .700 | 1 | 3 1/4 | 5 1/2 | .030 |
| UBDE0750N4BQC * | – | 3/4 | 3/4 | .700 | 1 | 3 1/4 | 5 1/2 | .060 |
| UBDE0750N4BQD * | – | 3/4 | 3/4 | .700 | 1 | 3 1/4 | 5 1/2 | .090 |
| UBDE0750N4BQE * | – | 3/4 | 3/4 | .700 | 1 | 3 1/4 | 5 1/2 | .120 |
| UBDE1000N4BQB * | UADE1000J4BQB * | 1 | 1 | .939 | 1 1/8 | 3 1/4 | 5 1/2 | .030 |
| UBDE1000N4BQC * | – | 1 | 1 | .939 | 1 1/8 | 3 1/4 | 5 1/2 | .060 |
| UBDE1000N4BQE * | – | 1 | 1 | .939 | 1 1/8 | 3 1/4 | 5 1/2 | .120 |

NOTE: For application data, see page P25.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

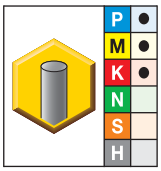



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | +0/-.00051" |

beyond

## HPRSHV • 4 Flute with Extended Reach • Inch

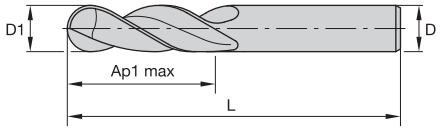



● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L | BCH |
|---|---|---|---|---|---|
| **HPRSHV500S4600CH** | 1/2 | 1/2 | 5/8 | 6 | .020 |
| **HPRSHV500S4600** | 1/2 | 1/2 | 5/8 | 6 | — |
| **HPRSHV625S4600CH** | 5/8 | 5/8 | 3/4 | 6 | .020 |
| **HPRSHV625S4600** | 5/8 | 5/8 | 3/4 | 6 | — |
| **HPRSHV750S4500CH** | 3/4 | 3/4 | 1 | 5 | .020 |
| **HPRSHV750S4600CH** | 3/4 | 3/4 | 1 | 6 | .020 |
| **HPRSHV750S4600** | 3/4 | 3/4 | 1 | 6 | — |
| **HPRSHV1000S4700CH** | 1 | 1 | 1 1/8 | 7 | .020 |

NOTE: For application data, see page P26.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

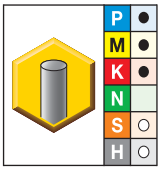


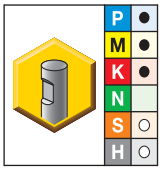

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

beyond

## HPHVBN • 4 Flute with Extended Length-of-Cut • Ball Nose • Inch



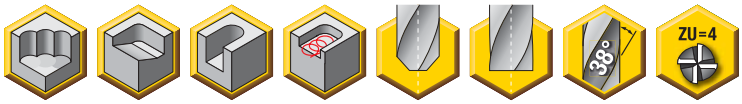



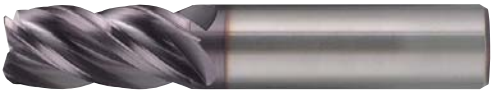

● first choice
○ alternate choice

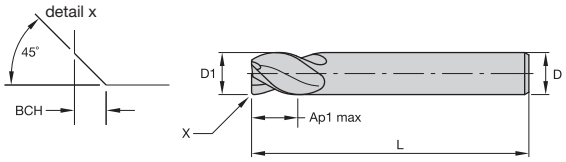
| KCPM15 | KCPM15 | D1 | D | Ap1 max | L |
|---|---|---|---|---|---|
| **HPHVBN125S4050** | – | 1/8 | 1/8 | 1/2 | 2 |
| **HPHVBN188S4063** | – | 3/16 | 3/16 | 5/8 | 2 1/4 |
| **HPHVBN250S4075** | – | 1/4 | 1/4 | 3/4 | 2 1/2 |
| **HPHVBN312S4075** | – | 5/16 | 5/16 | 3/4 | 2 1/2 |
| **HPHVBN375S4088** | – | 3/8 | 3/8 | 7/8 | 2 1/2 |
| **HPHVBN438S4088** | – | 7/16 | 7/16 | 7/8 | 2 1/2 |
| – | **HPHVBN500S4100** | 1/2 | 1/2 | 1 | 3 |
| – | **HPHVBN500S4125** | 1/2 | 1/2 | 1 1/4 | 3 |
| – | **HPHVBN625S4125** | 5/8 | 5/8 | 1 1/4 | 3 1/2 |
| – | **HPHVBN750S4150** | 3/4 | 3/4 | 1 1/2 | 4 |
| – | **HPHVBN1000S4150** | 1 | 1 | 1 1/2 | 4 |

NOTE: For application data, see page P26.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Optimized geometry for titanium machining.



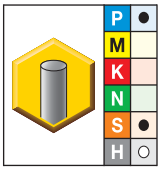






**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HPHVT • 4 Flute • Inch

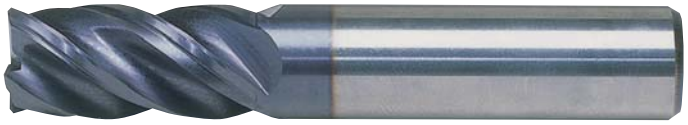



● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L | BCH |
|---|---|---|---|---|---|
| **HPHVT500S4063CH** | 1/2 | 1/2 | 5/8 | 2 1/2 | .020 |
| **HPHVT500S4063** | 1/2 | 1/2 | 5/8 | 2 1/2 | — |
| **HPHVT500S4125CH** | 1/2 | 1/2 | 1 1/4 | 3 | .020 |
| **HPHVT500S4125** | 1/2 | 1/2 | 1 1/4 | 3 | — |
| **HPHVT625S4075CH** | 5/8 | 5/8 | 3/4 | 3 | .020 |
| **HPHVT625S4075** | 5/8 | 5/8 | 3/4 | 3 | — |
| **HPHVT625S4125CH** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .020 |
| **HPHVT625S4125** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | — |
| **HPHVT750S4088CH** | 3/4 | 3/4 | 7/8 | 3 1/2 | .020 |
| **HPHVT750S4088** | 3/4 | 3/4 | 7/8 | 3 1/2 | — |
| **HPHVT750S4150CH** | 3/4 | 3/4 | 1 1/2 | 4 | .020 |
| **HPHVT750S4150** | 3/4 | 3/4 | 1 1/2 | 4 | — |
| **HPHVT1000S4150CH** * | 1 | 1 | 1 1/2 | 4 | .020 |
| **HPHVT1000S4150** * | 1 | 1 | 1 1/2 | 4 | — |

NOTE: For application data, see page P27.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## HARVI I • HPHV • UADE • Unequal Flute Spacing



| Material Group | | Side Milling (A) and Slotting (B) | | | KC643M | | KCPM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | | | D1 — Diameter | | | | | | | | | | | |
| | | | | | | | | | frac. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | ap | min | max | min | max | dec. | .125 | .188 | .250 | .313 | .375 | .438 | .500 | .625 | .750 | 1.000 | 1.250 |
| P | 0 | Ap max | 0.5 x D | 1 x D | 490 | 660 | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 | .0049 |
| | 1 | Ap max | 0.5 x D | 1 x D | 490 | 660 | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 | .0049 |
| | 2 | Ap max | 0.5 x D | 1 x D | 460 | 620 | 460 | 620 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 | .0049 |
| | 3 | Ap max | 0.5 x D | 1 x D | 390 | 520 | 390 | 520 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 | .0048 |
| | 4 | Ap max | 0.5 x D | 0.75 x D | 300 | 490 | 300 | 490 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 | .0040 |
| | 5 | Ap max | 0.5 x D | 1 x D | 200 | 330 | 200 | 330 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 | .0039 |
| | 6 | Ap max | 0.5 x D | 0.75 x D | 160 | 250 | 160 | 250 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 | .0029 |
| M | 1 | Ap max | 0.5 x D | 1 x D | 300 | 380 | 300 | 380 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 | .0048 |
| | 2 | Ap max | 0.5 x D | 1 x D | 200 | 260 | 200 | 260 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 | .0039 |
| | 3 | Ap max | 0.5 x D | 1 x D | 200 | 230 | 200 | 230 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 | .0029 |
| K | 1 | Ap max | 0.5 x D | 1 x D | 390 | 490 | 390 | 490 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 | .0049 |
| | 2 | Ap max | 0.5 x D | 1 x D | 360 | 460 | 360 | 460 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 | .0048 |
| | 3 | Ap max | 0.5 x D | 1 x D | 360 | 430 | 360 | 430 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 | .0039 |
| S | 1 | Ap max | 0.3 x D | 0.3 x D | 160 | 300 | – | – | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 | .0048 |
| | 2 | Ap max | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 | .0026 |
| | 3 | Ap max | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 | .0026 |
| | 4 | Ap max | 0.5 x D | 1 x D | 160 | 200 | – | – | IPT | .0005 | .0008 | .0011 | .0014 | .0017 | .0019 | .0021 | .0025 | .0028 | .0033 | .0036 |
| H | 1 | Ap max | 0.5 x D | 0.75 x D | 260 | 460 | 260 | 460 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 | .0040 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
For tools 2 x D <LOC (Ap1 max) =<3 x D Ae = 0.25 x D, for tools with LOC (Ap1 max) longer than 3 x D, Ae = 0, Ae = 0.1 x D and no slot.

## HARVI I • UADE • UBDE • Unequal Flute Spacing • With Neck

| Material Group | | Side Milling (A) and Slotting (B) | | | KCSM15 | | KCPM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | | | D1 — Diameter | | | | | |
| | | | | | | | | | frac. | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | max | max | dec. | .2500 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | 0.75 x D | 0.5 x D | 0.75 x D | 490 | 660 | 490 | 660 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 490 | 660 | 490 | 660 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 460 | 620 | 460 | 620 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 390 | 520 | 390 | 520 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 0.75 x D | 0.5 x D | 0.5 x D | 300 | 490 | 300 | 490 | IPT | .0014 | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 330 | 200 | 330 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 0.75 x D | 0.5 x D | 0.5 x D | 160 | 250 | 160 | 250 | IPT | .0010 | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 300 | 380 | 300 | 380 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 260 | 200 | 260 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 230 | 200 | 230 | IPT | .0010 | .0015 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 0.75 x D | 0.5 x D | 0.75 x D | – | – | 390 | 490 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | – | – | 360 | 460 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | – | – | 360 | 430 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 0.75 x D | 0.3 x D | 0.3 x D | 160 | 300 | – | – | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 0.75 x D | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0008 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 0.75 x D | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0008 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 0.75 x D | 0.5 x D | 0.75 x D | 160 | 200 | – | – | IPT | .0011 | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 0.75 x D | 0.5 x D | 0.5 x D | 260 | 460 | 260 | 460 | IPT | .0014 | .0020 | .0026 | .0030 | .0034 | .0039 |

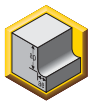
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
Side milling applications — for longest reach (L3) tools, reduce ae by 30%.
Slot milling applications — for longest reach (L3) tools, redulce ap by 30%.

## HARVI I • HPRSHV • Unequal Flute Spacing • Extended Reach

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KCPM15 Cutting Speed — vc SFM min | max | frac. / dec. | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. D1 — Diameter 1/2 .500 | 5/8 .625 | 3/4 .750 | 1 1.000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 500 | 650 | IPT | .0035 | .0039 | .0043 | .0050 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 450 | 625 | IPT | .0035 | .0039 | .0043 | .0050 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 400 | 525 | IPT | .0029 | .0034 | .0038 | .0046 |
| | 4 | 0.75 x D | 0.5 x D | 0.5 x D | 300 | 475 | IPT | .0026 | .0030 | .0033 | .0039 |
| | 5 | 1.5 x D | 0.5 x D | 0.75 x D | 200 | 325 | IPT | .0023 | .0027 | .0030 | .0036 |
| | 6 | 0.75 x D | 0.5 x D | 0.5 x D | 150 | 225 | IPT | .0019 | .0022 | .0024 | .0028 |
| M | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 260 | 330 | IPT | .0029 | .0034 | .0038 | .0046 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 260 | IPT | .0023 | .0027 | .0030 | .0036 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 260 | IPT | .0019 | .0022 | .0024 | .0028 |
| K | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 390 | 520 | IPT | .0035 | .0039 | .0043 | .0050 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 360 | 460 | IPT | .0029 | .0034 | .0038 | .0046 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 330 | 430 | IPT | .0023 | .0027 | .0030 | .0036 |

NOTE: Those guidelines may require variations to achieve optimum results.
For tools with reach > 3 x D, reduce fz by 20%.
For tools with reach > 5 x D, reduce fz by 30%.
For tools with reach > 10 x D, reduce vc and fz by 30%.

## HARVI I • HPHVBN • 4 Flute with Extended Length-of-Cut • Ball Nose



| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KCPM15 Cutting Speed — vc SFM min | max | frac. / dec. | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. D1 — Diameter 1/8 .125 | 3/16 .188 | 1/4 .250 | 5/16 .313 | 3/8 .375 | 7/16 .438 | 1/2 .500 | 5/8 .625 | 3/4 .750 | 1 1.000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | 1.25 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 1.25 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.25 x D | 0.5 x D | 1 x D | 460 | 620 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 1.25 x D | 0.5 x D | 1 x D | 390 | 520 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 1.25 x D | 0.5 x D | 0.75 x D | 300 | 490 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 1.25 x D | 0.5 x D | 1 x D | 200 | 330 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.25 x D | 0.5 x D | 0.75 x D | 160 | 250 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 1.25 x D | 0.5 x D | 1 x D | 300 | 380 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.25 x D | 0.5 x D | 1 x D | 200 | 260 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 1.25 x D | 0.5 x D | 1 x D | 200 | 230 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 1.25 x D | 0.5 x D | 1 x D | 390 | 490 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.25 x D | 0.5 x D | 1 x D | 360 | 460 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 1.25 x D | 0.5 x D | 1 x D | 360 | 430 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 1 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.25 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.25 x D | 0.5 x D | 1 x D | 160 | 200 | IPT | .0005 | .0008 | .0011 | .0014 | .0017 | .0019 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 1.25 x D | 0.5 x D | 0.75 x D | 260 | 460 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HARVI I • HPHVT • Unequal Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) | | | KC643M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | |
| | | | | | | | frac. | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .500 | .625 | .750 | 1.000 |
| P | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | 330 | IPT | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | 250 | IPT | .0019 | .0022 | .0025 | .0028 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | 200 | IPT | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 1.5 x D | 0.5 x D | 0.75 x D | 260 | 460 | IPT | .0026 | .0030 | .0034 | .0039 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# HARVI™ II

## High-Performance Solid Carbide End Mills

### Primary Application

The HARVI II system is designed to provide maximum metal removal rates with five unequally spaced flutes for roughing and finishing operations in side milling, slotting, and profiling. A wide range of diameters and corner configurations, such as chamfer, radii, and sharp edges, are available from stock.

- 1 x D slotting in titanium and stainless steels with five unequally spaced flutes.
- Roughing and finishing with one tool.
- KCPM15™ Beyond™ grades for long tool life.

## Features and Benefits

### Advanced Technology

- Five unequally spaced flutes for chatter-free machining at high feed rates.
- Proprietary parabolic core design increases stability.
- Ramping up to 3°.
- 1 x D full slotting capability in:
  - — Titanium
  - — Stainless steel

### Tailored Grades

- KCPM15 Beyond grade for outstanding wear protection in stainless steel to mitigate crater, depth-of-cut notching, and flank wear.
- Universal KC643M™ grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

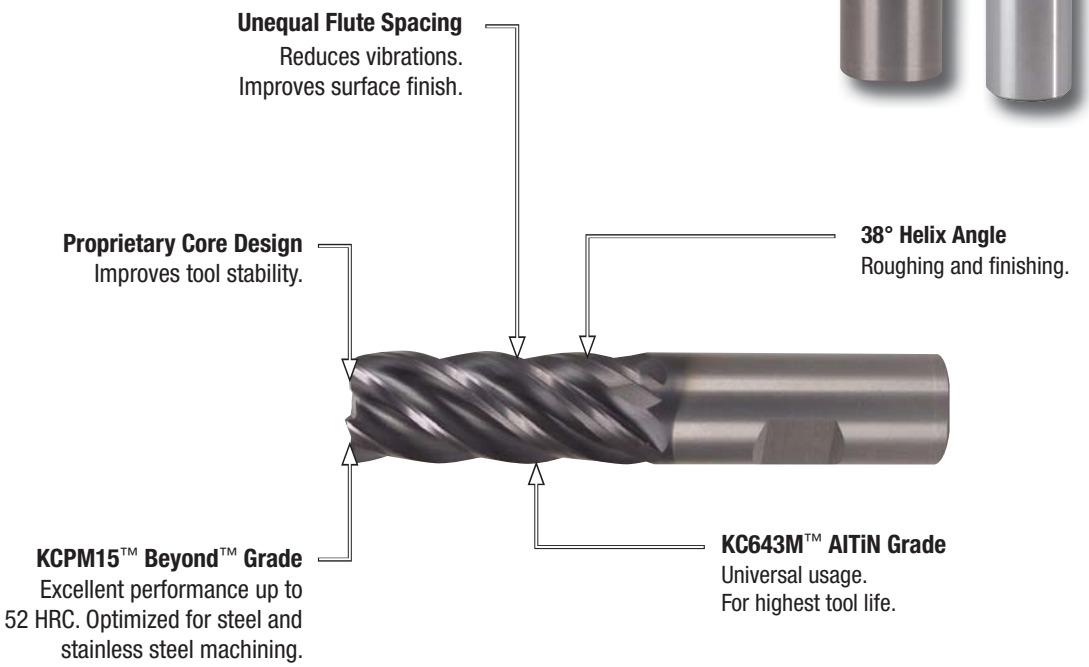
### Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut possible.
- Chip divider geometry reduces power consumption and improves chip formation in difficult-to-cut materials.
- Ball-nose version available.
- Internal coolant axial and radial available.
- Various shanks, including Safe-Lock™ by Haimer, and non-standard coatings available.
- Multiple steps possible.

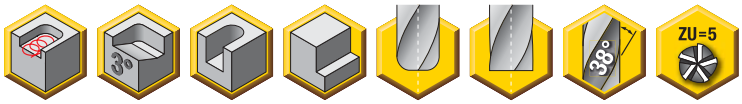
### Extensive Standard Offering

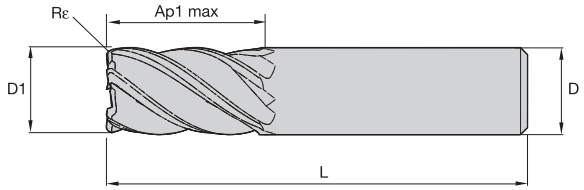
- Diameter range 3/16–1".
- Necked, corner radii, and square-end offering.

# High-feed roughing and finishing with one tool at highest length of cut.



- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 3°.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Five-flute geometry enables slotting up to 1 x D.



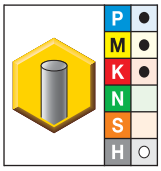


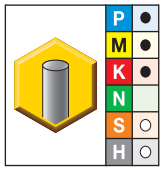

**End Mill Tolerances**

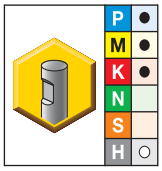
| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

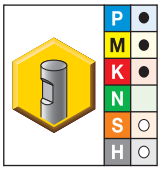
beyond

## UCDE • 5 Flute • Inch



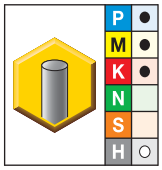



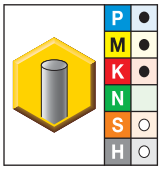

● first choice
○ alternate choice

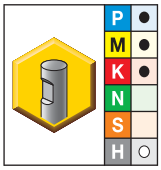
| KCPM15 | KC643M | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|---|---|
| UCDE188J5BRA | UCDE188J5BRA | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | .015 |
| UCDE188J5BRB | UCDE188J5BRB | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | .030 |
| UCDE188J5BS | UCDE188J5BS | – | – | 3/16 | 3/16 | 5/8 | 2 1/4 | – |
| – | UCDE219J5BS | – | – | 7/32 | 1/4 | 5/8 | 2 1/2 | – |
| UCDE250J5BRA | UCDE250J5BRA | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 | .015 |
| UCDE250J5BRB | UCDE250J5BRB | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 | .030 |
| UCDE250J5BS | UCDE250J5BS | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 | – |
| – | UCDE281J5BS | – | – | 9/32 | 5/16 | 3/4 | 2 1/2 | – |
| UCDE312J5BRA | UCDE312J5BRA | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | .015 |
| UCDE312J5BRB | UCDE312J5BRB | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | .030 |
| UCDE312J5BS | UCDE312J5BS | – | – | 5/16 | 5/16 | 3/4 | 2 1/2 | – |
| – | UCDE344J5BS | – | – | 11/32 | 3/8 | 1 | 2 1/2 | – |
| UCDE375J5BRA | UCDE375J5BRA | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .015 |
| UCDE375J5BRB | UCDE375J5BRB | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .030 |
| UCDE375J5BS | UCDE375J5BS | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 | – |
| – | UCDE375J5CRA | – | – | 3/8 | 3/8 | 1 | 3 | .015 |
| – | UCDE375J5CRB | – | – | 3/8 | 3/8 | 1 | 3 | .030 |
| – | UCDE438J5BS | – | – | 7/16 | 7/16 | 1 | 2 1/2 | – |
| UCDE500J5BRA | UCDE500J5BRA | UCDE500K5BRA | UCDE500K5BRA | 1/2 | 1/2 | 1 1/4 | 3 | .015 |
| UCDE500J5BRB | UCDE500J5BRB | UCDE500K5BRB | UCDE500K5BRB | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| – | UCDE500J5BRD | – | – | 1/2 | 1/2 | 1 1/4 | 3 | .060 |
| UCDE500J5BRF | UCDE500J5BRF | UCDE500K5BRF | UCDE500K5BRF | 1/2 | 1/2 | 1 1/4 | 3 | .120 |
| UCDE500J5BS | UCDE500J5BS | UCDE500K5BS | UCDE500K5BS | 1/2 | 1/2 | 1 1/4 | 3 | – |
| – | UCDE562J5BRA | – | – | 9/16 | 5/8 | 1 1/4 | 3 1/2 | .015 |
| – | UCDE562J5BRB | – | – | 9/16 | 5/8 | 1 1/4 | 3 1/2 | .030 |
| – | UCDE562J5BS | – | – | 9/16 | 5/8 | 1 1/4 | 3 1/2 | – |
| – | UCDE625J5BRA | – | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .015 |
| UCDE625J5BRB | UCDE625J5BRB | UCDE625K5BRB | UCDE625K5BRB | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .030 |
| – | UCDE625J5BRD | – | – | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .060 |
| UCDE625J5BS | UCDE625J5BS | UCDE625K5BS | UCDE625K5BS | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – |
| – | UCDE750J5BRA | – | – | 3/4 | 3/4 | 1 1/2 | 4 | .015 |
| UCDE750J5BRB | UCDE750J5BRB | UCDE750K5BRB | UCDE750K5BRB | 3/4 | 3/4 | 1 1/2 | 4 | .030 |

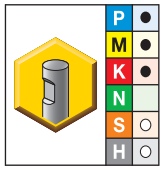
*(continued)*

*(UCDE • 5 Flute • Inch — continued)*







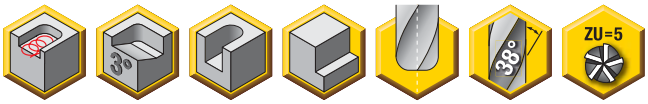


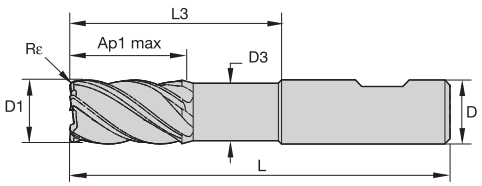

● first choice
○ alternate choice

| KCPM15 | KC643M | KCPM15 | KC643M | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|---|---|
| UCDE750J5BRD | UCDE750J5BRD | — | — | 3/4 | 3/4 | 1 1/2 | 4 | .060 |
| UCDE750J5BRE | UCDE750J5BRE * | — | — | 3/4 | 3/4 | 1 1/2 | 4 | .090 |
| UCDE750J5BRF | UCDE750J5BRF | — | UCDE750K5BRF | 3/4 | 3/4 | 1 1/2 | 4 | .120 |
| UCDE750J5BS | UCDE750J5BS | UCDE750K5BS | UCDE750K5BS | 3/4 | 3/4 | 1 1/2 | 4 | — |
| — | UCDE750J5CRB | — | — | 3/4 | 3/4 | 1 5/8 | 4 | .030 |
| — | UCDE750J5CRD | — | — | 3/4 | 3/4 | 1 5/8 | 4 | .060 |
| — | UCDE750J5CRF | — | — | 3/4 | 3/4 | 1 5/8 | 4 | .120 |
| — | UCDE750J5CS | — | — | 3/4 | 3/4 | 1 5/8 | 4 | — |
| — | UCDE1000J5BRA | — | — | 1 | 1 | 1 3/4 | 4 1/2 | .015 |
| UCDE1000J5BRB | UCDE1000J5BRB | UCDE1000K5BRB | UCDE1000K5BRB | 1 | 1 | 1 3/4 | 4 1/2 | .030 |
| UCDE1000J5BRD | UCDE1000J5BRD * | — | — | 1 | 1 | 1 3/4 | 4 1/2 | .060 |
| UCDE1000J5BRE * | UCDE1000J5BRE * | — | — | 1 | 1 | 1 3/4 | 4 1/2 | .090 |
| UCDE1000J5BRF | UCDE1000J5BRF | UCDE1000K5BRF * | UCDE1000K5BRF * | 1 | 1 | 1 3/4 | 4 1/2 | .120 |
| UCDE1000J5BS | UCDE1000J5BS * | UCDE1000K5BS | UCDE1000K5BS | 1 | 1 | 1 3/4 | 4 1/2 | — |

NOTE: For application data, see page P34.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 3°.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Five-flute geometry enables slotting up to 1 x D.



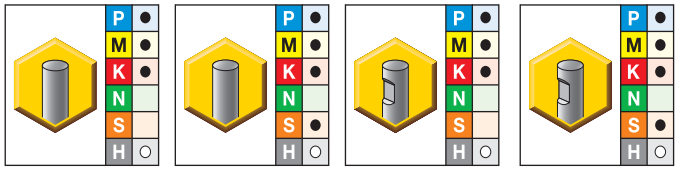



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

beyond

## UCDE • 5 Flute with Neck • Inch

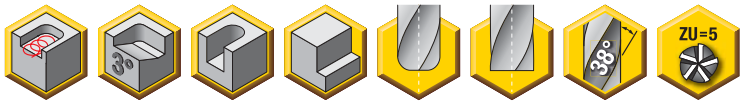


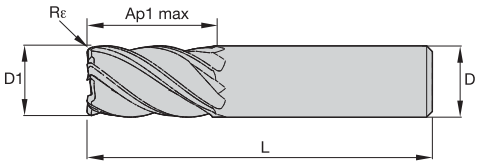

● first choice
○ alternate choice

| KCPM15 | KC643M | KCPM15 | KC643M | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|---|---|---|
| **UCDE250J5ARA** | **UCDE250J5ARA** | **–** | **–** | 1/4 | 1/4 | .235 | 1/2 | 1 1/4 | 4 | .015 |
| **UCDE375J5ARA** | **UCDE375J5ARA** | **–** | **–** | 3/8 | 3/8 | .353 | 7/8 | 1 7/8 | 4 | .015 |
| **–** | **–** | **UCDE500K5ARB** | **UCDE500K5ARB** | 1/2 | 1/2 | .472 | 1 1/4 | 2 1/4 | 4 | .030 |
| **–** | **–** | **UCDE625K5ARB** | **UCDE625K5ARB** | 5/8 | 5/8 | .590 | 1 1/4 | 2 1/4 | 4 | .030 |
| **–** | **–** | **UCDE750K5ARB** | **UCDE750K5ARB** | 3/4 | 3/4 | .704 | 1 1/2 | 3 1/4 | 5 1/2 | .030 |
| **–** | **–** | **UCDE1000K5ARB** | **UCDE1000K5ARB** | 1 | 1 | .940 | 1 3/4 | 3 1/4 | 5 1/2 | .030 |

NOTE: For application data, see page P35.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 3°.
- Unequal flute spacing minimzes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Optimized geometry for titanium machining.
- Five-flute geometry enables slotting up to 1 x D.

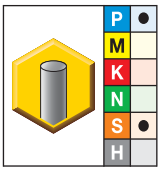


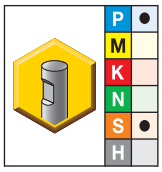



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## UDDE • 5 Flute • Inch




● first choice
○ alternate choice

| KC643M | KC643M | D1 | D | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|
| **UDDE500J5BRA** | – | 1/2 | 1/2 | 1 1/4 | 1 1/4 | 3 | .015 |
| **UDDE500J5BRB** | – | 1/2 | 1/2 | 1 1/4 | 1 1/4 | 3 | .030 |
| **UDDE500J5BRF** | – | 1/2 | 1/2 | 1 1/4 | 1 1/4 | 3 | .120 |
| **UDDE500J5BS** | – | 1/2 | 1/2 | 1 1/4 | 1 1/4 | 3 | – |
| – | **UDDE500K5BRA** | 1/2 | 1/2 | 1 1/4 | 1 1/2 | 3 | .015 |
| – | **UDDE500K5BRB** | 1/2 | 1/2 | 1 1/4 | 1 1/2 | 3 | .030 |
| – | **UDDE500K5BRF** | 1/2 | 1/2 | 1 1/4 | 1 1/2 | 3 | .120 |
| – | **UDDE500K5BS** | 1/2 | 1/2 | 1 1/4 | 1 1/2 | 3 | – |
| **UDDE625J5BRB** | – | 5/8 | 5/8 | 1 1/4 | 1 1/4 | 3 1/2 | .030 |
| **UDDE625J5BS** | – | 5/8 | 5/8 | 1 1/4 | 1 1/4 | 3 1/2 | – |
| – | **UDDE625K5BRB** | 5/8 | 5/8 | 1 1/4 | 1 1/2 | 3 1/2 | .030 |
| – | **UDDE625K5BS** | 5/8 | 5/8 | 1 1/4 | 1 1/2 | 3 1/2 | – |
| **UDDE750J5BRB** | – | 3/4 | 3/4 | 1 1/2 | 1 1/4 | 4 | .030 |
| **UDDE750J5BRF** | – | 3/4 | 3/4 | 1 1/2 | 1 1/4 | 4 | .120 |
| **UDDE750J5BS** | – | 3/4 | 3/4 | 1 1/2 | 1 1/4 | 4 | – |
| – | **UDDE750K5BRB** | 3/4 | 3/4 | 1 1/2 | 1 3/4 | 4 | .030 |
| – | **UDDE750K5BRF** | 3/4 | 3/4 | 1 1/2 | 1 3/4 | 4 | .120 |
| – | **UDDE750K5BS** | 3/4 | 3/4 | 1 1/2 | 1 3/4 | 4 | – |
| **UDDE1000J5BRB** | – | 1 | 1 | 1 3/4 | 1 1/4 | 4 1/2 | .030 |
| **UDDE1000J5BRF** * | – | 1 | 1 | 1 3/4 | 1 1/4 | 4 1/2 | .120 |
| **UDDE1000J5BS** | – | 1 | 1 | 1 3/4 | 1 1/4 | 4 1/2 | – |
| – | **UDDE1000K5BRB** | 1 | 1 | 1 3/4 | 1 3/4 | 4 1/2 | .030 |
| – | **UDDE1000K5BRF** | 1 | 1 | 1 3/4 | 1 3/4 | 4 1/2 | .120 |
| – | **UDDE1000K5BS** | 1 | 1 | 1 3/4 | 1 3/4 | 4 1/2 | – |

NOTE: For application data, see page P35.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## HARVI II • UCDE • Unequal Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) | | | KC643M | | KCPM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | | | D1 — Diameter | | | | | |
| | | | | | | | | | frac. | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | min | max | dec. | .250 | .375 | .500 | .625 | .750 | 1.000 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | 490 | 660 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | 490 | 660 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | 620 | 460 | 620 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | 520 | 390 | 520 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 1.5 x D | 0.5 x D | 0.75 x D | 300 | 490 | 300 | 490 | IPT | .0014 | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | 330 | 200 | 330 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | 250 | 160 | 250 | IPT | .0010 | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 1.5 x D | 0.5 x D | 1 x D | 300 | 380 | 300 | 380 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 200 | 260 | 200 | 260 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 200 | 230 | 200 | 230 | IPT | .0010 | .0015 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | 490 | 390 | 490 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | 460 | 360 | 460 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | 430 | 360 | 430 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | – | – | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0008 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0008 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | 200 | – | – | IPT | .0011 | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 1.5 x D | 0.5 x D | 0.75 x D | 260 | 460 | 260 | 460 | IPT | .0014 | .0020 | .0026 | .0030 | .0034 | .0039 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HARVI II • UCDE • Unequal Flute Spacing • With Neck

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC643M Cutting Speed — vc SFM min | KC643M max | KCPM15 max | KCPM15 max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap | ae | ap | min | max | max | max | dec. | .2500 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | 0.75 x D | 0.5 x D | 0.75 x D | 490 | 660 | 490 | 660 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 490 | 660 | 490 | 660 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 460 | 620 | 460 | 620 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 390 | 520 | 390 | 520 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 0.75 x D | 0.5 x D | 0.5 x D | 300 | 490 | 300 | 490 | IPT | .0014 | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 330 | 200 | 330 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 0.75 x D | 0.5 x D | 0.5 x D | 160 | 250 | 160 | 250 | IPT | .0010 | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 300 | 380 | 300 | 380 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 260 | 200 | 260 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 200 | 230 | 200 | 230 | IPT | .0010 | .0015 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 0.75 x D | 0.5 x D | 0.75 x D | 390 | 490 | 390 | 490 | IPT | .0018 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 0.75 x D | 0.5 x D | 0.75 x D | 360 | 460 | 360 | 460 | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 0.75 x D | 0.5 x D | 0.75 x D | 360 | 430 | 360 | 430 | IPT | .0012 | .0018 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 0.75 x D | 0.3 x D | 0.3 x D | 160 | 300 | – | – | IPT | .0015 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 0.75 x D | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0008 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 0.75 x D | 0.3 x D | 0.3 x D | 80 | 130 | – | – | IPT | .0008 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 0.75 x D | 0.5 x D | 0.75 x D | 160 | 200 | – | – | IPT | .0011 | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 0.75 x D | 0.5 x D | 0.5 x D | 260 | 460 | 260 | 460 | IPT | .0014 | .0020 | .0026 | .0030 | .0034 | .0039 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
Side milling applications — for longest reach (L3) tools, reduce ae by 30%.
Slot milling applications — for longest reach (L3) tools, redulce ap by 30%.

## HARVI II • UDDE • Unequal Flute Spacing

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC643M Cutting Speed — vc SFM min | KC643M max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap | ae | ap | min | max | dec. | .500 | .625 | .750 | 1.000 |
| P | 5 | 1.25 x D | 0.5 x D | 1 x D | 200 | 325 | IPT | .0023 | .0027 | .0003 | .0036 |
| | 6 | 1.25 x D | 0.5 x D | 0.75 x D | 150 | 225 | IPT | .0019 | .0022 | .0024 | .0028 |
| S | 2 | 1.0 x D | 0.3 x D | 0.3 x D | 70 | 130 | IPT | .0016 | .0018 | .0020 | .0025 |
| | 3 | 1.25 x D | 0.5 x D | 1 x D | 160 | 260 | IPT | .0023 | .0027 | .0030 | .0036 |
| | 4 | 1.25 x D | 0.5 x D | 1 x D | 150 | 210 | IPT | .0022 | .0025 | .0028 | .0033 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# HARVI™ II Long

## High-Performance Solid Carbide End Mills

### Primary Application

The HARVI II Long system is designed for machining titanium, steels, and stainless steels with excellent surface finishes at maximum Metal Removal Rates (MRR). The extended cutting length enables the HARVI II Long system to machine deep pockets with thin walls in semi-finishing and finishing operations. It also reduces the number of cuts when machining wing profiles for the aerospace industry.

- 5 x D side milling finishing operations in titanium and stainless steels.
- Exceptionally straight walls.
- Universal KC643M™ grade for long tool life.

## Features and Benefits

### Advanced Technology

- Five unequally spaced flutes for chatter-free machining at high feed rates, improving surface finish and tool life.
- 3 x D and 5 x D lengths for reduced number of cuts.
- Innovative core design increases stability for exceptionally straight walls.
- Improved feed rate in corner machining operations versus conventional cutters.

### Tailored Grades

- Universal KC643M grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

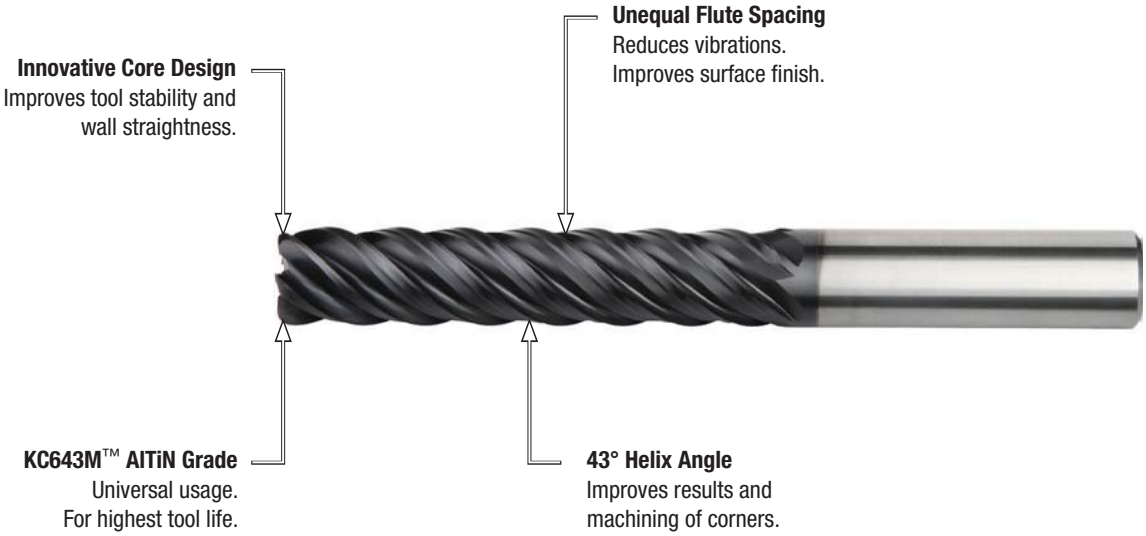
### Customization

- Intermediate diameters available.
- Chip divider geometry available for reduced power consumption and improved chip formation in difficult-to-cut materials.
- Internal coolant axial, as well as radial, available.
- Various shank options, including Safe-Lock™ by Haimer, and non-standard coatings available.

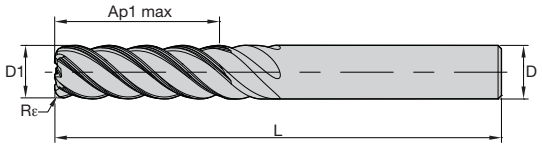
### Extensive Standard Offering

- Diameter range 1/4–1".
- Various corner radii in stock.

# 3 x D and 5 x D lengths of cut without reduced feed rates when machining corners.



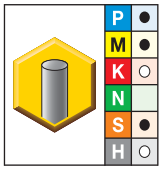
- Kennametal standard dimensions.
- Non-center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- For finishing and semi-finishing applications.
- Optimized geometry for machining corners at deep cavities.




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HARVI II • UGDE • 3 x D Lengths of Cut

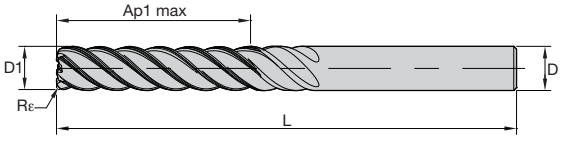



● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **UGDE0250J5ARA** | 1/4 | 1/4 | 3/4 | 2 1/2 | .015 |
| **UGDE0250J5ARB** | 1/4 | 1/4 | 3/4 | 2 1/2 | .030 |
| **UGDE0250J5AE** | 1/4 | 1/4 | 3/4 | 2 1/2 | — |
| **UGDE0312J5ARA** | 5/16 | 5/16 | 15/16 | 3 | .015 |
| **UGDE0312J5ARB** * | 5/16 | 5/16 | 15/16 | 3 | .030 |
| **UGDE0312J5AE** | 5/16 | 5/16 | 15/16 | 3 | — |
| **UGDE0375J5ARA** | 3/8 | 3/8 | 1 1/8 | 4 | .015 |
| **UGDE0375J5ARB** | 3/8 | 3/8 | 1 1/8 | 4 | .030 |
| **UGDE0375J5ARC** | 3/8 | 3/8 | 1 1/8 | 4 | .060 |
| **UGDE0375J5AE** | 3/8 | 3/8 | 1 1/8 | 4 | — |
| **UGDE0500J5ARA** | 1/2 | 1/2 | 1 1/2 | 4 | .015 |
| **UGDE0500J5ARB** | 1/2 | 1/2 | 1 1/2 | 4 | .030 |
| **UGDE0500J5ARC** | 1/2 | 1/2 | 1 1/2 | 4 | .060 |
| **UGDE0500J5AE** | 1/2 | 1/2 | 1 1/2 | 4 | — |
| **UGDE0625J5ARA** | 5/8 | 5/8 | 1 7/8 | 5 | .015 |
| **UGDE0625J5ARB** | 5/8 | 5/8 | 1 7/8 | 5 | .030 |
| **UGDE0625J5ARC** | 5/8 | 5/8 | 1 7/8 | 5 | .060 |
| **UGDE0625J5ARD** | 5/8 | 5/8 | 1 7/8 | 5 | .120 |
| **UGDE0625J5AE** | 5/8 | 5/8 | 1 7/8 | 5 | — |
| **UGDE0750J5ARA** | 3/4 | 3/4 | 2 1/4 | 5 | .015 |
| **UGDE0750J5ARB** | 3/4 | 3/4 | 2 1/4 | 5 | .030 |
| **UGDE0750J5ARC** | 3/4 | 3/4 | 2 1/4 | 5 | .060 |
| **UGDE0750J5ARD** | 3/4 | 3/4 | 2 1/4 | 5 | .120 |
| **UGDE0750J5AE** | 3/4 | 3/4 | 2 1/4 | 5 | — |
| **UGDE1000J5ARA** | 1 | 1 | 3 | 6 | .015 |
| **UGDE1000J5ARB** | 1 | 1 | 3 | 6 | .030 |
| **UGDE1000J5ARC** | 1 | 1 | 3 | 6 | .060 |
| **UGDE1000J5ARD** | 1 | 1 | 3 | 6 | .120 |
| **UGDE1000J5AE** | 1 | 1 | 3 | 6 | — |

NOTE: For application data, see page P40.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

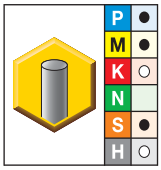
- Kennametal standard dimensions.
- Non-center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- For finishing and semi-finishing applications.
- Optimized geometry for machining corners at deep cavities.




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HARVI II • UGDE • 5 x D Lengths of Cut




● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| UGDE0250J5BRA | 1/4 | 1/4 | 1 1/4 | 3 | .015 |
| UGDE0250J5BRB | 1/4 | 1/4 | 1 1/4 | 3 | .030 |
| UGDE0250J5BE | 1/4 | 1/4 | 1 1/4 | 3 | — |
| UGDE0312J5BRA | 5/16 | 5/16 | 1 1/4 | 3 1/2 | .015 |
| UGDE0312J5BRB | 5/16 | 5/16 | 1 1/4 | 3 1/2 | .030 |
| UGDE0312J5BE | 5/16 | 5/16 | 1 1/4 | 3 1/2 | — |
| UGDE0375J5BRA | 3/8 | 3/8 | 1 7/8 | 4 | .015 |
| UGDE0375J5BRB | 3/8 | 3/8 | 1 7/8 | 4 | .030 |
| UGDE0375J5BRC | 3/8 | 3/8 | 1 7/8 | 4 | .060 |
| UGDE0375J5BE | 3/8 | 3/8 | 1 7/8 | 4 | — |
| UGDE0500J5BRA | 1/2 | 1/2 | 2 1/2 | 5 | .015 |
| UGDE0500J5BRB | 1/2 | 1/2 | 2 1/2 | 5 | .030 |
| UGDE0500J5BRC | 1/2 | 1/2 | 2 1/2 | 5 | .060 |
| UGDE0500J5BE | 1/2 | 1/2 | 2 1/2 | 5 | — |
| UGDE0625J5BRA | 5/8 | 5/8 | 3 1/8 | 6 | .015 |
| UGDE0625J5BRB | 5/8 | 5/8 | 3 1/8 | 6 | .030 |
| UGDE0625J5BRC | 5/8 | 5/8 | 3 1/8 | 6 | .060 |
| UGDE0625J5BRD | 5/8 | 5/8 | 3 1/8 | 6 | .120 |
| UGDE0625J5BE | 5/8 | 5/8 | 3 1/8 | 6 | — |
| UGDE0750J5BRA | 3/4 | 3/4 | 3 3/4 | 7 | .015 |
| UGDE0750J5BRB | 3/4 | 3/4 | 3 3/4 | 7 | .030 |
| UGDE0750J5BRC | 3/4 | 3/4 | 3 3/4 | 7 | .060 |
| UGDE0750J5BRD | 3/4 | 3/4 | 3 3/4 | 7 | .120 |
| UGDE0750J5BE | 3/4 | 3/4 | 3 3/4 | 7 | — |
| UGDE1000J5BRA | 1 | 1 | 5 | 7 1/2 | .015 |
| UGDE1000J5BRB | 1 | 1 | 5 | 7 1/2 | .030 |
| UGDE1000J5BRC | 1 | 1 | 5 | 7 1/2 | .060 |
| UGDE1000J5BRD | 1 | 1 | 5 | 7 1/2 | .120 |
| UGDE1000J5BE | 1 | 1 | 5 | 7 1/2 | — |

NOTE: For application data, see page P41.

## HARVI II • UGDE • Unequal Flute Spacing • 3 x D Lengths of Cut

Side Milling (A)

| Material Group | | A | | KC643M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | |
| | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | max | dec. | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | Ap max | 0.05 x D | 980 | 1310 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 1 | Ap max | 0.05 x D | 980 | 1310 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 2 | Ap max | 0.05 x D | 920 | 1250 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 3 | Ap max | 0.05 x D | 790 | 1050 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 4 | Ap max | 0.05 x D | 590 | 980 | IPT | .0017 | .0021 | .0025 | .0031 | .0036 | .0040 | .0046 |
| | 5 | Ap max | 0.05 x D | 390 | 660 | IPT | .0015 | .0019 | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 6 | Ap max | 0.05 x D | 330 | 490 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 | .0034 |
| M | 1 | Ap max | 0.05 x D | 590 | 750 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | 0.05 x D | 390 | 520 | IPT | .0015 | .0019 | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 3 | Ap max | 0.05 x D | 390 | 460 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 | .0034 |
| K | 1 | Ap max | 0.05 x D | 790 | 980 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 2 | Ap max | 0.05 x D | 720 | 920 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 3 | Ap max | 0.05 x D | 720 | 850 | IPT | .0015 | .0019 | .0022 | .0028 | .0033 | .0037 | .0043 |
| S | 1 | Ap max | 0.05 x D | 330 | 590 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | 0.05 x D | 160 | 260 | IPT | .0010 | .0012 | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 3 | Ap max | 0.05 x D | 160 | 260 | IPT | .0010 | .0012 | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 4 | Ap max | 0.05 x D | 330 | 390 | IPT | .0013 | .0017 | .0020 | .0026 | .0030 | .0034 | .0040 |
| H | 1 | Ap max | 0.05 x D | 520 | 920 | IPT | .0017 | .0021 | .0025 | .0031 | .0036 | .0040 | .0046 |
| | 2 | Ap max | 0.05 x D | 460 | 790 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 | .0034 |

* For the above cutting data, do not exceed an overall ae of .031".

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machinining centers, please adjust parameters accordingly on >1/2" diameter.

## HARVI II • UGDE • Unequal Flute Spacing • 5 x D Lengths of Cut

| Material Group | | Side Milling (A) | | KC643M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | max | dec. | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | Ap max | 0.05 x D | 980 | 1310 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 1 | Ap max | 0.05 x D | 980 | 1310 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 2 | Ap max | 0.05 x D | 920 | 1250 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 3 | Ap max | 0.05 x D | 790 | 1050 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 4 | Ap max | 0.05 x D | 590 | 980 | IPT | .0017 | .0021 | .0025 | .0031 | .0036 | .0040 | .0046 |
| | 5 | Ap max | 0.05 x D | 390 | 660 | IPT | .0015 | .0019 | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 6 | Ap max | 0.05 x D | 330 | 490 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 | .0034 |
| M | 1 | Ap max | 0.05 x D | 590 | 750 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | 0.05 x D | 390 | 520 | IPT | .0015 | .0019 | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 3 | Ap max | 0.05 x D | 390 | 460 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 | .0034 |
| K | 1 | Ap max | 0.05 x D | 790 | 980 | IPT | .0022 | .0028 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 2 | Ap max | 0.05 x D | 720 | 920 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 3 | Ap max | 0.05 x D | 720 | 850 | IPT | .0015 | .0019 | .0022 | .0028 | .0033 | .0037 | .0043 |
| S | 1 | Ap max | 0.05 x D | 330 | 590 | IPT | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | 0.05 x D | 160 | 260 | IPT | .0010 | .0012 | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 3 | Ap max | 0.05 x D | 160 | 260 | IPT | .0010 | .0012 | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 4 | Ap max | 0.05 x D | 330 | 390 | IPT | .0013 | .0017 | .0020 | .0026 | .0030 | .0034 | .0040 |
| H | 1 | Ap max | 0.05 x D | 520 | 920 | IPT | .0017 | .0021 | .0025 | .0031 | .0036 | .0040 | .0046 |
| | 2 | Ap max | 0.05 x D | 460 | 790 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 | .0034 |

* For the above cutting data, do not exceed an overall ae of .031".

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machinining centers, please adjust parameters accordingly on >1/2" diameter.

# HARVI™ III

## High-Performance Solid Carbide End Mills

### Primary Application

The HARVI III system takes high-performance profiling, semi-finishing, and finishing to the next level. These end mills are designed to provide maximum metal removal rates in titanium and stainless steel while achieving supreme surface conditions. A wide range of diameters and corner radii are available from stock as well as the Safe-Lock™ system by HAIMER® shanks.

- Outstanding metal removal rates increase productivity.
- Longest tool life due to eccentric relief grind and proprietary KCSM15™ Beyond™ grade.
- Increased process safety with Safe-Lock™ shanks.

## Features and Benefits

### Advanced Technology

- Six unequally spaced flutes for chatter-free machining at high feed rates.
- Lower cutting forces and pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides highest tool stability in roughing and finishing operations.
- Center cutting design for higher flexibility as well as radial and axial finishing pass after roughing operation.

### Tailored Grades

- KCSM15™ Beyond™ grade for exceptional tool life in titanium and stainless steels.

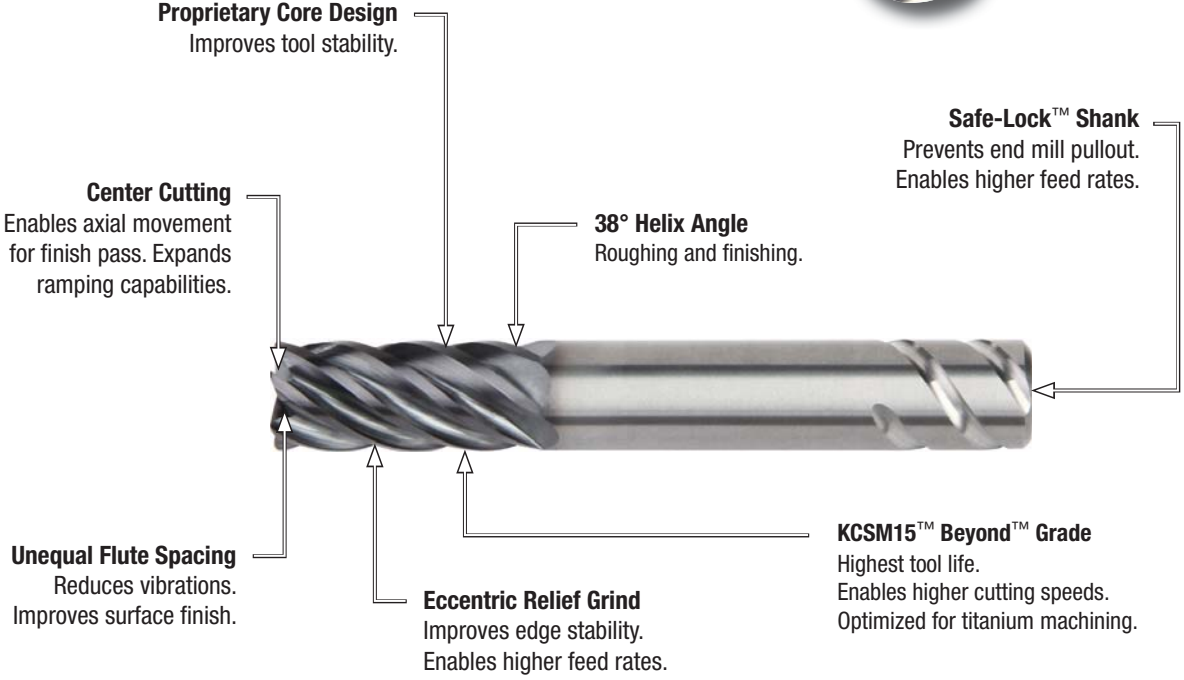
### Customization

- Engineered solutions, including ball nose versions, are available upon request.

### Extensive Standard Offering

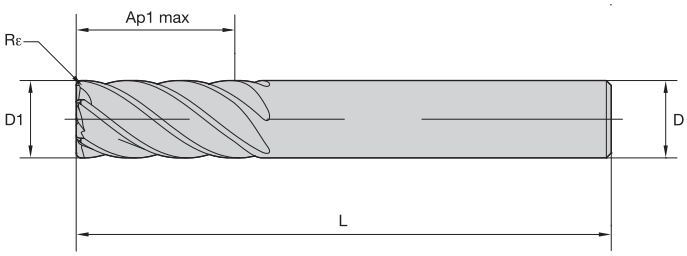
- Diameter ranges 3/8–1-1/4".
- Necked, corner radii, and square-end offering.
- Round shank and Safe-Lock™ shank available.

# Maximum metal removal rates in machining titanium and stainless steel with supreme surfaces.




SAFE-λOCK®
by HAIMER®

- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

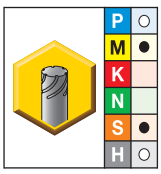


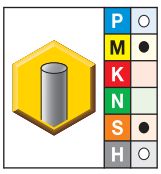

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

beyond

## UJDE • 6 Flute with Eccentric Relief Grind • Inch



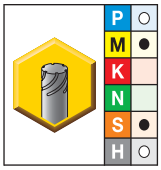



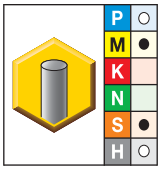

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| – | UJDE375J6CRA | 3/8 | 3/8 | 1 | 3 | .015 |
| – | UJDE375J6CRB | 3/8 | 3/8 | 1 | 3 | .030 |
| – | UJDE375J6CRC | 3/8 | 3/8 | 1 | 3 | .060 |
| – | UJDE375J6CS | 3/8 | 3/8 | 1 | 3 | – |
| – | UJDE0500J6ARB | 1/2 | 1/2 | 1 | 3 | .030 |
| – | UJDE0500J6ARC | 1/2 | 1/2 | 1 | 3 | .060 |
| UJDE500N6BRA | UJDE500J6BRA | 1/2 | 1/2 | 1 1/4 | 3 | .015 |
| UJDE500N6BRB | UJDE500J6BRB | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| UJDE500N6BRC | UJDE500J6BRC | 1/2 | 1/2 | 1 1/4 | 3 | .060 |
| UJDE500N6BRE | UJDE500J6BRE | 1/2 | 1/2 | 1 1/4 | 3 | .120 |
| UJDE500N6BS | UJDE500J6BS | 1/2 | 1/2 | 1 1/4 | 3 | – |
| – | UJDE0500J6CRB | 1/2 | 1/2 | 2 | 4 | .030 |
| – | UJDE0500J6CRE | 1/2 | 1/2 | 2 | 4 | .120 |
| – | UJDE0625J6ARA | 5/8 | 5/8 | 1 | 3 1/2 | .015 |
| UJDE625N6BRB | UJDE625J6BRB | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .030 |
| UJDE625N6BRC | UJDE625J6BRC | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .060 |
| UJDE625N6BS | UJDE625J6BS | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – |
| – | UJDE0625J6CRB | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .030 |
| – | UJDE0625J6CRC | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .060 |
| – | UJDE0625J6CRD | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .090 |
| – | UJDE0625J6CRE | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .120 |
| – | UJDE0750J6ARB | 3/4 | 3/4 | 1 | 3 | .030 |
| UJDE750N6BRB | UJDE750J6BRB | 3/4 | 3/4 | 1 1/2 | 4 | .030 |
| UJDE750N6BRC | UJDE750J6BRC | 3/4 | 3/4 | 1 1/2 | 4 | .060 |
| UJDE750N6BRD | UJDE750J6BRD | 3/4 | 3/4 | 1 1/2 | 4 | .090 |
| UJDE750N6BRE | UJDE750J6BRE | 3/4 | 3/4 | 1 1/2 | 4 | .120 |
| – | UJDE0750J6BRH | 3/4 | 3/4 | 1 1/2 | 4 | .190 |
| UJDE750N6BS | UJDE750J6BS | 3/4 | 3/4 | 1 1/2 | 4 | – |

*(continued)*

*(UJDE • 6 Flute with Eccentric Relief Grind • Inch — continued)*



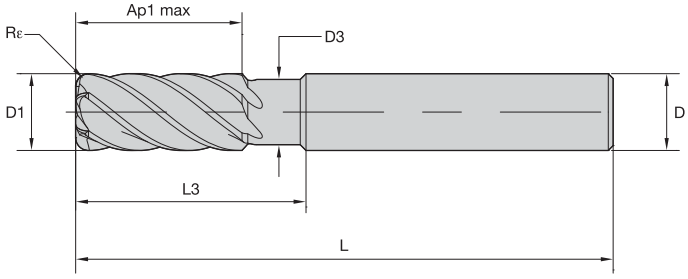




● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| UJDE750N6CRB | UJDE750J6CRB | 3/4 | 3/4 | 1 5/8 | 4 | .030 |
| UJDE750N6CRC | UJDE750J6CRC | 3/4 | 3/4 | 1 5/8 | 4 | .060 |
| UJDE750N6CRD | UJDE750J6CRD | 3/4 | 3/4 | 1 5/8 | 4 | .090 |
| UJDE750N6CRE | UJDE750J6CRE | 3/4 | 3/4 | 1 5/8 | 4 | .120 |
| UJDE750N6CS | UJDE750J6CS | 3/4 | 3/4 | 1 5/8 | 4 | — |
| — | UJDE1000J6ARB | 1 | 1 | 1 1/2 | 4 | .030 |
| — | UJDE1000J6ARC | 1 | 1 | 1 1/2 | 4 | .060 |
| — | UJDE1000J6ARE * | 1 | 1 | 1 1/2 | 4 | .120 |
| — | UJDE1000J6AS | 1 | 1 | 1 1/2 | 4 | — |
| UJDE1000N6BRB | — | 1 | 1 | 1 3/4 | 4 1/2 | .030 |
| UJDE1000N6BRC | UJDE1000J6BRC | 1 | 1 | 1 3/4 | 4 1/2 | .060 |
| UJDE1000N6BRE | UJDE1000J6BRE | 1 | 1 | 1 3/4 | 4 1/2 | .120 |
| UJDE1000N6BRF | UJDE1000J6BRF | 1 | 1 | 1 3/4 | 4 1/2 | .250 |
| UJDE1000N6BS | UJDE1000J6BS | 1 | 1 | 1 3/4 | 4 1/2 | — |
| — | UJDE1000J6CRB | 1 | 1 | 2 | 4 1/2 | .030 |
| — | UJDE1000J6CRC | 1 | 1 | 2 | 4 1/2 | .060 |
| — | UJDE1000J6CRD | 1 | 1 | 2 | 4 1/2 | .090 |
| — | UJDE1000J6CRE | 1 | 1 | 2 | 4 1/2 | .120 |
| — | UJDE1000J6CRH | 1 | 1 | 2 | 4 1/2 | .190 |
| — | UJDE1000J6CRF | 1 | 1 | 2 | 4 1/2 | .250 |
| — | UJDE1000J6CS | 1 | 1 | 2 | 4 1/2 | — |
| — | UJDE1000J6DRB | 1 | 1 | 2 | 5 | .030 |
| — | UJDE1000J6DS | 1 | 1 | 2 1/4 | 5 | — |
| UJDE1250N6BRB | UJDE1250J6BRB | 1 1/4 | 1 1/4 | 2 1/4 | 5 | .030 |
| UJDE1250N6BRE | — | 1 1/4 | 1 1/4 | 2 1/4 | 5 | .120 |
| UJDE1250N6BS | — | 1 1/4 | 1 1/4 | 2 1/4 | 5 | — |

NOTE: For application data, see page P47.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

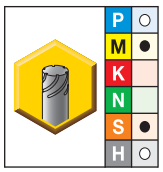


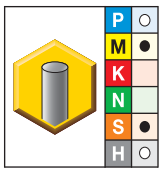

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

beyond

## UJDE • 6 Flute with Eccentric Relief Grind and Neck • Inch



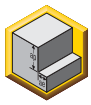




● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|---|
| – | **UJDE0375J6BQE** | 3/8 | 3/8 | .353 | 7/8 | 1 1/4 | 3 | .120 |
| – | **UJDE375J6BQA** | 3/8 | 3/8 | .353 | 7/8 | 1 7/8 | 4 | .015 |
| – | **UJDE0500J6DQB** | 1/2 | 1/2 | .470 | 3/4 | 2 1/4 | 6 | .030 |
| **UJDE500N6BQB** | – | 1/2 | 1/2 | .470 | 1 1/4 | 2 1/4 | 4 | .030 |
| **UJDE625N6BQB** | – | 5/8 | 5/8 | .588 | 1 1/4 | 2 1/4 | 4 | .030 |
| – | **UJDE0625J6DQB** | 5/8 | 5/8 | .588 | 1 1/4 | 2 1/4 | 6 | .030 |
| **UJDE750N6BQB** | – | 3/4 | 3/4 | .705 | 1 1/2 | 3 1/4 | 5 1/2 | .030 |
| **UJDE1000N6BQB** | – | 1 | 1 | .940 | 1 3/4 | 3 1/4 | 5 1/2 | .030 |

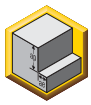
NOTE: For application data, see page P48.

## HARVI III • UJDE • Unequal Flute Spacing • Roughing



| Material Group | | Side Milling (A) | | KCSM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | |
| | | | | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | min | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.0000 | 1.2500 |
| P | 4 | Ap max | 0.4 x D | 300 | 490 | IPT | .0020 | .0026 | .0030 | .0034 | .0039 | .0040 |
| | 5 | Ap max | 0.4 x D | 200 | 330 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 | .0039 |
| M | 1 | Ap max | 0.4 x D | 300 | 380 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 | .0048 |
| | 2 | Ap max | 0.4 x D | 200 | 260 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 | .0039 |
| | 3 | Ap max | 0.4 x D | 200 | 230 | IPT | .0015 | .0019 | .0022 | .0025 | .0028 | .0029 |
| S | 1 | Ap max | 0.4 x D | 160 | 300 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 | .0048 |
| | 2 | Ap max | 0.4 x D | 80 | 130 | IPT | .0012 | .0015 | .0018 | .0021 | .0024 | .0026 |
| | 3 | Ap max | 0.4 x D | 80 | 130 | IPT | .0012 | .0015 | .0018 | .0021 | .0024 | .0026 |
| | 4 | Ap max | 0.4 x D | 160 | 200 | IPT | .0017 | .0021 | .0025 | .0028 | .0033 | .0036 |
| H | 1 | Ap max | 0.4 x D | 260 | 460 | IPT | .0020 | .0026 | .0030 | .0034 | .0039 | .0040 |

## HARVI III • UJDE • Unequal Flute Spacing • Finishing



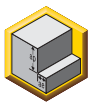
| Material Group | | Side Milling (A) | | KCSM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | |
| | | | | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| | | ap | ae | min | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.0000 | 1.2500 |
| P | 4 | Ap max | 0.06 x D | 560 | 940 | IPT | .0025 | .0031 | .0036 | .0040 | .0046 | .0048 |
| | 5 | Ap max | 0.06 x D | 370 | 620 | IPT | .0022 | .0028 | .0033 | .0037 | .0043 | .0047 |
| M | 1 | Ap max | 0.06 x D | 560 | 720 | IPT | .0027 | .0035 | .0041 | .0046 | .0054 | .0058 |
| | 2 | Ap max | 0.06 x D | 370 | 500 | IPT | .0022 | .0028 | .0033 | .0037 | .0043 | .0047 |
| | 3 | Ap max | 0.06 x D | 370 | 440 | IPT | .0018 | .0023 | .0027 | .0030 | .0034 | .0035 |
| S | 1 | Ap max | 0.06 x D | 310 | 560 | IPT | .0027 | .0035 | .0041 | .0046 | .0054 | .0058 |
| | 2 | Ap max | 0.06 x D | 160 | 250 | IPT | .0015 | .0018 | .0022 | .0025 | .0029 | .0032 |
| | 3 | Ap max | 0.06 x D | 160 | 250 | IPT | .0015 | .0018 | .0022 | .0025 | .0029 | .0032 |
| | 4 | Ap max | 0.06 x D | 310 | 370 | IPT | .0020 | .0026 | .0030 | .0034 | .0040 | .0043 |
| H | 1 | Ap max | 0.06 x D | 500 | 870 | IPT | .0025 | .0031 | .0036 | .0040 | .0046 | .0048 |

NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HARVI III • UJDE • Unequal Flute Spacing • Roughing • With Neck

| Material Group | | Side Milling (A) | | KCSM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | |
| | | | | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 4 | Ap1 max | 0.4 x D | 300 | 490 | IPT | .0020 | .0026 | .0030 | .0033 | .0039 |
| | 5 | Ap1 max | 0.4 x D | 200 | 330 | IPT | .0018 | .0023 | .0027 | .0030 | .0036 |
| M | 1 | Ap1 max | 0.4 x D | 300 | 380 | IPT | .0023 | .0029 | .0034 | .0038 | .0046 |
| | 2 | Ap1 max | 0.4 x D | 200 | 260 | IPT | .0018 | .0023 | .0027 | .0030 | .0036 |
| | 3 | Ap1 max | 0.4 x D | 200 | 230 | IPT | .0015 | .0019 | .0022 | .0024 | .0028 |
| S | 1 | Ap1 max | 0.4 x D | 160 | 300 | IPT | .0023 | .0029 | .0034 | .0038 | .0046 |
| | 2 | Ap1 max | 0.4 x D | 160 | 300 | IPT | .0023 | .0029 | .0034 | .0038 | .0046 |
| | 3 | Ap1 max | 0.4 x D | 80 | 130 | IPT | .0012 | .0016 | .0018 | .0020 | .0025 |
| | 4 | Ap1 max | 0.4 x D | 160 | 260 | IPT | .0017 | .0022 | .0025 | .0028 | .0033 |
| H | 1 | Ap1 max | 0.4 x D | 260 | 460 | IPT | .0020 | .0026 | .0030 | .0033 | .0039 |

## HARVI III • UJDE • Unequal Flute Spacing • Finishing • With Neck



| Material Group | | Side Milling (A) | | KCSM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | |
| | | | | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | max | dec. | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 4 | Ap1 max | 0.06 x D | 560 | 940 | IPT | .0024 | .0031 | .0036 | .0040 | .0047 |
| | 5 | Ap1 max | 0.06 x D | 370 | 620 | IPT | .0022 | .0028 | .0033 | .0036 | .0044 |
| M | 1 | Ap1 max | 0.06 x D | 560 | 720 | IPT | .0027 | .0035 | .0041 | .0045 | .0055 |
| | 2 | Ap1 max | 0.06 x D | 370 | 500 | IPT | .0022 | .0028 | .0033 | .0036 | .0044 |
| | 3 | Ap1 max | 0.06 x D | 370 | 440 | IPT | .0018 | .0023 | .0027 | .0029 | .0034 |
| S | 1 | Ap1 max | 0.06 x D | 310 | 560 | IPT | .0027 | .0035 | .0041 | .0045 | .0055 |
| | 2 | Ap1 max | 0.06 x D | 310 | 560 | IPT | .0027 | .0035 | .0041 | .0045 | .0055 |
| | 3 | Ap1 max | 0.06 x D | 160 | 250 | IPT | .0014 | .0019 | .0022 | .0024 | .0029 |
| | 4 | Ap1 max | 0.06 x D | 310 | 500 | IPT | .0020 | .0026 | .0030 | .0033 | .0040 |
| H | 1 | Ap1 max | 0.06 x D | 500 | 870 | IPT | .0024 | .0031 | .0036 | .0040 | .0047 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# EADE Solid Ceramic End Mill

- Roughing nickel-based high-temperature alloys.
- Highest productivity and longest tool life.
- Outstanding reduction of machining time.
- Less tool changes due to higher tool life.
- Benefit from throw-away type of tooling.
- Minimum cutting speed of 1300 SFM (400 m/min).

**Offering**

- 4-flute necked tools for slotting.
- 6-flute version for face and side milling.

**KYS40**

- Cutting speeds up to 3300 SFM (1000 m/min) increases Metal Removal Rates (MRR).

beyond™

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KENNAMETAL®

kennametal.com

# HARVI™ III Ball Nose

## High-Performance Solid Carbide End Mills

### Primary Application

HARVI III Ball Nose tooling takes high-performance profiling, semi-finishing, and finishing to the next level. Designed to provide maximum metal removal rates in titanium and stainless steel while achieving supreme surface conditions. A wide range of diameters and length variations are available from stock.

- Outstanding metal removal rates increase productivity.
- Highest tool life increases due to eccentric relief grind and proprietary KCSM15™ Beyond™ grade.

## Features and Benefits

### Advanced Technology

- Six unequally spaced flutes for chatter-free machining at high feed rates.
- Lower cutting forces and pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides highest tool stability at roughing and finishing operations.

### Tailored Grade

- KCSM15 Beyond grade for exceptional tool life in titanium and stainless steels.

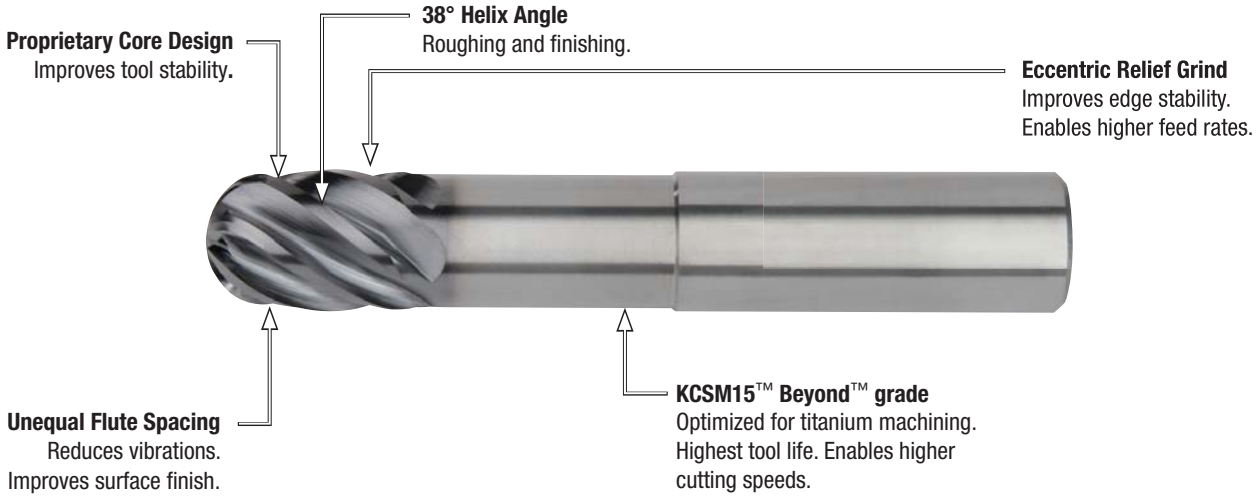
### Extensive Standard Offering

- Diameter ranges 3/8–1".
- Necked, round shank offering in two length variations.

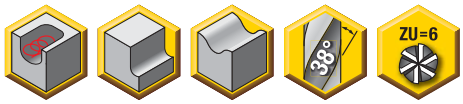
### Customization

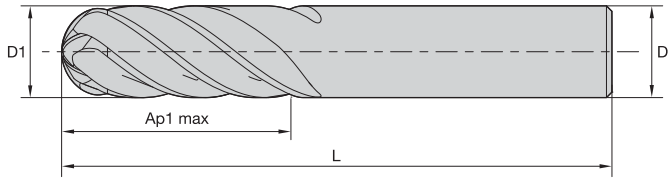
- Engineered solutions, including shank and non-standard length versions, are available upon request.

# 3D profiling at highest productivity in titanium and stainless steels.



- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

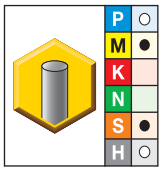





**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

## UJBE • 6-Flute Ball Nose with Eccentric Relief Grind • Inch

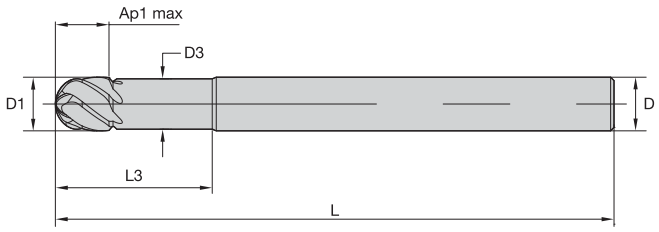



● first choice
○ alternate choice

| KCSM15 | D1 | D | Ap1 max | L |
|---|---|---|---|---|
| **UJBE0375J6B** | 3/8 | 3/8 | 7/8 | 2 1/2 |
| **UJBE0500J6B** | 1/2 | 1/2 | 1 | 3 |
| **UJBE0500J6C** | 1/2 | 1/2 | 1 1/4 | 3 |
| **UJBE0625J6B** | 5/8 | 5/8 | 1 1/4 | 3 1/2 |
| **UJBE0750J6B** | 3/4 | 3/4 | 1 1/2 | 4 |
| **UJBE1000J6B** | 1 | 1 | 1 1/2 | 4 |

NOTE: For application data, see page P56.

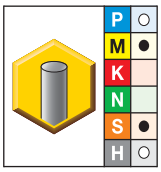
- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

## UJBE • 6-Flute Ball Nose with Eccentric Relief Grind and Neck • Inch




● first choice
○ alternate choice

| KCSM15 | D1 | D | D3 | Ap1 max | L3 | L |
|---|---|---|---|---|---|---|
| **UJBE0375J6AL** | 3/8 | 3/8 | .35 | 1/2 | 2.00 | 6 |
| **UJBE0500J6AL** | 1/2 | 1/2 | .47 | 5/8 | 2.25 | 6 |
| **UJBE0625J6AL** | 5/8 | 5/8 | .59 | 3/4 | 2.25 | 6 |
| **UJBE0750J6AL** | 3/4 | 3/4 | .71 | 1 | 2.25 | 6 |
| **UJBE1000J6AL** | 1 | 1 | .94 | 1 1/4 | 3.25 | 6 |

NOTE: For application data, see page P56.

## HARVI III Ball Nose with Eccentric Relief

**CHALLENGE**

- Finish profile machining of keel for weapon attachment.
- Vertical machining center.
- Titanium Alloy Beta (R56400).
- External emulsion.

**SOLUTION**

- HARVI III ball nose Ø .5" with eccentric relief in KCSM15™.
- Six effective teeth.

**CUTTING DATA**

- vc 300 SFM
- fz .0018 IPT
- ap 1.2"
- ae .025"

**RESULT**

- Significantly increased tool life.
- Reduced machining time from 210 minutes to 90 minutes.
- Surface finish 90 RMS.

**BENEFIT**

- Predictable wear at main lands instead of cutting edge flaking with competitive tooling.
- Extended tool life of HARVI III eliminated a mid-part tool change.
- Improved surface finish compared to previous four-flute ball nose tools.

## HARVI III Ball Nose with Eccentric Relief

**CHALLENGE**

- Rough profile yoke contour milling of bogey pitch trimmer.
- Lathe with driven tooling.
- 4340 low-alloy steel.
- External emulsion.

**SOLUTION**

- HARVI III ball nose Ø .787" (20mm) with eccentric relief in KCSM15.
- Six effective teeth.

**CUTTING DATA**

- vc 400 SFM
- fz .003 IPT
- ap 1.7"
- ae .1"

**RESULT**

- Tool completed seven workpieces compared to five workpieces with existing tooling.
- Surface finish 120 RMS.

**BENEFIT**

- Reduced machining time from 88 minutes to 49 minutes.
- About 30% higher feed rate due to feed per tooth and six flutes rather than four flutes.

*(continued)*

*(continued)*

## HARVI III Ball Nose with Eccentric Relief

**CHALLENGE**

- Hem stich profile neck to flanged blend.
- Lathe with driven tooling.
- 4340 low-alloy steel.
- External emulsion.

**SOLUTION**

- HARVI III ball nose Ø .5" with eccentric relief in KCSM15™.
- Six effective teeth.

**CUTTING DATA**

- vc 350 SFM
- fz .0025 IPT
- ap .05"
- ae .05"

**RESULT**

- Increase in cutting speed from 150 SFM to 350 SFM.
- Tool completed ten workpieces compared to six workpieces with existing tooling.

**BENEFIT**

- Reduced machining time to eight minutes compared to 29 minutes with competitive four-flute ball nose tool.
- 200% increase in Metal Removal Rate (MRR).

## HARVI III Ball Nose with Eccentric Relief

**CHALLENGE**

- Finish interior walls and blend filet radius.
- Horizontal machining center.
- 4340 low-alloy steel.
- External emulsion.

**SOLUTION**

- HARVI III ball nose Ø .5" with eccentric relief in KCSM15.
- Six effective teeth.

**CUTTING DATA**

- vc 350 SFM
- fz .0025 IPT
- ap .553"
- ae .05"

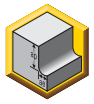
**RESULT**

- Tool completed six workpieces compared to two workpieces with existing solution.
- Surface finish 63 RMS.

**BENEFIT**

- Reduced machining time from 25 minutes to 10 minutes.
- Improved surface finish from 90 RMS to 63 RMS at accelerated feeds and speeds.
- Reduction in harmonics, noise level, and vibrations with HARVI III ball nose tooling.

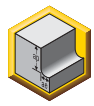
## HARVI III • UJBE • Ball Nose • Unequal Flute Spacing • Roughing



| Material Group | | Side Milling (A) | | KCSM15 | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | | D1 — Diameter | | | |
| | | | | | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | inch | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | Ap max | 0.4 x D | 490 | – | 660 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | Ap max | 0.4 x D | 490 | – | 660 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | Ap max | 0.4 x D | 460 | – | 620 | IPT | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | Ap max | 0.4 x D | 390 | – | 520 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap max | 0.4 x D | 300 | – | 490 | IPT | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | Ap max | 0.4 x D | 200 | – | 330 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 4 | Ap max | 0.4 x D | 160 | – | 250 | IPT | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | Ap max | 0.4 x D | 300 | – | 380 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap max | 0.4 x D | 200 | – | 260 | IPT | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | Ap max | 0.4 x D | 200 | – | 230 | IPT | .0015 | .0019 | .0022 | .0025 | .0028 |
| S | 1 | Ap max | 0.4 x D | 160 | – | 300 | IPT | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap max | 0.4 x D | 80 | – | 130 | IPT | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | Ap max | 0.4 x D | 80 | – | 130 | IPT | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | Ap max | 0.4 x D | 160 | – | 200 | IPT | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | Ap max | 0.4 x D | 260 | – | 460 | IPT | .0020 | .0026 | .0030 | .0034 | .0039 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HARVI III • UJBE • Ball Nose • Unequal Flute Spacing • Finishing



| Material Group | | Side Milling (A) | | KCSM15 | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | | D1 — Diameter | | | |
| | | | | | | | frac. | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | in | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | Ap max | 0.06 x D | 940 | – | 1250 | IPT | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 1 | Ap max | 0.06 x D | 940 | – | 1250 | IPT | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 2 | Ap max | 0.06 x D | 870 | – | 1180 | IPT | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 3 | Ap max | 0.06 x D | 750 | – | 1000 | IPT | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 4 | Ap max | 0.06 x D | 560 | – | 940 | IPT | .0025 | .0031 | .0036 | .0040 | .0046 |
| | 5 | Ap max | 0.06 x D | 370 | – | 620 | IPT | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 6 | Ap max | 0.06 x D | 310 | – | 470 | IPT | .0018 | .0023 | .0027 | .0030 | .0034 |
| M | 1 | Ap max | 0.06 x D | 560 | – | 720 | IPT | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | 0.06 x D | 370 | – | 500 | IPT | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 3 | Ap max | 0.06 x D | 370 | – | 440 | IPT | .0018 | .0023 | .0027 | .0030 | .0034 |
| S | 1 | Ap max | 0.06 x D | 310 | – | 560 | IPT | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | 0.06 x D | 160 | – | 250 | IPT | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 3 | Ap max | 0.06 x D | 160 | – | 250 | IPT | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 4 | Ap max | 0.06 x D | 310 | – | 370 | IPT | .0020 | .0026 | .0030 | .0034 | .0040 |
| H | 1 | Ap max | 0.06 x D | 500 | – | 870 | IPT | .0025 | .0031 | .0036 | .0040 | .0046 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

Superior Finishing

# MaxiMet™

**Designed to significantly reduce machining time in aluminum! The innovative geometry designs include a wiper facet for superior surface finish on aluminum parts. MaxiMet handles roughing and finishing cuts with one tool.**

- Use only one tool for roughing and finishing operations.
- Slotting is effective up to full 1 x D axial depth; side milling is effective up to 0.5 x D radial, by 1.5 x D axial depth.
- Three-flute series uses unequal flute spacing for chatter-free performance.
- Effective in a full range of machine speeds.
- Multiple corner radii and extended neck configurations are available as standard.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# HARVI™ III

## High-Performance Solid Carbide End Mills

### Primary Application

This new HARVI III version is tailored to address traditional machining techniques, as well as high-velocity machining techniques with one tool design. This allows for the highest level of flexibility, fully utilizing the tool capabilities. This is designed specifically for high-performance profiling, semi-finishing, and finishing of titanium. The HARVI III provides maximum metal removal rates and achieves supreme surfaces. The standard offering comprises various length versions for each diameter to satisfy the need for maximum stability, as well as highest reach lengths in ball nose and square end designs.

- Outstanding metal removal rates increase productivity.
- Longest tool life due to eccentric relief grind and proprietary KCSM15™ Beyond™ grade.
- Increased process safety with Safe-Lock™ shanks.

## Features and Benefits

### Advanced Technology

- Six unequally-spaced flutes for chatter-free machining at high feed rates.
- Lower cutting forces and pressure on cutting edge through tailored axial and radial rake angles.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides the highest tool stability in roughing and finishing operations.
- Center cutting design for higher flexibility, as well as radial and axial finishing pass after roughing operation.
- Tailored rank angles allow for high performance in both traditional and high-velocity machining techniques.

### Tailored Grades

- KCSM15™ Beyond™ grade for exceptional tool life in titanium and stainless steels.

### Customization

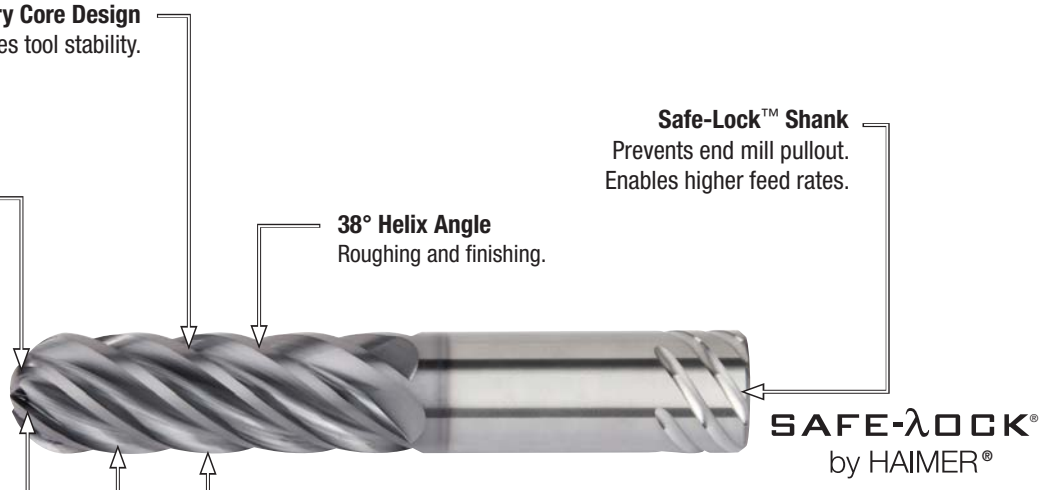
- Engineered solutions, including ball nose versions, are available upon request.

### Extensive Standard Offering

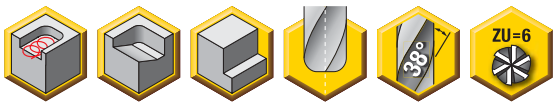
- Off-the-shelf standard diameter range 1/2–1".
- 1 1/2" diameter items are made-to-order.
- Ball nose and corner radii tooling in various length.
- Round shank and Safe-Lock™ shank available.

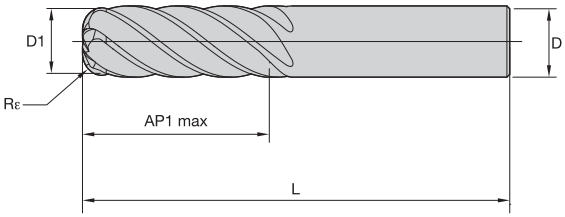
# The new HARVI™ III by Kennametal.

*"The HARVI III line boasts a portfolio of 300+ tools that have met the expectations set forth in the Industry Challenge — Increased tool life, High MRR, Reduced Tool Changes, and Decreasing overall tooling cost."*



- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.



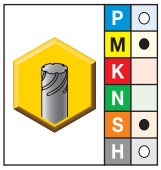


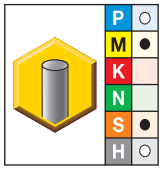

**End Mill Tolerances**

| D1 | tolerance | D | tolerance |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

beyond

## HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind



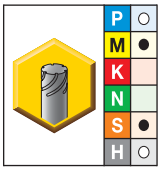



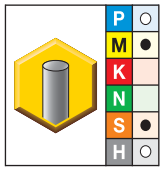

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| – | UJDE0500J6ABB | 1/2 | 1/2 | 1 | 3 | .030 |
| – | UJDE0500J6ABC | 1/2 | 1/2 | 1 | 3 | .060 |
| – | UJDE0500J6ABD | 1/2 | 1/2 | 1 | 3 | .090 |
| – | UJDE0500J6ABE | 1/2 | 1/2 | 1 | 3 | .120 |
| – | UJDE0500J6ABH | 1/2 | 1/2 | 1 | 3 | .190 |
| – | UJDE0500J6ZBB | 1/2 | 1/2 | 1 1/2 | 3 1/2 | .030 |
| – | UJDE0500J6ZBC | 1/2 | 1/2 | 1 1/2 | 3 1/2 | .060 |
| – | UJDE0500J6ZBD | 1/2 | 1/2 | 1 1/2 | 3 1/2 | .090 |
| – | UJDE0500J6ZBE | 1/2 | 1/2 | 1 1/2 | 3 1/2 | .120 |
| – | UJDE0500J6ZBH | 1/2 | 1/2 | 1 1/2 | 3 1/2 | .190 |
| – | UJDE0500J6CBB | 1/2 | 1/2 | 2 | 4 | .030 |
| – | UJDE0500J6CBC | 1/2 | 1/2 | 2 | 4 | .060 |
| – | UJDE0500J6CBD | 1/2 | 1/2 | 2 | 4 | .090 |
| – | UJDE0500J6CBE | 1/2 | 1/2 | 2 | 4 | .120 |
| – | UJDE0500J6CBH | 1/2 | 1/2 | 2 | 4 | .190 |
| – | UJDE0500J6DBB | 1/2 | 1/2 | 2 1/2 | 4 1/2 | .030 |
| – | UJDE0500J6DBC | 1/2 | 1/2 | 2 1/2 | 4 1/2 | .060 |
| – | UJDE0500J6DBD | 1/2 | 1/2 | 2 1/2 | 4 1/2 | .090 |
| – | UJDE0500J6DBE | 1/2 | 1/2 | 2 1/2 | 4 1/2 | .120 |
| – | UJDE0500J6DBH | 1/2 | 1/2 | 2 1/2 | 4 1/2 | .190 |
| – | UJDE0750J6ABB | 3/4 | 3/4 | 1 | 3 1/2 | .030 |
| – | UJDE0750J6ABC | 3/4 | 3/4 | 1 | 3 1/2 | .060 |
| – | UJDE0750J6ABD | 3/4 | 3/4 | 1 | 3 1/2 | .090 |
| – | UJDE0750J6ABE | 3/4 | 3/4 | 1 | 3 1/2 | .120 |
| – | UJDE0750J6ABH | 3/4 | 3/4 | 1 | 3 1/2 | .190 |
| – | UJDE0750J6ABF | 3/4 | 3/4 | 1 | 3 1/2 | .250 |
| – | UJDE0750J6ZBB | 3/4 | 3/4 | 2 | 4 1/2 | .030 |
| – | UJDE0750J6ZBC | 3/4 | 3/4 | 2 | 4 1/2 | .060 |
| – | UJDE0750J6ZBD | 3/4 | 3/4 | 2 | 4 1/2 | .090 |
| – | UJDE0750J6ZBE | 3/4 | 3/4 | 2 | 4 1/2 | .120 |
| – | UJDE0750J6ZBH | 3/4 | 3/4 | 2 | 4 1/2 | .190 |
| – | UJDE0750J6ZBF | 3/4 | 3/4 | 2 | 4 1/2 | .250 |

*(continued)*

*(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)*



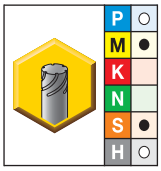



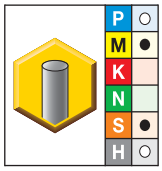

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| – | UJDE0750J6DBB | 3/4 | 3/4 | 3 | 5 1/2 | .030 |
| – | UJDE0750J6DBC | 3/4 | 3/4 | 3 | 5 1/2 | .060 |
| – | UJDE0750J6DBD | 3/4 | 3/4 | 3 | 5 1/2 | .090 |
| – | UJDE0750J6DBE | 3/4 | 3/4 | 3 | 5 1/2 | .120 |
| – | UJDE0750J6DBH | 3/4 | 3/4 | 3 | 5 1/2 | .190 |
| – | UJDE0750J6DBF | 3/4 | 3/4 | 3 | 5 1/2 | .250 |
| – | UJDE0750J6EBB | 3/4 | 3/4 | 4 | 6 1/2 | .030 |
| – | UJDE0750J6EBC | 3/4 | 3/4 | 4 | 6 1/2 | .060 |
| – | UJDE0750J6EBD | 3/4 | 3/4 | 4 | 6 1/2 | .090 |
| – | UJDE0750J6EBE | 3/4 | 3/4 | 4 | 6 1/2 | .120 |
| – | UJDE0750J6EBH | 3/4 | 3/4 | 4 | 6 1/2 | .190 |
| – | UJDE0750J6EBF | 3/4 | 3/4 | 4 | 6 1/2 | .250 |
| UJDE1000N6XBB | – | 1 | 1 | 1 | 4 | .030 |
| UJDE1000N6XBC | – | 1 | 1 | 1 | 4 | .060 |
| UJDE1000N6XBD | – | 1 | 1 | 1 | 4 | .090 |
| UJDE1000N6XBE | – | 1 | 1 | 1 | 4 | .120 |
| UJDE1000N6XBH | – | 1 | 1 | 1 | 4 | .190 |
| UJDE1000N6XBF | – | 1 | 1 | 1 | 4 | .250 |
| UJDE1000N6XBK | – | 1 | 1 | 1 | 4 | .375 |
| UJDE1000N6ABB | – | 1 | 1 | 1 1/2 | 4 1/2 | .030 |
| UJDE1000N6ABC | – | 1 | 1 | 1 1/2 | 4 1/2 | .060 |
| UJDE1000N6ABD | – | 1 | 1 | 1 1/2 | 4 1/2 | .090 |
| UJDE1000N6ABE | – | 1 | 1 | 1 1/2 | 4 1/2 | .120 |
| UJDE1000N6ABH | – | 1 | 1 | 1 1/2 | 4 1/2 | .190 |
| UJDE1000N6ABF | – | 1 | 1 | 1 1/2 | 4 1/2 | .250 |
| UJDE1000N6ABK | – | 1 | 1 | 1 1/2 | 4 1/2 | .375 |
| UJDE1000N6CBB | – | 1 | 1 | 2 | 5 | .030 |
| UJDE1000N6CBC | – | 1 | 1 | 2 | 5 | .060 |
| UJDE1000N6CBD | – | 1 | 1 | 2 | 5 | .090 |
| UJDE1000N6CBE | – | 1 | 1 | 2 | 5 | .120 |
| UJDE1000N6CBH | – | 1 | 1 | 2 | 5 | .190 |
| UJDE1000N6CBF | – | 1 | 1 | 2 | 5 | .250 |
| UJDE1000N6CBK | – | 1 | 1 | 2 | 5 | .375 |
| UJDE1000N6ZBB | – | 1 | 1 | 2 1/2 | 5 1/2 | .030 |
| UJDE1000N6ZBC | – | 1 | 1 | 2 1/2 | 5 1/2 | .060 |
| UJDE1000N6ZBD | – | 1 | 1 | 2 1/2 | 5 1/2 | .090 |
| UJDE1000N6ZBE | – | 1 | 1 | 2 1/2 | 5 1/2 | .120 |
| UJDE1000N6ZBH | – | 1 | 1 | 2 1/2 | 5 1/2 | .190 |
| UJDE1000N6ZBF | – | 1 | 1 | 2 1/2 | 5 1/2 | .250 |
| UJDE1000N6ZBK | – | 1 | 1 | 2 1/2 | 5 1/2 | .375 |
| UJDE1000N6FBB | – | 1 | 1 | 3 | 6 | .030 |
| UJDE1000N6FBC | – | 1 | 1 | 3 | 6 | .060 |
| UJDE1000N6FBD | – | 1 | 1 | 3 | 6 | .090 |
| UJDE1000N6FBE | – | 1 | 1 | 3 | 6 | .120 |
| UJDE1000N6FBH | – | 1 | 1 | 3 | 6 | .190 |
| UJDE1000N6FBF | – | 1 | 1 | 3 | 6 | .250 |
| UJDE1000N6FBK | – | 1 | 1 | 3 | 6 | .375 |
| UJDE1000N6GBB | – | 1 | 1 | 3 1/2 | 6 1/2 | .030 |
| UJDE1000N6GBC | – | 1 | 1 | 3 1/2 | 6 1/2 | .060 |
| UJDE1000N6GBD | – | 1 | 1 | 3 1/2 | 6 1/2 | .090 |
| UJDE1000N6GBE | – | 1 | 1 | 3 1/2 | 6 1/2 | .120 |
| UJDE1000N6GBH | – | 1 | 1 | 3 1/2 | 6 1/2 | .190 |

*(continued)*

*(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)*



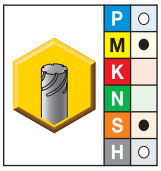



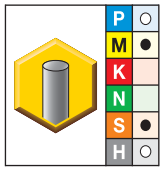

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| UJDE1000N6GBF | – | 1 | 1 | 3 1/2 | 6 1/2 | .250 |
| UJDE1000N6GBK | – | 1 | 1 | 3 1/2 | 6 1/2 | .375 |
| UJDE1000N6DBB | – | 1 | 1 | 4 | 7 | .030 |
| UJDE1000N6DBC | – | 1 | 1 | 4 | 7 | .060 |
| UJDE1000N6DBD | – | 1 | 1 | 4 | 7 | .090 |
| UJDE1000N6DBE | – | 1 | 1 | 4 | 7 | .120 |
| UJDE1000N6DBH | – | 1 | 1 | 4 | 7 | .190 |
| UJDE1000N6DBF | – | 1 | 1 | 4 | 7 | .250 |
| UJDE1000N6DBK | – | 1 | 1 | 4 | 7 | .375 |
| UJDE1000N6HBB | – | 1 | 1 | 4 1/2 | 7 1/2 | .030 |
| UJDE1000N6HBC | – | 1 | 1 | 4 1/2 | 7 1/2 | .060 |
| UJDE1000N6HBD | – | 1 | 1 | 4 1/2 | 7 1/2 | .090 |
| UJDE1000N6HBE | – | 1 | 1 | 4 1/2 | 7 1/2 | .120 |
| UJDE1000N6HBH | – | 1 | 1 | 4 1/2 | 7 1/2 | .190 |
| UJDE1000N6HBF | – | 1 | 1 | 4 1/2 | 7 1/2 | .250 |
| UJDE1000N6HBK | – | 1 | 1 | 4 1/2 | 7 1/2 | .375 |
| UJDE1000N6EBB | – | 1 | 1 | 5 | 8 | .030 |
| UJDE1000N6EBC | – | 1 | 1 | 5 | 8 | .060 |
| UJDE1000N6EBD | – | 1 | 1 | 5 | 8 | .090 |
| UJDE1000N6EBE | – | 1 | 1 | 5 | 8 | .120 |
| UJDE1000N6EBH | – | 1 | 1 | 5 | 8 | .190 |
| UJDE1000N6EBF | – | 1 | 1 | 5 | 8 | .250 |
| UJDE1000N6EBK | – | 1 | 1 | 5 | 8 | .375 |
| UJDE1250N6ABB | – | 1 1/4 | 1 1/4 | 2 | 5 | .030 |
| UJDE1250N6ABC | – | 1 1/4 | 1 1/4 | 2 | 5 | .060 |
| UJDE1250N6ABD | – | 1 1/4 | 1 1/4 | 2 | 5 | .090 |
| UJDE1250N6ABE | – | 1 1/4 | 1 1/4 | 2 | 5 | .120 |
| UJDE1250N6ABH | – | 1 1/4 | 1 1/4 | 2 | 5 | .190 |
| UJDE1250N6ABF | – | 1 1/4 | 1 1/4 | 2 | 5 | .250 |
| UJDE1250N6ABJ | – | 1 1/4 | 1 1/4 | 2 | 5 | .375 |
| UJDE1250N6ABK | – | 1 1/4 | 1 1/4 | 2 | 5 | .500 |
| UJDE1250N6XBB | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .030 |
| UJDE1250N6XBC | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .060 |
| UJDE1250N6XBD | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .090 |
| UJDE1250N6XBE | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .120 |
| UJDE1250N6XBH | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .190 |
| UJDE1250N6XBF | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .250 |
| UJDE1250N6XBJ | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .375 |
| UJDE1250N6XBK | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 | .500 |
| UJDE1250N6ZBB | – | 1 1/4 | 1 1/4 | 3 | 6 | .030 |
| UJDE1250N6ZBC | – | 1 1/4 | 1 1/4 | 3 | 6 | .060 |
| UJDE1250N6ZBD | – | 1 1/4 | 1 1/4 | 3 | 6 | .090 |
| UJDE1250N6ZBE | – | 1 1/4 | 1 1/4 | 3 | 6 | .120 |
| UJDE1250N6ZBH | – | 1 1/4 | 1 1/4 | 3 | 6 | .190 |
| UJDE1250N6ZBF | – | 1 1/4 | 1 1/4 | 3 | 6 | .250 |
| UJDE1250N6ZBJ | – | 1 1/4 | 1 1/4 | 3 | 6 | .375 |
| UJDE1250N6ZBK | – | 1 1/4 | 1 1/4 | 3 | 6 | .500 |
| UJDE1250N6CBB | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .030 |
| UJDE1250N6CBC | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .060 |
| UJDE1250N6CBD | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .090 |
| UJDE1250N6CBE | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .120 |
| UJDE1250N6CBH | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .190 |

*(continued)*

*(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)*



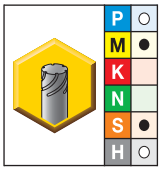



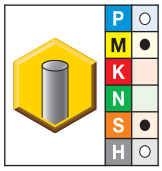

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| UJDE1250N6CBF | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .250 |
| UJDE1250N6CBJ | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .375 |
| UJDE1250N6CBK | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 | .500 |
| UJDE1250N6FBB | – | 1 1/4 | 1 1/4 | 4 | 7 | .030 |
| UJDE1250N6FBC | – | 1 1/4 | 1 1/4 | 4 | 7 | .060 |
| UJDE1250N6FBD | – | 1 1/4 | 1 1/4 | 4 | 7 | .090 |
| UJDE1250N6FBE | – | 1 1/4 | 1 1/4 | 4 | 7 | .120 |
| UJDE1250N6FBH | – | 1 1/4 | 1 1/4 | 4 | 7 | .190 |
| UJDE1250N6FBF | – | 1 1/4 | 1 1/4 | 4 | 7 | .250 |
| UJDE1250N6FBJ | – | 1 1/4 | 1 1/4 | 4 | 7 | .375 |
| UJDE1250N6FBK | – | 1 1/4 | 1 1/4 | 4 | 7 | .500 |
| UJDE1250N6GBB | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .030 |
| UJDE1250N6GBC | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .060 |
| UJDE1250N6GBD | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .090 |
| UJDE1250N6GBE | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .120 |
| UJDE1250N6GBH | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .190 |
| UJDE1250N6GBF | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .250 |
| UJDE1250N6GBJ | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .375 |
| UJDE1250N6GBK | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 | .500 |
| UJDE1250N6DBB | – | 1 1/4 | 1 1/4 | 5 | 8 | .030 |
| UJDE1250N6DBC | – | 1 1/4 | 1 1/4 | 5 | 8 | .060 |
| UJDE1250N6DBD | – | 1 1/4 | 1 1/4 | 5 | 8 | .090 |
| UJDE1250N6DBE | – | 1 1/4 | 1 1/4 | 5 | 8 | .120 |
| UJDE1250N6DBH | – | 1 1/4 | 1 1/4 | 5 | 8 | .190 |
| UJDE1250N6DBF | – | 1 1/4 | 1 1/4 | 5 | 8 | .250 |
| UJDE1250N6DBJ | – | 1 1/4 | 1 1/4 | 5 | 8 | .375 |
| UJDE1250N6DBK | – | 1 1/4 | 1 1/4 | 5 | 8 | .500 |
| UJDE1250N6HBB | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .030 |
| UJDE1250N6HBC | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .060 |
| UJDE1250N6HBD | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .090 |
| UJDE1250N6HBE | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .120 |
| UJDE1250N6HBH | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .190 |
| UJDE1250N6HBF | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .250 |
| UJDE1250N6HBJ | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .375 |
| UJDE1250N6HBK | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 | .500 |
| UJDE1250N6JBB | – | 1 1/4 | 1 1/4 | 6 | 9 | .030 |
| UJDE1250N6JBC | – | 1 1/4 | 1 1/4 | 6 | 9 | .060 |
| UJDE1250N6JBD | – | 1 1/4 | 1 1/4 | 6 | 9 | .090 |
| UJDE1250N6JBE | – | 1 1/4 | 1 1/4 | 6 | 9 | .120 |
| UJDE1250N6JBH | – | 1 1/4 | 1 1/4 | 6 | 9 | .190 |
| UJDE1250N6JBF | – | 1 1/4 | 1 1/4 | 6 | 9 | .250 |
| UJDE1250N6JBJ | – | 1 1/4 | 1 1/4 | 6 | 9 | .375 |
| UJDE1250N6JBK | – | 1 1/4 | 1 1/4 | 6 | 9 | .500 |
| UJDE1250N6EBB | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .030 |
| UJDE1250N6EBC | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .060 |
| UJDE1250N6EBD | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .090 |
| UJDE1250N6EBE | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .120 |
| UJDE1250N6EBH | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .190 |
| UJDE1250N6EBF | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .250 |
| UJDE1250N6EBJ | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .375 |
| UJDE1250N6EBK | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 | .500 |
| UJDE1500N6XBB * | – | 1 1/2 | 1 1/2 | 2 | 6 | .030 |

*(continued)*

*(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)*



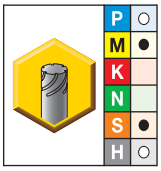



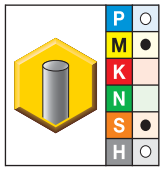

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| UJDE1500N6XBC * | – | 1 1/2 | 1 1/2 | 2 | 6 | .060 |
| UJDE1500N6XBD * | – | 1 1/2 | 1 1/2 | 2 | 6 | .090 |
| UJDE1500N6XBE * | – | 1 1/2 | 1 1/2 | 2 | 6 | .120 |
| UJDE1500N6XBH * | – | 1 1/2 | 1 1/2 | 2 | 6 | .190 |
| UJDE1500N6XBF * | – | 1 1/2 | 1 1/2 | 2 | 6 | .250 |
| UJDE1500N6XBJ * | – | 1 1/2 | 1 1/2 | 2 | 6 | .375 |
| UJDE1500N6XBK * | – | 1 1/2 | 1 1/2 | 2 | 6 | .500 |
| UJDE1500N6XBL * | – | 1 1/2 | 1 1/2 | 2 | 6 | .625 |
| UJDE1500N6ABB * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .030 |
| UJDE1500N6ABC * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .060 |
| UJDE1500N6ABD * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .090 |
| UJDE1500N6ABE * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .120 |
| UJDE1500N6ABH * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .190 |
| UJDE1500N6ABF * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .250 |
| UJDE1500N6ABJ * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .375 |
| UJDE1500N6ABK * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .500 |
| UJDE1500N6ABL * | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 | .625 |
| UJDE1500N6BBB * | – | 1 1/2 | 1 1/2 | 3 | 7 | .030 |
| UJDE1500N6BBC * | – | 1 1/2 | 1 1/2 | 3 | 7 | .060 |
| UJDE1500N6BBD * | – | 1 1/2 | 1 1/2 | 3 | 7 | .090 |
| UJDE1500N6BBE * | – | 1 1/2 | 1 1/2 | 3 | 7 | .120 |
| UJDE1500N6BBH * | – | 1 1/2 | 1 1/2 | 3 | 7 | .190 |
| UJDE1500N6BBF * | – | 1 1/2 | 1 1/2 | 3 | 7 | .250 |
| UJDE1500N6BBJ * | – | 1 1/2 | 1 1/2 | 3 | 7 | .375 |
| UJDE1500N6BBK * | – | 1 1/2 | 1 1/2 | 3 | 7 | .500 |
| UJDE1500N6BBL * | – | 1 1/2 | 1 1/2 | 3 | 7 | .625 |
| UJDE1500N6ZBB * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .030 |
| UJDE1500N6ZBC * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .060 |
| UJDE1500N6ZBD * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .090 |
| UJDE1500N6ZBE * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .120 |
| UJDE1500N6ZBH * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .190 |
| UJDE1500N6ZBF * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .250 |
| UJDE1500N6ZBJ * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .375 |
| UJDE1500N6ZBK * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .500 |
| UJDE1500N6ZBL * | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 | .625 |
| UJDE1500N6CBB * | – | 1 1/2 | 1 1/2 | 4 | 8 | .030 |
| UJDE1500N6CBC * | – | 1 1/2 | 1 1/2 | 4 | 8 | .060 |
| UJDE1500N6CBD * | – | 1 1/2 | 1 1/2 | 4 | 8 | .090 |
| UJDE1500N6CBE * | – | 1 1/2 | 1 1/2 | 4 | 8 | .120 |
| UJDE1500N6CBH * | – | 1 1/2 | 1 1/2 | 4 | 8 | .190 |
| UJDE1500N6CBF * | – | 1 1/2 | 1 1/2 | 4 | 8 | .250 |
| UJDE1500N6CBJ * | – | 1 1/2 | 1 1/2 | 4 | 8 | .375 |
| UJDE1500N6CBK * | – | 1 1/2 | 1 1/2 | 4 | 8 | .500 |
| UJDE1500N6CBL * | – | 1 1/2 | 1 1/2 | 4 | 8 | .625 |
| UJDE1500N6FBB * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .030 |
| UJDE1500N6FBC * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .060 |
| UJDE1500N6FBD * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .090 |
| UJDE1500N6FBE * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .120 |
| UJDE1500N6FBH * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .190 |
| UJDE1500N6FBF * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .250 |
| UJDE1500N6FBJ * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .375 |
| UJDE1500N6FBK * | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .500 |

*(continued)*

*(HARVI III • UJDE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)*



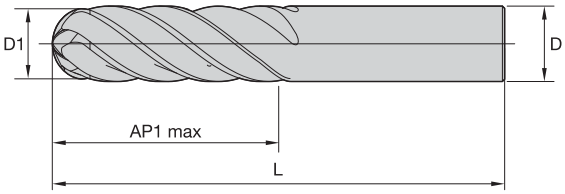




● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| **UJDE1500N6FBL *** | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 | .625 |
| **UJDE1500N6GBB *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .030 |
| **UJDE1500N6GBC *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .060 |
| **UJDE1500N6GBD *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .090 |
| **UJDE1500N6GBE *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .120 |
| **UJDE1500N6GBH *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .190 |
| **UJDE1500N6GBF *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .250 |
| **UJDE1500N6GBJ *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .375 |
| **UJDE1500N6GBK *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .500 |
| **UJDE1500N6GBL *** | – | 1 1/2 | 1 1/2 | 5 | 9 | .625 |
| **UJDE1500N6DBB *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .030 |
| **UJDE1500N6DBC *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .060 |
| **UJDE1500N6DBD *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .090 |
| **UJDE1500N6DBE *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .120 |
| **UJDE1500N6DBH *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .190 |
| **UJDE1500N6DBF *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .250 |
| **UJDE1500N6DBJ *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .375 |
| **UJDE1500N6DBK *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .500 |
| **UJDE1500N6DBL *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 | .625 |
| **UJDE1500N6HBB *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .030 |
| **UJDE1500N6HBC *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .060 |
| **UJDE1500N6HBD *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .090 |
| **UJDE1500N6HBE *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .120 |
| **UJDE1500N6HBH *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .190 |
| **UJDE1500N6HBF *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .250 |
| **UJDE1500N6HBJ *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .375 |
| **UJDE1500N6HBK *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .500 |
| **UJDE1500N6HBL *** | – | 1 1/2 | 1 1/2 | 6 | 10 | .625 |

NOTE: For application data, see page P70.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations requiring fewer setups.

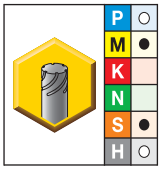


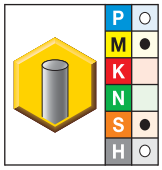

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1-3/16" | 0/.00051" |

beyond

## HARVI III Ball Nose • UJBE • Unequal Flute Spacing • With Eccentric Relief Grind



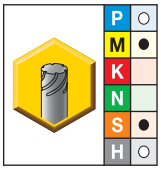



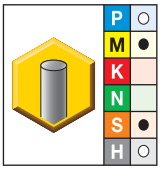

● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L |
|---|---|---|---|---|---|
| – | UJBE0500J6BB | 1/2 | 1/2 | 1 | 3 |
| – | UJBE0500J6ZB | 1/2 | 1/2 | 1 1/2 | 3 1/2 |
| – | UJBE0500J6CB | 1/2 | 1/2 | 2 | 4 |
| – | UJBE0500J6DB | 1/2 | 1/2 | 2 1/2 | 4 1/2 |
| – | UJBE0750J6AB | 3/4 | 3/4 | 1 | 3 1/2 |
| – | UJBE0750J6ZB | 3/4 | 3/4 | 2 | 4 1/2 |
| – | UJBE0750J6DB | 3/4 | 3/4 | 3 | 5 1/2 |
| – | UJBE0750J6EB | 3/4 | 3/4 | 4 | 6 1/2 |
| UJBE1000N6XB | – | 1 | 1 | 1 | 4 |
| UJBE1000N6AB | – | 1 | 1 | 1 1/2 | 4 1/2 |
| UJBE1000N6CB | – | 1 | 1 | 2 | 5 |
| UJBE1000N6ZB | – | 1 | 1 | 2 1/2 | 5 1/2 |
| UJBE1000N6FB | – | 1 | 1 | 3 | 6 |
| UJBE1000N6GB | – | 1 | 1 | 3 1/2 | 6 1/2 |
| UJBE1000N6DB | – | 1 | 1 | 4 | 7 |
| UJBE1000N6HB | – | 1 | 1 | 4 1/2 | 7 1/2 |
| UJBE1000N6EB | – | 1 | 1 | 5 | 8 |
| UJBE1250N6AB | – | 1 1/4 | 1 1/4 | 2 | 5 |
| UJBE1250N6XB | – | 1 1/4 | 1 1/4 | 2 1/2 | 5 1/2 |
| UJBE1250N6ZB | – | 1 1/4 | 1 1/4 | 3 | 6 |
| UJBE1250N6CB | – | 1 1/4 | 1 1/4 | 3 1/2 | 6 1/2 |
| UJBE1250N6FB | – | 1 1/4 | 1 1/4 | 4 | 7 |
| UJBE1250N6GB | – | 1 1/4 | 1 1/4 | 4 1/2 | 7 1/2 |
| UJBE1250N6DB | – | 1 1/4 | 1 1/4 | 5 | 8 |
| UJBE1250N6HB | – | 1 1/4 | 1 1/4 | 5 1/2 | 8 1/2 |
| UJBE1250N6JB | – | 1 1/4 | 1 1/4 | 6 | 9 |
| UJBE1250N6EB | – | 1 1/4 | 1 1/4 | 6 1/2 | 9 1/2 |
| UJBE1500N6XB * | – | 1 1/2 | 1 1/2 | 2 | 6 |

*(continued)*

*(HARVI III Ball Nose • UJBE • Unequal Flute Spacing • With Eccentric Relief Grind — continued)*




● first choice
○ alternate choice

| KCSM15 | KCSM15 | D1 | D | Ap1 max | L |
|---|---|---|---|---|---|
| **UJBE1500N6AB *** | – | 1 1/2 | 1 1/2 | 2 1/2 | 6 1/2 |
| **UJBE1500N6BB *** | – | 1 1/2 | 1 1/2 | 3 | 7 |
| **UJBE1500N6ZB *** | – | 1 1/2 | 1 1/2 | 3 1/2 | 7 1/2 |
| **UJBE1500N6CB *** | – | 1 1/2 | 1 1/2 | 4 | 8 |
| **UJBE1500N6FB *** | – | 1 1/2 | 1 1/2 | 4 1/2 | 8 1/2 |
| **UJBE1500N6GB *** | – | 1 1/2 | 1 1/2 | 5 | 9 |
| **UJBE1500N6DB *** | – | 1 1/2 | 1 1/2 | 5 1/2 | 9 1/2 |
| **UJBE1500N6HB *** | – | 1 1/2 | 1 1/2 | 6 | 10 |

NOTE: For application data, see page P71.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## HARVI III Aerospace Expansion

**CHALLENGE**

- Industry challenge II.
- Traditional approach.
- Ti6AL4V.
- External emulsion.

**SOLUTION**

- HARVI III Ø 1.250" (31.75mm) — Safe-Lock™ shank.
- SK50 Type B coolant shrink fit.
- Corner Radius R = 0.090" (2.28mm).

**CUTTING DATA**

- $V_c$ 250 SFM (76 m/min).
- $F_z$ .0074" (0,187mm).
- $A_p$ 2.000" (50.8mm).
- $A_e$ .100" (2,54mm).

**RESULT**

- After one hour of cut time, less than .001" (0,025mm) wear.
- Surface finish of 23 µ in Ra (0,6 µm Ra).

**BENEFIT**

- Increased tool life.
- High MRR.
- Reduced tool changes.
- Decrease overall tooling cost.

## HARVI III Aerospace Expansion

**CHALLENGE**

- Industry challenge II.
- High-Velocity Approach.
- Ti6AL4V.
- External emulsion.

**SOLUTION**

- HARVI III Ø 1.250" (31.75mm) — Safe-Lock™ shank.
- SK50 Type B coolant shrink fit.
- Corner Radius R = 0.090" (2.28mm).

**CUTTING DATA**

- $V_c$ 500 SFM (152 m/min).
- $F_z$ .0095" (0,24mm).
- $A_p$ 2.000" (50.8mm).
- $A_e$ .020" (0,508mm).

**RESULT**

- After one hour of cut time, less than .0014" (0,035mm) wear.
- Surface finish of 27.5 µ in Ra (0,7 µm Ra).

**BENEFIT**

- Increased tool life.
- High MRR.
- Reduced tool changes.
- Decrease overall tooling cost.

## HARVI III Aerospace Expansion

### CHALLENGE

- Seat track.
- Ti6AL4V.
- External emulsion.
- Test vs. regular HARVI III.

### SOLUTION

- HARVI III Ø .750" (19.05mm) — cylindrical shank
- HydroForce™ with reducer sleeve
- Corner Radius R = 0.120" (3.05mm)

### CUTTING DATA

- $V_c$ 40 m/min (130 SFM).
- $F_z$ Varies.
- $A_p$ From .050" (1,27mm) to 1.500" (38.1mm).
- $A_e$ From .050" (1,27mm) to full slot.

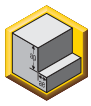
### RESULT

- Tool life increased from 45min up to 5h.

### BENEFIT

- Increased tool life.
- Reduced tool changes.
- Decrease overall tooling cost.

## HARVI III™ • UJDE • Unequal Flute Spacing



| Material Group | | Side Milling (A) | | KCSM15 | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 | 1 1/2 |
| | | ap | ae | min | | max | dec. | .5000 | .6250 | .7500 | 1.0000 | 1.2500 | 1.5000 |
| P | 4 | Ap max | 0.4 x D | 300 | – | 490 | IPT | .0026 | .0030 | .0033 | .0039 | .0043 | .0046 |
| | 5 | Ap max | 0.4 x D | 200 | – | 330 | IPT | .0023 | .0027 | .0030 | .0036 | .0041 | .0045 |
| M | 1 | Ap max | 0.4 x D | 300 | – | 380 | IPT | .0029 | .0034 | .0038 | .0046 | .0051 | .0056 |
| | 2 | Ap max | 0.4 x D | 200 | – | 260 | IPT | .0023 | .0027 | .0030 | .0036 | .0041 | .0045 |
| | 3 | Ap max | 0.4 x D | 200 | – | 230 | IPT | .0019 | .0022 | .0024 | .0028 | .0031 | .0033 |
| S | 1 | Ap max | 0.4 x D | 160 | – | 300 | IPT | .0029 | .0034 | .0038 | .0046 | .0051 | .0056 |
| | 2 | Ap max | 0.4 x D | 160 | – | 300 | IPT | .0029 | .0034 | .0038 | .0046 | .0051 | .0056 |
| | 3 | Ap max | 0.4 x D | 80 | – | 130 | IPT | .0016 | .0018 | .0020 | .0025 | .0028 | .0031 |
| | 4 | Ap max | 0.4 x D | 150 | – | 200 | IPT | .0022 | .0025 | .0028 | .0033 | .0037 | .0041 |
| H | 1 | Ap max | 0.4 x D | 260 | – | 460 | IPT | .0026 | .0030 | .0033 | .0039 | .0043 | .0046 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly.

## Adjustment factor table for feed and speed calculation

| | Ae/D | 0.50% | 1.00% | 1.60% | 2.00% | 4.00% | 5.00% | 8.00% | 10.00% | 20.00% | 30.00% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed factor | Kv | 2.9 | 2.85 | 2.8 | 2 | 1.5 | 1.45 | 1.4 | 1.35 | 1.25 | 1.2 |
| Feed factor | KFz | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2 | 1.7 | 1.25 | 1.02 |

To calculate application specific cutting data, please use above KV coefficient for adaptation of cutting speed and KFz for feed respectively.
Vc new = Vc * Kv
Fz new = IPT * KFz

**Calculation example:**
Application: D = 1 inch; S4 material group; Ae 0,02 inch
Cutting data recommendation: 150 SFM; fz = 0.0033 IPT
Adjustment coefficients: Ae = 0,02 = inch equals 2,00%; Kv = 2; KFz = 2.4

**Final cutting data recommendation:**
Vc new = 150 SFM * 2 = 300 SFM
Fz new = .0033 IPT * 2.4 = .0079 IPT

## HARVI™ III • UJBE • Ball Nose • Unequal Flute Spacing

| Material Group | | Side Milling (A) | | KCSM15 | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 | 1 1/2 |
| | | ap | ae | min | | max | dec. | .5000 | .6250 | .7500 | 1.0000 | 1.2500 | 1.5000 |
| P | 4 | Ap max | 0.4 x D | 300 | – | 490 | IPT | .0026 | .0030 | .0033 | .0039 | .0043 | .0046 |
| | 5 | Ap max | 0.4 x D | 200 | – | 330 | IPT | .0023 | .0027 | .0030 | .0036 | .0041 | .0045 |
| M | 1 | Ap max | 0.4 x D | 300 | – | 380 | IPT | .0029 | .0034 | .0038 | .0046 | .0051 | .0056 |
| | 2 | Ap max | 0.4 x D | 200 | – | 260 | IPT | .0023 | .0027 | .0030 | .0036 | .0041 | .0045 |
| | 3 | Ap max | 0.4 x D | 200 | – | 230 | IPT | .0019 | .0022 | .0024 | .0028 | .0031 | .0033 |
| S | 1 | Ap max | 0.4 x D | 160 | – | 300 | IPT | .0029 | .0034 | .0038 | .0046 | .0051 | .0056 |
| | 2 | Ap max | 0.4 x D | 160 | – | 300 | IPT | .0029 | .0034 | .0038 | .0046 | .0051 | .0056 |
| | 3 | Ap max | 0.4 x D | 80 | – | 130 | IPT | .0016 | .0018 | .0020 | .0025 | .0028 | .0031 |
| | 4 | Ap max | 0.4 x D | 150 | – | 200 | IPT | .0022 | .0025 | .0028 | .0033 | .0037 | .0041 |
| H | 1 | Ap max | 0.4 x D | 260 | – | 460 | IPT | .0026 | .0030 | .0033 | .0039 | .0043 | .0046 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly.

## Adjustment factor table for feed and speed calculation

| | Ae/D | 0.50% | 1.00% | 1.60% | 2.00% | 4.00% | 5.00% | 8.00% | 10.00% | 20.00% | 30.00% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed factor | Kv | 2.9 | 2.85 | 2.8 | 2 | 1.5 | 1.45 | 1.4 | 1.35 | 1.25 | 1.2 |
| Feed factor | KFz | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2 | 1.7 | 1.25 | 1.02 |

To calculate application specific cutting data, please use above KV coefficient for adaptation of cutting speed and KFz for feed respectively.
Vc new = Vc * Kv
Fz new = IPT * KFz

**Calculation example:**
Application: D = 1 inch; S4 material group; Ae 0,02 inch
Cutting data recommendation: 150 SFM; fz = 0.0033 IPT
Adjustment coefficients: Ae = 0,02 = inch equals 2,00%; Kv = 2; KFz = 2.4

**Final cutting data recommendation:**
Vc new = 150 SFM * 2 = 300 SFM
Fz new = .0033 IPT * 2.4 = .0079 IPT

# HARVI™ III Taper Ball Nose

## High-Performance Solid Carbide End Mills

### Primary Application

HARVI III taper ball nose addresses the demand from energy and aerospace turbine customers to increase output and solve capacity issues by significantly reducing of machining time in 5-axis machining.

- Up to 50% higher Metal Removal Rates (MRR) with same tool life or up to 50% higher tool life due to 6-flute geometry with unequal flute spacing.
- Different tapered front end for highest tool stability on a variety of long-reach applications.
- Proprietary KCSM15™ grade for high tool life.

## Features and Benefits

### Advanced Technology

- Six flutes in ball nose and taper section for highest metal removal rates.
- Unequally spaced flutes to minimize vibrations and provide high tool life and superior surface quality.

### Tailored Grades

- KCSM15 Beyond™ grade for outstanding wear protection in stainless steels and high-temperature alloys.

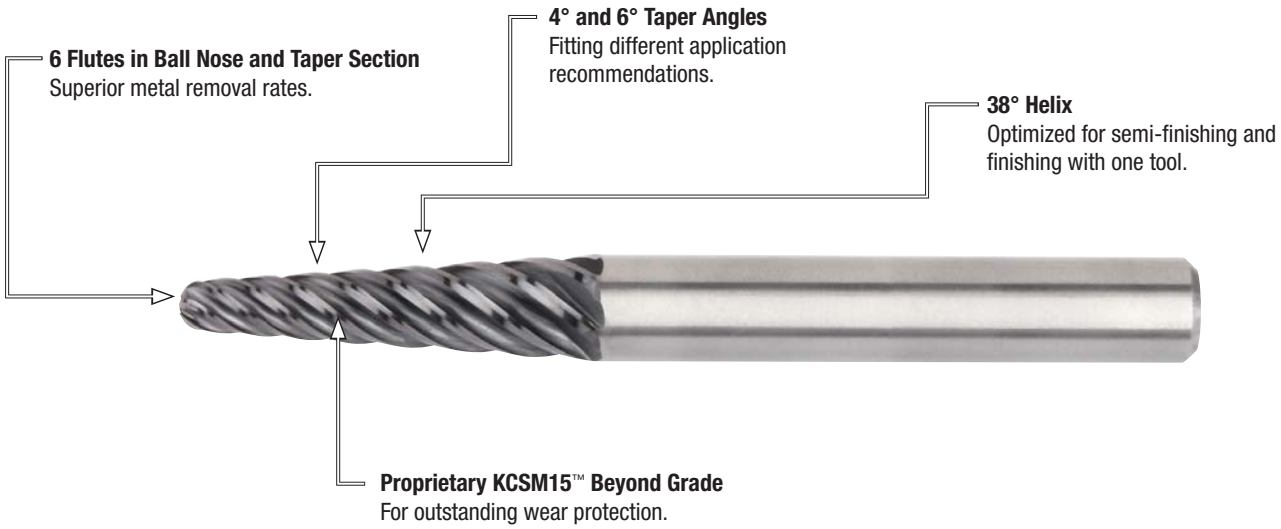
### Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.

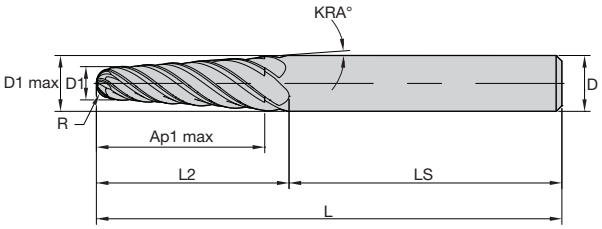
### Standard Offerings

- Diameter ranges 1/8–7/16".

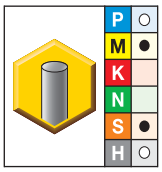
# Designed for 5-axis machining in steel, stainless steel, nickel-based alloys, and titanium.



- Center cutting.
- 6 flutes for highest material removal rates.
- Unequal flute spacing minimizes chatter for smoother machining.
- 2 taper angle versions for optimized stability in long-reach operations.
- Single tool for both semi-finishing and finishing operations requiring fewer setups.
- Optimized geometry for stainless, nickel-based-alloys, and titanium machining.



## UJBE • 6-Flute Taper Ball Nose • Unequal Flute Spacing




● first choice
○ alternate choice

| KCSM15 | D1 | D | Ap1 max | L | L2 | LS | R | KRA |
|---|---|---|---|---|---|---|---|---|
| **UJBE0125J6CP** | 1/8 | 5/16 | 1.188 | 3 | 1.401 | 1.599 | .063 | 4 |
| **UJBE0125J6BP** | 1/8 | 3/8 | 1.000 | 3 1/2 | 1.249 | 2.252 | .063 | 6 |
| **UJBE0188J6BP** | 3/16 | 3/8 | 1.188 | 3 1/2 | 1.431 | 2.069 | .094 | 4 |
| **UJBE0188J6CP** | 3/16 | 1/2 | 1.250 | 4 | 1.576 | 2.425 | .094 | 6 |
| **UJBE0250J6CP** | 1/4 | 1/2 | 1.563 | 4 | 1.908 | 2.092 | .125 | 4 |
| **UJBE0250J6BP** | 1/4 | 5/8 | 1.500 | 5 | 1.902 | 3.098 | .125 | 6 |
| **UJBE0312J6BP** | 5/16 | 5/8 | 1.250 | 5 | 1.635 | 3.365 | .156 | 6 |
| **UJBE0312J6CP** | 5/16 | 5/8 | 2.000 | 5 | 2.385 | 2.615 | .156 | 4 |
| **UJBE0375J6BP** | 3/8 | 5/8 | 1.000 | 5 | 1.367 | 3.633 | .188 | 6 |
| **UJBE0375J6CP** | 3/8 | 5/8 | 1.563 | 5 | 1.969 | 3.032 | .188 | 4 |
| **UJBE0438J6BP** | 7/16 | 5/8 | .750 | 5 | 1.099 | 3.901 | .219 | 6 |
| **UJBE0438J6CP** | 7/16 | 5/8 | 1.188 | 5 | 1.552 | 3.448 | .219 | 4 |

NOTE: For application data, see page P80.

# The Economical Milling Cutter Line

# GOmill™

The GOmill line is specifically engineered to work on short length-of-cut applications in multiple workpiece materials, like soft and hard steels up to 48 HRC, stainless steels, high-temperature alloys, and cast iron. With the very short overall length and soft cutting geometries, the line is made to conform to the growing market of mill-turn machines.

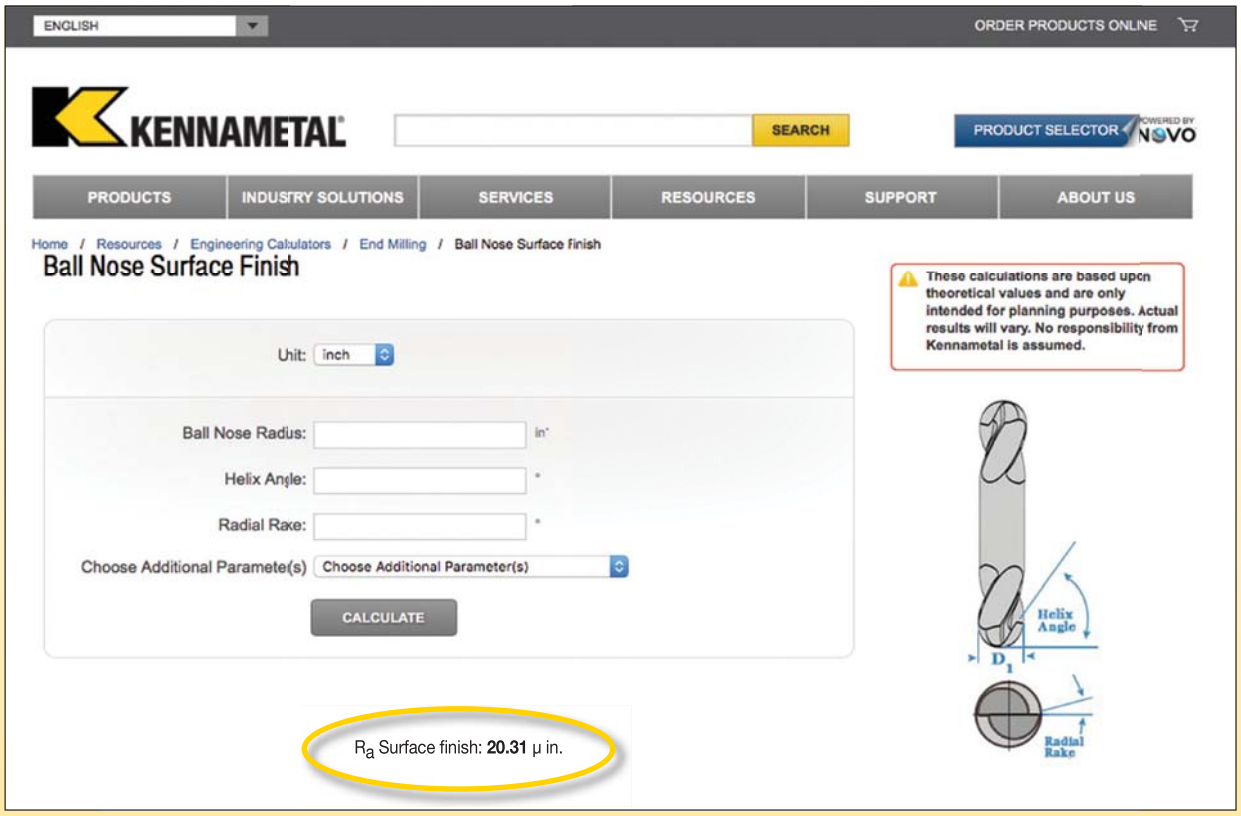
**What does this mean for you?**

- Unequal flute spacing.
- AlTiN coating.
- Short overall tool length.
- Positive rake angle.
- Better surface finish and tool life.
- Universal usage on multiple workpiece materials.
- Higher cutting conditions, higher productivity, lower price due to less carbide.
- Lower power consumption.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

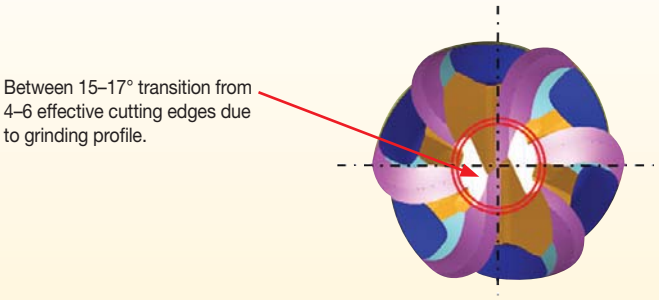
kennametal.com

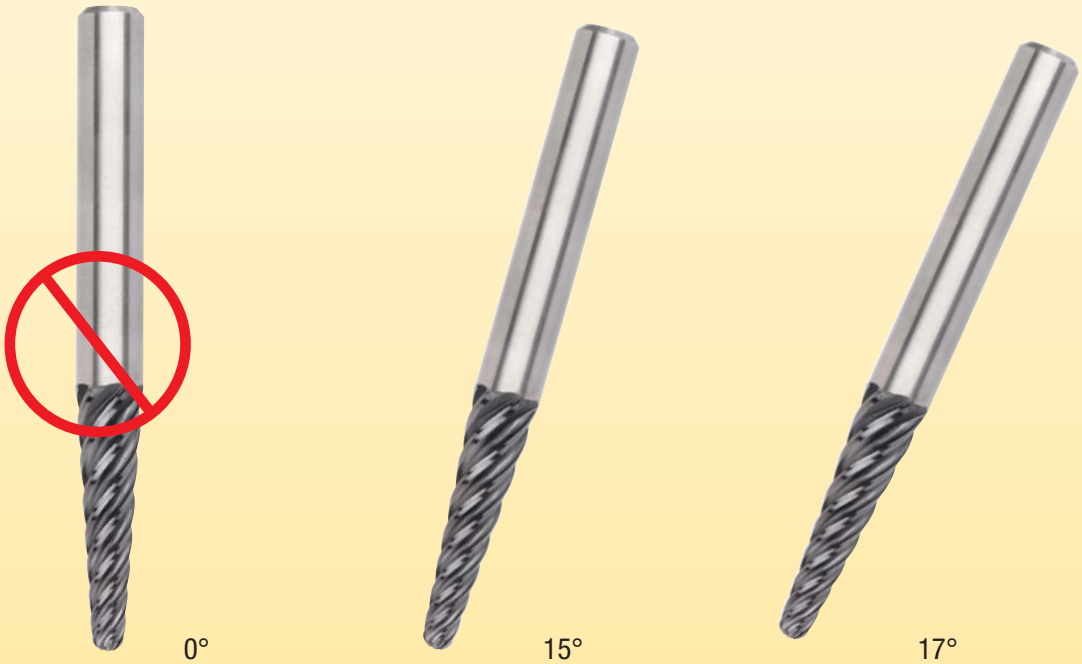



Use 5–10° for radial rake angle.

***Make use of calculators such as:***
***kennametal.com/en/resources/calculators/***
***end-milling-calculators/ball-nose-surface-finish.html***

Not all 6 cutting edges are reaching to the center of the HARVI III taper ball nose end mill.
Therefore, certain machining angles will result in different numbers of effective cutting edges.



0°
Avoid (center cutting speed = 0)

15°
<15° z = 2 effective cutting edges

17°
>17° z = 6 effective cutting edges

## HARVI™ III Taper Ball Nose UJBE

**CHALLENGE**

- Finishing contour milling with lightly interrupted cut.
- Blade machining for energy customer.
- X22 CrMoV12.
- External emulsion.

**SOLUTION**

- HARVI III taper ball nose UJBE, 6° taper angle, and KCSM15™ with 6 effective cutting edges, Ø 0.315".

**CUTTING DATA**

- vc 328 SFM
- fz .0020 IPT
- ap .0787"
- ae .0236"

**RESULT**

- 73% increased productivity.

**BENEFIT**

- Reduced cost per component as the tool life increased.
- New 6-flute geometry has given better surface finish compared to 4 flutes.
- Regrindable tool.

## HARVI III Taper Ball Nose UJBE

**CHALLENGE**

- Finishing intersection and hub on blade airfoil.
- Blade machining for energy customer.
- X22CrMoV12-1.
- External emulsion.

**SOLUTION**

- HARVI III taper ball nose UJBE, 6° taper angle, and KCSM15 with 6 effective cutting edges, Ø 0.394".

**CUTTING DATA**

- vc 853 SFM
- fz .0024 IPT
- ap .0236"
- ae .0118"

**RESULT**

- 50% increase in feed.
- 28% increase in tool life.
- Improved surface finish and minimum wear on edges.

**BENEFIT**

- Reduced tooling cost.
- Reduction in cost per component.
- Good surface finish.
- Regrindable tool.

*(continued)*

*(continued)*

## HARVI™ III Taper Ball Nose UJBE

**CHALLENGE**

- Finishing intersection and hub on blade airfoil.
- X22CrMoV12-1.
- External emulsion.

**SOLUTION**

- HARVI III taper ball nose UJBE, 6° taper angle, and KCSM15™.
- Ø 0.157" with 8 effective cutting edges.

**CUTTING DATA**

- vc 459 SFM
- fz .0006 IPT
- ap .0197"
- ae .0138"

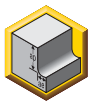
**RESULT**

- Substantial increase in Metal Removal Rates (MRR).

**BENEFIT**

- Improved surface quality.
- Regrindable tool to reduce tool cost.

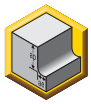
## HARVI III • UJBE • Ball Nose • Unequal Flute Spacing • Roughing



| Material Group | | Side Milling (A) | | KCSM15 | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | | D1 — Diameter | | | | | | | |
| | | | | | | | frac. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | dec. | .1250 | .1875 | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | Ap max | 0.4 x D | 490 | – | 660 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | Ap max | 0.4 x D | 490 | – | 660 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | Ap max | 0.4 x D | 460 | – | 620 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | Ap max | 0.4 x D | 390 | – | 520 | IPT | .0008 | .0011 | .0015 | .0019 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap max | 0.4 x D | 300 | – | 490 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | Ap max | 0.4 x D | 200 | – | 330 | IPT | .0006 | .0009 | .0012 | .0015 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 6 | Ap max | 0.4 x D | 160 | – | 250 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | Ap max | 0.4 x D | 300 | – | 380 | IPT | .0008 | .0011 | .0015 | .0019 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap max | 0.4 x D | 200 | – | 260 | IPT | .0006 | .0009 | .0012 | .0015 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | Ap max | 0.4 x D | 200 | – | 230 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 | .0022 | .0025 | .0028 |
| S | 1 | Ap max | 0.4 x D | 160 | – | 300 | IPT | .0008 | .0011 | .0015 | .0019 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap max | 0.4 x D | 80 | – | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | Ap max | 0.4 x D | 80 | – | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | Ap max | 0.4 x D | 160 | – | 200 | IPT | .0006 | .0008 | .0011 | .0014 | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | Ap max | 0.4 x D | 260 | – | 460 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 | .0030 | .0034 | .0039 |

NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HARVI™ III • UJBE • Ball Nose • Unequal Flute Spacing • Finishing



| Material Group | | Side Milling (A) | | KCSM15 | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | | D1 — Diameter | | | | | | | |
| | | | | | | | frac. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | dec. | .1250 | .1875 | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | Ap max | .06 x D | 940 | – | 1250 | IPT | .0011 | .0016 | .0022 | .0027 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 1 | Ap max | .06 x D | 940 | – | 1250 | IPT | .0011 | .0016 | .0022 | .0027 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 2 | Ap max | .06 x D | 870 | – | 1180 | IPT | .0011 | .0016 | .0022 | .0027 | .0033 | .0041 | .0047 | .0053 | .0059 |
| | 3 | Ap max | .06 x D | 750 | – | 1000 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 4 | Ap max | .06 x D | 560 | – | 940 | IPT | .0008 | .0012 | .0016 | .0020 | .0025 | .0031 | .0036 | .0040 | .0046 |
| | 5 | Ap max | .06 x D | 370 | – | 620 | IPT | .0007 | .0011 | .0015 | .0018 | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 6 | Ap max | .06 x D | 310 | – | 470 | IPT | .0006 | .0009 | .0012 | .0015 | .0018 | .0023 | .0027 | .0030 | .0034 |
| M | 1 | Ap max | .06 x D | 560 | – | 720 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | .06 x D | 370 | – | 500 | IPT | .0007 | .0011 | .0015 | .0018 | .0022 | .0028 | .0033 | .0037 | .0043 |
| | 3 | Ap max | .06 x D | 370 | – | 440 | IPT | .0006 | .0009 | .0012 | .0015 | .0018 | .0023 | .0027 | .0030 | .0034 |
| S | 1 | Ap max | .06 x D | 310 | – | 560 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0035 | .0041 | .0046 | .0054 |
| | 2 | Ap max | .06 x D | 160 | – | 250 | IPT | .0005 | .0007 | .0010 | .0012 | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 3 | Ap max | .06 x D | 160 | – | 250 | IPT | .0005 | .0007 | .0010 | .0012 | .0015 | .0018 | .0022 | .0025 | .0029 |
| | 4 | Ap max | .06 x D | 310 | – | 370 | IPT | .0007 | .0010 | .0013 | .0017 | .0020 | .0026 | .0030 | .0034 | .0040 |
| H | 1 | Ap max | .06 x D | 500 | – | 870 | IPT | .0008 | .0012 | .0016 | .0020 | .0025 | .0031 | .0036 | .0040 | .0046 |

NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# End Mills for High-Feed Milling

# KenFeed™

**Specifically engineered to machine hardened steel up to 65 HRC at extreme speeds and feeds.**

## FEATURES AND BENEFITS

- Unique tool with new 6-flute style for high productivity.
- Necked shanks provide extended reach in deep cavities.
- High-feed rates up to .0230" per tooth on a 3/4" tool.
- Machine hardened materials at 2–3x the metal removal rate of competitive end mills.
- Wide range of cutting diameters: down to 1/4" for small and medium pocket work.
- Innovative new geometry maximizes metal removal rates.
- High metal removal rates lower manufacturing costs.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# CXE/CXER

## High-Performance Solid Carbide End Mills

### Primary Application

CXE and CXER radius end mills are specially developed and manufactured for stainless steel, titanium, and high-temperature alloys that are typically found in aerospace, defense, medical, oil, and gas industries.

- Roughing and finishing with one tool.
- Highest Metal Removal Rates (MRR) optimize productivity.
- Tough and wear-resistant substrate.
- Advanced nano-composite PVD coating.

## Features and Benefits

### Advanced Technology

- Four flutes with unequal helix for chatter-free machining at high feed rates.
- Center cutting for helical operations and pocketing.
- Front-end design and unequal helix for optimized chip control.

### Tailored Grades

- SP4060 grade with tough and wear-resistant substrate, advanced nano-composite PVD coating for highest tool life.

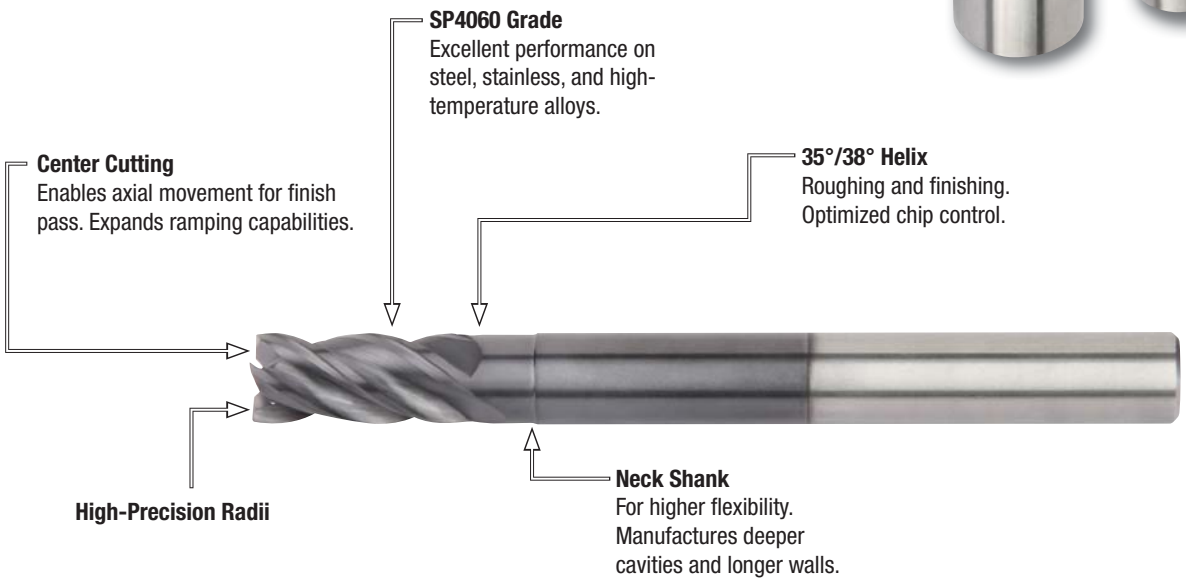
### Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.

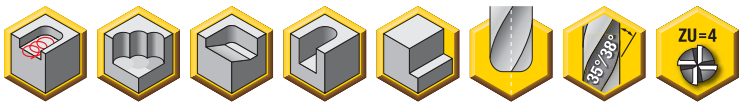
### Standard Offering

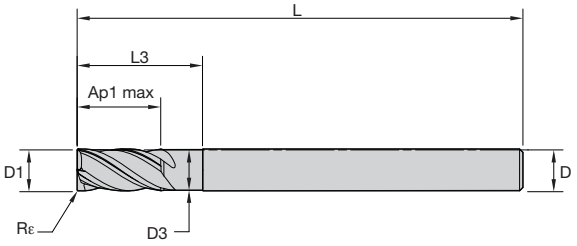
- Diameter range 1/8–1".

# Designed for roughing and finishing with the highest Metal Removal Rates (MRR) in demanding materials.



- Asymmetrical flute spacing and variable helix configuration minimizes chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Standard items listed. Additional styles and coatings made-to-order.

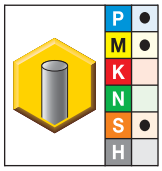


**End Mill Tolerances**

| D1 | tolerance |
|---|---|
| All | +.000/- .002" |

## CXE • 4 Flute • Inch

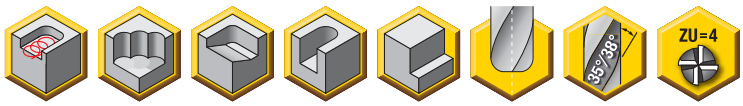


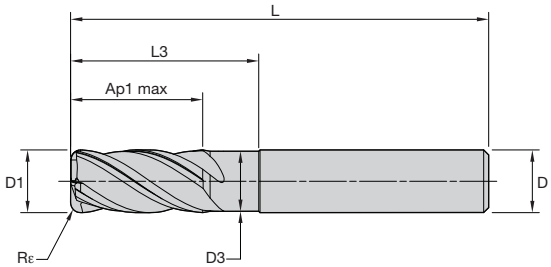

● first choice
○ alternate choice

| SP4060 | D1 | D | D3 | Ap1 max | L | L3 | Rε |
|---|---|---|---|---|---|---|---|
| **CXE0125MTN4-C** | 1/8 | 1/4 | — | 1/4 | 2 1/2 | — | .010 |
| **CXE0187MTN4-C** | 3/16 | 1/4 | — | 3/8 | 3 | — | .010 |
| **CXE0250MN4-C** | 1/4 | 1/4 | .240 | 1/2 | 3 | 3/4 | .010 |
| **CXE0375MN4-C** | 3/8 | 3/8 | .365 | 3/4 | 4 | 1 1/8 | .010 |
| **CXE0500MN4-C** | 1/2 | 1/2 | .490 | 1 | 4 | 1 1/2 | .010 |
| **CXE0750MN4-C** | 3/4 | 3/4 | .740 | 1 1/2 | 5 | 2 1/4 | .010 |

NOTE: For application data, see page P86.

- Asymmetrical flute spacing and variable helix configuration minimizes chatter and harmonics for smoother machining.
- Center cutting.
- Single tool for both roughing and finishing operations requiring fewer setups.
- Standard items listed. Additional styles and coatings made-to-order.

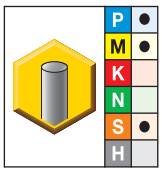


**End Mill Tolerances**

| D1 | tolerance |
|---|---|
| All | +.000/- .002" |

## CXER • 4 Flute • Inch

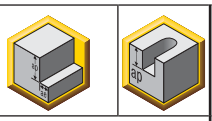



● first choice
○ alternate choice

| SP4060 | D1 | D | Ap1 max | L | L3 | Rε |
|---|---|---|---|---|---|---|
| CXER0125NTN4-C | 1/8 | .250 | .275 | 2 1/2 | — | .010 |
| CXER0125NTN4-F * | 1/8 | .250 | .290 | 2 1/2 | — | .030 |
| CXER0250NN4-C | 1/4 | .250 | .540 | 2 1/2 | .750 | .010 |
| CXER0250NN4-E | 1/4 | .250 | .550 | 2 1/2 | .750 | .020 |
| CXER0375NN4-C | 3/8 | .375 | .825 | 2 1/2 | 1.125 | .010 |
| CXER0375NN4-E | 3/8 | .375 | .825 | 2 1/2 | 1.125 | .020 |
| CXER0469NTN4-E * | 15/32 | .500 | 1.031 | 3 | — | .020 |
| CXER0500NN4-C | 1/2 | .500 | 1.100 | 3 | 1.500 | .010 |
| CXER0500NN4-F * | 1/2 | .500 | 1.100 | 3 | 1.500 | .030 |
| CXER0500NN4-J | 1/2 | .500 | 1.100 | 3 | 1.500 | .060 |
| CXER0500NN4-K | 1/2 | .500 | 1.100 | 3 | 1.500 | .090 |
| CXER0500NN4-L | 1/2 | .500 | 1.100 | 3 | 1.500 | .120 |
| CXER0625NN4-C | 5/8 | .625 | 1.375 | 3 1/2 | 1.875 | .010 |
| CXER0625NN4-J * | 5/8 | .625 | 1.375 | 3 1/2 | 1.875 | .060 |
| CXER0750NN4-C | 3/4 | .750 | 1.650 | 4 | 2.250 | .010 |
| CXER0750NN4-F | 3/4 | .750 | 1.650 | 4 | 2.250 | .030 |
| CXER0750NN4-K | 3/4 | .750 | 1.650 | 4 | 2.250 | .090 |
| CXER0750NN4-L | 3/4 | .750 | 1.650 | 4 | 2.250 | .120 |
| CXER1000NN4-C * | 1 | 1.000 | 2.200 | 5 | 3.000 | .010 |
| CXER1000NN4-F | 1 | 1.000 | 2.200 | 5 | 3.000 | .030 |
| CXER1000NN4-L * | 1 | 1.000 | 2.200 | 5 | 3.000 | .120 |

NOTE: For application data, see page P86.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## CXE/CXER • Asymmetrical Flute Spacing

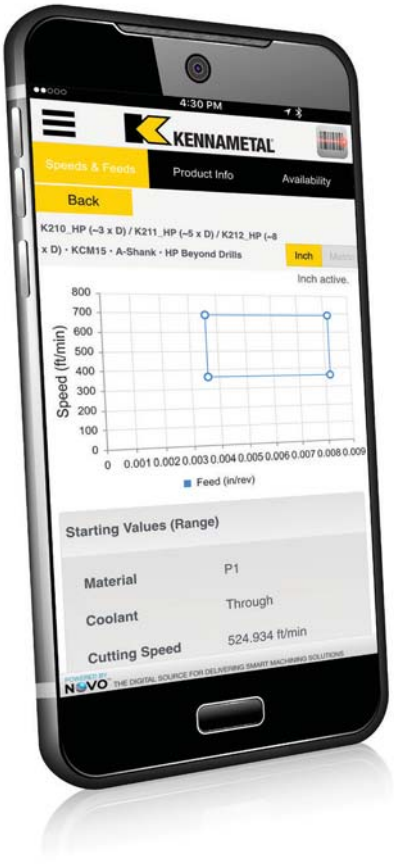


| Material Group | | Side Milling (A) and Slotting (B) | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | SP4060 Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | | | | |
| | | | | | | | | frac. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | | max | dec. | .125 | .188 | .250 | .313 | .375 | .438 | .500 | .625 | .750 | 1.000 |
| P | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | – | 520 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 1.5 x D | 0.5 x D | 0.75 x D | 300 | – | 490 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | – | 330 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | – | 250 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 1.5 x D | 0.5 x D | 1 x D | 300 | – | 380 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 200 | – | 260 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 200 | – | 230 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 |
| S | 1 | 1.5 x D | 0.5 x D | 1 x D | 160 | – | 300 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 80 | – | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 80 | – | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | – | 200 | IPT | .0005 | .0008 | .0011 | .0014 | .0017 | .0019 | .0021 | .0025 | .0028 | .0033 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# Mobile App

**The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.**




## FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

## MACHINING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

## ORDERING

Login using your Konnect credentials to complete a purchase.

## WHERE TO FIND IT

Download the free app today from iTunes® or the Google Play™ store.

ANDROID APP ON Google play

Available on the App Store

# High-Performance Solid Carbide Roughing End Mills

### Primary Application

High-performance roughers can be applied in a wide range of workplace materials such as steels, stainless steels, cast irons, and in certain cases, hardened materials. Tailored roughing profiles reduce cutting forces to the necessary level or combine roughing and semi-finishing for fewer tool changes.

- High-performance universal tools for almost all cutting materials.
- Lower cutting forces and spindle power consumption.
- Center cutting for plunging, ramping, profiling, high-feed slotting, and side milling.

## Features and Benefits

### Advanced Technology

- Up to full length of cut for:
  - — Slotting
  - — Side milling
  - — Profiling
  - — Semi-finishing
- Various roughing profiles available for the right balance between cutting forces, feed rates, and surface quality.

### Tailored Grades

- From proprietary KCPM15™ Beyond™ grade for outstanding wear to uncoated tools suitable for a variety of workpiece materials.
- Universal KC643M™ grade suitable for cutting steel, stainless, and titanium.

### Customization

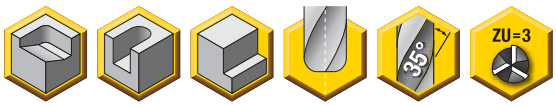
- Intermediate diameters available.
- Corner radii for near-shape roughing operations available.
- Various shank options, including the Safe-Lock™ system by HAIMER®, and non-standard coatings available.
- Internal coolant for improved chip evacuation and extended tool life.

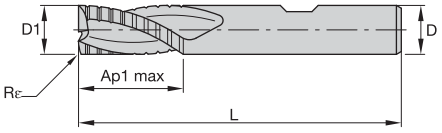
### Extensive Standard Offering

- Diameter range 1/4–1".
- Weldon® shank for maximum torque transmission.

# Highest metal removal rates — even on unstable machines or workpiece clamping.

- Kennametal standard dimensions.
- Center cutting.
- Chipbreaker profile.



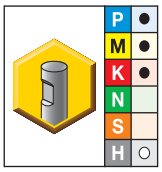



**End Mill Tolerances**

| D1 | d11 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | -.0008/-.0031" | <1/8" | +0/-.00024" |
| 1/8–7/32" | -.0012/-.0041" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | -.0016/-.0051" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | -.002/-.0063" | 13/32–11/16" | +0/-.00043" |
| 23/32–1-3/16" | -.0026/-.0077" | 23/32–1-3/16" | +0/-.00051" |

beyond

## HPRSS

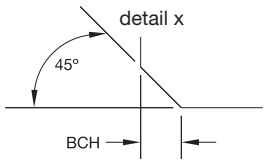


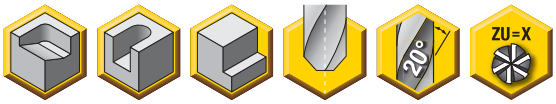

● first choice
○ alternate choice

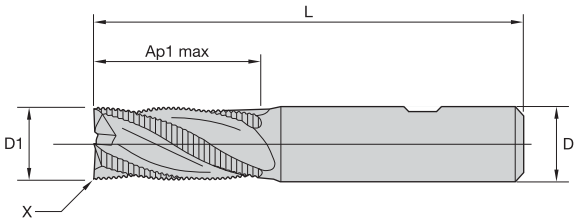
| KCPM15 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **HPRSS250S3075** | 1/4 | 1/4 | 3/4 | 2 1/2 | .020 |
| **HPRSS375S3100** | 3/8 | 3/8 | 1 | 2 1/2 | .020 |
| **HPRSS500S3125** | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| **HPRSS625S3163** | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .030 |
| **HPRSS750S3163** | 3/4 | 3/4 | 1 5/8 | 4 | .030 |

NOTE: For application data, see page P93.

- Kennametal standard dimensions.
- Center cutting.
- Cord profile.



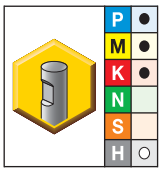



**End Mill Tolerances**

| D1 | d11 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | -.0008/-.0031" | <1/8" | +0/-.00024" |
| 1/8–7/32" | -.0012/-.0041" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | -.0016/-.0051" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | -.002/-.0063" | 13/32–11/16" | +0/-.00043" |
| 23/32–1-3/16" | -.0026/-.0077" | 23/32–1-3/16" | +0/-.00051" |

beyond

## MDRHEC • Rougher • Beyond™

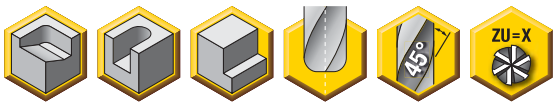


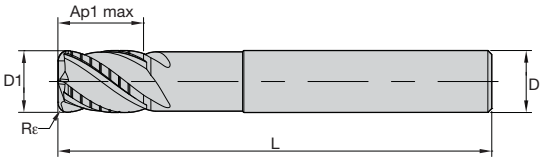

● first choice
○ alternate choice

| KCPM15 | D1 | D | Ap1 max | L | BCH | Z U |
|---|---|---|---|---|---|---|
| **MDRHEC250S3025** | 1/4 | 1/4 | 3/8 | 2 | .012 | 3 |
| **MDRHEC250S3075** | 1/4 | 1/4 | 3/4 | 2 1/2 | .012 | 3 |
| **MDRHEC250S4025** | 1/4 | 1/4 | 3/8 | 2 | .012 | 3 |
| **MDRHEC250S4075** | 1/4 | 1/4 | 3/4 | 2 1/2 | .012 | 3 |
| **MDRHEC312S4081** | 5/16 | 5/16 | 13/16 | 2 1/2 | .012 | 4 |
| **MDRHEC375S4038** | 3/8 | 3/8 | 1/2 | 2 | .020 | 4 |
| **MDRHEC375S4088** | 3/8 | 3/8 | 7/8 | 2 1/2 | .020 | 4 |
| **MDRHEC500S4050** | 1/2 | 1/2 | 5/8 | 2 1/2 | .020 | 4 |
| **MDRHEC500S4100** | 1/2 | 1/2 | 1 | 3 | .020 | 4 |
| **MDRHEC625S4063** | 5/8 | 5/8 | 3/4 | 3 | .020 | 4 |
| **MDRHEC625S4125** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .020 | 4 |
| **MDRHEC750S4075** | 3/4 | 3/4 | 7/8 | 3 1/2 | .020 | 4 |
| **MDRHEC750S4150** | 3/4 | 3/4 | 1 1/2 | 4 | .020 | 4 |
| **MDRHEC100S5150** | 1 | 1 | 1 1/2 | 4 | .020 | 5 |

NOTE: For application data, see page P94.

- Kennametal standard dimensions.
- Center cutting.
- Shallow-pitch profile.

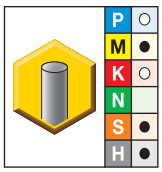


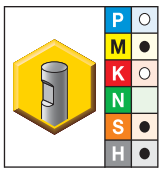



**End Mill Tolerances**

| D1 | d11 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | -.0008/-.0031" | <1/8" | +0/-.00024" |
| 1/8–7/32" | -.0012/-.0041" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | -.001/-.0051" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | -.002/-.0063" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | -.0026/-.0077" | 23/32–1 3/16" | +0/-.00051" |

## HPRST




● first choice
○ alternate choice

| KC643M | KC643M | D1 | D | Ap1 max | L | Rε | Z U |
|---|---|---|---|---|---|---|---|
| **HPRST250S4038** | **–** | 1/4 | 1/4 | 3/8 | 2 | .030 | 3 |
| **HPRST250S4075** | **–** | 1/4 | 1/4 | 3/4 | 2 1/2 | .030 | 4 |
| **HPRST375S4050** | **–** | 3/8 | 3/8 | 1/2 | 2 | .030 | 4 |
| **HPRST375S4088** | **–** | 3/8 | 3/8 | 7/8 | 2 1/2 | .030 | 4 |
| **–** | **HPRST500S4063** | 1/2 | 1/2 | 5/8 | 2 1/2 | .040 | 4 |
| **–** | **HPRST500S4125** | 1/2 | 1/2 | 1 1/4 | 3 | .040 | 4 |
| **–** | **HPRST625S4075** | 5/8 | 5/8 | 3/4 | 3 | .040 | 4 |
| **–** | **HPRST625S4125** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .040 | 4 |
| **–** | **HPRST625S6125** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .040 | 6 |
| **–** | **HPRST750S4088** | 3/4 | 3/4 | 7/8 | 3 1/2 | .050 | 4 |
| **–** | **HPRST750S4150** | 3/4 | 3/4 | 1 1/2 | 4 | .050 | 4 |
| **–** | **HPRST750S6150** | 3/4 | 3/4 | 1 1/2 | 4 | .050 | 6 |
| **–** | **HPRST1000S4150** | 1 | 1 | 1 1/2 | 4 | .050 | 4 |
| **–** | **HPRST1000S6150** | 1 | 1 | 1 1/2 | 4 | .050 | 6 |

NOTE: For application data, see page P95.

## HPRSS

| Material Group | | Side Milling (A) and Slotting (B) | | | KCPM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | |
| | | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | ap | min | max | dec. | .250 | .313 | .375 | .500 | .625 | .750 |
| P | 1 | 1 x D | 0.5 x D | 0.75 x D | 500 | 650 | fz | .0018 | .0023 | .0027 | .0035 | .0039 | .0043 |
| | 2 | 1 x D | 0.5 x D | 0.75 x D | 450 | 625 | fz | .0018 | .0023 | .0027 | .0035 | .0039 | .0043 |
| | 3 | 1 x D | 0.5 x D | 0.75 x D | 400 | 525 | fz | .0015 | .0020 | .0023 | .0029 | .0034 | .0038 |
| | 4 | 1 x D | 0.4 x D | 0.3 x D | 350 | 475 | fz | .0014 | .0018 | .0020 | .0026 | .0030 | .0033 |
| | 5 | 1 x D | 0.5 x D | 0.75 x D | 200 | 325 | fz | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 |
| | 6 | 1 x D | 0.4 x D | 0.3 x D | 150 | 225 | fz | .0010 | .0013 | .0015 | .0019 | .0022 | .0024 |
| M | 1 | 1 x D | 0.5 x D | 0.75 x D | 250 | 325 | fz | .0015 | .0020 | .0023 | .0029 | .0034 | .0038 |
| | 2 | 1 x D | 0.5 x D | 0.75 x D | 190 | 260 | fz | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 |
| | 3 | 1 x D | 0.5 x D | 0.75 x D | 200 | 260 | fz | .0010 | .0013 | .0015 | .0019 | .0022 | .0024 |
| K | 1 | 1 x D | 0.5 x D | 0.75 x D | 400 | 525 | fz | .0018 | .0023 | .0027 | .0035 | .0039 | .0043 |
| | 2 | 1 x D | 0.5 x D | 0.75 x D | 360 | 460 | fz | .0015 | .0020 | .0023 | .0029 | .0034 | .0038 |
| | 3 | 1 x D | 0.5 x D | 0.75 x D | 330 | 430 | fz | .0012 | .0016 | .0018 | .0023 | .0027 | .0030 |
| H | 1 | 1 x D | 0.4 x D | 0.3 x D | 300 | 450 | fz | .0014 | .0018 | .0020 | .0026 | .0030 | .0033 |

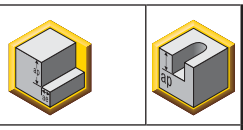
NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## MDRHEC

| Material Group | | Side Milling (A) and Slotting (B) | | | KCPM15 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .250 | .313 | .375 | .500 | .625 | .750 | 1.000 |
| P | 0 | 1.0 x D | 0.5 x D | 0.5 x D | 490 | 660 | IPT | .0016 | .0020 | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 1 | 1.0 x D | 0.5 x D | 0.5 x D | 490 | 660 | IPT | .0016 | .0020 | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 2 | 1.0 x D | 0.4 x D | 0.5 x D | 460 | 620 | IPT | .0016 | .0020 | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 3 | 1.0 x D | 0.4 x D | 0.5 x D | 390 | 520 | IPT | .0013 | .0017 | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 4 | 1.0 x D | 0.3 x D | 0.4 x D | 300 | 490 | IPT | .0012 | .0015 | .0017 | .0022 | .0026 | .0029 | .0033 |
| | 5 | 1.0 x D | 0.4 x D | 0.5 x D | 200 | 330 | IPT | .0010 | .0013 | .0016 | .0020 | .0023 | .0026 | .0031 |
| M | 1 | 1.0 x D | 0.4 x D | 0.5 x D | 300 | 380 | IPT | .0013 | .0017 | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 2 | 1.0 x D | 0.4 x D | 0.5 x D | 200 | 260 | IPT | .0010 | .0013 | .0016 | .0020 | .0023 | .0026 | .0031 |
| | 3 | 1.0 x D | 0.4 x D | 0.5 x D | 200 | 230 | IPT | .0009 | .0011 | .0013 | .0016 | .0019 | .0021 | .0024 |
| K | 1 | 1.0 x D | 0.5 x D | 0.5 x D | 390 | 490 | IPT | .0016 | .0020 | .0023 | .0029 | .0034 | .0037 | .0042 |
| | 2 | 1.0 x D | 0.4 x D | 0.5 x D | 360 | 460 | IPT | .0013 | .0017 | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 3 | 1.0 x D | 0.4 x D | 0.5 x D | 360 | 430 | IPT | .0010 | .0013 | .0016 | .0020 | .0023 | .0026 | .0031 |
| S | 1 | 1.0 x D | 0.4 x D | 0.5 x D | – | – | IPT | .0013 | .0017 | .0019 | .0025 | .0029 | .0033 | .0038 |
| | 2 | 1.0 x D | 0.4 x D | 0.5 x D | – | – | IPT | .0007 | .0009 | .0010 | .0013 | .0015 | .0018 | .0021 |
| H | 1 | 1.0 x D | 0.3 x D | 0.4 x D | 260 | 460 | IPT | .0012 | .0015 | .0017 | .0022 | .0026 | .0029 | .0033 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HPRST



| Material Group | | Side Milling (A) and Slotting (B) | | | KC643M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .250 | .313 | .378 | .500 | .625 | .750 | 1.000 |
| P | 3 | 1.0 x D | 0.5 x D | 0.75 x D | 390 | 520 | IPT | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 1.0 x D | 0.3 x D | 0.75 x D | 300 | 490 | IPT | .0014 | .0017 | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 1.0 x D | 0.5 x D | 0.75 x D | 200 | 330 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.0 x D | 0.3 x D | 0.3 x D | 160 | 250 | IPT | .0010 | .0013 | .0015 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 1.0 x D | 0.5 x D | 0.75 x D | 300 | 380 | IPT | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.0 x D | 0.5 x D | 0.75 x D | 200 | 260 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 1.0 x D | 0.5 x D | 0.75 x D | 200 | 230 | IPT | .0010 | .0013 | .0015 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 1.0 x D | 0.5 x D | 1 x D | 390 | 490 | IPT | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.0 x D | 0.5 x D | 1 x D | 360 | 460 | IPT | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 1.0 x D | 0.5 x D | 1 x D | 360 | 430 | IPT | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 1.0 x D | 0.3 x D | 0.75 x D | 160 | 300 | IPT | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.0 x D | 0.3 x D | 0.75 x D | 80 | 130 | IPT | .0008 | .0010 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.0 x D | 0.3 x D | 0.75 x D | 80 | 130 | IPT | .0008 | .0010 | .0012 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.0 x D | 0.4 x D | 0.75 x D | 160 | 200 | IPT | .0011 | .0014 | .0017 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 1.0 x D | 0.3 x D | 0.3 x D | 260 | 460 | IPT | .0014 | .0017 | .0020 | .0026 | .0030 | .0034 | .0039 |
| | 2 | 1.0 x D | 0.2 x D | 0.2 x D | 230 | 390 | IPT | .0010 | .0013 | .0015 | .0019 | .0022 | .0025 | .0028 |
| | 3 | 1.0 x D | 0.2 x D | 0.2 x D | 200 | 300 | IPT | .0008 | .0010 | .0012 | .0015 | .0018 | .0021 | .0024 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# RSM II

## Multi-Flute End Mills

### Primary Application

RSM II offers the highest productivity in machining aerospace structural components in titanium and titanium alloys. The RSM II is designed to utilise high-speed peel milling strategies with secure chip formation and evacuation in deep cavities. RSM II is available with the Safe-Lock™ system by HAIMER®.

- Excellent metal removal rates.
- Highest surface quality.
- Unmatched tool life and wear resistance using grade KC643M™.
- Highest process security.

## Features and Benefits

### Advanced Technology

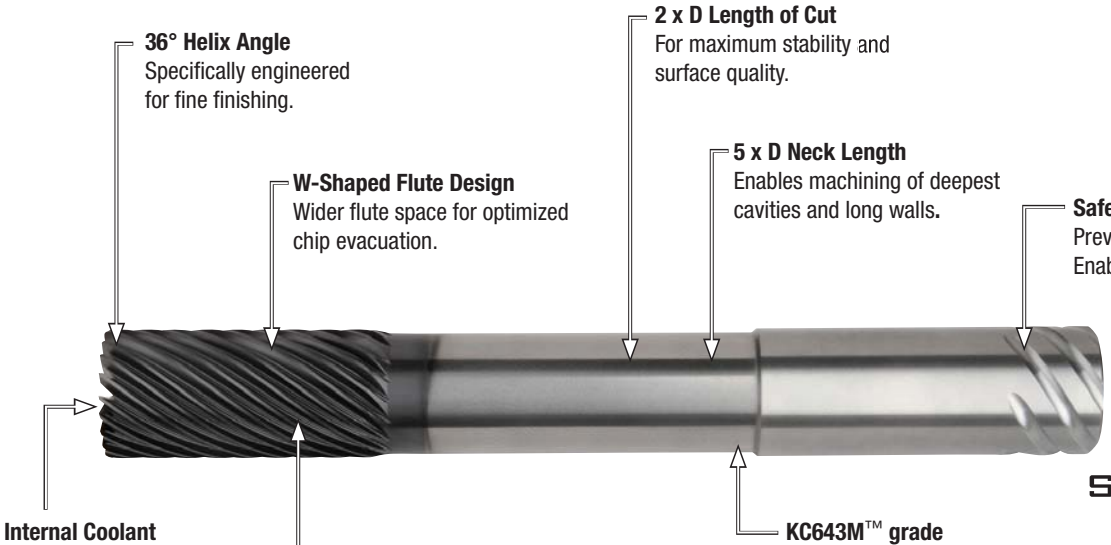
- Maximum number of flutes for increased feed rates and less vibration tendency.
- Proprietary W-shaped flute form improves chip formation and reduces cutting forces.
- Unequal flute spacing increases tool life and surface quality.
- Proprietary AlTiN KC643M grade for increased tool life.

### Customization

- Custom overall length and length of cut.
- Different radii per diameter.
- Custom shank styles.
- Tapered versions available.
- Uncoated K600 grade for milling critical-to-fly components.

### Extensive Standard Offering

- Each diameter has an optimized number of flutes for constant edge-to-flute space ratio.
- Different radii per diameter.
- Safe-Lock™ and round shank.



**36° Helix Angle**
Specifically engineered for fine finishing.

**W-Shaped Flute Design**
Wider flute space for optimized chip evacuation.

**2 x D Length of Cut**
For maximum stability and surface quality.

**5 x D Neck Length**
Enables machining of deepest cavities and long walls.

**Safe-Lock™ Shank**
Prevents end mill pullout. Enables higher feed rates.

SAFE-λOCK®
by HAIMER®

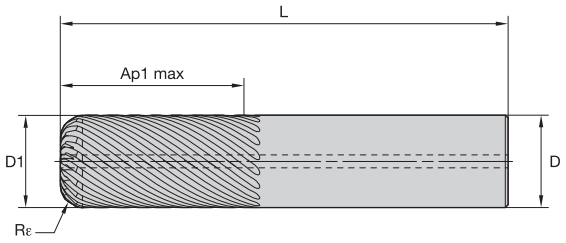
**Internal Coolant**
Increases tool life and flushes out chips in deep cavities.

**Eccentric Relief Grind**
Improves edge stability and enables higher feed rates.

**KC643M™ grade**
Unmatched fine finishing and tool life results.

**K600™ Uncoated Grade**
Addresses critical-to-fly applications for uncoated tools.

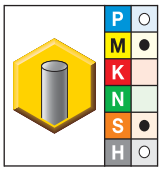
- Kennametal standard dimensions.
- Non-center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.



**End Mill Tolerances**

| D1 | tolerance e8 | D | tolerance h6 + / - |
|---|---|---|---|
| < 1/8" | +0/-.002 | < 1/8" | 0/.00024 |
| 1/8–7/32" | +0/-.002 | 1/8–7/32" | 0/.00031 |
| 1/4–3/8" | +0/-.002 | 1/4–3/8" | 0/.00035 |
| 13/32–11/16" | +0/-.002 | 13/32–11/16" | 0/.00043 |
| 23/32–1-3/16" | +0/-.002 | 23/32–1-3/16" | 0/.00051 |

## FSDE.. • Multi-Flute • Short • Inch




● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L | Rε | Z U |
|---|---|---|---|---|---|---|
| **FSDE0375J9BCA** | 3/8 | 3/8 | 3/4 | 2 | .015 | 9 |
| **FSDE0375J9BCB** | 3/8 | 3/8 | 3/4 | 2 | .030 | 9 |
| **FSDE0500J9BCA** | 1/2 | 1/2 | 1 | 2 1/2 | .015 | 9 |
| **FSDE0500J9BCB** | 1/2 | 1/2 | 1 | 2 1/2 | .030 | 9 |
| **FSDE0500J9BCC** | 1/2 | 1/2 | 1 | 2 1/2 | .060 | 9 |
| **FSDE0625JBBCB** | 5/8 | 5/8 | 1 1/4 | 3 | .030 | 11 |
| **FSDE0750JFBCA** | 3/4 | 3/4 | 1 1/2 | 3 1/2 | .015 | 15 |
| **FSDE0750JFBCB** | 3/4 | 3/4 | 1 1/2 | 3 1/2 | .030 | 15 |
| **FSDE0750JFBCC** | 3/4 | 3/4 | 1 1/2 | 3 1/2 | .060 | 15 |
| **FSDE0750JFBCE** | 3/4 | 3/4 | 1 1/2 | 3 1/2 | .120 | 15 |
| **FSDE1000JJBCA** | 1 | 1 | 2 | 4 | .015 | 19 |
| **FSDE1000JJBCB** | 1 | 1 | 2 | 4 | .030 | 19 |
| **FSDE1000JJBCC** | 1 | 1 | 2 | 4 | .060 | 19 |
| **FSDE1000JJBCE** | 1 | 1 | 2 | 4 | .120 | 19 |

NOTE: For application data, please see page P99.

## FSDE.. • Multi-Flute • Short • Inch • Roughing

| Material Group | | Side Milling (A) A ap | ae | KC643M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). D1 — Diameter in | 1/4 .2500 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 4 | Ap max | 0.03–0.045 | 440 | – | 740 | IPT | .0032 | .0034 | .0040 | .0043 | .0049 | .0058 |
| | 5 | Ap max | 0.03–0.045 | 300 | – | 490 | IPT | .0028 | .0030 | .0036 | .0039 | .0045 | .0054 |
| M | 1 | Ap max | 0.03–0.045 | 440 | – | 570 | IPT | .0035 | .0038 | .0045 | .0049 | .0056 | .0068 |
| | 2 | Ap max | 0.03–0.045 | 300 | – | 390 | IPT | .0028 | .0030 | .0036 | .0039 | .0045 | .0054 |
| | 3 | Ap max | 0.03–0.045 | 300 | – | 340 | IPT | .0024 | .0025 | .0030 | .0032 | .0036 | .0042 |
| S | 1 | Ap max | 0.03–0.045 | 250 | – | 440 | IPT | .0035 | .0038 | .0045 | .0049 | .0056 | .0068 |
| | 2 | Ap max | 0.03–0.045 | 120 | – | 200 | IPT | .0019 | .0020 | .0024 | .0026 | .0030 | .0036 |
| | 3 | Ap max | 0.03–0.045 | 120 | – | 200 | IPT | .0019 | .0020 | .0024 | .0026 | .0030 | .0036 |
| | 4 | Ap max | 0.03–0.045 | 250 | – | 300 | IPT | .0025 | .0028 | .0033 | .0036 | .0041 | .0050 |
| H | 1 | Ap max | 0.03–0.045 | 390 | – | 690 | IPT | .0032 | .0034 | .0040 | .0043 | .0049 | .0058 |
| | 2 | Ap max | 0.03–0.045 | 340 | – | 590 | IPT | .0024 | .0025 | .0030 | .0032 | .0036 | .0042 |

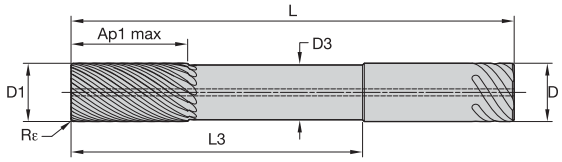
NOTE: For better surface finish, reduce feed per tooth.

## FSDE.. • Multi-Flute • Highest Surface Quality • Finishing

| Material Group | | Side Milling (A) A ap | ae | KC643M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). frac. dec. | D1 — Diameter 1/4 .2500 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 4 | Ap max | .008–.012 | 445 | – | 1628 | IPT | .0042 | .0045 | .0053 | .0058 | .0061 | .0066 |
| | 5 | Ap max | .008–.012 | 295 | – | 1078 | IPT | .0038 | .0040 | .0048 | .0052 | .0056 | .0061 |
| M | 1 | Ap max | .008–.012 | 445 | – | 1243 | IPT | .0047 | .0050 | .0060 | .0066 | .0070 | .0077 |
| | 2 | Ap max | .008–.012 | 295 | – | 869 | IPT | .0038 | .0040 | .0048 | .0052 | .0056 | .0061 |
| | 3 | Ap max | .008–.012 | 295 | – | 759 | IPT | .0032 | .0033 | .0040 | .0043 | .0045 | .0048 |
| S | 1 | Ap max | .008–.012 | 245 | – | 979 | IPT | .0047 | .0050 | .0060 | .0066 | .0070 | .0077 |
| | 2 | Ap max | .008–.012 | 125 | – | 429 | IPT | .0025 | .0026 | .0032 | .0035 | .0037 | .0041 |
| | 3 | Ap max | .008–.012 | 125 | – | 429 | IPT | .0025 | .0026 | .0032 | .0035 | .0037 | .0041 |
| | 4 | Ap max | .008–.012 | 245 | – | 649 | IPT | .0033 | .0037 | .0044 | .0048 | .0051 | .0056 |
| H | 1 | Ap max | .008–.012 | 395 | – | 1518 | IPT | .0042 | .0045 | .0053 | .0058 | .0061 | .0066 |
| | 2 | Ap max | .008–.012 | 345 | – | 1298 | IPT | .0032 | .0033 | .0040 | .0043 | .0045 | .0048 |

NOTE: For better surface finish, reduce feed per tooth.

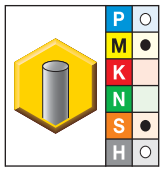
- Kennametal standard dimensions.
- Non-center cutting.
- Optimized geometry for titanium machining.
- Unequal flute spacing minimizes chatter for smoother machining.
- Reach optimized for machining deep cavities.

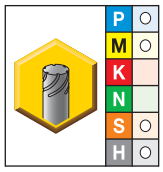


**End Mill Tolerances**

| D1 | tolerance e8 | D | tolerance h6 + / - |
|---|---|---|---|
| < 1/8" | +0/-.002 | < 1/8" | 0/.00024 |
| 1/8–7/32" | +0/-.002 | 1/8–7/32" | 0/.00031 |
| 1/4–3/8" | +0/-.002 | 1/4–3/8" | 0/.00035 |
| 13/32–11/16" | +0/-.002 | 13/32–11/16" | 0/.00043 |
| 23/32–1-3/16" | +0/-.002 | 23/32–1-3/16" | 0/.00051 |

## FSDE.. • Multi-Flute with Neck • Inch




● first choice
○ alternate choice

| KC643M | KC643M | D1 | D | D3 | Ap1 max | L3 | L | Rε | Z U |
|---|---|---|---|---|---|---|---|---|---|
| **FSDE0250J7DYA** | – | 1/4 | 1/4 | .235 | 1/2 | 1.250 | 3 | .015 | 7 |
| **FSDE0375J9DYA** | – | 3/8 | 3/8 | .353 | 3/4 | 1.875 | 4 | .015 | 9 |
| **FSDE0375J9DYB** | – | 3/8 | 3/8 | .353 | 3/4 | 1.875 | 4 | .030 | 9 |
| – | **FSDE0500N9DYA** | 1/2 | 1/2 | .470 | 1 | 2.500 | 5 | .015 | 9 |
| – | **FSDE0500N9DYB** | 1/2 | 1/2 | .470 | 1 | 2.500 | 5 | .030 | 9 |
| – | **FSDE0500N9DYC** | 1/2 | 1/2 | .470 | 1 | 2.500 | 5 | .060 | 9 |
| – | **FSDE0625NBDYB** | 5/8 | 5/8 | .588 | 1 1/4 | 3.125 | 5 1/4 | .030 | 11 |
| – | **FSDE0750NFDYA** | 3/4 | 3/4 | .705 | 1 1/2 | 3.750 | 6 | .015 | 15 |
| – | **FSDE0750NFDYB** | 3/4 | 3/4 | .705 | 1 1/2 | 3.750 | 6 | .030 | 15 |
| – | **FSDE0750NFDYC** | 3/4 | 3/4 | .705 | 1 1/2 | 3.750 | 6 | .060 | 15 |
| – | **FSDE0750NFDYE** | 3/4 | 3/4 | .705 | 1 1/2 | 3.750 | 6 | .120 | 15 |
| – | **FSDE1000NJDYA** | 1 | 1 | .940 | 2 | 5.000 | 7 1/2 | .015 | 19 |
| – | **FSDE1000NJDYB** | 1 | 1 | .940 | 2 | 5.000 | 7 1/2 | .030 | 19 |
| – | **FSDE1000NJDYC** | 1 | 1 | .940 | 2 | 5.000 | 7 1/2 | .060 | 19 |
| – | **FSDE1000NJDYE** | 1 | 1 | .940 | 2 | 5.000 | 7 1/2 | .120 | 19 |

NOTE: For application data, please see page P101.

## FSDE.. • Multi-Flute with Neck • Inch

| Material Group | | Side Milling (A) | | KC643M | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | ap | ae | min | | max | frac. | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | | | | | | dec. | .2500 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 4 | Ap max | 0.008–0.012 | 445 | – | 1628 | IPT | .0042 | .0045 | .0053 | .0058 | .0061 | .0066 |
| | 5 | Ap max | 0.008–0.012 | 295 | – | 1078 | IPT | .0038 | .0040 | .0048 | .0052 | .0056 | .0061 |
| M | 1 | Ap max | 0.008–0.012 | 445 | – | 1243 | IPT | .0047 | .0050 | .0060 | .0066 | .0070 | .0077 |
| | 2 | Ap max | 0.008–0.012 | 295 | – | 869 | IPT | .0038 | .0040 | .0048 | .0052 | .0056 | .0061 |
| | 3 | Ap max | 0.008–0.012 | 295 | – | 759 | IPT | .0032 | .0033 | .0040 | .0043 | .0045 | .0048 |
| S | 1 | Ap max | 0.008–0.012 | 245 | – | 979 | IPT | .0047 | .0050 | .0060 | .0066 | .0070 | .0077 |
| | 2 | Ap max | 0.008–0.012 | 125 | – | 429 | IPT | .0025 | .0026 | .0032 | .0035 | .0037 | .0041 |
| | 3 | Ap max | 0.008–0.012 | 125 | – | 429 | IPT | .0025 | .0026 | .0032 | .0035 | .0037 | .0041 |
| | 4 | Ap max | 0.008–0.012 | 245 | – | 649 | IPT | .0033 | .0037 | .0044 | .0048 | .0051 | .0056 |
| H | 1 | Ap max | 0.008–0.012 | 395 | – | 1518 | IPT | .0042 | .0045 | .0053 | .0058 | .0061 | .0066 |
| | 2 | Ap max | 0.008–0.012 | 345 | – | 1298 | IPT | .0032 | .0033 | .0040 | .0043 | .0045 | .0048 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions.
For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## FSDE 15-Flute End Mill

**CHALLENGE**

- Finishing contour milling on aerospace part with interrupted cut.
- Depth of cut: 1.575" (40mm).
- Titanium alloy R56400.
- External emulsion.

**SOLUTION**

- RSM II multi-flute cutter with KC643M™.
- Ø .787" (20mm) with 15 effective cutting edges and .158" (4mm) radius.

**CUTTING DATA**

- vc 230 SFM
- fz .0030 IPT
- ap 1.569"
- ae .001"

**RESULT**

- 3.75 times longer tool life compared to competitor solution.

**BENEFIT**

- Machining time reduction of 46%.
- Metal removal rate increase of 87%.

## FSDE 11-Flute End Mill

**CHALLENGE**

- Finishing long channel on aerospace frame part.
- Depth of cut: 1.535" (39mm).
- Titanium alloy.
- External emulsion.

**SOLUTION**

- RSM II multi-flute cutter with KC643M.
- Ø .625" (15.875mm) with 11 effective cutting edges and .003" (0.762mm) radius.

**CUTTING DATA**

- vc 425 SFM
- fz .0021 IPT
- ap 1.55"
- ae .001"

**RESULT**

- 2.5 times higher feed rates compared to initial solution.

**BENEFIT**

- Machining time reduction of 60%.
- Metal removal rate increase of 150%.

*(continued)*

*(continued)*

## FSDE 15-Flute End Mill

**CHALLENGE**

- Finishing external profile.
- Depth of cut: .787" (20mm).
- Titanium alloy 6Al4V.
- External emulsion.

**SOLUTION**

- RSM II multi-flute cutter with KC643M™.
- Ø .787" (20mm) with 15 effective cutting edges and .158" (4mm) corner radius.

**CUTTING DATA**

- vc 492 SFM
- fz .0020 IPT
- ap .784"
- ae .0024"

**RESULT**

- 50% tool life increase.
- 3x cutting speed.
- Nearly 8x the feed rates.

**BENEFIT**

- Machining time reduction of 81% from 43.1–8.4 min vs competitor solution.
- Metal removal rate increase of 360% vs competitor solution.

## FSDE 19-Flute End Mill

**CHALLENGE**

- Finishing external profile.
- Depth of cut: .787" (20mm).
- Titanium alloy 6Al4V.
- External emulsion.

**SOLUTION**

- RSM II multi-flute cutter with KC643M.
- Ø .984" (25mm) with 19 effective cutting edges and .039" (1mm) corner radius.

**CUTTING DATA**

- vc 492 SFM
- fz .0020 IPT
- ap .784"
- ae .0024"

**RESULT**

- 50% tool life increase.
- 3x cutting speed.
- Nearly 8x the feed rates.

**BENEFIT**

- Machining time reduction of 81% from 43.1–8.3 min vs competitor solution.
- Metal removal rate increase of 366% vs competitor solution.

| | |
|---|---|
| **Materials to Cut** | • Titanium and titanium alloys.<br>• Nickel-based alloys.<br>• Cobalt-based alloys.<br>• Steels (P4–P5).<br>• Stainless steels (M2–M3).<br>• Hardened steels (H1). |
| **Cutting Speed** | • Refer to application data recommendation.<br>• Highly dynamic machines recommended. |
| **Feed Rate** | • Refer to application data recommendation.<br>• Highly dynamic machines recommended.<br>• High-speed peel milling strategies require control of adequate feed rates. |
| **Depth of Cut** | • High-speed peel milling requires small depth of cut (approximately 5% of diameter) not exceeding 0.0393" (1mm). |
| **Coolant** | • Internal coolant for machining cavities.<br>• External coolant for peripheral milling. |
| **Adaptation** | • Shrink Fit adaptation is preferred as alternate recommendation.<br>• High-Performance Milling Chucks (HPMC) are applicable.<br>• Collect chucks are not recommended due to high runout. |
| **Roughing Application** | • Not recommended. |
| **Finishing Application** | • Finishing and semi-finishing. |
| **Milling Strategy** | • Peel milling strategies are recommended.<br>• Trochoidal milling is not recommended for this tool. |
| **Applications** | • Shoulder milling.<br>• Shoulder milling and fine finishing.<br>• Peel milling and HPC techniques.<br>• Non-center cutting.<br>• No ramping and helical interpolation. |
| **Corner Machining** | • Pre-mill corner pocket to leave appropriate depth-of-cut for finishing application.<br>• Use RSM with depth-of-cut at approximately 5% of diameter and below 0.0393" (1mm).<br>• RSM ll tool radius shall be smaller than final corner radius. |
| **Engineered Solutions** | • Available upon request. |
| **Reconditioning Service** | • Available with standard Kennametal reconditioning procedures.<br>• Check services under Kennametal website for detailed information. |

# Service and Support

## Customer Application Support (CAS)

### Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

### Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

| | |
|---|---|
| **SERVICE LEVEL EXCELLENCE** | Fast telephone response.<br>Quick technical solutions.<br>Efficient case management. |
| **SERVICES** | Operating parameters.<br>Process optimization.<br>Hardware support.<br>Tooling selection.<br>Troubleshooting. |
| **BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY** | Materials database.<br>Application calculators.<br>Tooling performance experts. |

| Originating Country | Language | Phone | E-mail |
|---|---|---|---|
| Australia | English | 1800 666 667 | ap-kmt.techsupport@kennametal.com |
| Austria | German | 0800 202873 | eu.techsupport@kennametal.com |
| Belgium | English/French | 0800 80850 | eu.techsupport@kennametal.com |
| China | Chinese | 400 889 2238 | k-cn.techsupport@kennametal.com |
| Denmark | English | 808 89298 | na.techsupport@kennametal.com |
| Finland | English | 0800 919412 | na.techsupport@kennametal.com |
| France | French | 080 5540 367 | eu.techsupport@kennametal.com |
| Germany | German | 0800 0006651 | eu.techsupport@kennametal.com |
| India | English | 1 800 103 5227 | in.techsupport@kennametal.com |
| Israel | English | 1809 449889 | na.techsupport@kennametal.com |
| Italy | Italian | 800 916561 | eu.techsupport@kennametal.com |
| Japan | English | 03 3820 2855 | ap-kmt.techsupport@kennametal.com |
| Korea (South) | English | +82 2 2100 6100 | ap-kmt.techsupport@kennametal.com |
| Malaysia | English | 1800 812 990 | ap-kmt.techsupport@kennametal.com |
| Mexico | Spanish | 1800 253 0758 | na.techsupport@kennametal.com |
| Netherlands | English | 0800 0201 130 | eu.techsupport@kennametal.com |
| New Zealand | English | 0800 450 941 | ap-kmt.techsupport@kennametal.com |
| Norway | English | 800 10080 | na.techsupport@kennametal.com |
| Poland | Polish | 0080 04411887 | eu.techsupport@kennametal.com |
| Russia (landline) | Russian | 8800 5556394 | eu.techsupport@kennametal.com |
| Russia (cell phone) | Russian | +7 8005556394 | eu.techsupport@kennametal.com |
| Singapore | English | 1800 6221031 | ap-kmt.techsupport@kennametal.com |
| South Africa | English | 0800 981643 | na.techsupport@kennametal.com |
| Sweden | English | 020799246 | na.techsupport@kennametal.com |
| Taiwan | English | 0800 666 197 | ap-kmt.techsupport@kennametal.com |
| Thailand | English | 1800 4417820 | ap-kmt.techsupport@kennametal.com |
| UK | English | 0800 032 8339 | na.techsupport@kennametal.com |
| Ukraine | Russian | 0800502664 | eu.techsupport@kennametal.com |
| USA | English | 800 835 3668 | na.techsupport@kennametal.com |

Numbers shown only serve the originating country listed.

# High-Performance Solid Carbide Finishing End Mills

### Primary Application

High-performance finishing end mills can be used for a wide range of workpiece materials such as steel, stainless steel, cast titanium, high-temp alloys, and in certain cases, hard materials.

- High-performance tools for excellent surface quality and accuracy.
- Reduce harmonics for chatter-free machining.
- Different front and flute styles for a wide range of applications like open contour, contour milling, and pocketing, and milling long and thin walls.

## Features and Benefits

### Advanced Technology

- Various styles available to choose from for the right application and workpiece material.
- Designated platforms for aerospace, transportation, and general engineering requirements.
- Selective styles for machining up to 6 x D.

### Tailored Grades

- Wide range of grades from uncoated to proprietary Beyond™ grades to cover a wide range of requirements.

# Highest metal removal rates and surface finish.

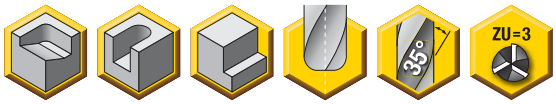
## Customization

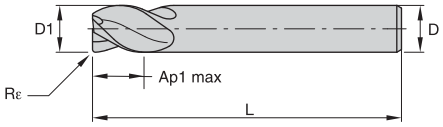
- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.
- Different radii available.

## Standard Offering

- Diameter range 1/8–1".

- Center cutting.

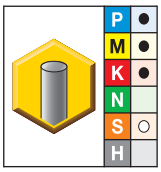


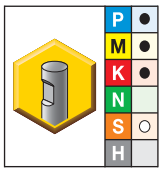



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 +/- |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HPFSS 3 Flute • Soft Steels and Stainless Steels



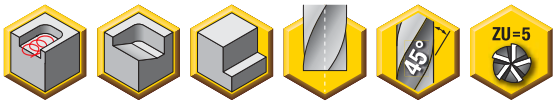



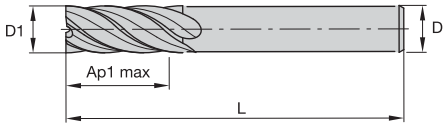

● first choice
○ alternate choice

| KC635M | KC635M | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|---|
| **HPFSS125S3025** | – | 1/8 | 1/8 | 1/4 | 1 1/2 | .010 |
| **HPFSS188S3031** | – | 3/16 | 3/16 | 5/16 | 2 | .010 |
| **HPFSS250S3038** | – | 1/4 | 1/4 | 3/8 | 2 | .020 |
| **HPFSS250S3050** | – | 1/4 | 1/4 | 1/2 | 2 | .020 |
| **HPFSS312S3081** | – | 5/16 | 5/16 | 13/16 | 2 1/2 | .020 |
| **HPFSS375S3050** | – | 3/8 | 3/8 | 1/2 | 2 | .020 |
| **HPFSS375S3088** | – | 3/8 | 3/8 | 7/8 | 2 1/2 | .020 |
| – | **HPFSS500S3063** | 1/2 | 1/2 | 5/8 | 2 1/2 | .030 |
| – | **HPFSS500S3125** | 1/2 | 1/2 | 1 1/4 | 3 | .030 |

NOTE: For application data, see page P111.

- Kennametal standard dimensions.
- Center cutting.



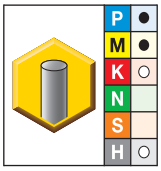


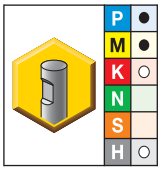

**End Mill Tolerances**

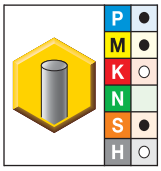
| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

beyond

## HPFSS 5 Flute • Steel, Stainless Steels, and Titanium



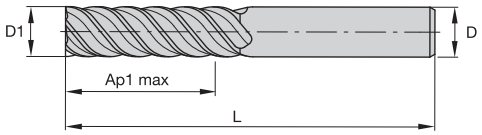




● first choice
○ alternate choice

| KCPM15 | KCPM15 | KC635M | D1 | D | Ap1 max | L |
|---|---|---|---|---|---|---|
| – | – | HPFSS125S5025 | 1/8 | 1/8 | 1/4 | 1 1/2 |
| – | – | HPFSS156S5056 | 5/32 | 3/16 | 9/16 | 2 |
| – | – | HPFSS188S5031 | 3/16 | 3/16 | 5/16 | 2 |
| HPFSS188S5056 | – | – | 3/16 | 3/16 | 9/16 | 2 |
| HPFSS250S5038 | – | – | 1/4 | 1/4 | 3/8 | 2 |
| HPFSS250S5075 | – | – | 1/4 | 1/4 | 3/4 | 2 1/2 |
| HPFSS250S5125 | – | – | 1/4 | 1/4 | 1 1/4 | 4 |
| HPFSS375S5050 | – | – | 3/8 | 3/8 | 1/2 | 2 |
| HPFSS375S5088 | – | – | 3/8 | 3/8 | 7/8 | 2 1/2 |
| HPFSS375S5150 | – | – | 3/8 | 3/8 | 1 1/2 | 4 |
| – | HPFSS500S5063 | – | 1/2 | 1/2 | 5/8 | 2 1/2 |
| – | HPFSS500S5125 | – | 1/2 | 1/2 | 1 1/4 | 3 |
| – | HPFSS500S5200 | – | 1/2 | 1/2 | 2 | 4 |
| – | HPFSS625S5075 | – | 5/8 | 5/8 | 3/4 | 3 |
| – | HPFSS625S5163 | – | 5/8 | 5/8 | 1 5/8 | 4 |
| – | HPFSS750S5088 | – | 3/4 | 3/4 | 7/8 | 3 |
| – | HPFSS750S5163 | – | 3/4 | 3/4 | 1 5/8 | 4 |
| – | HPFSS750S5325 | – | 3/4 | 3/4 | 3 1/4 | 5 |
| – | HPFSS1000S5200 | – | 1 | 1 | 2 | 4 |
| – | HPFSS1000S5325 | – | 1 | 1 | 3 1/4 | 6 |

NOTE: For application data, see page P111.

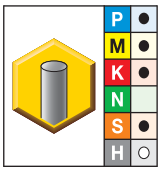
- Kennametal standard dimensions.
- Center cutting.




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 +/- |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HPFT • Stainless Steels and High-Temp Alloys




● first choice
○ alternate choice

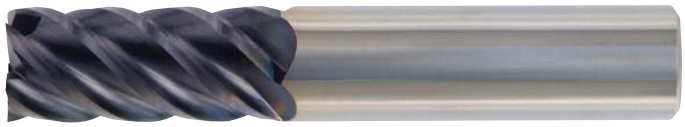
| KC635M | D1 | D | Ap1 max | L | Z U |
|---|---|---|---|---|---|
| **HPFT250S6038** | 1/4 | 1/4 | 3/8 | 2 | 6 |
| **HPFT250S6075** | 1/4 | 1/4 | 3/4 | 2 1/2 | 6 |
| **HPFT312S6081** | 5/16 | 5/16 | 13/16 | 2 1/2 | 6 |
| **HPFT375S6088** | 3/8 | 3/8 | 7/8 | 2 1/2 | 6 |
| **HPFT375S6113** | 3/8 | 3/8 | 1 1/8 | 3 | 6 |
| **HPFT500S6063** | 1/2 | 1/2 | 5/8 | 2 1/2 | 6 |
| **HPFT500S6100** | 1/2 | 1/2 | 1 | 3 | 6 |
| **HPFT500S6200** | 1/2 | 1/2 | 2 | 4 1/2 | 6 |
| **HPFT625S6125** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | 6 |
| **HPFT750S6150** | 3/4 | 3/4 | 1 1/2 | 4 | 6 |
| **HPFT750S6225** | 3/4 | 3/4 | 2 1/4 | 5 | 6 |
| **HPFT750S6300** | 3/4 | 3/4 | 3 | 5 1/4 | 6 |
| **HPFT750S6400** | 3/4 | 3/4 | 4 | 6 1/4 | 6 |
| **HPFT1000S6150** | 1 | 1 | 1 1/2 | 4 | 6 |
| **HPFT1000S6225** | 1 | 1 | 2 1/4 | 5 | 6 |
| **HPFT1000S6400** | 1 | 1 | 4 | 6 1/2 | 6 |

NOTE: For application data, see page P112.

## HPFSS 3 Flute • With Radius • Soft Steels and Stainless Steels

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC635M Cutting Speed — vc SFM min | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | dec. | .125 | .188 | .250 | .313 | .375 | .438 | .500 | .625 | .750 |
| P | 0 | 1.5 x D | 0.3 x D | 0.5 x D | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 1 | 1.5 x D | 0.3 x D | 0.5 x D | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 2 | 1.5 x D | 0.3 x D | 0.5 x D | 460 | 620 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 3 | 1.5 x D | 0.3 x D | 0.5 x D | 390 | 520 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 4 | 1.5 x D | 0.3 x D | 0.3 x D | 300 | 490 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 |
| | 5 | 1.5 x D | 0.3 x D | 0.5 x D | 200 | 330 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 |
| | 6 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 250 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 |
| M | 1 | 1.5 x D | 0.3 x D | 0.5 x D | 300 | 380 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 2 | 1.5 x D | 0.3 x D | 0.5 x D | 200 | 260 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 |
| | 3 | 1.5 x D | 0.3 x D | 0.5 x D | 200 | 230 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 |
| K | 1 | 1.5 x D | 0.3 x D | 0.5 x D | 390 | 490 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 2 | 1.5 x D | 0.3 x D | 0.5 x D | 360 | 460 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 3 | 1.5 x D | 0.3 x D | 0.5 x D | 360 | 430 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 |
| | 4 | 1.5 x D | 0.3 x D | 0.5 x D | 160 | 200 | IPT | .0005 | .0008 | .0011 | .0014 | .0017 | .0019 | .0021 | .0025 | .0028 |

## HPFSS 5 Flute • Steel, Stainless Steels, and Titanium



| Material Group | | Side Milling (A) A ap | A ae | KC635M Cutting Speed — vc SFM min | max | KCPM15 Cutting Speed — vc SFM min | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). frac. | D1 — Diameter 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dec. | .125 | .188 | .250 | .313 | .375 | .438 | .500 | .625 | .750 | 1.000 |
| P | 0 | 1.5 x D | 0.2 x D | 490 | 660 | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 1.5 x D | 0.2 x D | 490 | 660 | 490 | 660 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.5 x D | 0.2 x D | 460 | 620 | 460 | 620 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 1.5 x D | 0.2 x D | 390 | 520 | 390 | 520 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 1.5 x D | 0.2 x D | 300 | 490 | 300 | 490 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 |
| | 5 | 1.5 x D | 0.2 x D | 200 | 330 | 200 | 330 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| | 6 | 1.5 x D | 0.2 x D | 160 | 250 | 160 | 250 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 |
| M | 1 | 1.5 x D | 0.2 x D | 300 | 380 | 300 | 380 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.2 x D | 200 | 260 | 200 | 260 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| | 3 | 1.5 x D | 0.2 x D | 200 | 230 | 200 | 230 | IPT | .0005 | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 | .0028 |
| K | 1 | 1.5 x D | 0.2 x D | 390 | 490 | 390 | 490 | IPT | .0009 | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 1.5 x D | 0.2 x D | 360 | 460 | 360 | 460 | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 3 | 1.5 x D | 0.2 x D | 360 | 430 | 360 | 430 | IPT | .0006 | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 | .0036 |
| S | 1 | 1.5 x D | 0.2 x D | 160 | 300 | – | – | IPT | .0007 | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 1.5 x D | 0.2 x D | 80 | 130 | – | – | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 |
| | 3 | 1.5 x D | 0.2 x D | 80 | 130 | – | – | IPT | .0004 | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 | .0024 |
| | 4 | 1.5 x D | 0.2 x D | 160 | 200 | – | – | IPT | .0005 | .0008 | .0011 | .0014 | .0017 | .0019 | .0021 | .0025 | .0028 | .0033 |
| H | 1 | 1.5 x D | 0.2 x D | 260 | 460 | 260 | 460 | IPT | .0007 | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 | .0039 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on > 1/2" diameter.

## HPFT • Stainless Steels and High-Temp Alloys

| Material Group | | Side Milling (A) | | KC635M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | | |
| | | | | | | frac. | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | min | max | dec. | .188 | .250 | .313 | .375 | .438 | .500 | .625 | .750 |
| P | 0 | 1.5 x D | 0.05 x D | 490 | 660 | IPT | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 1 | 1.5 x D | 0.05 x D | 490 | 660 | IPT | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 2 | 1.5 x D | 0.05 x D | 460 | 620 | IPT | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 3 | 1.5 x D | 0.05 x D | 390 | 520 | IPT | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 4 | 1.5 x D | 0.05 x D | 300 | 490 | IPT | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 |
| | 5 | 1.5 x D | 0.05 x D | 200 | 330 | IPT | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 |
| | 6 | 1.5 x D | 0.04 x D | 160 | 250 | IPT | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 |
| M | 1 | 1.5 x D | 0.05 x D | 300 | 380 | IPT | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 2 | 1.5 x D | 0.05 x D | 200 | 260 | IPT | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 |
| | 3 | 1.5 x D | 0.05 x D | 200 | 230 | IPT | .0008 | .0010 | .0013 | .0015 | .0017 | .0019 | .0022 | .0025 |
| K | 1 | 1.5 x D | 0.05 x D | 390 | 490 | IPT | .0013 | .0018 | .0023 | .0027 | .0031 | .0034 | .0039 | .0044 |
| | 2 | 1.5 x D | 0.05 x D | 360 | 460 | IPT | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 3 | 1.5 x D | 0.05 x D | 360 | 430 | IPT | .0009 | .0012 | .0016 | .0018 | .0021 | .0023 | .0027 | .0031 |
| S | 1 | 1.5 x D | 0.04 x D | 160 | 300 | IPT | .0011 | .0015 | .0020 | .0023 | .0026 | .0029 | .0034 | .0039 |
| | 2 | 1.5 x D | 0.04 x D | 80 | 130 | IPT | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 |
| | 3 | 1.5 x D | 0.04 x D | 80 | 130 | IPT | .0006 | .0008 | .0010 | .0012 | .0014 | .0015 | .0018 | .0021 |
| | 4 | 1.5 x D | 0.05 x D | 160 | 200 | IPT | .0008 | .0011 | .0014 | .0017 | .0019 | .0021 | .0025 | .0028 |
| H | 1 | 1.5 x D | 0.04 x D | 260 | 460 | IPT | .0010 | .0014 | .0017 | .0020 | .0023 | .0026 | .0030 | .0034 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group
These guidelines may require variations to achieve optimum results.

# DUO-λOCK®

## Replaceable head system

- High accuracy and repeatability.
- Maximum stability and productivity.
- Solid carbide performance.

DUO-λOCK®
by HAIMER® and Kennametal

### Offering

- HARVI™ I, II, and III.
- Roughers and finishers.
- Aluminum and high-feed cutters.
- Corner rounding and chamfering tools.

### Advanced Technology

- Up to 1 x D full slotting.
- 1,5 x D side milling up to 50% radial engagement.
- Extensive straight shanks, conical shanks, and integral adapters.
- Proprietary HARVI geometries enable roughing and finishing with one tool.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# MaxiMet™

## Primary Application

The MaxiMet system provides extraordinary metal removal rates and combines roughing and finishing operations with any aluminum plunging, slotting, and profiling application. Its proprietary flute geometry is designed for high stiffness and improved chip evacuation, and generates exceptional wall to floor perpendicularity in thin-wall applications. To ensure a superior floor surface finish, the MaxiMet front geometry is equipped with a wiper facet grind.

- Use only one tool for roughing and finishing operations.
- Slotting depths up to 1 x D as well as side milling up to 0.5 x D radial and 1.5 x D axial engagement.
- Unequal flute spacing for chatter-free performance with the 3-flute series.
- Multiple corner radii and extended neck configurations available as standard.

# Features and Benefits

## Advanced Technology

- Increase output with fewer tool changes and increased metal removal rates.
- No specific tools for roughing and finishing necessary.
- Fewer passes due to 1 x D slotting capability.
- Perfect for MQL (minimum quantity lubrication) methods.

## Tailored Grades

- K600 uncoated grade for longest tool life in aluminum and other non-ferrous materials.

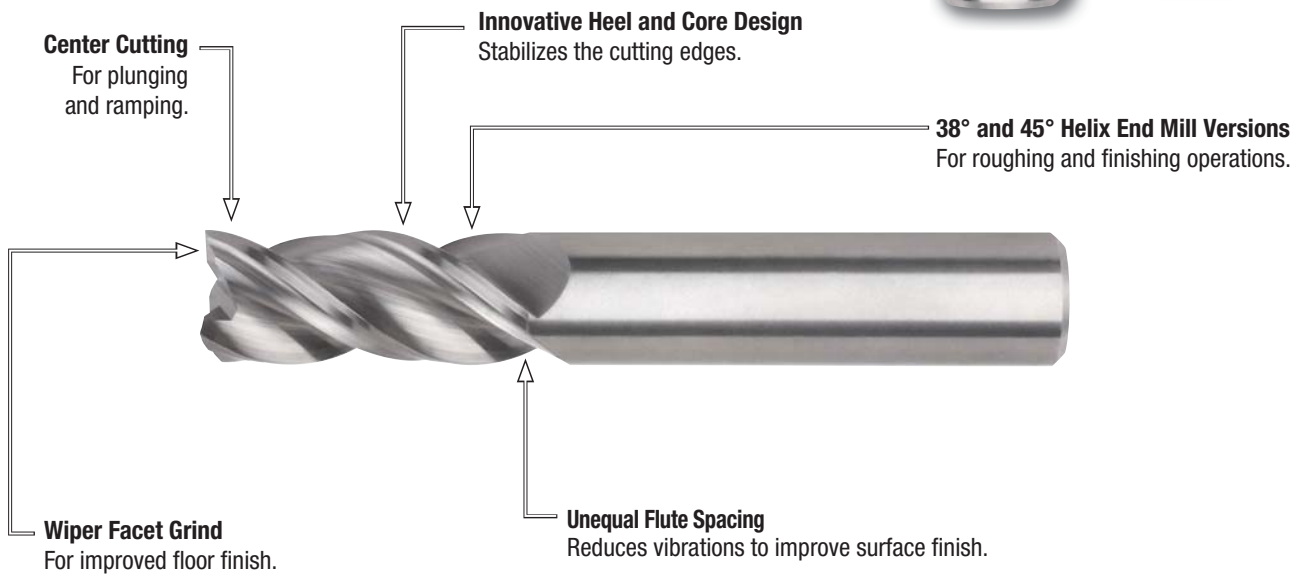
## Customization

- Intermediate diameters available.
- Custom solutions available for machining titanium and other high-temperature alloys.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.

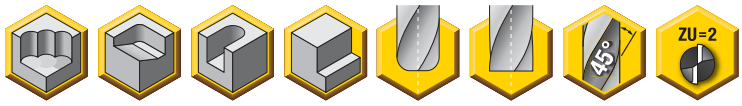
## Extensive Standard Offering

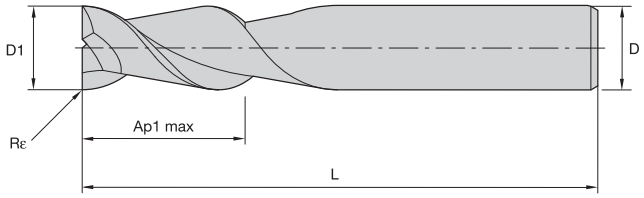
- Diameter ranges 3/16–1".
- Extended neck for long-reach applications and radii and sharp corner configurations.

# Solid carbide end mills for high metal removal rates and superior surface finishes in aluminum.



- Kennametal standards dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.

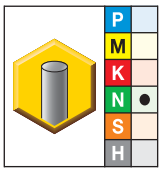





**End Mill Tolerances**

| D1 | tolerance h6 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | +0/-.002" | <1/8" | +0/-.00024" |
| 1/8–7/32" | +0/-.002" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | +0/-.00035" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | +0/-.00043" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | +0/-.00051" | 23/32–1 3/16" | +0/-.00051" |

## ABDF • Wiper Facet

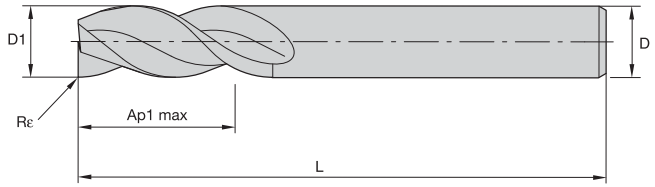



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **ABDF0188J2ARA** | 3/16 | 3/16 | 3/8 | 2 | .015 |
| **ABDF0188J2AS** | 3/16 | 3/16 | 3/8 | 2 | — |
| **ABDF0250J2ARA** | 1/4 | 1/4 | 1/2 | 2 1/2 | .015 |
| **ABDF0250J2ARB** | 1/4 | 1/4 | 1/2 | 2 1/2 | .030 |
| **ABDF0250J2AS** | 1/4 | 1/4 | 1/2 | 2 1/2 | — |
| **ABDF0312J2ARA** | 5/16 | 5/16 | 5/8 | 2 1/2 | .015 |
| **ABDF0312J2ARB** | 5/16 | 5/16 | 5/8 | 2 1/2 | .030 |
| **ABDF0312J2AS** | 5/16 | 5/16 | 5/8 | 2 1/2 | — |
| **ABDF0375J2ARB** | 3/8 | 3/8 | 3/4 | 2 1/2 | .030 |
| **ABDF0375J2AS** | 3/8 | 3/8 | 3/4 | 2 1/2 | — |
| **ABDF0500J2ARB** | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| **ABDF0500J2ARC** | 1/2 | 1/2 | 1 1/4 | 3 | .060 |
| **ABDF0500J2ARE** | 1/2 | 1/2 | 1 1/4 | 3 | .120 |
| **ABDF0500J2AS** | 1/2 | 1/2 | 1 1/4 | 3 | — |
| **ABDF0625J2AS** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | — |
| **ABDF0625J2BRB** | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .030 |
| **ABDF0625J2BRC** | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .060 |
| **ABDF0625J2BRE** * | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .120 |
| **ABDF0625J2BS** | 5/8 | 5/8 | 1 5/8 | 3 1/2 | — |
| **ABDF0750J2ARB** * | 3/4 | 3/4 | 1 1/2 | 4 | .030 |
| **ABDF0750J2ARC** | 3/4 | 3/4 | 1 1/2 | 4 | .060 |
| **ABDF0750J2ARE** | 3/4 | 3/4 | 1 1/2 | 4 | .120 |
| **ABDF0750J2AS** | 3/4 | 3/4 | 1 1/2 | 4 | — |
| **ABDF0750J2BRB** | 3/4 | 3/4 | 1 5/8 | 4 | .030 |
| **ABDF0750J2BRC** | 3/4 | 3/4 | 1 5/8 | 4 | .060 |
| **ABDF0750J2BS** | 3/4 | 3/4 | 1 5/8 | 4 | — |
| **ABDF1000J2ARB** * | 1 | 1 | 1 1/2 | 4 | .030 |
| **ABDF1000J2ARC** | 1 | 1 | 1 1/2 | 4 | .060 |
| **ABDF1000J2ARE** * | 1 | 1 | 1 1/2 | 4 | .120 |
| **ABDF1000J2AS** * | 1 | 1 | 1 1/2 | 4 | — |
| **ABDF1000J2BRB** * | 1 | 1 | 2 | 5 | .030 |
| **ABDF1000J2BRC** | 1 | 1 | 2 | 5 | .060 |
| **ABDF1000J2BS** | 1 | 1 | 2 | 5 | — |

NOTE: For application data, see page P122.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

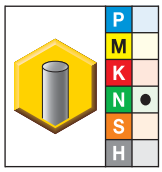
- Kennametal standards dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.




**End Mill Tolerances**

| D1 | tolerance h6 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | +0/-.002" | <1/8" | +0/-.00024" |
| 1/8–7/32" | +0/-.002" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | +0/-.00035" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | +0/-.00043" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | +0/-.00051" | 23/32–1 3/16" | +0/-.00051" |

## ABDE • Wiper Facet

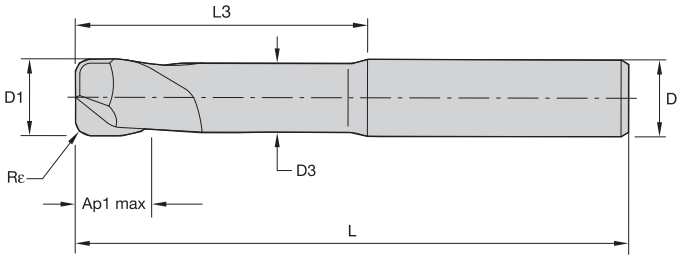



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **ABDE0188J3ARA** | 3/16 | 3/16 | 7/32 | 2 | .015 |
| **ABDE0188J3AS** | 3/16 | 3/16 | 7/32 | 2 | – |
| **ABDE0250J3ARB** | 1/4 | 1/4 | 1/2 | 2 1/2 | .030 |
| **ABDE0250J3AS** | 1/4 | 1/4 | 1/2 | 2 1/2 | – |
| **ABDE0312J3ARB** | 5/16 | 5/16 | 5/8 | 2 1/2 | .030 |
| **ABDE0312J3AS** | 5/16 | 5/16 | 5/8 | 2 1/2 | – |
| **ABDE0375J3ARB** | 3/8 | 3/8 | 3/4 | 2 1/2 | .030 |
| **ABDE0375J3AS** | 3/8 | 3/8 | 3/4 | 2 1/2 | – |
| **ABDE0500J3ARB** | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| **ABDE0500J3ARC** | 1/2 | 1/2 | 1 1/4 | 3 | .060 |
| **ABDE0500J3ARE** | 1/2 | 1/2 | 1 1/4 | 3 | .120 |
| **ABDE0500J3AS** | 1/2 | 1/2 | 1 1/4 | 3 | – |
| **ABDE0625J3AS** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – |
| **ABDE0625J3BRB** | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .030 |
| **ABDE0625J3BS** | 5/8 | 5/8 | 1 5/8 | 3 1/2 | – |
| **ABDE0750J3ARB** | 3/4 | 3/4 | 1 1/2 | 4 | .030 |
| **ABDE0750J3ARC** | 3/4 | 3/4 | 1 1/2 | 4 | .060 |
| **ABDE0750J3ARE** | 3/4 | 3/4 | 1 1/2 | 4 | .120 |
| **ABDE0750J3AS** | 3/4 | 3/4 | 1 1/2 | 4 | – |
| **ABDE0750J3BRB** | 3/4 | 3/4 | 1 5/8 | 4 | .030 |
| **ABDE0750J3BRC** | 3/4 | 3/4 | 1 5/8 | 4 | .060 |
| **ABDE0750J3BRE** | 3/4 | 3/4 | 1 5/8 | 4 | .120 |
| **ABDE0750J3BS** | 3/4 | 3/4 | 1 5/8 | 4 | – |
| **ABDE1000J3ARB** | 1 | 1 | 1 1/2 | 4 | .030 |
| **ABDE1000J3ARC** | 1 | 1 | 1 1/2 | 4 | .060 |
| **ABDE1000J3ARE** | 1 | 1 | 1 1/2 | 4 | .120 |
| **ABDE1000J3AS** | 1 | 1 | 1 1/2 | 4 | – |
| **ABDE1000J3BRB** | 1 | 1 | 2 | 5 | .030 |
| **ABDE1000J3BRC** | 1 | 1 | 2 | 5 | .060 |
| **ABDE1000J3BRE** | 1 | 1 | 2 | 5 | .120 |
| **ABDE1000J3BS** | 1 | 1 | 2 | 5 | – |

NOTE: For application data, see page P122.

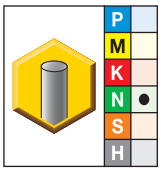
- Kennametal standard dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.




**End Mill Tolerances**

| D1 | tolerance h6 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | +0/-.002" | <1/8" | +0/-.00024" |
| 1/8–7/32" | +0/-.002" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | +0/-.00035" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | +0/-.00043" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | +0/-.00051" | 23/32–1 3/16" | +0/-.00051" |

## ABDF • Wiper Facet • Extended Neck

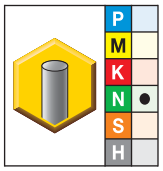



● first choice
○ alternate choice

| K600 | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|
| **ABDF0250J2AQB *** | 1/4 | 1/4 | .235 | 3/8 | 3/4 | 4 | .030 |
| **ABDF0250J2BQB** | 1/4 | 1/4 | .235 | 3/8 | 1 1/8 | 4 | .030 |
| **ABDF0250J2BQ** | 1/4 | 1/4 | .235 | 3/8 | 1 1/8 | 4 | — |
| **ABDF0250J2CQB** | 1/4 | 1/4 | .235 | 3/8 | 2 1/8 | 4 | .030 |
| **ABDF0250J2CQ** | 1/4 | 1/4 | .235 | 3/8 | 2 1/8 | 4 | — |
| **ABDF0312J2AQB** | 5/16 | 5/16 | .294 | 7/16 | 1 1/8 | 4 | .030 |
| **ABDF0375J2AQB** | 3/8 | 3/8 | .352 | 1/2 | 1 1/8 | 4 | .030 |
| **ABDF0375J2AQ** | 3/8 | 3/8 | .352 | 1/2 | 1 1/8 | 4 | — |
| **ABDF0375J2BQB** | 3/8 | 3/8 | .352 | 1/2 | 2 1/8 | 4 | .030 |
| **ABDF0375J2BQ** | 3/8 | 3/8 | .352 | 1/2 | 2 1/8 | 4 | — |
| **ABDF0500J2AQB** | 1/2 | 1/2 | .469 | 5/8 | 1 3/8 | 4 | .030 |
| **ABDF0500J2AQE** | 1/2 | 1/2 | .469 | 5/8 | 1 3/8 | 4 | .120 |
| **ABDF0500J2AQ** | 1/2 | 1/2 | .469 | 5/8 | 1 3/8 | 4 | — |
| **ABDF0500J2BQB** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .030 |
| **ABDF0500J2BQC** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .060 |
| **ABDF0500J2BQD** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .090 |
| **ABDF0500J2BQE** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .120 |
| **ABDF0500J2BQ** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | — |
| **ABDF0500J2CQB** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .030 |
| **ABDF0500J2CQC** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .060 |
| **ABDF0500J2CQD *** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .090 |
| **ABDF0500J2CQE** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .120 |
| **ABDF0500J2CQ** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | — |
| **ABDF0625J2AQ** | 5/8 | 5/8 | .587 | 3/4 | 1 5/8 | 4 | — |
| **ABDF0625J2BQB** | 5/8 | 5/8 | .587 | 3/4 | 3 3/8 | 6 | .030 |
| **ABDF0625J2BQE *** | 5/8 | 5/8 | .587 | 3/4 | 3 3/8 | 6 | .120 |
| **ABDF0625J2BQ** | 5/8 | 5/8 | .587 | 3/4 | 3 3/8 | 6 | — |
| **ABDF0750J2AQB *** | 3/4 | 3/4 | .705 | 1 | 1 5/8 | 4 | .030 |
| **ABDF0750J2AQE** | 3/4 | 3/4 | .705 | 1 | 1 5/8 | 4 | .120 |
| **ABDF0750J2AQ *** | 3/4 | 3/4 | .705 | 1 | 1 5/8 | 4 | — |
| **ABDF0750J2BQB** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .030 |
| **ABDF0750J2BQC** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .060 |

*(continued)*

*(ABDF • Wiper Facet • Extended Neck — continued)*

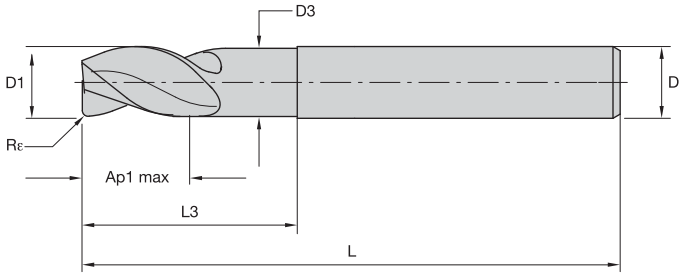



● first choice
○ alternate choice

| K600 | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|
| **ABDF0750J2BQD *** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .090 |
| **ABDF0750J2BQE** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .120 |
| **ABDF0750J2BQ** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | – |
| **ABDF0750J2CQB** | 3/4 | 3/4 | .705 | 1 | 3 3/8 | 6 | .030 |
| **ABDF0750J2CQ** | 3/4 | 3/4 | .705 | 1 | 3 3/8 | 6 | – |
| **ABDF1000J2AQB *** | 1 | 1 | .940 | 1 1/4 | 2 3/8 | 5 | .030 |
| **ABDF1000J2AQE** | 1 | 1 | .940 | 1 1/4 | 2 3/8 | 5 | .120 |
| **ABDF1000J2AQ *** | 1 | 1 | .940 | 1 1/4 | 2 3/8 | 5 | – |
| **ABDF1000J2BQB** | 1 | 1 | .940 | 1 1/4 | 3 3/8 | 7 | .030 |
| **ABDF1000J2BQE *** | 1 | 1 | .940 | 1 1/4 | 3 3/8 | 7 | .120 |
| **ABDF1000J2BQ *** | 1 | 1 | .940 | 1 1/4 | 3 3/8 | 7 | – |
| **ABDF1000J2CQB *** | 1 | 1 | .940 | 1 1/4 | 4 3/8 | 7 | .030 |
| **ABDF1000J2CQ *** | 1 | 1 | .940 | 1 1/4 | 4 3/8 | 7 | – |

NOTE: For application data, see page P123.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

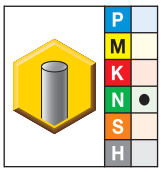
- Kennametal standard dimensions.
- Center cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.




**End Mill Tolerances**

| D1 | tolerance h6 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | +0/-.002" | <1/8" | +0/-.00024" |
| 1/8–7/32" | +0/-.002" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | +0/-.00035" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | +0/-.00043" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | +0/-.00051" | 23/32–1 3/16" | +0/-.00051" |

## ABDE • Wiper Facet • Extended Neck

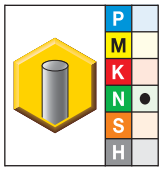



● first choice
○ alternate choice

| K600 | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|
| **ABDE0250J3AQB** | 1/4 | 1/4 | .234 | 3/8 | 3/4 | 4 | .030 |
| **ABDE0250J3AQ** | 1/4 | 1/4 | .234 | 3/8 | 3/4 | 4 | – |
| **ABDE0250J3BQB** | 1/4 | 1/4 | .234 | 3/8 | 1 1/8 | 4 | .030 |
| **ABDE0250J3BQ** | 1/4 | 1/4 | .234 | 3/8 | 1 1/8 | 4 | – |
| **ABDE0250J3CQB** | 1/4 | 1/4 | .234 | 3/8 | 2 1/8 | 4 | .030 |
| **ABDE0250J3CQ** | 1/4 | 1/4 | .234 | 3/8 | 2 1/8 | 4 | – |
| **ABDE0312J3AQB** | 5/16 | 5/16 | .293 | 7/16 | 1 1/8 | 4 | .030 |
| **ABDE0375J3AQB** | 3/8 | 3/8 | .351 | 1/2 | 1 1/8 | 4 | .030 |
| **ABDE0375J3AQ** | 3/8 | 3/8 | .351 | 1/2 | 1 1/8 | 4 | – |
| **ABDE0375J3BQB** | 3/8 | 3/8 | .351 | 1/2 | 2 1/8 | 4 | .030 |
| **ABDE0375J3BQ** | 3/8 | 3/8 | .351 | 1/2 | 2 1/8 | 4 | – |
| **ABDE0500J3AQB** | 1/2 | 1/2 | .469 | 5/8 | 1 3/8 | 4 | .030 |
| **ABDE0500J3AQE** | 1/2 | 1/2 | .469 | 5/8 | 1 3/8 | 4 | .120 |
| **ABDE0500J3AQ** | 1/2 | 1/2 | .469 | 5/8 | 1 3/8 | 4 | – |
| **ABDE0500J3BQB** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .030 |
| **ABDE0500J3BQC** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .060 |
| **ABDE0500J3BQD** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .090 |
| **ABDE0500J3BQE** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | .120 |
| **ABDE0500J3BQ** | 1/2 | 1/2 | .469 | 5/8 | 2 1/4 | 4 | – |
| **ABDE0500J3CQB** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .030 |
| **ABDE0500J3CQC** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .060 |
| **ABDE0500J3CQD** * | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .090 |
| **ABDE0500J3CQE** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | .120 |
| **ABDE0500J3CQ** | 1/2 | 1/2 | .469 | 5/8 | 3 3/8 | 6 | – |
| **ABDE0625J3AQB** | 5/8 | 5/8 | .585 | 3/4 | 1 5/8 | 4 | .030 |
| **ABDE0625J3AQ** | 5/8 | 5/8 | .585 | 3/4 | 1 5/8 | 4 | – |
| **ABDE0625J3BQB** | 5/8 | 5/8 | .585 | 3/4 | 3 3/8 | 6 | .030 |
| **ABDE0625J3BQE** | 5/8 | 5/8 | .585 | 3/4 | 3 3/8 | 6 | .120 |
| **ABDE0625J3BQ** | 5/8 | 5/8 | .585 | 3/4 | 3 3/8 | 6 | – |
| **ABDE0750J3AQB** | 3/4 | 3/4 | .705 | 1 | 1 5/8 | 4 | .030 |
| **ABDE0750J3AQE** * | 3/4 | 3/4 | .705 | 1 | 1 5/8 | 4 | .120 |
| **ABDE0750J3AQ** | 3/4 | 3/4 | .705 | 1 | 1 5/8 | 4 | – |

*(continued)*

*(ABDE • Wiper Facet • Extended Neck — continued)*

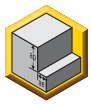



● first choice
○ alternate choice

| K600 | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|
| **ABDE0750J3BQB** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .030 |
| **ABDE0750J3BQC** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .060 |
| **ABDE0750J3BQD** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .090 |
| **ABDE0750J3BQE** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | .120 |
| **ABDE0750J3BQ** | 3/4 | 3/4 | .705 | 1 | 2 1/2 | 6 | — |
| **ABDE0750J3CQB** | 3/4 | 3/4 | .705 | 1 | 3 3/8 | 6 | .030 |
| **ABDE0750J3CQ** | 3/4 | 3/4 | .705 | 1 | 3 3/8 | 6 | — |
| **ABDE1000J3AQB** | 1 | 1 | .940 | 1 1/4 | 2 3/8 | 5 | .030 |
| **ABDE1000J3AQE *** | 1 | 1 | .940 | 1 1/4 | 2 3/8 | 5 | .120 |
| **ABDE1000J3AQ** | 1 | 1 | .940 | 1 1/4 | 2 3/8 | 5 | — |
| **ABDE1000J3BQB** | 1 | 1 | .940 | 1 1/4 | 3 3/8 | 7 | .030 |
| **ABDE1000J3BQE** | 1 | 1 | .940 | 1 1/4 | 3 3/8 | 7 | .120 |
| **ABDE1000J3BQ** | 1 | 1 | .940 | 1 1/4 | 3 3/8 | 7 | — |
| **ABDE1000J3CQB *** | 1 | 1 | .940 | 1 1/4 | 4 3/8 | 7 | .030 |
| **ABDE1000J3CQ** | 1 | 1 | .940 | 1 1/4 | 4 3/8 | 7 | — |

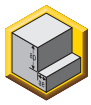
NOTE: For application data, see page P123.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## ABDF...



| Material Group | | Side Milling (A) and Slotting (B) | | | K600 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .1875 | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| N | 1 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 6560 | IPT | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |
| | 2 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0014 | .0018 | .0023 | .0027 | .0036 | .0045 | .0054 | .0072 |
| | 3 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 4 | 1.5 x D | 0.5 x D | 1.0 x D | 1310 | 2460 | IPT | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 5 | 1.5 x D | 0.5 x D | 1.0 x D | 820 | 3280 | IPT | .0015 | .0020 | .0025 | .0030 | .0041 | .0051 | .0061 | .0081 |

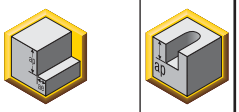
## ABDE...



| Material Group | | Side Milling (A) and Slotting (B) | | | K600 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .1875 | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| N | 1 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 6560 | IPT | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |
| | 2 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0014 | .0018 | .0023 | .0027 | .0036 | .0045 | .0054 | .0072 |
| | 3 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 4 | 1.5 x D | 0.5 x D | 1.0 x D | 1310 | 2460 | IPT | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 5 | 1.5 x D | 0.5 x D | 1.0 x D | 820 | 3280 | IPT | .0015 | .0020 | .0025 | .0030 | .0041 | .0051 | .0061 | .0081 |

NOTE: These guidelines may require variations to achieve optimum results. For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
For cutting aluminum with high silicon, coating is recommended.
Ap for spindle with ceramic bearings, multiply by 0.5.
For better surface finish, reduce feed per tooth.
For tools with reach > 3 x D, reduce fz by 20%.
For tools with reach > 5 x D, reduce fz by 30%.
For tools with reach > 10 x D, reduce vc and fz by 30%.

## ABDF... with Neck



| Material Group | | Side Milling (A) and Slotting (B) | | | K600 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | |
| | | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| N | 1 | 1 x D | 0.5 x D | 1.0 x D | 1640 | 6560 | IPT | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | 1 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 3 | 1 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0018 | .0022 | .0026 | .0035 | .0044 | .0053 | .0070 |
| | 4 | 1 x D | 0.5 x D | 1.0 x D | 1310 | 2460 | IPT | .0018 | .0022 | .0026 | .0035 | .0044 | .0053 | .0070 |
| | 5 | 1 x D | 0.5 x D | 1.0 x D | 820 | 3280 | IPT | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

## ABDE... with Neck

| Material Group | | Side Milling (A) and Slotting (B) | | | K600 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | |
| | | | | | | | frac. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | max | dec. | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| N | 1 | 1 x D | 0.5 x D | 1.0 x D | 1640 | 6560 | IPT | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | 1 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 3 | 1 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0018 | .0022 | .0026 | .0035 | .0044 | .0053 | .0070 |
| | 4 | 1 x D | 0.5 x D | 1.0 x D | 1310 | 2460 | IPT | .0018 | .0022 | .0026 | .0035 | .0044 | .0053 | .0070 |
| | 5 | 1 x D | 0.5 x D | 1.0 x D | 820 | 3280 | IPT | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: These guidelines may require variations to achieve optimum results. For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.
For cutting aluminum with high silicon, coating is recommended.
Ap for spindle with ceramic bearings, multiply by 0.5.
For better surface finish, reduce feed per tooth.
For tools with reach > 3 x D, reduce fz by 20%.
For tools with reach > 5 x D, reduce fz by 30%.
For tools with reach > 10 x D, reduce vc and fz by 30%.

# High-Performance Aluminum Solid Carbide End Mills

## Primary Application

High-performance aluminum end mills from Kennametal provide the highest Metal Removal Rates (MRR) and high-quality surfaces while reducing machining time. The center-cutting design enables plunging, slotting, and profiling applications in any type of aluminum workpiece materials. Designed to deliver exceptional chip evacuation and generate the highest floor-to-wall straightness. The portfolio offers many styles to choose from.

- Tools combine roughing and finishing operations beside pure rougher with cord profile.
- Capable of full slot depths up to 1 x D and side milling up to 0.5 x D radially at 1.5 x D axially.
- Multiple corner radii and extended neck configurations available as standard.

## Features and Benefits

### Advanced Technology

- Double rake flute form for improved chip formation and evacuation.
- No specific tools for roughing and finishing necessary.
- Fewer passes due to 1 x D slotting capability.
- Best suited for MQL (minimum quantity lubrication) applications.

### Tailored Grades

- K600 uncoated grade for highest tool life in aluminum and other non-ferrous materials.

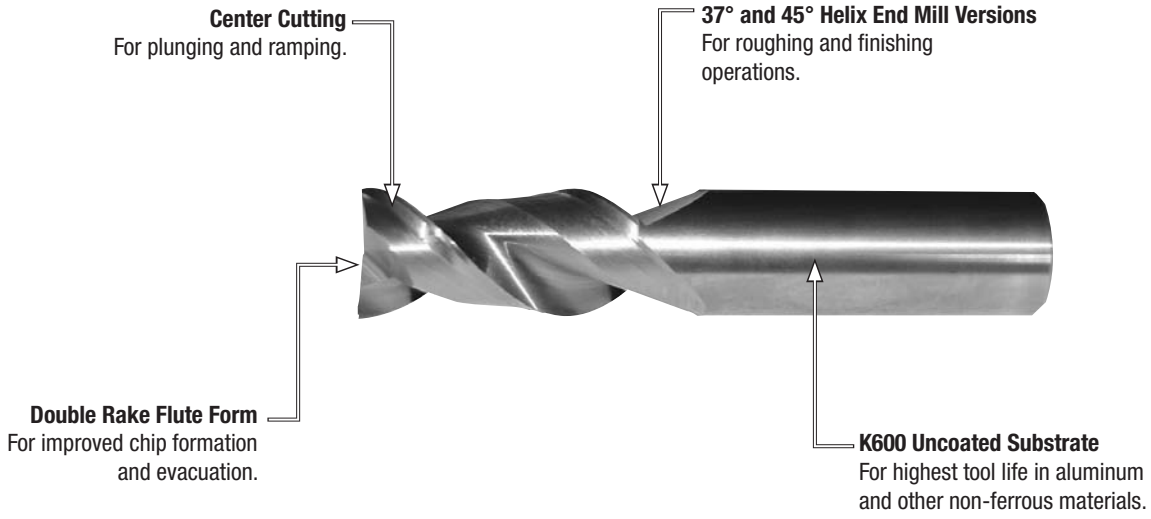
### Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut are possible.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.
- $TiB_2$ grade KC651M available as custom solution.

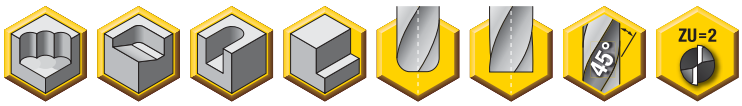
### Extensive Standard Offering

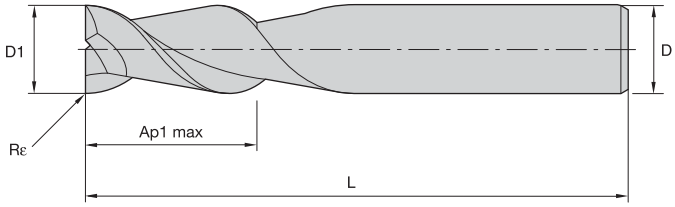
- Diameter ranges 1/8–1".
- Extended neck for long-reach applications as well as radii and sharp corner configurations.

# Extended neck for long-reach applications as well as radii and sharp corner configurations.



- Double-rake flute form.
- Center cutting.

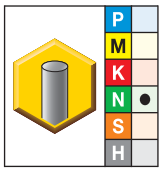





**End Mill Tolerances**

| D1 | tolerance h6 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | +0/-.002" | <1/8" | +0/-.00024" |
| 1/8–7/32" | +0/-.002" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | +0/-.00035" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | +0/-.00043" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | +0/-.00051" | 23/32–1 3/16" | +0/-.00051" |

## AADF • Double-Rake Flute Form

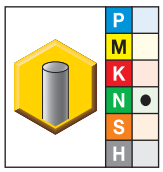



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **AADF0125J2A** | 1/8 | 1/8 | 1/4 | 2 | – |
| **AADF0125J2B** | 1/8 | 1/8 | 1/2 | 2 | – |
| **AADF0188J2A** | 3/16 | 3/16 | 5/16 | 2 | – |
| **AADF0188J2D** | 3/16 | 3/16 | 9/16 | 2 1/2 | – |
| **AADF0188J2B** | 3/16 | 3/16 | 5/8 | 2 | – |
| **AADF0250J2A** | 1/4 | 1/4 | 3/8 | 2 | – |
| **AADF0250J2E** | 1/4 | 1/4 | 5/8 | 2 1/2 | – |
| **AADF0250J2BRA** | 1/4 | 1/4 | 3/4 | 2 1/2 | .015 |
| **AADF0250J2BRB** | 1/4 | 1/4 | 3/4 | 2 1/2 | .030 |
| **AADF0250J2B** | 1/4 | 1/4 | 3/4 | 2 1/2 | – |
| **AADF0250J2FRB** | 1/4 | 1/4 | 1 | 3 | .030 |
| **AADF0250J2F** | 1/4 | 1/4 | 1 | 3 | – |
| **AADF250J2I** | 1/4 | 1/4 | 1 1/8 | 3 | – |
| **AADF0250J2C** | 1/4 | 1/4 | 1 1/4 | 3 1/4 | – |
| **AADF0250J2G** | 1/4 | 1/4 | 1 3/4 | 4 | – |
| **AADF0375J2B** | 3/8 | 3/8 | 7/8 | 2 1/2 | – |
| **AADF0375J2DRA** | 3/8 | 3/8 | 1 | 3 | .015 |
| **AADF0375J2DRB** | 3/8 | 3/8 | 1 | 3 | .030 |
| **AADF0375J2D** | 3/8 | 3/8 | 1 | 3 | – |
| **AADF375J2H** | 3/8 | 3/8 | 1 1/8 | 3 | – |
| **AADF0375J2E** | 3/8 | 3/8 | 1 1/4 | 3 1/2 | – |
| **AADF0375J2CRB** | 3/8 | 3/8 | 1 1/2 | 4 | .030 |
| **AADF0375J2CRC** | 3/8 | 3/8 | 1 1/2 | 4 | .060 |
| **AADF0375J2C** | 3/8 | 3/8 | 1 1/2 | 4 | – |
| **AADF375J2G** | 3/8 | 3/8 | 1 3/4 | 4 | – |
| **AADF0500J2A** | 1/2 | 1/2 | 5/8 | 2 1/2 | – |
| **AADF0500J2E** | 1/2 | 1/2 | 5/8 | 3 | – |
| **AADF0500J2FRB** | 1/2 | 1/2 | 1 | 3 | .030 |

*(continued)*

*(AADF • Double-Rake Flute Form — continued)*

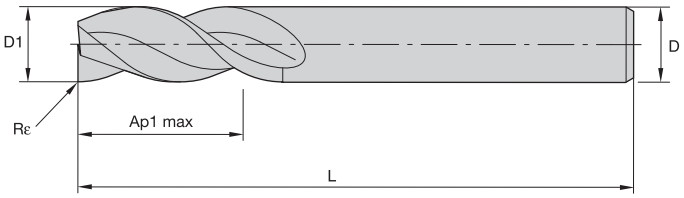



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **AADF0500J2F** | 1/2 | 1/2 | 1 | 3 | — |
| **AADF500J2F** | 1/2 | 1/2 | 1 | 3 | — |
| **AADF0500J2BRA** | 1/2 | 1/2 | 1 1/4 | 3 | .015 |
| **AADF0500J2BRB** | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| **AADF0500J2B** | 1/2 | 1/2 | 1 1/4 | 3 | — |
| **AADF500J2B** | 1/2 | 1/2 | 1 1/4 | 3 | — |
| **AADF0500J2GRA** | 1/2 | 1/2 | 1 5/8 | 4 | .015 |
| **AADF0500J2GRB** | 1/2 | 1/2 | 1 5/8 | 4 | .030 |
| **AADF0500J2GRC** | 1/2 | 1/2 | 1 5/8 | 4 | .060 |
| **AADF0500J2G** | 1/2 | 1/2 | 1 5/8 | 4 | — |
| **AADF0500J2CRA** | 1/2 | 1/2 | 2 | 4 | .015 |
| **AADF0500J2CRB** | 1/2 | 1/2 | 2 | 4 | .030 |
| **AADF0500J2CRC** | 1/2 | 1/2 | 2 | 4 | .060 |
| **AADF0500J2C** | 1/2 | 1/2 | 2 | 4 | — |
| **AADF0500J2D** | 1/2 | 1/2 | 2 | 5 | — |
| **AADF0625J2BRB** | 5/8 | 5/8 | 2 1/4 | 5 | .030 |
| **AADF0625J2FRB** | 5/8 | 5/8 | 2 1/2 | 5 | .030 |
| **AADF0625J2GRB** | 5/8 | 5/8 | 3 1/4 | 6 | .030 |
| **AADF0750J2F** | 3/4 | 3/4 | 1 | 4 | — |
| **AADF0750J2BRB** | 3/4 | 3/4 | 1 1/2 | 4 | .030 |
| **AADF0750J2B** | 3/4 | 3/4 | 1 1/2 | 4 | — |
| **AADF0750J2CRA** | 3/4 | 3/4 | 2 1/4 | 5 | .015 |
| **AADF0750J2CRB** | 3/4 | 3/4 | 2 1/4 | 5 | .030 |
| **AADF0750J2C** | 3/4 | 3/4 | 2 1/4 | 5 | — |
| **AADF0750J2GRA** | 3/4 | 3/4 | 3 1/4 | 6 | .015 |
| **AADF1000J2A** | 1 | 1 | 1 1/2 | 4 | — |
| **AADF1000J2D** | 1 | 1 | 2 | 5 | — |
| **AADF1000J2BRB** | 1 | 1 | 2 1/4 | 5 | .030 |
| **AADF1000J2C** | 1 | 1 | 3 | 5 | — |

NOTE: For application data, see page P132.

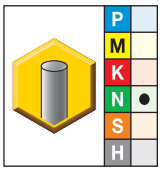
- Double-rake flute form.
- Center cutting.




**End Mill Tolerances**

| D1 | tolerance h6 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | +0/-.002" | <1/8" | +0/-.00024" |
| 1/8–7/32" | +0/-.002" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | +0/-.00035" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | +0/-.00043" | 13/32–11/16" | +0/-.00043" |
| 23/32–1 3/16" | +0/-.00051" | 23/32–1 3/16" | +0/-.00051" |

## AADE • Double-Rake Flute Form

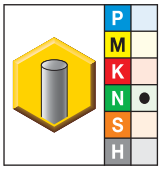



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **AADE125J3G** | 1/8 | 1/8 | 1/4 | 1 1/2 | — |
| **AADE125J3F** | 1/8 | 1/8 | 3/8 | 1 1/2 | — |
| **AADE0125J3D** | 1/8 | 1/8 | 1/2 | 3 | — |
| **AADE0125J3E** | 1/8 | 1/8 | 3/4 | 3 | — |
| **AADE0188J3C** | 3/16 | 3/16 | 5/16 | 3 | — |
| **AADE188J3F** | 3/16 | 3/16 | 9/16 | 2 | — |
| **AADE0188J3D** | 3/16 | 3/16 | 9/16 | 3 | — |
| **AADE0188J3E** | 3/16 | 3/16 | 3/4 | 3 | — |
| **AADE0250J3ARB** | 1/4 | 1/4 | 3/8 | 2 | .030 |
| **AADE0250J3A** | 1/4 | 1/4 | 3/8 | 2 | — |
| **AADE0250J3D** | 1/4 | 1/4 | 1/2 | 2 1/2 | — |
| **AADE0250J3E** | 1/4 | 1/4 | 5/8 | 2 1/2 | — |
| **AADE0250J3BRA** | 1/4 | 1/4 | 3/4 | 2 1/2 | .015 |
| **AADE0250J3BRB** | 1/4 | 1/4 | 3/4 | 2 1/2 | .030 |
| **AADE0250J3B** | 1/4 | 1/4 | 3/4 | 2 1/2 | — |
| **AADE250J3B** | 1/4 | 1/4 | 3/4 | 2 1/2 | — |
| **AADE0250J3FRA** | 1/4 | 1/4 | 1 | 3 | .015 |
| **AADE0250J3F** | 1/4 | 1/4 | 1 | 3 | — |
| **AADE250J3H** | 1/4 | 1/4 | 1 1/4 | 3 | — |
| **AADE0250J3CRA** | 1/4 | 1/4 | 1 1/4 | 3 1/4 | .015 |
| **AADE0250J3CRB** | 1/4 | 1/4 | 1 1/4 | 3 1/4 | .030 |
| **AADE0250J3C** | 1/4 | 1/4 | 1 1/4 | 3 1/4 | — |
| **AADE0250J3G** | 1/4 | 1/4 | 1 3/4 | 4 | — |
| **AADE0312J3A** | 5/16 | 5/16 | 13/16 | 2 1/2 | — |
| **AADE0312J3B** | 5/16 | 5/16 | 1 | 3 | — |
| **AADE0312J3DRB** | 5/16 | 5/16 | 1 1/4 | 3 1/4 | .030 |
| **AADE0312J3D** | 5/16 | 5/16 | 1 1/4 | 3 1/4 | — |
| **AADE0375J3A** | 3/8 | 3/8 | 1/2 | 2 | — |
| **AADE0375J3F** | 3/8 | 3/8 | 1/2 | 3 | — |
| **AADE0375J3G** | 3/8 | 3/8 | 3/4 | 2 1/2 | — |
| **AADE0375J3BRB** | 3/8 | 3/8 | 7/8 | 2 1/2 | .030 |
| **AADE0375J3BRC** | 3/8 | 3/8 | 7/8 | 2 1/2 | .060 |

*(continued)*

*(AADE • Double-Rake Flute Form — continued)*

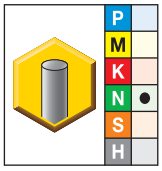



● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| AADE0375J3B | 3/8 | 3/8 | 7/8 | 2 1/2 | – |
| AADE0375J3DRA | 3/8 | 3/8 | 1 | 3 | .015 |
| AADE0375J3DRB | 3/8 | 3/8 | 1 | 3 | .030 |
| AADE0375J3D | 3/8 | 3/8 | 1 | 3 | – |
| AADE375J3I | 3/8 | 3/8 | 1 1/8 | 3 | – |
| AADE0375J3ERA | 3/8 | 3/8 | 1 1/4 | 3 1/2 | .015 |
| AADE0375J3ERB | 3/8 | 3/8 | 1 1/4 | 3 1/2 | .030 |
| AADE0375J3ERC | 3/8 | 3/8 | 1 1/4 | 3 1/2 | .060 |
| AADE0375J3E | 3/8 | 3/8 | 1 1/4 | 3 1/2 | – |
| AADE0375J3CRB | 3/8 | 3/8 | 1 1/2 | 4 | .030 |
| AADE0375J3CRC | 3/8 | 3/8 | 1 1/2 | 4 | .060 |
| AADE0375J3C | 3/8 | 3/8 | 1 1/2 | 4 | – |
| AADE0375J3H | 3/8 | 3/8 | 2 | 4 | – |
| AADE0375J3KRB | 3/8 | 3/8 | 2 1/2 | 4 | .030 |
| AADE0375J3KRC | 3/8 | 3/8 | 2 1/2 | 4 | .060 |
| AADE0375J3J | 3/8 | 3/8 | 2 1/2 | 5 | – |
| AADE438J3A | 7/16 | 7/16 | 9/16 | 2 1/2 | – |
| AADE0438J3A | 7/16 | 7/16 | 7/8 | 2 1/2 | – |
| AADE0500J3ARB | 1/2 | 1/2 | 5/8 | 2 1/2 | .030 |
| AADE0500J3ARC | 1/2 | 1/2 | 5/8 | 2 1/2 | .060 |
| AADE0500J3A | 1/2 | 1/2 | 5/8 | 2 1/2 | – |
| AADE0500J3FRA | 1/2 | 1/2 | 1 | 3 | .015 |
| AADE0500J3FRB | 1/2 | 1/2 | 1 | 3 | .030 |
| AADE0500J3FRC | 1/2 | 1/2 | 1 | 3 | .060 |
| AADE0500J3F | 1/2 | 1/2 | 1 | 3 | – |
| AADE0500J3BRA | 1/2 | 1/2 | 1 1/4 | 3 | .015 |
| AADE0500J3BRB | 1/2 | 1/2 | 1 1/4 | 3 | .030 |
| AADE0500J3BRC | 1/2 | 1/2 | 1 1/4 | 3 | .060 |
| AADE0500J3BRE | 1/2 | 1/2 | 1 1/4 | 3 | .120 |
| AADE0500J3B | 1/2 | 1/2 | 1 1/4 | 3 | – |
| AADE0500J3KRB | 1/2 | 1/2 | 1 1/2 | 4 | .030 |
| AADE0500J3KRC | 1/2 | 1/2 | 1 1/2 | 4 | .060 |
| AADE0500J3K | 1/2 | 1/2 | 1 1/2 | 4 | – |
| AADE0500J3GRB | 1/2 | 1/2 | 1 5/8 | 4 | .030 |
| AADE0500J3GRC | 1/2 | 1/2 | 1 5/8 | 4 | .060 |
| AADE0500J3GRD | 1/2 | 1/2 | 1 5/8 | 4 | .090 |
| AADE0500J3G | 1/2 | 1/2 | 1 5/8 | 4 | – |
| AADE0500J3CRA | 1/2 | 1/2 | 2 | 4 | .015 |
| AADE0500J3CRB | 1/2 | 1/2 | 2 | 4 | .030 |
| AADE0500J3CRC | 1/2 | 1/2 | 2 | 4 | .060 |
| AADE0500J3C | 1/2 | 1/2 | 2 | 4 | – |
| AADE500J3H | 1/2 | 1/2 | 2 | 4 1/2 | – |
| AADE0500J3DRB | 1/2 | 1/2 | 2 1/2 | 5 | .030 |
| AADE0500J3DRC | 1/2 | 1/2 | 2 1/2 | 5 | .060 |
| AADE0500J3D | 1/2 | 1/2 | 2 1/2 | 5 | – |
| AADE0500J3LRB | 1/2 | 1/2 | 3 | 5 | .030 |
| AADE0500J3LRC | 1/2 | 1/2 | 3 | 5 | .060 |
| AADE0500J3L | 1/2 | 1/2 | 3 | 5 | – |
| AADE0500J3H | 1/2 | 1/2 | 3 1/8 | 6 | – |
| AADE625J3I | 5/8 | 5/8 | 3/4 | 3 | – |
| AADE0625J3A | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – |
| AADE0625J3DRA | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .015 |

*(continued)*

*(AADE • Double-Rake Flute Form — continued)*

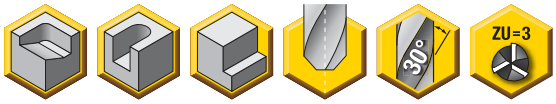


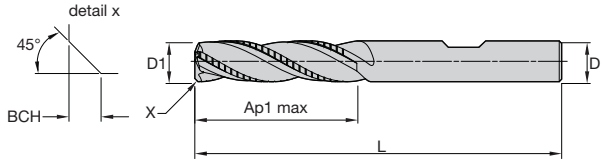

● first choice
○ alternate choice

| K600 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| AADE0625J3DRE | 5/8 | 5/8 | 1 5/8 | 3 1/2 | .120 |
| AADE0625J3D | 5/8 | 5/8 | 1 5/8 | 3 1/2 | — |
| AADE0625J3E | 5/8 | 5/8 | 2 1/8 | 4 | — |
| AADE0625J3B | 5/8 | 5/8 | 2 1/4 | 5 | — |
| AADE0625J3FRE | 5/8 | 5/8 | 2 1/2 | 5 | .120 |
| AADE0625J3F | 5/8 | 5/8 | 2 1/2 | 5 | — |
| AADE0625J3HRC | 5/8 | 5/8 | 3 | 5 1/4 | .060 |
| AADE0625J3H | 5/8 | 5/8 | 3 | 5 1/4 | — |
| AADE0625J3G | 5/8 | 5/8 | 3 1/4 | 6 | — |
| AADE0750J3ARB | 3/4 | 3/4 | 7/8 | 3 | .030 |
| AADE0750J3ARC | 3/4 | 3/4 | 7/8 | 3 | .060 |
| AADE0750J3A | 3/4 | 3/4 | 7/8 | 3 | — |
| AADE750J3K | 3/4 | 3/4 | 1 | 3 | — |
| AADE0750J3F | 3/4 | 3/4 | 1 | 4 | — |
| AADE0750J3BRB | 3/4 | 3/4 | 1 1/2 | 4 | .030 |
| AADE0750J3BRC | 3/4 | 3/4 | 1 1/2 | 4 | .060 |
| AADE0750J3BRE | 3/4 | 3/4 | 1 1/2 | 4 | .120 |
| AADE0750J3B | 3/4 | 3/4 | 1 1/2 | 4 | — |
| AADE0750J3HRB | 3/4 | 3/4 | 1 5/8 | 4 | .030 |
| AADE0750J3HRD | 3/4 | 3/4 | 1 5/8 | 4 | .090 |
| AADE0750J3H | 3/4 | 3/4 | 1 5/8 | 4 | — |
| AADE0750J3CRA | 3/4 | 3/4 | 2 1/4 | 5 | .015 |
| AADE0750J3CRB | 3/4 | 3/4 | 2 1/4 | 5 | .030 |
| AADE0750J3CRC | 3/4 | 3/4 | 2 1/4 | 5 | .060 |
| AADE0750J3CRE | 3/4 | 3/4 | 2 1/4 | 5 | .120 |
| AADE0750J3C | 3/4 | 3/4 | 2 1/4 | 5 | — |
| AADE0750J3DRB | 3/4 | 3/4 | 3 | 5 1/4 | .030 |
| AADE0750J3DRC | 3/4 | 3/4 | 3 | 5 1/4 | .060 |
| AADE0750J3D | 3/4 | 3/4 | 3 | 5 1/4 | — |
| AADE0750J3GRA | 3/4 | 3/4 | 3 1/4 | 6 | .015 |
| AADE0750J3GRB | 3/4 | 3/4 | 3 1/4 | 6 | .030 |
| AADE0750J3GRD | 3/4 | 3/4 | 3 1/4 | 6 | .090 |
| AADE0750J3GRE | 3/4 | 3/4 | 3 1/4 | 6 | .120 |
| AADE0750J3G | 3/4 | 3/4 | 3 1/4 | 6 | — |
| AADE0750J3K | 3/4 | 3/4 | 4 | 6 1/4 | — |
| AADE750J3J | 3/4 | 3/4 | 4 | 6 1/2 | — |
| AADE1000J3ARB | 1 | 1 | 1 1/2 | 4 | .030 |
| AADE1000J3A | 1 | 1 | 1 1/2 | 4 | — |
| AADE1000J3K | 1 | 1 | 2 | 4 1/2 | — |
| AADE1000J3D | 1 | 1 | 2 | 5 | — |
| AADE1000J3BRC | 1 | 1 | 2 1/4 | 5 | .060 |
| AADE1000J3B | 1 | 1 | 2 1/4 | 5 | — |
| AADE1000J3GRB | 1 | 1 | 2 5/8 | 6 | .030 |
| AADE1000J3CRB | 1 | 1 | 3 | 5 1/2 | .030 |
| AADE1000J3CRC | 1 | 1 | 3 | 5 1/2 | .060 |
| AADE1000J3C | 1 | 1 | 3 | 5 1/2 | — |
| AADE1000J3ERA | 1 | 1 | 3 1/4 | 6 | .015 |
| AADE1000J3ERB | 1 | 1 | 3 1/4 | 6 | .030 |
| AADE1000J3ERE | 1 | 1 | 3 1/4 | 6 | .120 |
| AADE1000J3E | 1 | 1 | 3 1/4 | 6 | — |
| AADE1000J3I | 1 | 1 | 4 | 7 | — |
| AADE1000J3HRA | 1 | 1 | 4 1/8 | 7 | .015 |
| AADE1000J3H | 1 | 1 | 4 1/8 | 7 | — |

NOTE: For application data, see page P132.

- Kennametal standard dimensions.
- Center cutting.
- Coarse pitch profile.

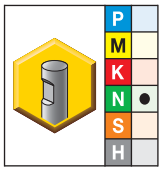


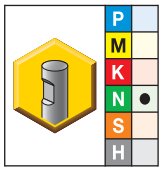



**End Mill Tolerances**

| D1 | d11 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | -.0008/-.0031" | <1/8" | +0/-.00024" |
| 1/8–7/32" | -.0012/-.0041" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | -.0016/-.0051" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | -.002/-.0063" | 13/32–11/16" | +0/-.00043" |
| 23/32–1-3/16" | -.0026/-.0077" | 23/32–1-3/16" | +0/-.00051" |

## SFRHEC • Roughing Profile



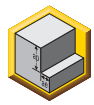




● first choice
○ alternate choice

| K600 | KC625M | D1 | D | Ap1 max | L | BCH |
|---|---|---|---|---|---|---|
| **SFRHEC250S3075** | **–** | 1/4 | 1/4 | 3/4 | 2 1/2 | .024 |
| **–** | **SFRHEC312S3075** | 5/16 | 5/16 | 3/4 | 2 1/2 | .024 |
| **SFRHEC375S3088** | **SFRHEC375S3088** | 3/8 | 3/8 | 7/8 | 2 1/2 | .024 |
| **SFRHEC500S3100** | **SFRHEC500S3100** | 1/2 | 1/2 | 1 | 3 | .039 |
| **SFRHEC500S3200** | **SFRHEC500S3200** | 1/2 | 1/2 | 2 | 4 1/2 | .039 |
| **SFRHEC625S3225** | **SFRHEC625S3225** | 5/8 | 5/8 | 2 1/4 | 5 | .039 |
| **SFRHEC750S3150** | **SFRHEC750S3150** | 3/4 | 3/4 | 1 1/2 | 4 | .039 |
| **SFRHEC750S3225** | **SFRHEC750S3225** | 3/4 | 3/4 | 2 1/4 | 5 | .039 |
| **–** | **SFRHEC100S3150** | 1 | 1 | 1 1/2 | 4 | .039 |
| **SFRHEC100S3225** | **SFRHEC100S3225** | 1 | 1 | 2 1/4 | 5 | .039 |

NOTE: For application data, see page P132.

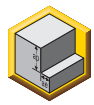
## AADF



| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | K600 Cutting Speed — vc SFM min | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | dec. | .125 | .188 | .250 | .313 | .375 | .500 | .625 | .750 | 1.000 |
| N | 1 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 6560 | IPT | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |
| | 2 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0036 | .0045 | .0054 | .0072 |
| | 3 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0008 | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 4 | 1.5 x D | 0.5 x D | 1.0 x D | 1310 | 2460 | IPT | .0008 | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 5 | 1.5 x D | 0.5 x D | 1.0 x D | 820 | 3280 | IPT | .0010 | .0015 | .0020 | .0025 | .0030 | .0041 | .0051 | .0061 | .0081 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## AADE



| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | K600 Cutting Speed — vc SFM min | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | dec. | 0.125 | 0.188 | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 | 1.000 |
| N | 1 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 6560 | IPT | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |
| | 2 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0009 | .0014 | .0018 | .0023 | .0027 | .0036 | .0045 | .0054 | .0072 |
| | 3 | 1.5 x D | 0.5 x D | 1.0 x D | 1640 | 4920 | IPT | .0008 | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 4 | 1.5 x D | 0.5 x D | 1.0 x D | 1310 | 2460 | IPT | .0008 | .0012 | .0016 | .0020 | .0024 | .0032 | .0039 | .0047 | .0063 |
| | 5 | 1.5 x D | 0.5 x D | 1.0 x D | 820 | 3280 | IPT | .0010 | .0015 | .0020 | .0025 | .0030 | .0041 | .0051 | .0061 | .0081 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## SFRHEC

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | K600/KC625M Cutting Speed — vc SFM min | max | Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. frac. | D1 — Diameter 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | dec. | 0.250 | 0.375 | 0.500 | 0.625 | 0.750 | 1.000 |
| N | 1 | 1.25 x D | 0.5 x D | 1 x D | 1650 | 6500 | fz | .0028 | .0041 | .0055 | .0070 | .0085 | .0110 |
| | 2 | 1.25 x D | 0.5 x D | 1 x D | 1650 | 5050 | fz | .0025 | .0037 | .0050 | .0060 | .0075 | .0010 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# NOVO KNOWS CAD/CAM

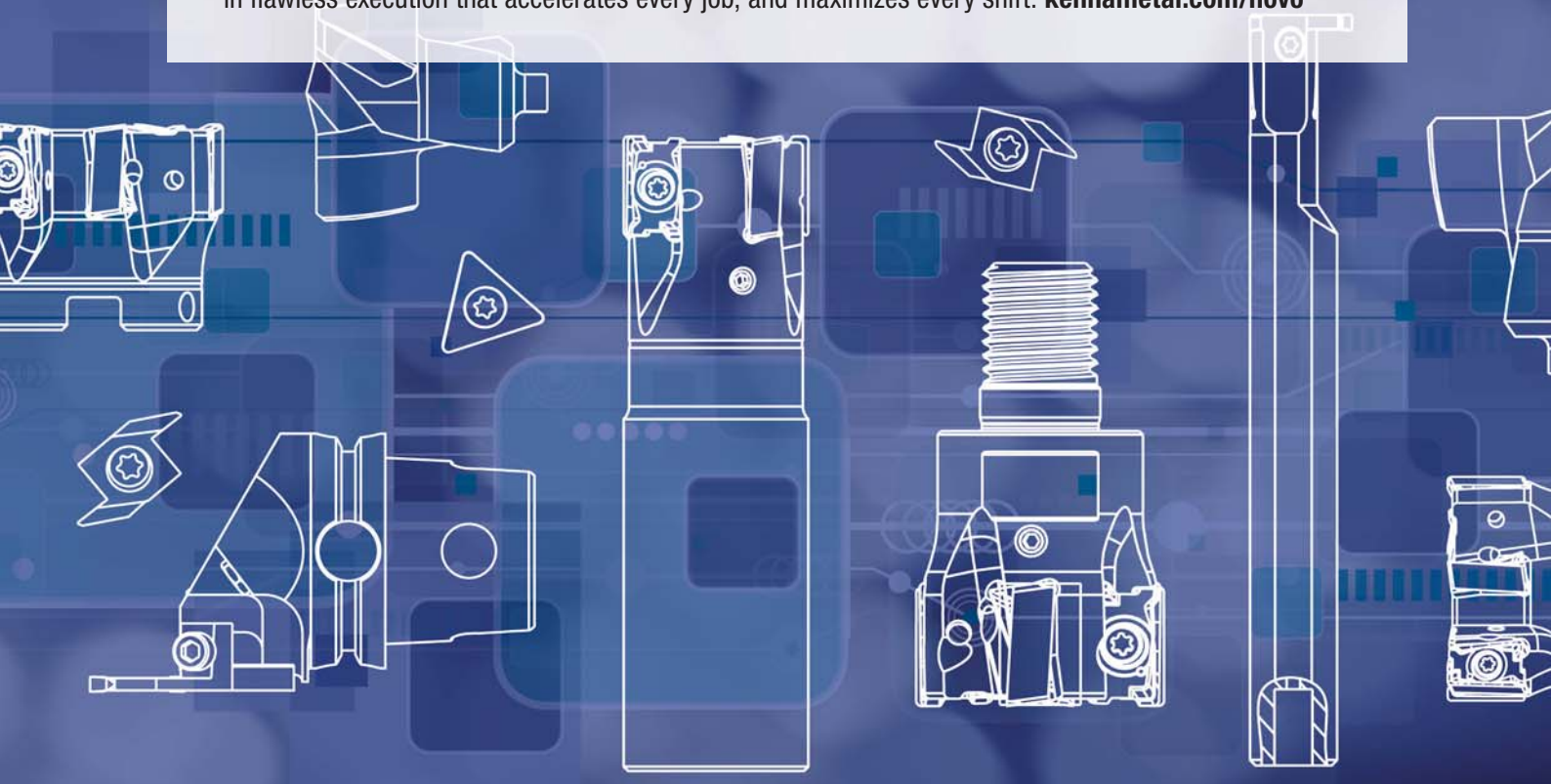
With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**



# CFRP KCN05™ Beyond™ Grade

## Solid Carbide Routers

### Primary Application

KCN05 solid carbide router products provide excellent tool life and produce smooth finishes with improved edge quality when machining difficult CFRP (carbon-fiber reinforced polymer) and non-ferrous components. The unique geometries are free cutting, reduce heat generation, and provide high-quality machined surfaces.

- Designed to avoid delamination and bur formation.
- Excellent tool life due to KCN05 diamond film coating.

## Features and Benefits

### Advanced Technology

- Compression-style routers for trimming designed to provide high feed rates and quality edges on both sides of the material. Up-cut/down-cut geometry promotes stable cutting conditions.
- Down-cut style routers intended for surface work. Excellent ramping capabilities eliminate surface delamination machining pockets.
- Bur style for highest material removal rates and superior surface quality. Designed for trimming fiberglass and CFRP, and for slotting and profiling.

### Tailored Grades

- KCN05 diamond coating uses a proprietary substrate to optimize coating adhesion and improve tool life.

### Customization

- Intermediate diameters available.
- Compression routers with six and eight flutes available for special wire CFRP.
- Bur-style routers with end cutting, drill-point cutting, and non-end cutting point styles available on request.
- K600 uncoated grade for fiberglass applications and as an economic alternative to KCN05 routers.

### Extensive Standard Offering

- Diameters 1/4, 3/8, and 1/2".
- Different length versions.
- KCN05 routers.

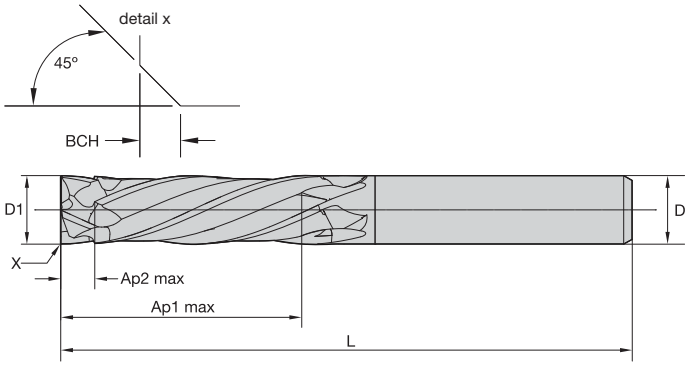
**Up-Cut/Down-Cut Geometry**
Prevents delamination because cutting forces are directed inside the workpiece.

**KCN05™ Diamond Coating**
For excellent tool life and smooth finishes with improved edge quality.

**Highest Number of Cutting Edges**
For excellent temperature control and highest metal removal rates.

**Extended Length of Cut Version**
Enables machining in different levels for multiplying tool life of same tool.

- Kennametal standard dimensions.
- Aerospace composites and fiberglass.
- Internal air coolant for ZU = 4.

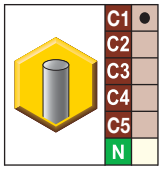



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .003" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

beyond

## Compression-Style Router • CCNC • Inch



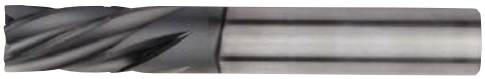

● first choice
○ alternate choice

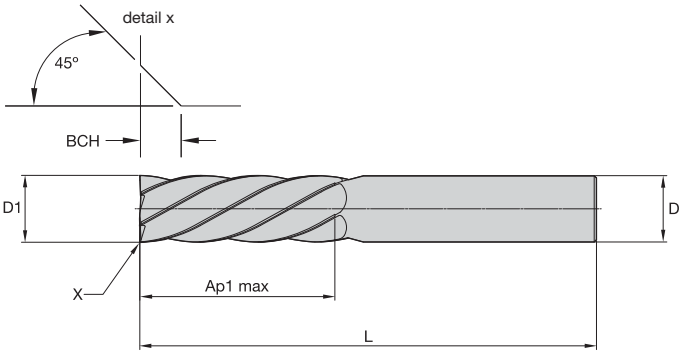
| KCN05 | D1 | D | Ap1 max | Ap2 max | L | BCH | Z U |
|---|---|---|---|---|---|---|---|
| **CCNC0250J3AH** | 1/4 | 1/4 | 3/4 | 0.1250 | 2 1/2 | .005 | 3 |
| **CCNC0250J3BH** | 1/4 | 1/4 | 1 1/2 | 0.1250 | 4 | .005 | 3 |
| **CCNC0375J4AH** | 3/8 | 3/8 | 3/4 | 0.1250 | 3 1/4 | .005 | 4 |
| **CCNC0375J4BH** | 3/8 | 3/8 | 1 1/2 | 0.1250 | 4 | .005 | 4 |
| **CCNC0500J4AH** | 1/2 | 1/2 | 3/4 | 0.1250 | 3 1/4 | .005 | 4 |
| **CCNC0500J4BH** | 1/2 | 1/2 | 1 1/2 | 0.1250 | 4 | .005 | 4 |

NOTE: For application data, see page P139.

| | |
|---|---|
| **C1** | CFRP, CFRP/CFRP |
| **C2** | CFRP/Aluminum |
| **C3** | CFRP/Titanium |
| **C4** | CFRP/Stainless Steel |
| **C5** | CFRP/Aluminum/Titanium |

- Kennametal standard dimensions.
- Aerospace composites and fiberglass.



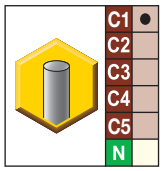



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .003" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

beyond

## Down-Cut Router • CDDC • Inch



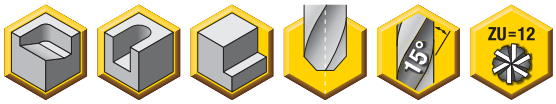

● first choice
○ alternate choice

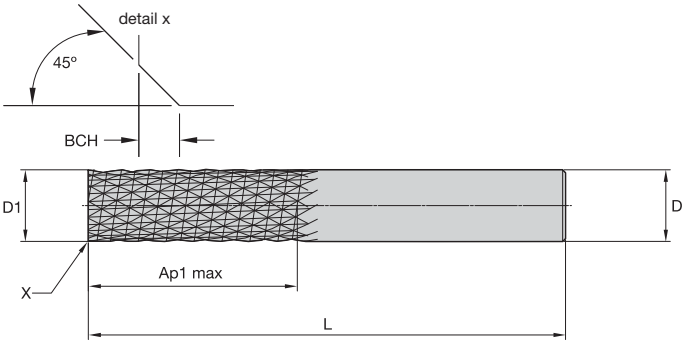
| KCN05 | D1 | D | Ap1 max | L | BCH |
|---|---|---|---|---|---|
| **CDDC0250J6AH** | 1/4 | 1/4 | 3/4 | 2 1/2 | .010 |
| **CDDC0250J6BH** | 1/4 | 1/4 | 1 1/2 | 4 | .010 |
| **CDDC0375J6AH** | 3/8 | 3/8 | 3/4 | 3 1/4 | .010 |
| **CDDC0375J6BH** | 3/8 | 3/8 | 1 1/2 | 4 | .010 |
| **CDDC0500J6AH** | 1/2 | 1/2 | 3/4 | 3 1/4 | .010 |
| **CDDC0500J6BH** | 1/2 | 1/2 | 1 1/2 | 4 | .010 |

NOTE: For application data, see page P139.

| | |
|---|---|
| **C1** | CFRP, CFRP/CFRP |
| **C2** | CFRP/Aluminum |
| **C3** | CFRP/Titanium |
| **C4** | CFRP/Stainless Steel |
| **C5** | CFRP/Aluminum/Titanium |

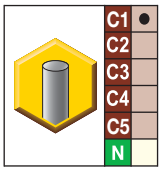
- Kennametal standard dimensions.
- Aerospace composites and fiberglass.



beyond

## Bur-Style Router • CBDB • Inch




● first choice
○ alternate choice

| KCN05 | D1 | D | Ap1 max | L | BCH |
|---|---|---|---|---|---|
| **CBDB0250JXAS** | 1/4 | 1/4 | 3/4 | 2 1/2 | .020 |
| **CBDB0250JXBS** | 1/4 | 1/4 | 1 1/2 | 4 | .020 |
| **CBDB0375JXAS** | 3/8 | 3/8 | 3/4 | 3 1/4 | .035 |
| **CBDB0375JXBS** | 3/8 | 3/8 | 1 1/2 | 4 | .035 |
| **CBDB0500JXAS** | 1/2 | 1/2 | 3/4 | 3 1/4 | .045 |
| **CBDB0500JXBS** | 1/2 | 1/2 | 1 1/2 | 4 | .045 |

NOTE: For application data, see page P139.
12 RHS/RHC flutes. 10 LHS/RHC flutes, 6 end teeth.
For tolerance table, see page P137.

| | |
|---|---|
| **C1** | CFRP, CFRP/CFRP |
| **C2** | CFRP/Aluminum |
| **C3** | CFRP/Titanium |
| **C4** | CFRP/Stainless Steel |
| **C5** | CFRP/Aluminum/Titanium |

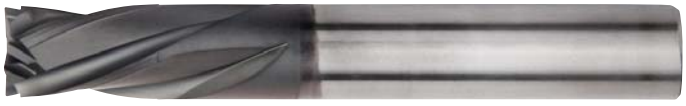
## Additional point styles are available upon request:

*End Mill End Cutting*

*Drill-Point Cutting*

*Non-End Cutting*

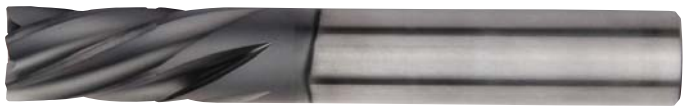
## Compression-Style Router • CCNC • Inch



| Material Group | | Side Milling (A) | | beyond KCN05 | | | Feed per Tooth — fz information is for side milling (A). | | |
|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | |
| | | ap | ae | min | max | frac | 1/4 | 3/8 | 1/2 |
| C | 1 | Ap1 max | 0.5 x D | 330 | 500 | fz | .0007 | .0012 | .0014 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## Down-Cut Router • CDDC • Inch



| Material Group | | Side Milling (A) | | beyond KCN05 | | | Feed per Tooth — fz information is for side milling (A). | | |
|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | |
| | | ap | ae | min | max | frac | 1/4 | 3/8 | 1/2 |
| C | 1 | Ap1 max | 1 x D | 330 | 500 | fz | .0018 | .0030 | .0036 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## Burr-Style Router • CBDB • Inch

| Material Group | | Side Milling (A) and Slotting (B) | | | beyond KCN05 | | Feed per Revolution — Inch per revolution (IPR) information is for side milling (A). For Slotting (B), reduce IPR by 10%. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | |
| | | ap | ae | ap | min | max | frac | 1/4 | 3/8 | 1/2 |
| C | 1 | Ap1 max | 0.2 x D | 1 x D | 330 | 500 | IPR | .0059 | .0098 | .0118 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# KenFeed™

## Primary Application

The numerous effective cutting edges of KenFeed end mills make them the right choice for machining heat-treated steels up to 67 HRc. The KenFeed system combines roughing and semi-finishing into one tool by taking very shallow-depth cuts at extremely high feed rates to maximize metal removal. The 3 x D neck and extended-reach design is perfectly suited for pocketing using 3D machining techniques, such as ramping and helical interpolation. During face milling, the proprietary front end geometry of the KenFeed system is entirely in contact with the workpiece, providing up to 55% engagement compared to regular ball nose-type tooling that provides only 5–10%.

- Unique tool with new 6-flute style for high productivity.
- Innovative new geometry maximizes metal removal rates.
- High metal removal rates help to reduce manufacturing costs.

# Features and Benefits

## Advanced Technology

- Provides the benefits of indexable-style high-feed milling starting at 1/4".
- One tool for roughing and semi-finishing operations.
- Increases output by performing 3D machining, helical ramping, circular interpolation, face milling, and pocketing.
- Use in hardened materials from 40 to 67 HRC with two dedicated geometry variants.

## Tailored Grades

- KC639M AlTiN-coated grade for longest tool life in hardened steels from 40 to 67 HRC.

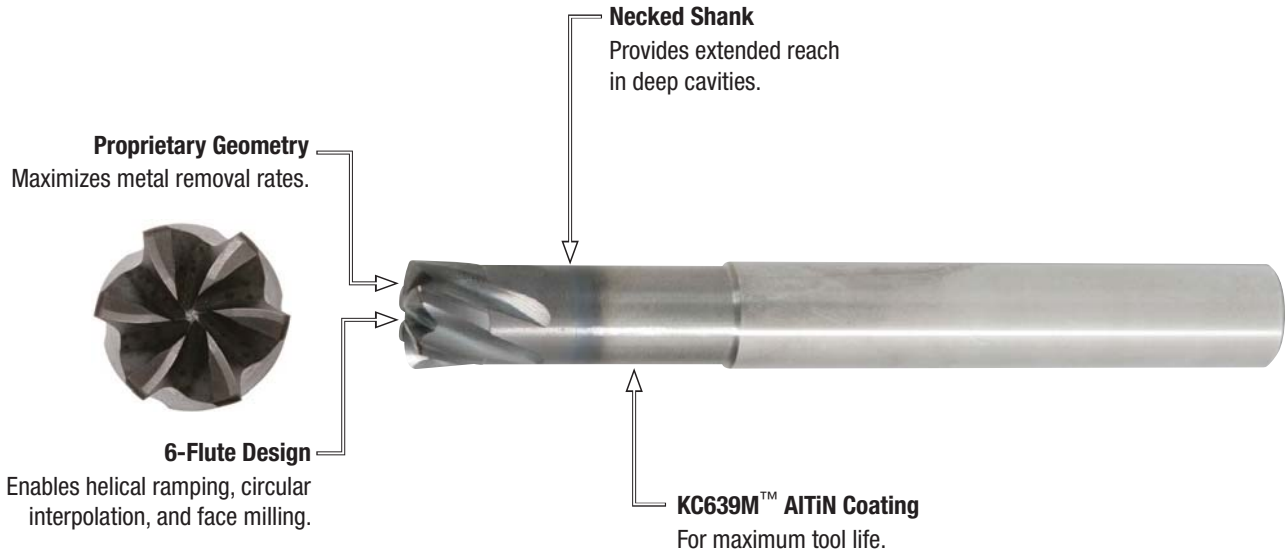
## Customization

- Intermediate diameters available.
- Custom solutions available for machining titanium and other high-temperature alloys.
- Internal coolant axial and radial available.
- Various shank options and non-standard coatings available.

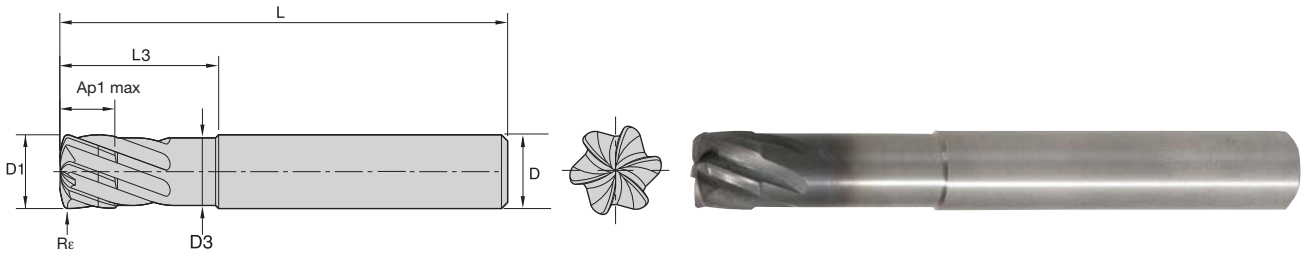
## Extensive Standard Offering

- Diameter ranges 1/4–3/4".
- Extended neck for long-reach applications.

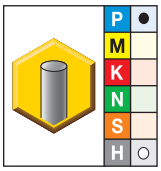
# End mills for high-feed milling of medium and hard steels.



- Kennametal standard dimensions.
- Non-center cutting.
- High feed.




## KenFeed • KMDA • <52 HRC • Medium Steels



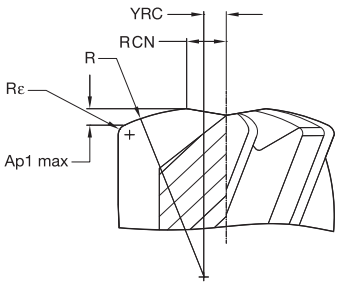

● first choice
○ alternate choice

| KC639M | D1 | D | D3 | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|---|
| **KMDA0250J6ANA** | 1/4 | 1/4 | .211 | .013 | 3/4 | 2 1/2 | .016 |
| **KMDA0312J6ANA** | 5/16 | 5/16 | .273 | .017 | 1 | 3 | .020 |
| **KMDA0375J6ANA** | 3/8 | 3/8 | .336 | .023 | 1 1/4 | 3 1/2 | .023 |
| **KMDA0500J6ANA** | 1/2 | 1/2 | .461 | .027 | 1 1/2 | 4 | .032 |
| **KMDA0625J6ANA** | 5/8 | 5/8 | .586 | .033 | 2 | 5 | .040 |
| **KMDA0750J6ANA** | 3/4 | 3/4 | .711 | .040 | 2 1/2 | 5 | .047 |

NOTE: For application data, see page P144.

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

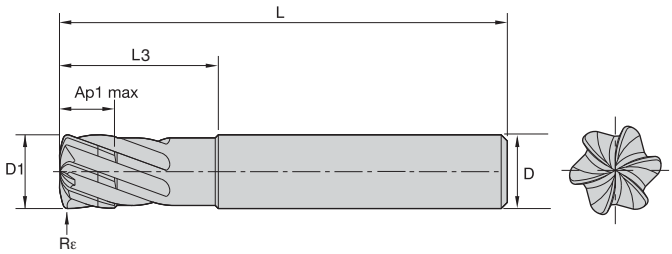



## Programming Data

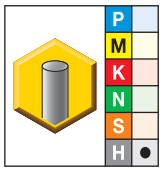
| | geometrical parameters | | | | | | ramping guide for circular and linear ramping | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | circular interpolation | | linear ramping | | | | |
| | | | | | | | optimal range of circle diameter for a single pass | | calculated length per ramp angle | | | | |
| catalog number | D1 | Ap1 max | R | Rε | YRC | RCN | smallest | largest | 1° | 2° | 3° | 4° | 5° |
| **KMDA0250J6ANA** | 1/4 | 0.0133 | 0.250 | 0.0160 | 0.0313 | 0.0525 | 0.355 | 0.500 | 0.762 | 0.381 | 0.254 | 0.190 | 0.152 |
| **KMDA0312J6ANA** | 5/16 | 0.0166 | 0.313 | 0.0200 | 0.0391 | 0.0656 | 0.444 | 0.625 | 0.953 | 0.476 | 0.317 | 0.238 | 0.190 |
| **KMDA0375J6ANA** | 3/8 | 0.0200 | 0.375 | 0.0235 | 0.0469 | 0.0788 | 0.533 | 0.750 | 1.143 | 0.572 | 0.381 | 0.285 | 0.228 |
| **KMDA0500J6ANA** | 1/2 | 0.0266 | 0.500 | 0.0320 | 0.0625 | 0.1050 | 0.710 | 1.000 | 1.525 | 0.762 | 0.508 | 0.381 | 0.304 |
| **KMDA0625J6ANA** | 5/8 | 0.0333 | 0.625 | 0.0400 | 0.0781 | 0.1313 | 0.888 | 1.250 | 1.906 | 0.953 | 0.635 | 0.476 | 0.380 |
| **KMDA0750J6ANA** | 3/4 | 0.0399 | 0.750 | 0.0470 | 0.0938 | 0.1575 | 1.065 | 1.500 | 2.287 | 1.143 | 0.762 | 0.571 | 0.456 |
| | | | | | | | recommended % of programmed feed rate to use while ramping | | 100% | 70% | 50% | 30% | 10% |

NOTE: YRC = distance from center line to the crown of the R radius.
RCN = distance from center line to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.
R = the head radius size.
Rε = the shoulder radius or radius at the corner of the cutter.

- Kennametal standard dimensions.
- Non-center cutting.
- High feed.



## KHDA • Steels with Hardness • >52 HRC



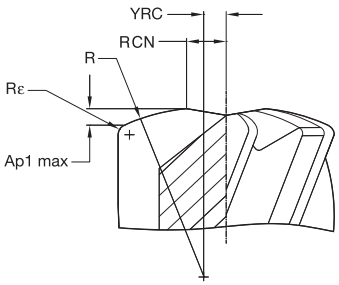

● first choice
○ alternate choice

| KC639M | D1 | D | Ap1 max | L3 | L | Rε |
|---|---|---|---|---|---|---|
| **KHDA0250J6ANA** | 1/4 | 1/4 | .0082 | .750 | 2 1/2 | .016 |
| **KHDA0312J6ANA** | 5/16 | 5/16 | .0103 | 1.000 | 3 | .020 |
| **KHDA0375J6ANA** | 3/8 | 3/8 | .0123 | 1.250 | 3 1/2 | .020 |
| **KHDA0500J6ANA** | 1/2 | 1/2 | .0164 | 1.500 | 4 | .023 |
| **KHDA0625J6ANA** | 5/8 | 5/8 | .0205 | 2.000 | 4 1/2 | .032 |
| **KHDA0750J6ANA** | 3/4 | 3/4 | .0250 | 2.500 | 5 | .040 |

NOTE: For application data, see page P144.

**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |




## Programming Data

| | geometrical parameters | | | | | | ramping guide for circular and linear ramping | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | circular interpolation | | linear ramping | | | | |
| | | | | | | | optimal range of circle diameter for a single pass | | calculated length per ramp angle | | | | |
| catalog number | D1 | Ap1 max | R | Rε | YRC | RCN | smallest | largest | 1° | 2° | 3° | 4° | 5° |
| **KHDA0250J6ANA** | 1/4 | 0.0082 | 0.375 | 0.0160 | 0.0313 | 0.0550 | 0.360 | 0.500 | 0.470 | 0.235 | 0.157 | 0.117 | 0.094 |
| **KHDA0312J6ANA** | 5/16 | 0.0103 | 0.469 | 0.0200 | 0.0391 | 0.0688 | 0.450 | 0.625 | 0.588 | 0.294 | 0.196 | 0.147 | 0.117 |
| **KHDA0375J6ANA** | 3/8 | 0.0123 | 0.563 | 0.0240 | 0.0469 | 0.0825 | 0.540 | 0.750 | 0.706 | 0.353 | 0.235 | 0.176 | 0.141 |
| **KHDA0500J6ANA** | 1/2 | 0.0164 | 0.750 | 0.0320 | 0.0625 | 0.1100 | 0.720 | 1.000 | 0.941 | 0.470 | 0.313 | 0.235 | 0.188 |
| **KHDA0625J6ANA** | 5/8 | 0.0205 | 0.938 | 0.0400 | 0.0781 | 0.1375 | 0.900 | 1.250 | 1.176 | 0.588 | 0.392 | 0.294 | 0.235 |
| **KHDA0750J6ANA** | 3/4 | 0.0246 | 1.125 | 0.0470 | 0.0938 | 0.1650 | 1.080 | 1.500 | 1.411 | 0.705 | 0.470 | 0.352 | 0.282 |
| | | | | | | | recommended % of programmed feed rate to use while ramping | | 100% | 70% | 50% | 30% | 10% |

NOTE: YRC = distance from center line to the crown of the R radius.
RCN = distance from center line to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.
R = the head radius size.
Rε = the shoulder radius or radius at the corner of the cutter.

## KMDA • Steels with Hardness <52 HRC

| Material Group | | 3D Milling/Profiling | | KC639M Cutting Speed — vc SFM | | frac. | D1 — Diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap | ae | min | max | dec. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 |
| | | | | | | | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 |
| P | 4 | 0.05 x D | 0.55 x D | 528 | 594 | fz | .0130 | .0160 | .0190 | .0250 | .0260 | .0280 |
| H | 1 | 0.05 x D | 0.55 x D | 462 | 528 | fz | .0130 | .0160 | .0190 | .0250 | .0260 | .0280 |
| | 2 | 0.05 x D | 0.55 x D | 330 | 396 | fz | .0080 | .0090 | .0110 | .0150 | .0190 | .0230 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## KHDA • Steels with Hardness >52 HRC

| Material Group | | 3D Milling/Profiling | | KC639M Cutting Speed — vc SFM | | frac. | D1 — Diameter | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap | ae | min | max | dec. | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 |
| | | | | | | | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 |
| H | 2 | 0.03 x D | 0.55 x D | 330 | 396 | fz | .0080 | .0090 | .0110 | .0150 | .0190 | .0230 |
| | 3 | 0.03 x D | 0.55 x D | 265 | 330 | fz | .0080 | .0090 | .0110 | .0150 | .0190 | .0230 |
| | 4 | 0.03 x D | 0.55 x D | 165 | 230 | fz | .0060 | .0080 | .0090 | .0130 | .0160 | .0190 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# GOmill™ GP

## General Purpose End Mill Series

- Flexible — plunging, slotting, and profiling.
- Complete — wide range of diameters and lengths.
- Adaptive — wide range of applications and workpiece materials.
- Economical — excellent cost-benefit ratio.

### Offering

- 2-flute version for unstable conditions.
- 3-flute version as alternative to 2 and 4 flutes.
- 4-flute version for high metal removal rates.

### Advanced Technology

- Roughing and finishing with one tool.
- Eccentric relief increases edge stability.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# High-Performance Hard-Machining Solid Carbide End Mills

## Primary Application

These end mills from Kennametal for hard machining are engineered to machine hardened steels up to 67 HRC at extreme speeds and feeds. Designed with special coatings, substrates, and geometries to extend tool life in any application that requires machining of hardened workpiece materials.

- Capable of machining hardened steels more than 60 HRC.
- Unique design enables higher feeds and speeds to increase Metal Removal Rates (MRR).
- Sophisticated coatings for maximum wear resistance.

## Features and Benefits

### Advanced Technology

- Negative geometry for increased edge strength.
- Reinforced core for better rigidity.
- High helix for better surface finishes.

### Tailored Grades

- Universal grade KC633M™.

### Customization

- Intermediate diameters available.
- Expanded length of tool and increased length of cut possible.
- Toroidal as well as undercutting end mills (Spherical Lollipop-Style).
- Various shank options and non-standard coatings available.
- TiAlN wear-resistant substrate grade KC637M and AlTiN grade KC643M available as custom solution.

### Extensive Standard Offering

- Diameter ranges 1/8–1".
- Extended neck for long-reach applications and radii and sharp corner configurations.
- Roughing and ball nose finishing geometries.

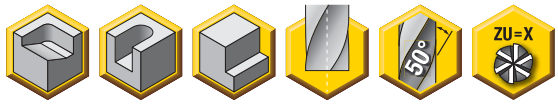
# Sophisticated coatings for maximum wear resistance.

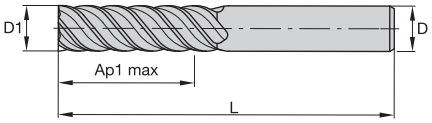
**Parabolic Core Design**
Proprietary technology stabilizes end mill to avoid deflection in longer length of cut.

**Various Helix End Mill Versions**
Dedicated application-specific design.

**KC633M™ TiAlN-Coated Substrate**
For longest tool life in challenging applications.

- Kennametal standard dimensions.
- Center cutting.

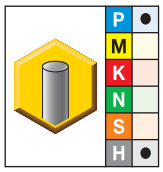





**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HPFDM • Medium and Hardened Steels

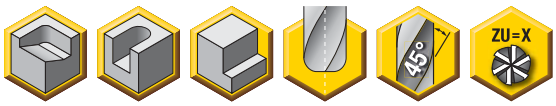


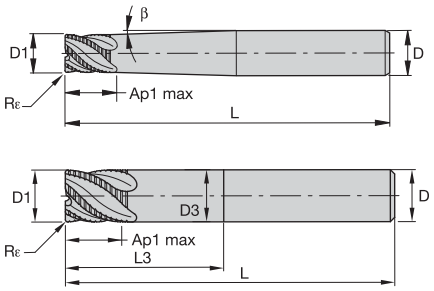

● first choice
○ alternate choice

| KC633M | D1 | D | Ap1 max | L | Z U |
|---|---|---|---|---|---|
| **HPFDM250S4038** | 1/4 | 1/4 | 3/8 | 3 | 4 |
| **HPFDM250S4063** | 1/4 | 1/4 | 5/8 | 3 | 4 |
| **HPFDM250S4088** | 1/4 | 1/4 | 7/8 | 3 | 4 |
| **HPFDM312S4050** | 5/16 | 5/16 | 1/2 | 4 | 4 |
| **HPFDM312S4075** | 5/16 | 5/16 | 3/4 | 4 | 4 |
| **HPFDM312S4113** | 5/16 | 5/16 | 1 1/8 | 4 | 4 |
| **HPFDM375S4056** | 3/8 | 3/8 | 9/16 | 4 | 4 |
| **HPFDM375S5094** | 3/8 | 3/8 | 15/16 | 4 | 5 |
| **HPFDM375S5131** | 3/8 | 3/8 | 1 5/16 | 4 | 5 |
| **HPFDM500S4075** | 1/2 | 1/2 | 3/4 | 5 | 4 |
| **HPFDM500S6125** | 1/2 | 1/2 | 1 1/4 | 5 | 6 |
| **HPFDM500S6175** | 1/2 | 1/2 | 1 3/4 | 5 | 6 |
| **HPFDM625S4094** | 5/8 | 5/8 | 15/16 | 5 | 4 |
| **HPFDM625S6156** | 5/8 | 5/8 | 1 9/16 | 5 | 6 |
| **HPFDM625S6219 *** | 5/8 | 5/8 | 2 3/16 | 5 | 6 |
| **HPFDM750S4113** | 3/4 | 3/4 | 1 1/8 | 6 | 4 |
| **HPFDM750S6188** | 3/4 | 3/4 | 1 7/8 | 6 | 6 |
| **HPFDM750S6263** | 3/4 | 3/4 | 2 5/8 | 6 | 6 |
| **HPFDM1000S5150** | 1 | 1 | 1 1/2 | 6 | 5 |
| **HPFDM1000S6250** | 1 | 1 | 2 1/2 | 6 | 6 |
| **HPFDM1000S6350** | 1 | 1 | 3 1/2 | 6 | 6 |

NOTE: For application data, see page P151.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Center cutting.
- Shallow-pitch profile.

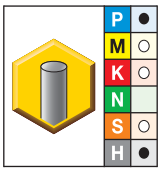





**End Mill Tolerances**

| D1 | d11 | D | tolerance h6 |
|---|---|---|---|
| <1/8" | -.0008/-.0031" | <1/8" | +0/-.00024" |
| 1/8–7/32" | -.0012/-.0041" | 1/8–7/32" | +0/-.00031" |
| 1/4–3/8" | -.0016/-.0051" | 1/4–3/8" | +0/-.00035" |
| 13/32–11/16" | -.002/-.0063" | 13/32–11/16" | +0/-.00043" |
| 23/32–1-3/16" | -.0026/-.0077" | 23/32–1-3/16" | +0/-.00051" |

## HPRDM • Rougher for Medium and Hardened Steels

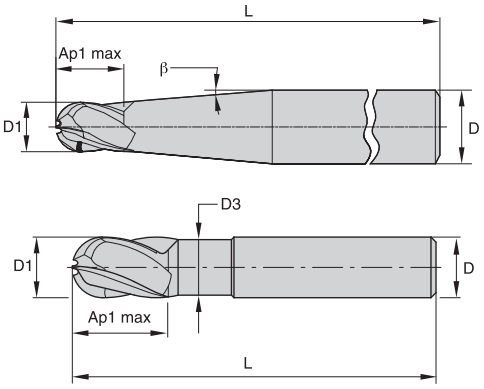



● first choice
○ alternate choice

| KC633M | D1 | D | Ap1 max | L | Rε | β | Z U |
|---|---|---|---|---|---|---|---|
| **HPRDM188S3019** | 3/16 | 1/4 | 3/16 | 3 | .030 | 2.5 | 3 |
| **HPRDM250S4025** | 1/4 | 3/8 | 1/4 | 4 | .030 | 2.5 | 4 |
| **HPRDM312S4031** | 5/16 | 3/8 | 5/16 | 4 | .030 | 2.5 | 4 |
| **HPRDM375S4038** | 3/8 | 1/2 | 3/8 | 5 | .030 | 2.5 | 4 |
| **HPRDM500S4050** | 1/2 | 5/8 | 1/2 | 5 | .040 | 2.5 | 4 |

NOTE: For application data, see page P151.

- Kennametal standard dimensions.
- Center cutting.

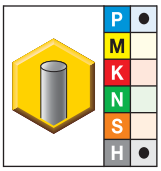



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## HPBNDM • Medium and Hardened Steels

● first choice
○ alternate choice




| KC633M | D1 | D | D3 | Ap1 max | L3 | L | β |
|---|---|---|---|---|---|---|---|
| **HPBNDM125S4013** | 1/8 | 1/4 | — | 1/8 | 1.56 | 3 | 2.5 |
| **HPBNDM188S4019** | 3/16 | 1/4 | — | 3/16 | .90 | 3 | 2.5 |
| **HPBNDM250S4025** | 1/4 | 3/8 | — | 1/4 | 1.68 | 4 | 2.5 |
| **HPBNDM375S4038** | 3/8 | 1/2 | — | 3/8 | 1.81 | 5 | 2.5 |
| **HPBNDM500S4050** | 1/2 | 5/8 | — | 1/2 | 1.93 | 5 | 2.5 |
| **HPBNDM625S4063** | 5/8 | 5/8 | .59 | 5/8 | 1.87 | 5 | — |
| **HPBNDM750S4075** | 3/4 | 3/4 | .71 | 3/4 | 2.25 | 6 | — |

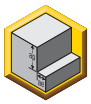
NOTE: For application data, see page P152.

## HPFDM

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC633M Cutting Speed — vc SFM min | max | Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. frac. | D1 — Diameter 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap | ae | ap | min | max | dec. | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 | 1.000 |
| P | 3 | 1 x D | 0.4 x D | 1 x D | 390 | 520 | fz | .0017 | .0021 | .0025 | .0032 | .0037 | .0042 | .0050 |
| | 4 | 1 x D | 0.4 x D | 0.75 x D | 300 | 490 | fz | .0015 | .0019 | .0022 | .0029 | .0033 | .0036 | .0043 |
| H | 1 | 1 x D | 0.4 x D | 0.75 x D | 260 | 460 | fz | .0015 | .0019 | .0022 | .0029 | .0033 | .0036 | .0043 |
| | 2 | 1 x D | 0.3 x D | 0.5 x D | 230 | 390 | fz | .0011 | .0014 | .0017 | .0021 | .0024 | .0027 | .0031 |
| | 3 | 1 x D | 0.15 x D | 0.3 x D | 200 | 300 | fz | .0009 | .0011 | .0013 | .0017 | .0020 | .0022 | .0027 |
| | 4 | 1 x D | 0.1 x D | 0.15 x D | 160 | 230 | fz | .0006 | .0008 | .0009 | .0011 | .0013 | .0015 | .0018 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For better surface finish, reduce feed per tooth.

## HPRDM



| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC633M Cutting Speed — vc SFM min | max | Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. frac. | D1 — Diameter 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap | ae | ap | min | max | dec. | .188 | .250 | .313 | .375 | .500 |
| P | 3 | 0.8 x D | 0.5 x D | 0.75 x D | 390 | 520 | IPT | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 4 | 0.8 x D | 0.4 x D | 0.5 x D | 300 | 490 | IPT | .0010 | .0014 | .0017 | .0020 | .0026 |
| | 5 | 0.8 x D | 0.5 x D | 0.75 x D | 200 | 330 | IPT | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 6 | 0.8 x D | 0.4 x D | 0.5 x D | 160 | 250 | IPT | .0008 | .0010 | .0013 | .0015 | .0019 |
| M | 1 | 0.8 x D | 0.5 x D | 0.75 x D | 300 | 380 | IPT | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 0.8 x D | 0.4 x D | 0.75 x D | 200 | 260 | IPT | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 3 | 0.8 x D | 0.4 x D | 0.75 x D | 200 | 230 | IPT | .0008 | .0010 | .0013 | .0015 | .0019 |
| K | 1 | 0.8 x D | 0.5 x D | 0.75 x D | 390 | 490 | IPT | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 0.8 x D | 0.5 x D | 0.75 x D | 360 | 460 | IPT | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 3 | 0.8 x D | 0.4 x D | 0.75 x D | 360 | 430 | IPT | .0009 | .0012 | .0016 | .0018 | .0023 |
| S | 1 | 0.8 x D | 0.4 x D | 0.75 x D | 160 | 300 | IPT | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 0.8 x D | 0.4 x D | 0.75 x D | 80 | 130 | IPT | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 3 | 0.8 x D | 0.4 x D | 0.75 x D | 80 | 130 | IPT | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 4 | 0.8 x D | 0.3 x D | 0.5 x D | 160 | 200 | IPT | .0008 | .0011 | .0014 | .0017 | .0021 |
| H | 1 | 0.8 x D | 0.5 x D | 0.5 x D | 260 | 460 | IPT | .0010 | .0014 | .0017 | .0020 | .0026 |
| | 2 | 0.8 x D | 0.2 x D | 0.3 x D | 230 | 390 | IPT | .0008 | .0010 | .0013 | .0015 | .0019 |
| | 3 | 0.8 x D | 0.15 x D | 0.2 x D | 200 | 300 | IPT | .0006 | .0008 | .0010 | .0012 | .0015 |

NOTE: These guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## HPBNDM

| Material Group | | 3D Milling/Profiling | | KC633M Cutting Speed — vc SFM | | Feed per Tooth — Finishing | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | D1 — Diameter | | | | | | | | |
| | | | | | | frac. | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | min | max | dec. | 0.125 | 0.156 | 0.188 | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 |
| P | 3 | 0.04 x D | 0.04 x D | 1360 | 1540 | fz | .0033 | .0042 | .0052 | .0070 | .0090 | .0105 | .0135 | .0157 | .0175 |
| | 4 | 0.04 x D | 0.04 x D | 1190 | 1360 | fz | .0031 | .0039 | .0047 | .0063 | .0081 | .0093 | .0120 | .0139 | .0152 |
| H | 1 | 0.03 x D | 0.03 x D | 950 | 1330 | fz | .0033 | .0041 | .0050 | .0068 | .0086 | .0100 | .0128 | .0148 | .0163 |
| | 2 | 0.03 x D | 0.03 x D | 670 | 1140 | fz | .0025 | .0031 | .0038 | .0051 | .0065 | .0075 | .0096 | .0110 | .0120 |
| | 3 | 0.02 x D | 0.02 x D | 710 | 1060 | fz | .0021 | .0026 | .0032 | .0043 | .0054 | .0063 | .0082 | .0095 | .0107 |
| | 4 | 0.02 x D | 0.02 x D | 590 | 830 | fz | .0014 | .0017 | .0021 | .0028 | .0036 | .0042 | .0054 | .0063 | .0070 |

| Material Group | | 3D Milling/Profiling | | KC633M Cutting Speed — vc SFM | | Feed per Tooth — Semi-Finishing | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | D1 — Diameter | | | | | | | | |
| | | | | | | frac. | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | min | max | dec. | 0.125 | 0.156 | 0.188 | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 |
| P | 3 | 0.1 x D | 0.05 x D | 890 | 1000 | fz | .0022 | .0027 | .0033 | .0045 | .0059 | .0068 | .0088 | .0102 | .0114 |
| | 4 | 0.1 x D | 0.05 x D | 780 | 890 | fz | .0020 | .0025 | .0030 | .0041 | .0053 | .0061 | .0078 | .0090 | .0099 |
| H | 1 | 0.07 x D | 0.1 x D | 660 | 920 | fz | .0025 | .0031 | .0038 | .0051 | .0066 | .0076 | .0098 | .0113 | .0124 |
| | 2 | 0.05 x D | 0.04 x D | 530 | 910 | fz | .0022 | .0027 | .0033 | .0044 | .0057 | .0065 | .0084 | .0096 | .0105 |
| | 3 | 0.03 x D | 0.03 x D | 570 | 860 | fz | .0019 | .0025 | .0030 | .0040 | .0051 | .0059 | .0076 | .0089 | .0100 |
| | 4 | 0.03 x D | 0.03 x D | 480 | 670 | fz | .0013 | .0016 | .0020 | .0027 | .0034 | .0039 | .0051 | .0059 | .0066 |

| Material Group | | 3D Milling/Profiling | | KC633M Cutting Speed — vc SFM | | Feed per Tooth — Roughing | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | D1 — Diameter | | | | | | | | |
| | | | | | | frac. | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 |
| | | ap | ae | min | max | dec. | 0.125 | 0.156 | 0.188 | 0.250 | 0.313 | 0.375 | 0.500 | 0.625 | 0.750 |
| P | 3 | 0.2 x D | 0.1 x D | 680 | 770 | fz | .0010 | .0012 | .0015 | .0020 | .0026 | .0030 | .0039 | .0046 | .0051 |
| | 4 | 0.2 x D | 0.1 x D | 600 | 680 | fz | .0009 | .0011 | .0014 | .0018 | .0023 | .0027 | .0035 | .0040 | .0044 |
| H | 1 | 0.15 x D | 0.1 x D | 460 | 640 | fz | .0013 | .0017 | .0020 | .0028 | .0035 | .0041 | .0052 | .0060 | .0066 |
| | 2 | 0.1 x D | 0.75 x D | 390 | 670 | fz | .0015 | .0019 | .0023 | .0031 | .0039 | .0045 | .0058 | .0067 | .0073 |
| | 3 | 0.05 x D | 0.05 x D | 450 | 680 | fz | .0017 | .0021 | .0026 | .0035 | .0044 | .0052 | .0067 | .0078 | .0087 |
| | 4 | 0.05 x D | 0.05 x D | 380 | 530 | fz | .0011 | .0014 | .0017 | .0023 | .0030 | .0034 | .0044 | .0052 | .0058 |

NOTE: These guidelines may require variations to achieve optimum results.

# HARVI™ III Family

## High-temperature alloy machining

- Profiling, semi-finishing, and finishing.
- Maximum metal removal rates in titanium and stainless steel.
- Supreme surface conditions.
- Complete family of square end, ball nose, and taper ball nose cutters.

### KCSM15™

- Proprietary Beyond™ grade for exceptional tool life in titanium and stainless steels.

### Advanced Technology

- Six unequally spaced flutes for chatter-free machining.
- Eccentric relief design increases tool life through higher edge stability.
- Proprietary tapered core provides highest tool stability in roughing and finishing operations.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# Beyond™ EADE

## Solid Ceramic End Mills

### Primary Application

EADE solid ceramic end mills offer higher productivity and tool life in roughing nickel-based high-temperature alloys. Beyond grade KYS40™ delivers best-in-class tool life and exceptionally high Metal Removal Rates (MRR), surpassing those of other solutions on the market today.

- Outstanding reduction of machining time.
- Fewer tool changes due to longer tool life.
- Benefit from throw-away type of tooling.

## Features and Benefits

### Advanced Technology

- KYS40 Beyond grade solid SiAlON ceramic designed for machining nickel-based high-temperature alloys.
- Cutting speeds up to 3300 SFM increase metal removal rates.
- Tool life up to 5x that of carbide end mills.

### Extensive Standard Offering

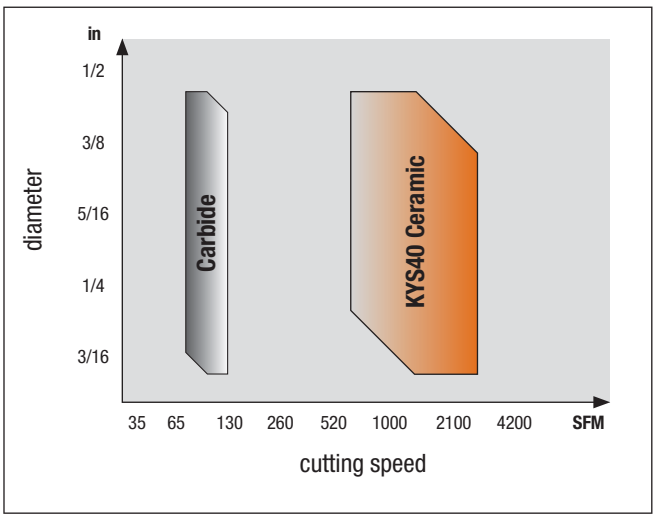
- 4-flute tooling for pocketing and slotting. Undersize end mills leaving stock for finishing operations.
- 6-flute tooling for face milling and profiling.

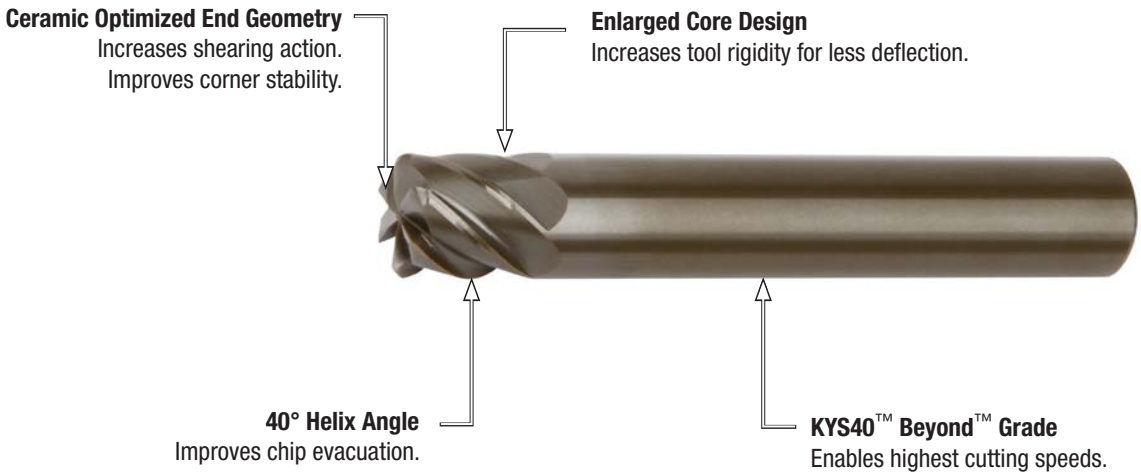
### Customization

- Engineered solutions are available upon request.

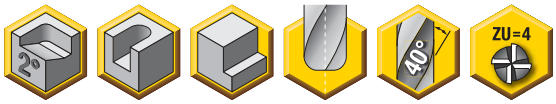
### Highest Cutting Speed Capability

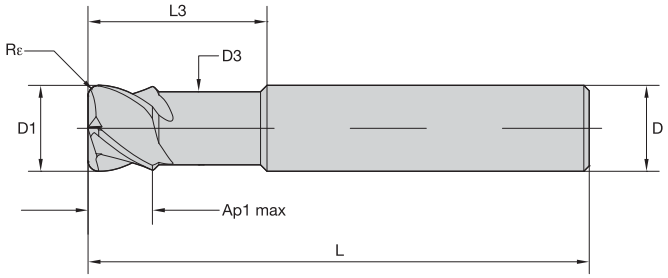
- Increase compared to carbide.




**Ceramic Optimized End Geometry**
Increases shearing action.
Improves corner stability.
**Enlarged Core Design**
Increases tool rigidity for less deflection.
**40° Helix Angle**
Improves chip evacuation.
**KYS40™ Beyond™ Grade**
Enables highest cutting speeds.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 2,5°.
- Optimized geometry for roughing nickel-based high-temperature alloys.



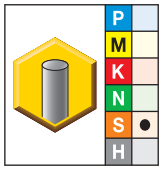



**End Mill Tolerances**

| D1 | tolerance e8 | D | tolerance h6 |
|---|---|---|---|
| ≤1/8" | -.00055/.00110" | ≤1/8" | +0/-.00024" |
| >1/8–1/4" | -.00079/-.00150" | >1/8–1/4" | +0/-.00031" |
| >1/4–3/8" | -.00098/-.00185" | >1/4–3/8" | +0/-.00035" |
| >13/32–23/32" | -.00126/-.00232" | >13/32–23/32" | +0/-.00043" |
| >23/32–1-3/16" | -.00157/-.00287" | >23/32–1-3/16" | +0/-.00051" |

beyond

## EADE • 4 Flute with Neck • Inch

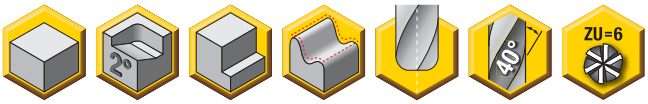


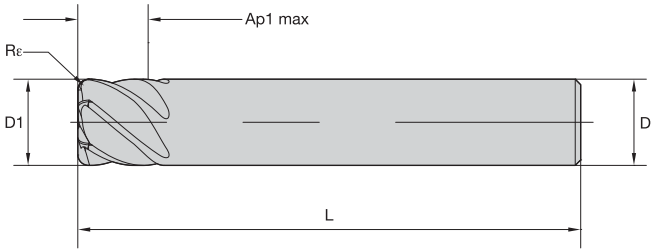

● first choice
○ alternate choice

| KYS40 | D1 | D1 | D | D3 | Ap1 max | L | L3 | Rε |
|---|---|---|---|---|---|---|---|---|
| **EADE0178J4AQX** | – | .180 | 1/4 | .173 | 9/64 | 2 | 3/8 | .023 |
| **EADE0188J4AQX** | 3/16 | .188 | 1/4 | .180 | 9/64 | 2 | 3/8 | .023 |
| **EADE0238J4AQB** | – | .238 | 1/4 | .229 | 3/16 | 2 | 1/2 | .031 |
| **EADE0250J4AQB** | 1/4 | .250 | 1/4 | .240 | 3/16 | 2 | 1/2 | .031 |
| **EADE0297J4AQX** | 19/64 | .297 | 5/16 | .285 | 15/64 | 2 1/4 | 5/8 | .039 |
| **EADE0313J4AQX** | 5/16 | .313 | 5/16 | .300 | 15/64 | 2 1/4 | 5/8 | .039 |
| **EADE0356J4AQX** | – | .356 | 3/8 | .341 | 9/32 | 2 1/2 | 3/4 | .047 |
| **EADE0375J4AQX** | 3/8 | .375 | 3/8 | .360 | 9/32 | 2 1/2 | 3/4 | .047 |
| **EADE0475J4AQC** | – | .477 | 1/2 | .458 | 3/8 | 2 3/4 | 1 | .063 |
| **EADE0500J4AQC** | 1/2 | .500 | 1/2 | .480 | 3/8 | 2 3/4 | 1 | .063 |

NOTE: For application data, see page P158.
For face milling, profiling, and 3D milling, do not exceed .019" of Ap.

- Kennametal standard dimensions.
- Non-center cutting.
- Ramping up to 2°.
- Optimized geometry for roughing nickel-based high-temperature alloys.



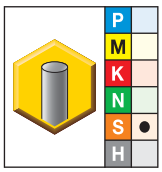



**End Mill Tolerances**

| D1 | tolerance e8 | D | tolerance h6 |
|---|---|---|---|
| ≤1/8" | -.00055/.00110" | ≤1/8" | +0/-.00024" |
| >1/8–1/4" | -.00079/-.00150" | >1/8–1/4" | +0/-.00031" |
| >1/4–3/8" | -.00098/-.00185" | >1/4–3/8" | +0/-.00035" |
| >13/32–23/32" | -.00126/-.00232" | >13/32–23/32" | +0/-.00043" |
| >23/32–1-3/16" | -.00157/-.00287" | >23/32–1-3/16" | +0/-.00051" |

beyond

## EADE • 6 Flute • Inch

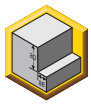



● first choice
○ alternate choice

| KYS40 | D1 | D | Ap1 max | L | Rε |
|---|---|---|---|---|---|
| **EADE0188J6ARX** | 3/16 | 3/16 | 9/64 | 2 | .023 |
| **EADE0250J6ARB** | 1/4 | 1/4 | 3/16 | 2 | .031 |
| **EADE0313J6ARX** | 5/16 | 5/16 | 15/64 | 2 1/4 | .039 |
| **EADE0375J6ARX** | 3/8 | 3/8 | 9/32 | 2 1/2 | .047 |
| **EADE0500J6ARC** | 1/2 | 1/2 | 3/8 | 2 3/4 | .063 |

NOTE: For application data, see page P158.
For face milling, profiling, and 3D-milling, do not exceed .019" of Ap.

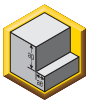
## 4-Flute with Neck • Inch



| Material Group | | Side Milling (A) and Slotting (B) | | | KYS40 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | |
| | | | | | | | frac. | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
| | | ap | ae | ap | min | max | dec. | .1875 | .2500 | .3125 | .3750 | .5000 |
| S | 3 | Ap1 max | 0.1 x D* | 0,5 x D* | 825 | 3300 | IPT | .0094 | .0100 | .0109 | .0113 | .0133 |

NOTE: *For above cutting data, do not exceed an overall ae of .039".
Use ap of .039" as starting condition.

## 6-Flute • Inch



| Material Group | | Side Milling (A) and Profiling | | KYS40 | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | |
| | | | | | | frac. | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
| | | ap | ae | min | max | dec. | .1875 | .2500 | .3125 | .3750 | .5000 |
| S | 3 | Ap1 max* | 0.1 x D* | 825 | 3300 | IPT | .0094 | .0100 | .0109 | .0113 | .0133 |

NOTE: *For above cutting data, do not exceed an overall ae of .039".
Use ap of .039" as starting condition.

# A New Dimension

# HARVI™ II

**The next generation high-performance end mill, HARVI II dramatically improves metal removal rates without reducing tool life.**

- Best suited for applications in the aerospace, medical, die and mold, automotive, and general engineering markets.
- Outstanding performance in stainless steel, titanium, INCONEL®, and other high-temperature alloys and steels.
- Increased metal removal rates in roughing and finishing operations.

### Advanced Technology

- Five unequally-spaced flutes for chatter-free machining at high feed rates.
- 1 x D full slotting capability in:
  - — Titanium
  - — Stainless steel

### Tailored Grades

- Proprietary KCPM15™ Beyond™ grade.
- Universal KC643M™ grade.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

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## EADE 4-Flute End Mill

**CHALLENGE**

- Roughing a slot on turbine blade.
- Depth of slot .866".
- INCONEL® 718 material.
- Dry machining.

**SOLUTION**

- Engineered solution EADE KYS40™ ceramic end mill with extended neck.
- Ø .449" (11,4mm) with 4 effective cutting edges and .059" (1,5mm) corner radii.

**CUTTING DATA**

- vc 2625 SFM
- fz .0012 IPT
- ap .0197"
- ae .866"

**RESULT**

- Customer proprietary information.

**BENEFIT**

- Machining time of 1 minute 54 seconds for one slot only.
- Metal removal rate of .9 $in^3$/m consistently achieved.
- Productivity significantly increased.

## EADE 4-Flute End Mill

**CHALLENGE**

- Rough profiling of small turbine blades.
- INCONEL 718 material.
- Dry machining.

**SOLUTION**

- Standard EADE KYS40 ceramic end mill.
- Ø .449" (11,4mm) with 4 effective cutting edges and standard neck.

**CUTTING DATA**

- vc 2116 SFM
- fz .0012 IPT
- ap .0197"
- ae .866"

**RESULT**

- 3x tool life compared to 2x tool life with competitive solution in less time.

**BENEFIT**

- 3x higher productivity as a result of increased cutting data.
- 50% longer tool life compared to competitive carbide end mill.

*(continued)*

*(continued)*

## EADE 6-Flute End Mill

**CHALLENGE**

- Rough profiling of aerospace parts.
- Haynes® 288 and INCONEL® 718 material.
- Dry machining.

**SOLUTION**

- Standard EADE KYS40™ ceramic end mill.
- Ø .394" (10mm) with 6 effective cutting edges.

**CUTTING DATA**

- vc 1516 SFM
- fz .0012 IPT
- ap .0197–.0394"
- ae varying

**RESULT**

- Customer proprietary information.

**BENEFIT**

- Machining time reduced.
- Productivity significantly increased.

## EADE 6-Flute End Mill

**CHALLENGE**

- Rough profiling of blisk (blade integrated disc).
- INCONEL 718 material (42 HRC).
- Compressed air coolant.

**SOLUTION**

- Standard EADE KYS40 ceramic end mill.
- Ø .472" (12mm) with 6 effective cutting edges.

**CUTTING DATA**

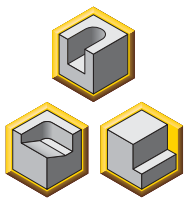
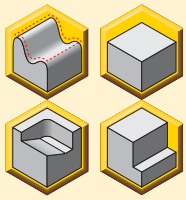
- vc 2228 SFM
- fz .0012 IPT
- ap varying up to .0197"
- ae varying

**RESULT**

- 2 blisk segments machined with one tool.
- 12 minute machining time per segment.

**BENEFIT**

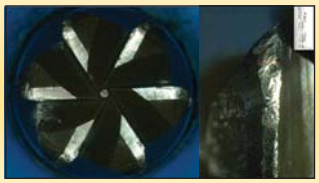
- Unprecedented reduction in machining time.

| | |
|---|---|
| **Materials to Cut** | • Nickel-based high-temperature alloys.<br>• Cobalt-based alloys after consulting technical assistance.<br>• P6 and M1-3 stainless steels after consulting technical assistance.<br>• Do not apply on iron-based high-temperature alloys. |
| **Cutting Speed** | • Maximum RPM machine can provide recommended cutting speed: 1.300–3.300 SFM.<br>• Highly dynamic machines recommended.<br>• Use of spindle speeders applicable (no wet coolant). |
| **Feed Rate** | • Refer to application data recommendation.<br>• General starting condition fz .0012 IPT. |
| **Depth of Cut** | • Refer to application data recommendation.<br>• General starting condition ap .019". |
| **Coolant** | • Power cool nozzle preferred to flush chips away.<br>• Pressurized air applicable.<br>• Minimal quantity lubrication (MQL) and dry applicable.<br>• No coolant with emulsion or oil due to thermal shock. |
| **Adaptation** | • Hydraulic chuck with or without sleeve preferred.<br>• Collet or milling power chucks applicable.<br>• Balancing at 25,000 RPM (2,5G) preferred. |
| **Roughing Application** | Yes |
| **Finishing Application** | No |
| **Milling Strategy** | • Conventional milling preferred at lower speeds.<br>• Climb milling preferred at higher speeds. |
| **4-Flute EADE** | • Slotting and pocketing.<br>• Common sizes and undersize leaving finishing stock.<br>• Side milling possible up to ap max with increased feed.<br>• Non-center cutting.<br>• Ramping and helical interpolation possible under 2.5°.<br>  |
| **6-Flute EADE** | • Profiling and face milling.<br>• Non-center cutting.<br>• Side milling possible up to ap max with increased feed.<br>• Ramping and helical interpolation possible under 2°.<br>  |
| **Engineered Solutions** | Available upon request. |
| **Reconditioning Service** | Not applicable. |

## Wear Indication

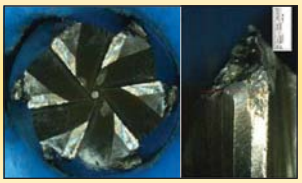
New

Used



Wear rate .019".
Still good to use.

End of Tool Life



Wear rate .055".
End of tool life reached.

## Chip Formation

Carbide

Regular curled chips. Shape and length depend on end mill geometry and cutting data.

Ceramic

Chips are nearly like dust. Pressurized air coolant recommended to blow away chips.

## Causes of and Remedies for End Milling Problems

| problem | cause | remedy |
|---|---|---|
| **Excessive bur formation** | • Softness of material to cut.<br>• Excessive wear on radii. | • Use undersize end mills that leave stock for finishing operation.<br>• Replace tool as end of tool life reached.<br>• Check tool runout. |
| **Sudden breakage** | • Vibration of the workpiece.<br>• Unstable tool clamping.<br>• Use of 6-flute tooling in slotting. | • Check workpiece and tool clamping.<br>• Use of 4-flute EADE recommended. |
| **Chips sticking** | • Lack of cutting speed. | • Increase cutting speed. |
| **Chipping** | • Unstable tool and/or workpiece clamping.<br>• Initial cutting speed too high. | • Check workpiece and tool clamping.<br>• Reduce cutting speed during initial cut and increase as cutting continues. |
| **Thermal cracks** | • Wet coolant. | • Do not use wet coolant. |

# GOmill™

## Economical High-Performance End Mills

### Primary Application

The GOmill line is specifically engineered to work on short length-of-cut applications in multiple workpiece materials, like soft and hard steels up to 48 HRC, stainless steels, high-temperature alloys, and cast iron. With the very short overall length and soft cutting geometries, this line is made to conform to the growing market of mill-turn machines.

- Extremely stable cutting tool due to extremely short design.
- Less vibration due to unequal flute spacing.
- Soft cut to support mill-turn machines as well driven units in lathe tooling.
- Use a new GOmill with 100% performance instead of regrinding.

## Features and Benefits

### Advanced Technology

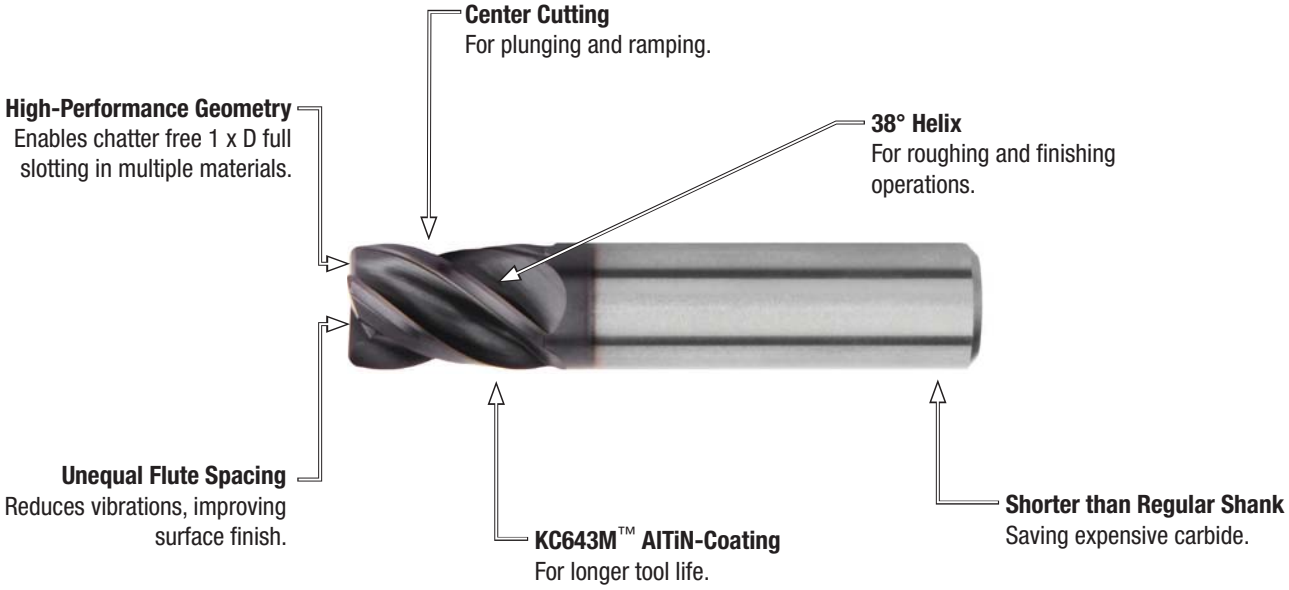
- The 3-flute sharp and 4-flute chamfer versions support roughing, semi-finishing, and finishing applications.
- The 3-flute ball nose tool supports roughing and semi-finishing applications.
- All geometries work in slotting and side milling applications up to 1 x D depth of cut.
- Shortened shank applicable for all common clamping adapters without modifications. Only use clamping sleeve in hydraulic chucks to avoid vibrations.

### Tailored Grades

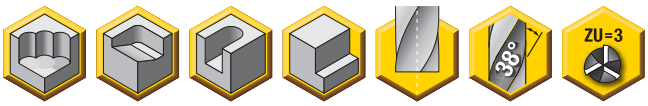
- Universal KC643M™ grade suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet).

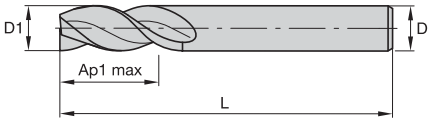
### Extensive Standard Offering

- Diameter ranges 5/64–1/2".
- Straight shanks.


**Center Cutting**
For plunging and ramping.
**High-Performance Geometry**
Enables chatter free 1 x D full slotting in multiple materials.
**38° Helix**
For roughing and finishing operations.
**Unequal Flute Spacing**
Reduces vibrations, improving surface finish.
**KC643M™ AlTiN-Coating**
For longer tool life.
**Shorter than Regular Shank**
Saving expensive carbide.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing.
- Roughing/finishing.



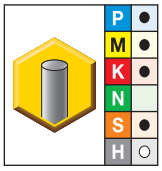



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

GOmill™

## UEDE • 3-Flute • Sharp Edge

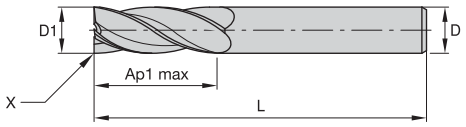



● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L |
|---|---|---|---|---|
| **UEDE0078J3AS** | 5/64 | 1/4 | 5/32 | 1 1/2 |
| **UEDE0094J3AS** | 3/32 | 1/4 | 5/32 | 1 1/2 |
| **UEDE0125J3AS** | 1/8 | 1/4 | 13/64 | 1 1/2 |
| **UEDE0156J3AS** | 5/32 | 1/4 | 17/64 | 1 1/2 |
| **UEDE0188J3AS** | 3/16 | 1/4 | 19/64 | 1 1/2 |
| **UEDE0250J3AS** | 1/4 | 1/4 | 21/64 | 1 1/2 |
| **UEDE0312J3AS** | 5/16 | 5/16 | 27/64 | 1 3/4 |
| **UEDE0375J3AS** | 3/8 | 3/8 | 31/64 | 2 |
| **UEDE0437J3AS** | 7/16 | 7/16 | 9/16 | 2 5/32 |
| **UEDE0500J3AS** | 1/2 | 1/2 | 5/8 | 2 5/32 |

NOTE: For application data, see page P170.
Use reducer sleeve when clamping in hydraulic chucks.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and finishing operations for fewer setups.

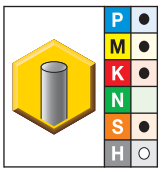



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

GOmill™

## UEDE • 4-Flute • Chamfer

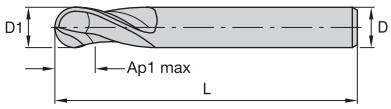



● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L | BCH |
|---|---|---|---|---|---|
| **UEDE0156J4AH** | 5/32 | 1/4 | 17/64 | 1 1/2 | .016 |
| **UEDE0188J4AH** | 3/16 | 1/4 | 19/64 | 1 1/2 | .016 |
| **UEDE0250J4AH** | 1/4 | 1/4 | 21/64 | 1 1/2 | .016 |
| **UEDE0312J4AH** | 5/16 | 5/16 | 27/64 | 1 3/4 | .016 |
| **UEDE0375J4AH** | 3/8 | 3/8 | 31/64 | 2 | .016 |
| **UEDE0437J4AH** | 7/16 | 7/16 | 9/16 | 2 5/32 | .016 |
| **UEDE0500J4AH** | 1/2 | 1/2 | 5/8 | 2 5/32 | .016 |

NOTE: For application data, see page P170.
Use reducer sleeve when clamping in hydraulic chucks.

- Kennametal standard dimensions.
- Center cutting.
- Single tool for both semi-finishing and finishing operations for fewer setups.

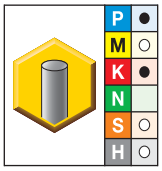



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

GOmill™

## UEBD • 2-Flute • Ball Nose

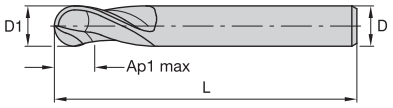



● first choice
○ alternate choice

| KC643M | D1 | D | Ap1 max | L |
|---|---|---|---|---|
| **UEBD0078J2A** | 5/64 | 1/4 | 5/32 | 1 1/2 |
| **UEBD0094J2A** | 3/32 | 1/4 | 5/32 | 1 1/2 |
| **UEBD0125J2A** | 1/8 | 1/4 | 13/64 | 1 1/2 |
| **UEBD0156J2A** * | 5/32 | 1/4 | 17/64 | 1 1/2 |
| **UEBD0188J2A** | 3/16 | 1/4 | 19/64 | 1 1/2 |
| **UEBD0250J2A** | 1/4 | 1/4 | 21/64 | 1 1/2 |
| **UEBD0312J2A** * | 5/16 | 5/16 | 27/64 | 1 3/4 |
| **UEBD0375J2A** | 3/8 | 3/8 | 31/64 | 2 |
| **UEBD0437J2A** * | 7/16 | 7/16 | 9/16 | 2 5/32 |
| **UEBD0500J2A** | 1/2 | 1/2 | 5/8 | 3 |

NOTE: For application data, see page P171.
Use reducer sleeve when clamping in hydraulic chucks.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Kennametal standard dimensions.
- Center cutting.
- Unequal flute spacing minimizes chatter for smoother machining.
- Single tool for both roughing and semi-finishing operations for fewer setups.

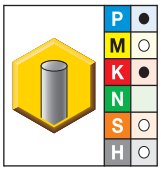



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

GOmill™

## UEBD • 3-Flute • Ball Nose




● first choice
○ alternate choice

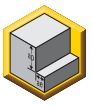
| KC643M | D1 | D | Ap1 max | L |
|---|---|---|---|---|
| **UEBD0078J3A** | 5/64 | 1/4 | 5/32 | 1 1/2 |
| **UEBD0094J3A** | 3/32 | 1/4 | 5/32 | 1 1/2 |
| **UEBD0125J3A** | 1/8 | 1/4 | 13/64 | 1 1/2 |
| **UEBD0156J3A** | 5/32 | 1/4 | 17/64 | 1 1/2 |
| **UEBD0188J3A** | 3/16 | 1/4 | 19/64 | 1 1/2 |
| **UEBD0250J3A** | 1/4 | 1/4 | 21/64 | 1 1/2 |
| **UEBD0312J3A** | 5/16 | 5/16 | 27/64 | 1 3/4 |
| **UEBD0375J3A** | 3/8 | 3/8 | 31/64 | 2 |
| **UEBD0437J3A** | 7/16 | 7/16 | 9/16 | 2 5/32 |
| **UEBD0500J3A** | 1/2 | 1/2 | 5/8 | 2 5/32 |

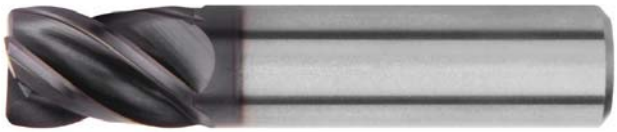
NOTE: For application data, see page P171.
Use reducer sleeve when clamping in hydraulic chucks.

## UEDE • 3-Flute • Sharp Edge

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC643M Cutting Speed — vc SFM min | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 5/64 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | dec. | 0.08 | 0.13 | 0.19 | 0.250 | 0.31 | 0.38 | 0.50 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | 620 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | 520 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 4 | 1.5 x D | 0.5 x D | 0.75 x D | 300 | 490 | IPT | .0004 | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 |
| | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | 330 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | 250 | IPT | .0003 | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 |
| M | 1 | 1.5 x D | 0.5 x D | 1 x D | 300 | 380 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 200 | 260 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 200 | 230 | IPT | .0003 | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | 490 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | 460 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | 430 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | 200 | IPT | .0003 | .0005 | .0008 | .0011 | .0014 | .0017 | .0021 |
| H | 1 | 1.5 x D | 0.5 x D | 0.75 x D | 260 | 460 | IPT | .0004 | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 |

## UEDE • 4-Flute • Chamfer



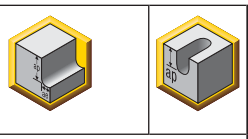


| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC643M Cutting Speed — vc SFM min | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. frac. | D1 — Diameter 5/64 | 1/8 | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | dec. | .0781 | .1250 | .1563 | .1875 | .2500 | .3125 | .3750 | .5000 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0011 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0011 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | 620 | IPT | .0005 | .0009 | .0011 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | 520 | IPT | .0004 | .0007 | .0009 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 4 | 1.5 x D | 0.5 x D | 0.75 x D | 300 | 490 | IPT | .0004 | .0007 | .0008 | .0010 | .0014 | .0017 | .0020 | .0026 |
| | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | 330 | IPT | .0004 | .0006 | .0007 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | 250 | IPT | .0003 | .0005 | .0006 | .0008 | .0010 | .0013 | .0015 | .0019 |
| M | 1 | 1.5 x D | 0.5 x D | 1 x D | 300 | 380 | IPT | .0004 | .0007 | .0009 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 200 | 260 | IPT | .0004 | .0006 | .0007 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 200 | 230 | IPT | .0003 | .0005 | .0006 | .0008 | .0010 | .0013 | .0015 | .0019 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | 490 | IPT | .0005 | .0009 | .0011 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | 460 | IPT | .0004 | .0007 | .0009 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | 430 | IPT | .0004 | .0006 | .0007 | .0009 | .0012 | .0016 | .0018 | .0023 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0004 | .0007 | .0009 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0005 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0005 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | 200 | IPT | .0003 | .0005 | .0006 | .0008 | .0011 | .0014 | .0017 | .0021 |
| H | 1 | 1.5 x D | 0.5 x D | 0.75 x D | 260 | 460 | IPT | .0004 | .0007 | .0008 | .0010 | .0014 | .0017 | .0020 | .0026 |

NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For better surface finish, reduce feed per tooth.

## UEBD • 2-Flute • Ball Nose

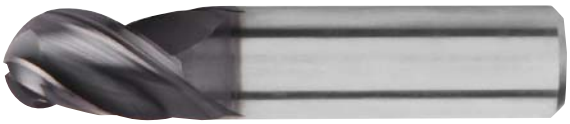
GOmill



| Material Group | | Side Milling (A) and Slotting (B) | | | KC643M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 5/64 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
| | | ap | ae | ap | min | max | dec. | 0.08 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.50 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | 620 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | 520 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 4 | 1.5 x D | 0.5 x D | 0.75 x D | 300 | 490 | IPT | .0004 | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 |
| | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | 330 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | 250 | IPT | .0003 | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 |
| M | 1 | 1.5 x D | 0.5 x D | 1 x D | 300 | 380 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 200 | 260 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 200 | 230 | IPT | .0003 | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | 490 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | 460 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | 430 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | 200 | IPT | .0003 | .0005 | .0008 | .0011 | .0014 | .0017 | .0021 |
| H | 1 | 1.5 x D | 0.5 x D | 0.75 x D | 260 | 460 | IPT | .0004 | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 |

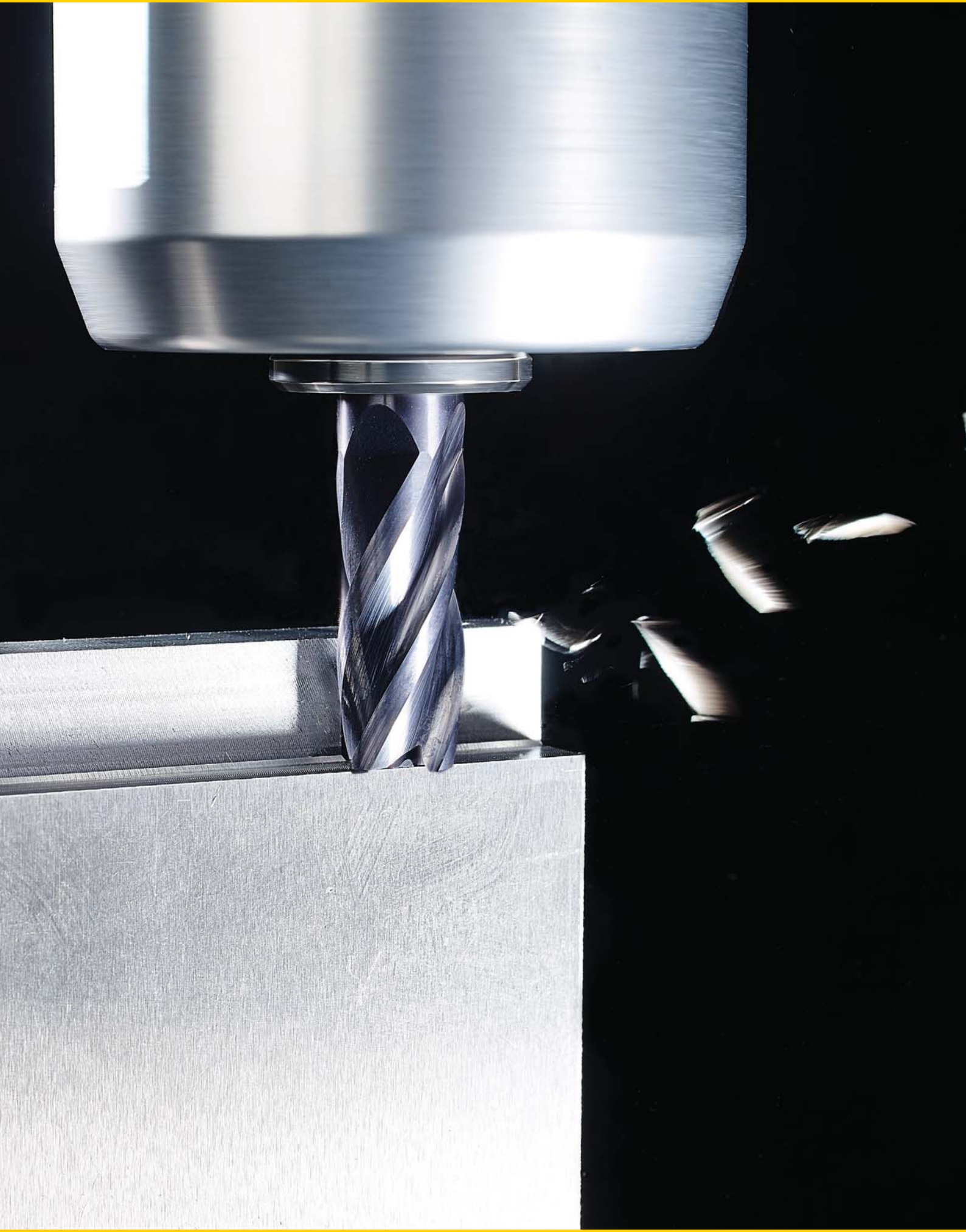
## UEBD • 3-flute • Ball Nose

GOmill



| Material Group | | Side Milling (A) and Slotting (B) | | | KC643M | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | |
| | | | | | | | frac. | 5/64 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
| | | ap | ae | ap | min | max | dec. | 0.08 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.50 |
| P | 0 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 1 | 1.5 x D | 0.5 x D | 1 x D | 490 | 660 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 460 | 620 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 390 | 520 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 4 | 1.5 x D | 0.5 x D | 0.75 x D | 300 | 490 | IPT | .0004 | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 |
| | 5 | 1.5 x D | 0.5 x D | 1 x D | 200 | 330 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 6 | 1.5 x D | 0.5 x D | 0.75 x D | 160 | 250 | IPT | .0003 | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 |
| M | 1 | 1.5 x D | 0.5 x D | 1 x D | 300 | 380 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 200 | 260 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 200 | 230 | IPT | .0003 | .0005 | .0008 | .0010 | .0013 | .0015 | .0019 |
| K | 1 | 1.5 x D | 0.5 x D | 1 x D | 390 | 490 | IPT | .0005 | .0009 | .0013 | .0018 | .0023 | .0027 | .0034 |
| | 2 | 1.5 x D | 0.5 x D | 1 x D | 360 | 460 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 3 | 1.5 x D | 0.5 x D | 1 x D | 360 | 430 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 |
| S | 1 | 1.5 x D | 0.3 x D | 0.3 x D | 160 | 300 | IPT | .0004 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 |
| | 2 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 3 | 1.5 x D | 0.3 x D | 0.3 x D | 80 | 130 | IPT | .0002 | .0004 | .0006 | .0008 | .0010 | .0012 | .0015 |
| | 4 | 1.5 x D | 0.5 x D | 1 x D | 160 | 200 | IPT | .0003 | .0005 | .0008 | .0011 | .0014 | .0017 | .0021 |
| H | 1 | 1.5 x D | 0.5 x D | 0.75 x D | 260 | 460 | IPT | .0004 | .0007 | .0010 | .0014 | .0017 | .0020 | .0026 |

NOTE: Those guidelines may require variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For better surface finish, reduce feed per tooth.



# Solid End Milling • General Purpose Solid Carbide End Mills


GOmill Portfolio Overview ..... Q2–Q3

GOmill GP 2-Flute End Mills ..... Q4–Q12

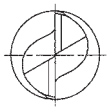
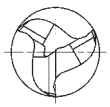
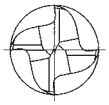
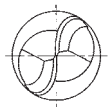
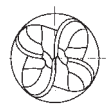
GOmill GP 3-Flute End Mills ..... Q14–Q19

GOmill GP 4-Flute End Mills ..... Q20–Q29

Catalog Numbering System ..... Q30

GOmill GP Cross Reference Guide ..... Q31–Q47

## End Mill Type Recommendation

| End Mills | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Z = number of teeth | | Fine Finishing | Finishing | Roughing | Slot Milling | Plunging | Contour Milling | Peel Milling | Trochoidal Milling |
| end mill Z = 2 |  | ○ | ○ | ◑ | ● | ● | ○ | ○ | ○ |
| end mill Z = 3 |  | ○ | ◑ | ◑ | ● | ◑ | ○ | ○ | ○ |
| end mill Z = 4 |  | ◑ | ● | ● | ● | ○ | ○ | ● | ● |
| **Ball Nose End Mills** | | | | | | | | | |
| ball nose end mill Z = 2 |  | | | | ● | | ● | | |
| ball nose end mill Z = 4 |  | | | | ◑ | | ● | | |

● first choice

◑ suitable with limitations

○ not recommended

Always select a tool with the shortest possible flute length whenever possible. This will increase the stability of the tool and give the best results.

When selecting an end mill, the following machining factors will affect your selection of the correct end mill for your application:

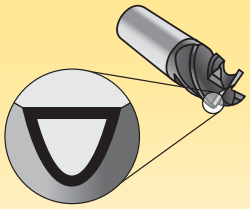
1. Tool overhang.
2. Coolant flow.
3. Machine and setup stability.
4. Machine power and torque.
5. Material to be machined.
6. Machine adapter size (CV40, CV50, HSK63, etc.).

## Select Adapter per Technical Data/Characteristics

| Technical data/characteristics | Toolholders | | | | |
|---|---|---|---|---|---|
| | HydroForce™ high torque | Shrink Fit | Milling chuck | ER collet chuck | Weldon® adapter |
| torque transmission | ★★★★★ | ★★★★ | ★★★★★ | ★★ | ★★★★★ |
| radial runout (T.I.R.)[1] | ★★★★★ | ★★★★★ | ★★★★ | ★★★ | ★ |
| radial rigidity[2] | ★★★★ | ★★★★★ | ★★★ | ★★★ | ★★★ |
| tool length adjustment | ★★★★★ | ★★★★ | ★ | ★★★★ | ★★ |
| tool shank tolerance requirement | ★★★★ | ★★ | ★★★ | ★★★★★ | ★★★ |
| through coolant | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★★ |
| minimum quantity lubrication (MQL) | ★★★★★ | ★★★★★ | ★ | ★ | ★ |
| dampening capability | ★★★★★ | ★ | ★★★ | ★★★ | ★★★ |
| shank diameter range[3] | ★★★★★ | ★ | ★★★★★ | ★★★★★ | ★ |
| cost of toolholder | ★★ | ★★★ | ★ | ★★★★ | ★★★★★ |
| low requirement of external devices[4] | ★★★★★ | ★ | ★★★★ | ★★★★ | ★★★★★ |
| ease of handling | ★★★★★ | ★★★ | ★★ | ★★★★ | ★★★★ |
| dust resistance | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★★★★ |
| high-speed capability | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★ |
| balancing accuracy | ★★★★★ | ★★★★★ | ★★★ | ★★★ | ★ |

[1] Radial runout may affect tool life.
[2] Radial rigidity for Weldon holder is low at a direction perpendicular to the screw.
[3] Accepts different shank diameters through the use of reduction sleeves or due to collapse range.
[4] Collet chucks and milling chucks may require the use of a torque or special wrench; Shrink Fit adapter requires a shrinking unit.

## Grades and Grade Descriptions

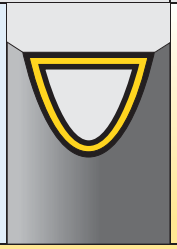


**Coatings provide high-speed capability and are engineered for roughing to finishing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |

wear resistance ← → toughness

Grade

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KC633M  | Coated carbide grade with PVD multilayer coating. KC633M™ is designed for dry milling most types of material, apart from the hardened variety. This grade is characterized by high hardness and wear resistance. It provides outstanding protection for solid carbide tools against cratering and abrasion. | P | | | ■ | ■ | ■ | ■ | | | |
| | | M | | | ■ | ■ | ■ | ■ | | | |
| | | K | | | ■ | ■ | ■ | ■ | | | |

# GOmill™ GP General Purpose Solid Carbide End Mills · 2 Flute

## Primary Application

GOmill GP series offers plunging, slotting, and profiling with long tool life on a wide range of workpiece materials. They are designed to provide high Metal Removal Rates (MRR) and achieve good surface quality at an excellent cost-benefit ratio. A wide range of diameters and lengths are available with chamfered edge and ball nose as stocked standard.

- Roughing and finishing with one tool.
- Excellent cost-benefit ratio.
- Multilayer KC633M™ grades for high tool life.

## Features and Benefits

### Advanced Technology

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory.
- Eccentric relief increases edge stability for longer tool life and better surface quality.
- Eccentric relief eases regrinding and reduces reconditioning cost.
- 2-flute design for unstable conditions and high flexibility.

### Tailored Grades

- Universal multilayer KC633M coating for cutting steel, cast iron, and stainless (wet).

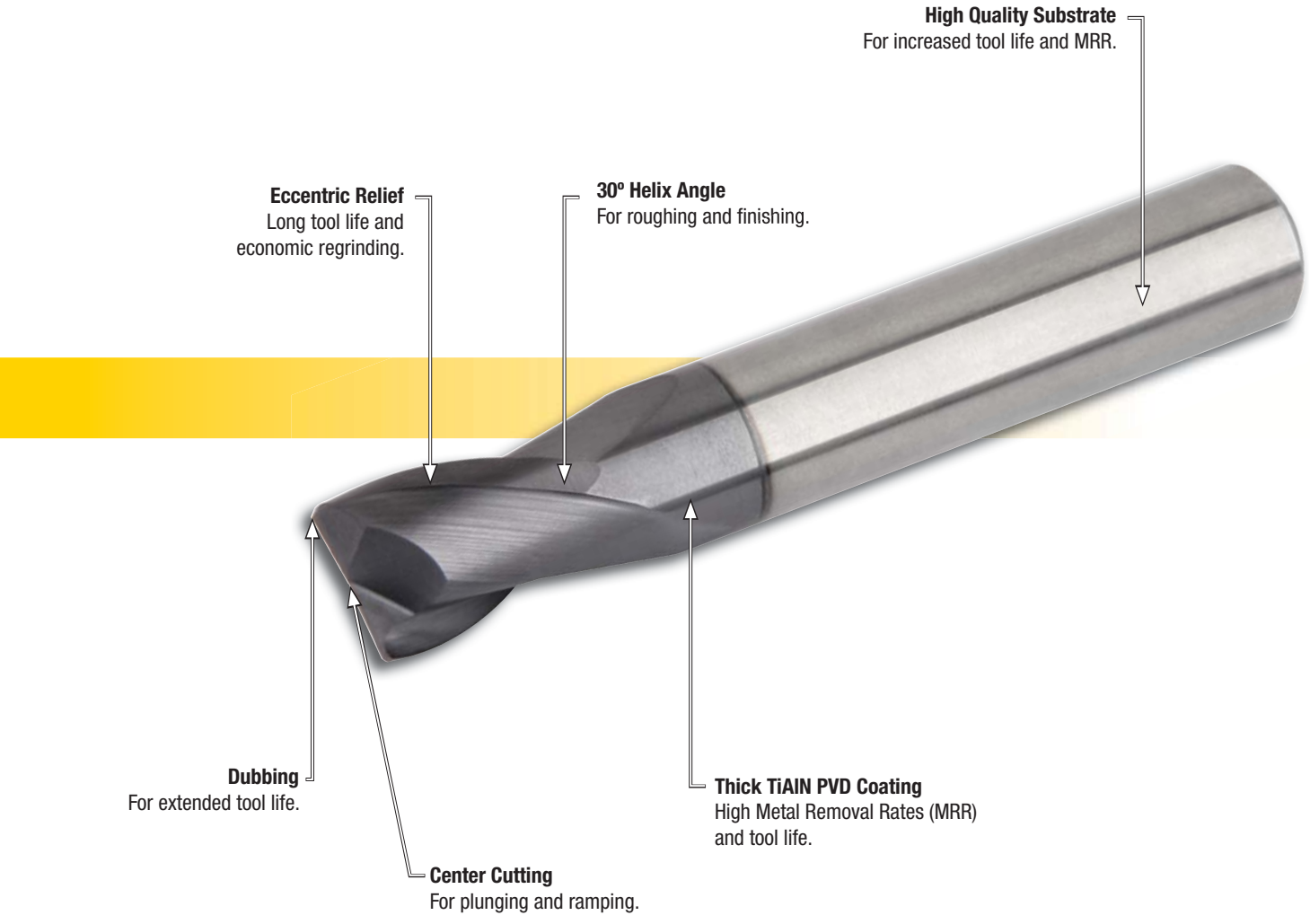
### Customization

- Intermediate diameters available.

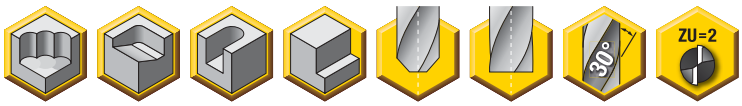
### Extensive Standard Offering

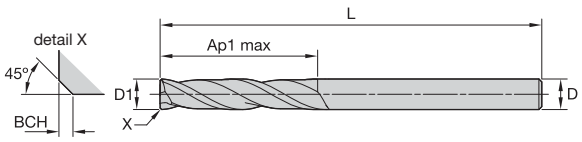
- Diameter range 1/64–1".
- Sharp edge, chamfer edge, and ball nose as standard offering.

# Designed for roughing and finishing with one tool at a value price.



- Center cutting.

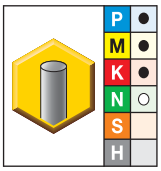


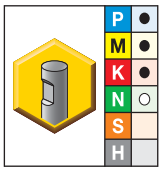



**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 + / - |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## 2SE-2CH..IS-IR-IL-IX • 2 Flute • Inch



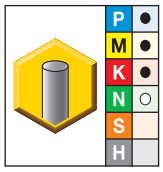



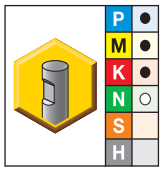

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| **2SE0016IR003A** | – | 1/64 | 1/8 | 1/32 | 1 1/2 | – |
| **2SE0031IR007A** | – | 1/32 | 1/8 | 5/64 | 1 1/2 | – |
| **2SE0062IR012A** | – | 1/16 | 1/8 | 1/8 | 1 1/2 | – |
| **2SE0062IL018A** | – | 1/16 | 1/8 | 3/16 | 1 1/2 | – |
| **2SE0062IX050A** | – | 1/16 | 1/8 | 1/2 | 2 | – |
| **2SE0078IR018A** | – | 5/64 | 1/8 | 3/16 | 1 1/2 | – |
| **2SE0093IR018A** | – | 3/32 | 1/8 | 3/16 | 1 1/2 | – |
| **2SE0093IL037A** | – | 3/32 | 1/8 | 3/8 | 1 1/2 | – |
| **2SE0093IX062A** | – | 3/32 | 1/8 | 5/8 | 2 | – |
| **2SE0109IR037A** | – | 7/64 | 1/8 | 3/8 | 1 1/2 | – |
| **2CH0125IR025A** | – | 1/8 | 1/8 | 1/4 | 1 1/2 | .010 |
| **2SE0125IR025A** | – | 1/8 | 1/8 | 1/4 | 1 1/2 | – |
| **2CH0125IL050A** | – | 1/8 | 1/8 | 1/2 | 1 1/2 | .010 |
| **2SE0125IL050A** | – | 1/8 | 1/8 | 1/2 | 1 1/2 | – |
| **2CH0125IX075A** | – | 1/8 | 1/8 | 3/4 | 2 1/4 | .010 |
| **2SE0125IX075A** | – | 1/8 | 1/8 | 3/4 | 2 1/4 | – |
| **2CH0140IR056A** | – | 9/64 | 3/16 | 9/16 | 2 | .010 |
| **2SE0140IR056A** | – | 9/64 | 3/16 | 9/16 | 2 | – |
| **2CH0156IR031A** | – | 5/32 | 3/16 | 5/16 | 2 | .010 |
| **2SE0156IR031A** | – | 5/32 | 3/16 | 5/16 | 2 | – |
| **2CH0156IL056A** | – | 5/32 | 3/16 | 9/16 | 2 | .010 |
| **2SE0156IL056A** | – | 5/32 | 3/16 | 9/16 | 2 | – |
| **2CH0171IR062A** | – | 11/64 | 3/16 | 5/8 | 2 | .010 |
| **2SE0171IR062A** | – | 11/64 | 3/16 | 5/8 | 2 | – |
| **2CH0187IR062A** | – | 3/16 | 3/16 | 5/8 | 2 | .010 |
| **2SE0187IR062A** | – | 3/16 | 3/16 | 5/8 | 2 | – |
| **2CH0187IL075A** | – | 3/16 | 3/16 | 3/4 | 2 1/2 | .010 |
| **2SE0187IL075A** | – | 3/16 | 3/16 | 3/4 | 2 1/2 | – |
| **2CH0187IX112A** | – | 3/16 | 3/16 | 1 1/8 | 3 | .010 |
| **2SE0187IX112A** | – | 3/16 | 3/16 | 1 1/8 | 3 | – |
| **2CH0218IR043A** | – | 7/32 | 1/4 | 7/16 | 2 | .016 |
| **2SE0218IR043A** | – | 7/32 | 1/4 | 7/16 | 2 | – |

*(continued)*

*(2SE-2CH..IS-IR-IL-IX • 2 Flute • Inch — continued)*



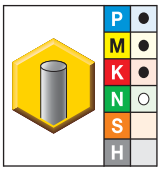



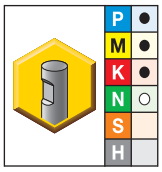

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| 2CH0218IL062A | — | 7/32 | 1/4 | 5/8 | 2 1/2 | .016 |
| 2SE0218IL062A | — | 7/32 | 1/4 | 5/8 | 2 1/2 | — |
| 2CH0250IS050A | — | 1/4 | 1/4 | 1/2 | 2 | .016 |
| 2SE0250IS050A | — | 1/4 | 1/4 | 1/2 | 2 | — |
| 2CH0250IR075A | — | 1/4 | 1/4 | 3/4 | 2 1/2 | .016 |
| 2SE0250IR075A | — | 1/4 | 1/4 | 3/4 | 2 1/2 | — |
| 2CH0250IL112A | — | 1/4 | 1/4 | 1 1/8 | 3 | .016 |
| 2SE0250IL112A | — | 1/4 | 1/4 | 1 1/2 | 3 | — |
| 2CH0250IX150A | — | 1/4 | 1/4 | 1 1/2 | 4 | .016 |
| 2SE0250IX150A | — | 1/4 | 1/4 | 1 1/2 | 4 | — |
| 2CH0281IR075A | — | 9/32 | 5/16 | 3/4 | 2 1/2 | .016 |
| 2SE0281IR075A | — | 9/32 | 5/16 | 3/4 | 2 1/2 | — |
| 2CH0312IS050A | — | 5/16 | 5/16 | 1/2 | 2 | .016 |
| 2SE0312IS050A | — | 5/16 | 5/16 | 1/2 | 2 | — |
| 2CH0312IR081A | — | 5/16 | 5/16 | 13/16 | 2 1/2 | .016 |
| 2SE0312IR081A | — | 5/16 | 5/16 | 13/16 | 2 1/2 | — |
| 2CH0312IL112A | — | 5/16 | 5/16 | 1 1/8 | 3 | .016 |
| 2SE0312IL112A | — | 5/16 | 5/16 | 1 1/8 | 3 | — |
| 2CH0312IX162A | — | 5/16 | 5/16 | 1 5/8 | 4 | .016 |
| 2SE0312IX162A | — | 5/16 | 5/16 | 1 5/8 | 4 | — |
| 2CH0343IR100A | — | 11/32 | 3/8 | 1 | 2 1/2 | .020 |
| 2SE0343IR100A | — | 11/32 | 3/8 | 1 | 2 1/2 | — |
| 2CH0375IS062A | — | 3/8 | 3/8 | 5/8 | 2 | .020 |
| 2SE0375IS062A | — | 3/8 | 3/8 | 5/8 | 2 | — |
| 2CH0375IR100A | — | 3/8 | 3/8 | 1 | 2 1/2 | .020 |
| 2SE0375IR100A | — | 3/8 | 3/8 | 1 | 2 1/2 | — |
| 2CH0375IL112A | — | 3/8 | 3/8 | 1 1/8 | 3 | .020 |
| 2SE0375IL112A | — | 3/8 | 3/8 | 1 1/2 | 3 | — |
| 2CH0375IX175A | — | 3/8 | 3/8 | 1 3/4 | 4 | .020 |
| 2SE0375IX175A | — | 3/8 | 3/8 | 1 3/4 | 4 | — |
| 2CH0406IR100A | — | 13/32 | 7/16 | 1 | 2 3/4 | .020 |
| 2SE0406IR100A | — | 13/32 | 7/16 | 1 | 2 3/4 | — |
| 2CH0437IR062A | — | 7/16 | 7/16 | 5/8 | 2 1/2 | .020 |
| 2SE0437IR062A | — | 7/16 | 7/16 | 5/8 | 2 1/2 | — |
| 2CH0437IL100A | — | 7/16 | 7/16 | 1 | 2 1/2 | .020 |
| 2SE0437IL100A | — | 7/16 | 7/16 | 1 | 2 1/2 | — |
| 2CH0437IX200A | — | 7/16 | 7/16 | 2 | 4 | .020 |
| 2SE0437IX200A | — | 7/16 | 7/16 | 2 | 4 | — |
| 2CH0468IR100A | — | 15/32 | 1/2 | 1 | 3 | .020 |
| 2SE0468IR100A | — | 15/32 | 1/2 | 1 | 3 | — |
| 2CH0500IS062A | — | 1/2 | 1/2 | 5/8 | 2 1/2 | .020 |
| 2SE0500IS062A | — | 1/2 | 1/2 | 5/8 | 2 1/2 | — |
| 2CH0500IR100A | 2CH0500IR100B | 1/2 | 1/2 | 1 | 3 | .020 |
| 2SE0500IR100A | 2SE0500IR100B | 1/2 | 1/2 | 1 | 3 | — |
| 2CH0500IL200A | 2CH0500IL200B | 1/2 | 1/2 | 2 | 4 | .020 |
| 2SE0500IL200A | 2SE0500IL200B | 1/2 | 1/2 | 2 | 4 | — |
| 2CH0500IX300A | 2CH0500IX300B | 1/2 | 1/2 | 3 | 6 | .020 |
| 2SE0500IX300A | 2SE0500IX300B | 1/2 | 1/2 | 3 | 6 | — |

*(continued)*

*(2SE-2CH..IS-IR-IL-IX • 2 Flute • Inch — continued)*



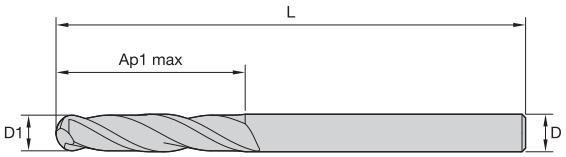



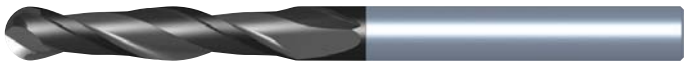

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| **2CH0562IR075A** | **—** | 9/16 | 9/16 | 3/4 | 3 | .020 |
| **2SE0562IR075A** | **—** | 9/16 | 9/16 | 3/4 | 3 | — |
| **2CH0562IL125A** | **2CH0562IL125B** | 9/16 | 9/16 | 1 1/4 | 3 1/2 | .020 |
| **2SE0562IL125A** | **2SE0562IL125B** | 9/16 | 9/16 | 1 1/4 | 3 1/2 | — |
| **2CH0562IX225A** | **2CH0562IX225B** | 9/16 | 9/16 | 2 1/4 | 5 | .020 |
| **2SE0562IX225A** | **2SE0562IX225B** | 9/16 | 9/16 | 2 1/4 | 5 | — |
| **2CH0625IR075A** | **—** | 5/8 | 5/8 | 3/4 | 3 | .020 |
| **2SE0625IR075A** | **—** | 5/8 | 5/8 | 3/4 | 3 | — |
| **2CH0625IL125A** | **2CH0625IL125B** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .020 |
| **2SE0625IL125A** | **2SE0625IL125B** | 5/8 | 5/8 | 1 1/4 | 3 1/2 | — |
| **2CH0625IX225A** | **2CH0625IX225B** | 5/8 | 5/8 | 2 1/4 | 5 | .020 |
| **2SE0625IX225A** | **2SE0625IX225B** | 5/8 | 5/8 | 2 1/4 | 5 | — |
| **2CH0687IR137A** | **2CH0687IR137B** | 11/16 | 3/4 | 1 3/8 | 4 | .020 |
| **2SE0687IR137A** | **2SE0687IR137B** | 11/16 | 3/4 | 1 3/8 | 4 | — |
| **2CH0750IS100A** | **—** | 3/4 | 3/4 | 1 | 3 | .020 |
| **2SE0750IS100A** | **—** | 3/4 | 3/4 | 1 | 3 | — |
| **2CH0750IR150A** | **—** | 3/4 | 3/4 | 1 1/2 | 4 | .020 |
| **2SE0750IR150A** | **—** | 3/4 | 3/4 | 1 1/2 | 4 | — |
| **2CH0750IR225A** | **2CH0750IR225B** | 3/4 | 3/4 | 2 1/4 | 5 | .020 |
| **2SE0750IR225A** | **2SE0750IR225B** | 3/4 | 3/4 | 2 1/4 | 5 | — |
| **2CH0750IL300A** | **2CH0750IL300B** | 3/4 | 3/4 | 3 | 6 | .020 |
| **2SE0750IL300A** | **2SE0750IL300B** | 3/4 | 3/4 | 3 | 6 | — |
| **2CH0750IX400A** | **2CH0750IX400B** | 3/4 | 3/4 | 4 | 7 | .020 |
| **2SE0750IX400A** | **2SE0750IX400B** | 3/4 | 3/4 | 4 | 7 | — |
| **2CH0875IR150A** | **2CH0875IR150B** | 7/8 | 7/8 | 1 1/2 | 4 | .020 |
| **2SE0875IR150A** | **2SE0875IR150B** | 7/8 | 7/8 | 1 1/2 | 4 | — |
| **2CH0875IL225A** | **2CH0875IL225B** | 7/8 | 7/8 | 2 1/4 | 5 | .020 |
| **2SE0875IL225A** | **2SE0875IL225B** | 7/8 | 7/8 | 2 1/4 | 5 | — |
| **2CH1000IS150A** | **—** | 1 | 1 | 1 1/2 | 4 | .020 |
| **2SE1000IS150A** | **—** | 1 | 1 | 1 1/2 | 4 | — |
| **2CH1000IR225A** | **2CH1000IR225B** | 1 | 1 | 2 1/4 | 5 | .020 |
| **2SE1000IR225A** | **2SE1000IR225B** | 1 | 1 | 2 1/4 | 5 | — |
| **2CH1000IL300A** | **2CH1000IL300B** | 1 | 1 | 3 | 6 | .020 |
| **2SE1000IL300A** | **2SE1000IL300B** | 1 | 1 | 3 | 6 | — |
| **2CH1000IX400A** | **2CH1000IX400B** | 1 | 1 | 4 | 7 | .020 |
| **2SE1000IX400A** | **2SE1000IX400B** | 1 | 1 | 4 | 7 | — |

NOTE: For application data, please see page Q11.

- Center cutting.

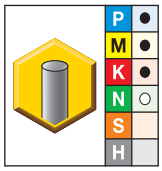




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 + / - |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## 2BN..IS-IR-IL-IX • 2 Flute • Ball Nose • Inch

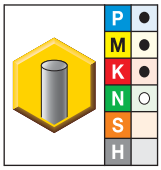



● first choice
○ alternate choice

| KC633M | D1 | D | length of cut Ap1 max | length L |
|---|---|---|---|---|
| 2BN0031IR007A | 1/32 | 1/8 | 5/64 | 1 1/2 |
| 2BN0047IR018A | 3/64 | 1/8 | 3/16 | 1 1/2 |
| 2BN0063IR018A | 1/16 | 1/8 | 3/16 | 1 1/2 |
| 2BN0094IR018A | 3/32 | 1/8 | 3/16 | 1 1/2 |
| 2BN0094IL037A | 3/32 | 1/8 | 3/8 | 1 1/2 |
| 2BN0109IR037A | 7/64 | 1/8 | 3/8 | 1 1/2 |
| 2BN0125IS025A | 1/8 | 1/8 | 1/4 | 1 1/2 |
| 2BN0125IR050A | 1/8 | 1/8 | 1/2 | 1 1/2 |
| 2BN0125IL075A | 1/8 | 1/8 | 3/4 | 2 1/4 |
| 2BN0125IX075A | 1/8 | 1/8 | 3/4 | 3 |
| 2BN0156IR031A | 5/32 | 3/16 | 5/16 | 2 |
| 2BN0156IL056A | 5/32 | 3/16 | 9/16 | 2 |
| 2BN0187IS031A | 3/16 | 3/16 | 5/16 | 1 1/2 |
| 2BN0187IR062A | 3/16 | 3/16 | 5/8 | 2 |
| 2BN0187IL075A | 3/16 | 3/16 | 3/4 | 2 1/2 |
| 2BN0187IX100A | 3/16 | 3/16 | 1 | 4 |
| 2BN0219IR062A | 7/32 | 1/4 | 5/8 | 2 1/2 |
| 2BN0250IS050A | 1/4 | 1/4 | 1/2 | 2 |
| 2BN0250IR075A | 1/4 | 1/4 | 3/4 | 2 1/2 |
| 2BN0250IR112A | 1/4 | 1/4 | 1 1/8 | 3 |
| 2BN0250IL150A | 1/4 | 1/4 | 1 1/2 | 4 |
| 2BN0250IX150A | 1/4 | 1/4 | 1 1/2 | 6 |
| 2BN0312IR081A | 5/16 | 5/16 | 13/16 | 2 1/2 |
| 2BN0312IL112A | 5/16 | 5/16 | 1 1/8 | 3 |
| 2BN0312IX150A | 5/16 | 5/16 | 1 1/2 | 6 |
| 2BN0375IS062A | 3/8 | 3/8 | 5/8 | 2 |
| 2BN0375IR087A | 3/8 | 3/8 | 7/8 | 2 1/2 |
| 2BN0375IL112A | 3/8 | 3/8 | 1 1/8 | 3 |
| 2BN0375IX300A | 3/8 | 3/8 | 3 | 6 |
| 2BN0406IR100A | 13/32 | 7/16 | 1 | 2 1/2 |
| 2BN0437IR100A | 7/16 | 7/16 | 1 | 2 1/2 |
| 2BN0500IS062A | 1/2 | 1/2 | 5/8 | 2 1/2 |

*(continued)*

*(2BN..IS-IR-IL-IX • 2 Flute • Ball Nose • Inch — continued)*

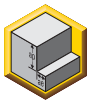


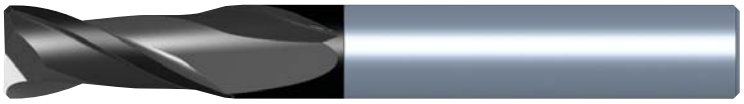

● first choice
○ alternate choice

| KC633M | D1 | D | length of cut Ap1 max | length L |
|---|---|---|---|---|
| **2BN0500IR100A** | 1/2 | 1/2 | 1 | 3 |
| **2BN0500IX150A** | 1/2 | 1/2 | 1 1/2 | 6 |
| **2BN0500IL200A** | 1/2 | 1/2 | 2 | 4 |
| **2BN0500IX300A** | 1/2 | 1/2 | 3 | 6 |
| **2BN0625IR125A** | 5/8 | 5/8 | 1 1/4 | 3 1/2 |
| **2BN0625IL225A** | 5/8 | 5/8 | 2 1/4 | 5 |
| **2BN0625IX300A** | 5/8 | 5/8 | 3 | 6 |
| **2BN0750IS100A** | 3/4 | 3/4 | 1 | 3 |
| **2BN0750IR150A** | 3/4 | 3/4 | 1 1/2 | 4 |
| **2BN0750IL200A** | 3/4 | 3/4 | 2 | 6 |
| **2BN0750IX300A** | 3/4 | 3/4 | 3 | 6 |
| **2BN0875IR150A** | 7/8 | 7/8 | 1 1/2 | 4 |
| **2BN1000IR150A** | 1 | 1 | 1 1/2 | 4 |
| **2BN1000IL300A** | 1 | 1 | 3 | 6 |

NOTE: For application data, please see page Q12.

## GOmill GP • 2SE/CH..IS-IR • 2 Flute • Short • Regular





| Material Group | | Side Milling (A) and Slotting (B) A ap | ae | B ap | KC633M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. D1 — Diameter inch | 1/64 .0156 | 1/32 .0313 | 1/16 .0625 | 5/64 .0781 | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 460 | – | 620 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 520 | IPT | .0001 | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 490 | IPT | .0001 | .0002 | .0003 | .0004 | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 380 | IPT | .0001 | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 200 | – | 260 | IPT | .0001 | .0002 | .0003 | .0004 | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 490 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 360 | – | 460 | IPT | .0001 | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 3250 | IPT | .0002 | .0003 | .0006 | .0008 | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 2450 | IPT | .0001 | .0003 | .0005 | .0006 | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 2450 | IPT | .0001 | .0003 | .0006 | .0007 | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

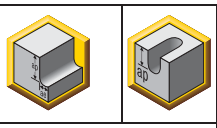
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

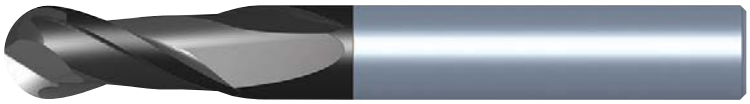
## GOmill GP • 2SE/CH..IL-IX • 2 Flute • Long • Extra Long

| Material Group | | Side Milling (A) A ap | ae | KC633M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). D1 — Diameter inch | 1/16 .0156 | 5/64 .0781 | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 460 | – | 620 | IPT | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 390 | – | 520 | IPT | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 300 | – | 490 | IPT | .0003 | .0004 | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 300 | – | 380 | IPT | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 200 | – | 260 | IPT | .0003 | .0004 | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 390 | – | 490 | IPT | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 360 | – | 460 | IPT | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 820 | – | 3250 | IPT | .0006 | .0008 | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0005 | .0006 | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0006 | .0007 | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## GOmill GP • 2BN..IS-IR • 2 Flute • Ball Nose • Short • Regular

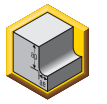
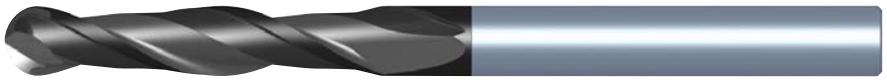




| Material Group | | Side Milling (A) and Slotting (B) | | | KC633M | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | | | | | | | | | |
| | | ap | ae | ap | min | | max | inch | 1/32 .0313 | 1/16 .0625 | 5/64 .0781 | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
| P | 0 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 460 | – | 620 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 520 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 490 | IPT | .0002 | .0003 | .0004 | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 380 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 200 | – | 260 | IPT | .0002 | .0003 | .0004 | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 490 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 360 | – | 460 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 3250 | IPT | .0003 | .0006 | .0008 | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 2450 | IPT | .0003 | .0005 | .0006 | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 2450 | IPT | .0003 | .0006 | .0007 | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## GOmill GP • 2BN..IL-IX • 2 Flute • Ball Nose • Long • Extra Long

| Material Group | | Side Milling (A) | | KC633M | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | D1 — Diameter | | | | | | | | | |
| | | ap | ae | min | | max | inch | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
| P | 0 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 460 | – | 620 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 390 | – | 520 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 300 | – | 490 | IPT | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 300 | – | 380 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 200 | – | 260 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 390 | – | 490 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 360 | – | 460 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 820 | – | 3250 | IPT | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

# NOVO KNOWS CAD/CAM

With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

# GOmill™ GP General Purpose Solid Carbide End Mills · 3 Flute

## Primary Application

GOmill GP system offers plunging, slotting, and profiling with long tool life on a wide range of materials. Designed to provide high Metal Removal Rates (MRR) and to achieve good surface conditions at excellent cost-benefit ratio. A wide range of diameters and lengths with sharp edge are available from stock.

- Roughing and finishing with one tool.
- Excellent cost-benefit ratio.
- Multilayer KC633M™ grades for long tool life.

## Features and Benefits

### Advanced Technology

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory.
- Eccentric relief increases edge stability for longer tool life and better surface quality.
- Eccentric relief eases regrinding and enables higher flexibility and lower reconditioning cost.
- 3-flute design for maximum manufacturing flexibility.

### Tailored Grade

- Universal multilayer KC633M coating for cutting steel, cast iron, and stainless steel (wet).

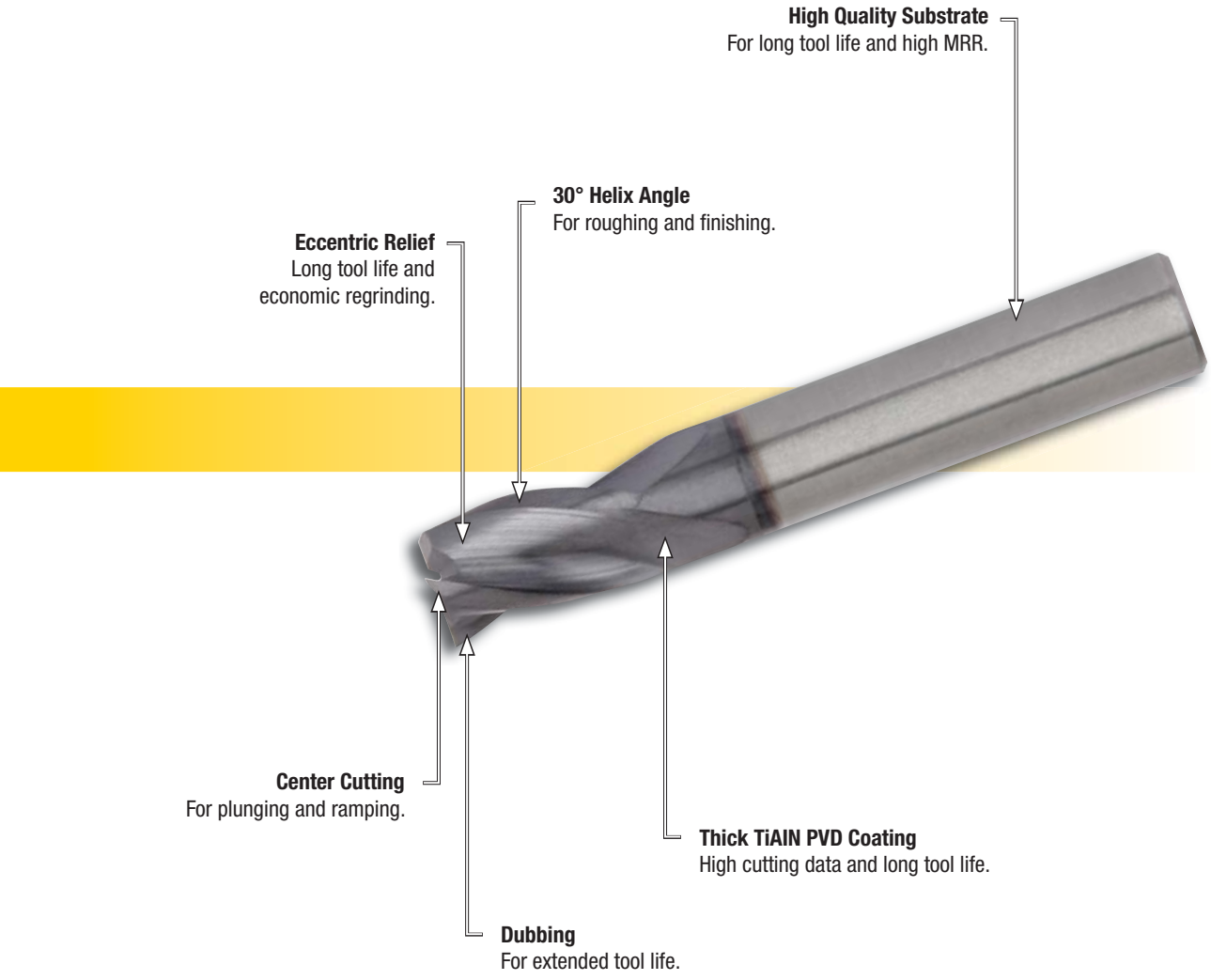
### Customization

- Intermediate diameters available.

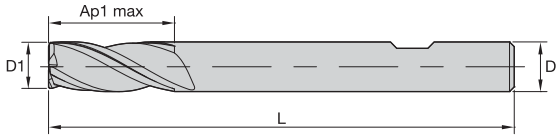
### Extensive Standard Offering

- Diameter range 1/32–1".
- Sharp edge as standard offering.
- Four different lengths as factory standards in stock.

# Designed for roughing and finishing with one tool at an economical price.



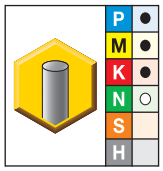
- Center cutting.

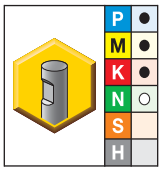


**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## 3SE..IS-IR-IL-IX • 3 Flute • Inch



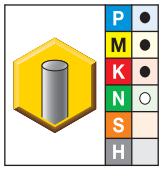



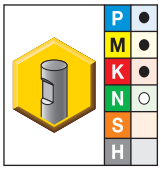

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L |
|---|---|---|---|---|---|
| 3SE0031IR007A | – | 1/32 | 1/8 | 5/64 | 1 1/2 |
| 3SE0047IR011A | – | 3/64 | 1/8 | 7/64 | 1 1/2 |
| 3SE0062IR019A | – | 1/16 | 1/8 | 3/16 | 1 1/2 |
| 3SE0078IR011A | – | 5/64 | 1/8 | 7/64 | 1 1/2 |
| 3SE0094IR037A | – | 3/32 | 1/8 | 3/8 | 1 1/2 |
| 3SE0109IR037A | – | 7/64 | 1/8 | 3/8 | 1 1/2 |
| 3SE0125IR025A | – | 1/8 | 1/8 | 1/4 | 1 1/2 |
| 3SE0125IL050A | – | 1/8 | 1/8 | 1/2 | 2 1/2 |
| 3SE0125IX062A | – | 1/8 | 1/8 | 5/8 | 3 |
| 3SE0156IR056A | – | 5/32 | 3/16 | 9/16 | 2 |
| 3SE0188IS031A | – | 3/16 | 3/16 | 5/16 | 2 |
| 3SE0188IR056A | – | 3/16 | 3/16 | 9/16 | 2 |
| 3SE0188IL062A | – | 3/16 | 3/16 | 5/8 | 3 |
| 3SE0188IX100A | – | 3/16 | 3/16 | 1 | 4 |
| 3SE0219IR062A | – | 7/32 | 1/4 | 5/8 | 2 1/2 |
| 3SE0219IL075A | – | 7/32 | 1/4 | 3/4 | 2 1/2 |
| 3SE0250IS050A | – | 1/4 | 1/4 | 1/2 | 2 |
| 3SE0250IR075A | – | 1/4 | 1/4 | 3/4 | 2 1/2 |
| 3SE0250IL100A | – | 1/4 | 1/4 | 1 | 3 |
| 3SE0250IX150A | – | 1/4 | 1/4 | 1 1/2 | 4 |
| 3SE0281IR075A | – | 9/32 | 5/16 | 3/4 | 2 1/2 |
| 3SE0281IL081A | – | 9/32 | 5/16 | 13/16 | 2 1/2 |
| 3SE0312IR050A | – | 5/16 | 5/16 | 1/2 | 2 |
| 3SE0312IL081A | – | 5/16 | 5/16 | 13/16 | 2 1/2 |
| 3SE0375IS050A | – | 3/8 | 3/8 | 1/2 | 2 |
| 3SE0375IR088A | – | 3/8 | 3/8 | 7/8 | 2 1/2 |
| 3SE0375IL100A | – | 3/8 | 3/8 | 1 | 2 1/2 |
| 3SE0375IX112A | – | 3/8 | 3/8 | 1 1/8 | 3 |
| 3SE0437IR062A | – | 7/16 | 7/16 | 5/8 | 2 1/2 |
| 3SE0437IL088A | – | 7/16 | 7/16 | 7/8 | 2 1/2 |
| 3SE0437IX100A | – | 7/16 | 7/16 | 1 | 2 1/2 |
| 3SE0500IR100A | – | 1/2 | 1/2 | 1 | 3 |

*(continued)*

*(3SE..IS-IR-IL-IX • 3 Flute • Inch — continued)*



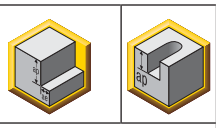




● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L |
|---|---|---|---|---|---|
| **3SE0500IL200A** | **–** | 1/2 | 1/2 | 2 | 4 |
| **3SE0563IR112A** | **3SE0563IR112B** | 9/16 | 5/8 | 1 1/8 | 3 1/2 |
| **3SE0625IR075A** | **3SE0625IR075B** | 5/8 | 5/8 | 3/4 | 3 |
| **3SE0625IL125A** | **3SE0625IL125B** | 5/8 | 5/8 | 1 1/4 | 3 1/2 |
| **3SE0750IR100A** | **–** | 3/4 | 3/4 | 1 | 3 |
| **3SE0750IL150A** | **3SE0750IL150B** | 3/4 | 3/4 | 1 1/2 | 4 |
| **3SE0750IX225A** | **3SE0750IX225B** | 3/4 | 3/4 | 2 1/4 | 5 |
| **3SE1000IR150A** | **–** | 1 | 1 | 1 1/2 | 4 |
| **3SE1000IX225A** | **3SE1000IX225B** | 1 | 1 | 2 1/4 | 5 |

NOTE: For application data, please see pages Q18–Q19.

## GOmill • 3SE..IS-IR • 3 Flute • Short • Regular



| Material Group | | Side Milling (A) and Slotting (B) | | | KC633M | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | B | Cutting Speed — vc SFM | | | | D1 — Diameter | | | | | | | | | | | | |
| | | | | | | | | frac. | 1/32 | 1/16 | 5/64 | 3/32 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | ap | min | | max | dec. | .0313 | .0625 | .0781 | .0938 | .1250 | .1875 | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | 2.0 x D | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0002 | .0005 | .0006 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 2.0 x D | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0002 | .0005 | .0006 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 2.0 x D | 0.1 x D | 0.5 x D | 460 | – | 620 | IPT | .0002 | .0005 | .0006 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 2.0 x D | 0.1 x D | 0.5 x D | 390 | – | 520 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 2.0 x D | 0.1 x D | 0.5 x D | 300 | – | 490 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0014 | .0017 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | 2.0 x D | 0.1 x D | 0.5 x D | 300 | – | 380 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 2.0 x D | 0.1 x D | 0.5 x D | 200 | – | 260 | IPT | .0002 | .0003 | .0004 | .0005 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | 2.0 x D | 0.1 x D | 0.5 x D | 390 | – | 490 | IPT | .0002 | .0005 | .0006 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 2.0 x D | 0.1 x D | 0.5 x D | 360 | – | 460 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | 2.0 x D | 0.1 x D | 0.5 x D | 820 | – | 3250 | IPT | .0003 | .0007 | .0008 | .0010 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | 2.0 x D | 0.1 x D | 0.5 x D | 820 | – | 3250 | IPT | .0003 | .0005 | .0006 | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | 2.0 x D | 0.1 x D | 0.5 x D | 820 | – | 3250 | IPT | .0003 | .0006 | .0007 | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters >1/2".

## GOmill • 3SE..IL-IX • 3 Flute • Long • Extra Long

| Material Group | | Side Milling (A) | | KC633M | | | Recommended feed per tooth (IPT = inch/th) for side milling (A). | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | Cutting Speed — vc SFM | | | | D1 — Diameter | | | | | | | |
| | | | | | | | frac. | 1/8 | 5/32 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| | | ap | ae | min | | max | dec. | .1250 | .1563 | .2500 | .3125 | .3750 | .5000 | .6250 | .7500 | 1.0000 |
| P | 0 | 2.0 x D | 0.1 x D | 490 | – | 660 | IPT | .0009 | .0011 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 1 | 2.0 x D | 0.1 x D | 490 | – | 660 | IPT | .0009 | .0011 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 2.0 x D | 0.1 x D | 460 | – | 620 | IPT | .0009 | .0011 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 3 | 2.0 x D | 0.1 x D | 390 | – | 520 | IPT | .0007 | .0009 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | 2.0 x D | 0.1 x D | 300 | – | 490 | IPT | .0007 | .0008 | .0014 | .0017 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | 2.0 x D | 0.1 x D | 300 | – | 380 | IPT | .0007 | .0009 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | 2.0 x D | 0.1 x D | 200 | – | 260 | IPT | .0006 | .0007 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | 2.0 x D | 0.1 x D | 390 | – | 490 | IPT | .0009 | .0011 | .0018 | .0023 | .0027 | .0034 | .0039 | .0044 | .0049 |
| | 2 | 2.0 x D | 0.1 x D | 360 | – | 460 | IPT | .0007 | .0009 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | 2.0 x D | 0.1 x D | 820 | – | 3250 | IPT | .0013 | .0016 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | 2.0 x D | 0.1 x D | 820 | – | 2450 | IPT | .0010 | .0013 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | 2.0 x D | 0.1 x D | 820 | – | 2450 | IPT | .0011 | .0014 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters >1/2".

# GOmill™ GP General Purpose Solid Carbide End Mills · 4 Flute

### Primary Application

GOmill GP system offers plunging, slotting, and profiling with long tool life in a wide range of workpiece materials. These end mills are designed to provide high Metal Removal Rates (MRR) and to achieve good surface quality at an excellent cost-benefit ratio. A wide range of diameters and lengths are available with chamfered edge and ball nose as stocked standard.

- Roughing and finishing with one tool.
- Excellent cost-benefit ratio.
- Multilayer KC633M™ grades for long tool life.

## Features and Benefits

### Advanced Technology

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory.
- Eccentric relief increases edge stability for longer tool life and better surface quality.
- Eccentric relief eases regrinding and reduces reconditioning cost.
- 4-flute design for high MRR and reduced machining time.

### Tailored Grades

- Universal multilayer KC633M coating for cutting steel, cast iron, and stainless steel (wet).

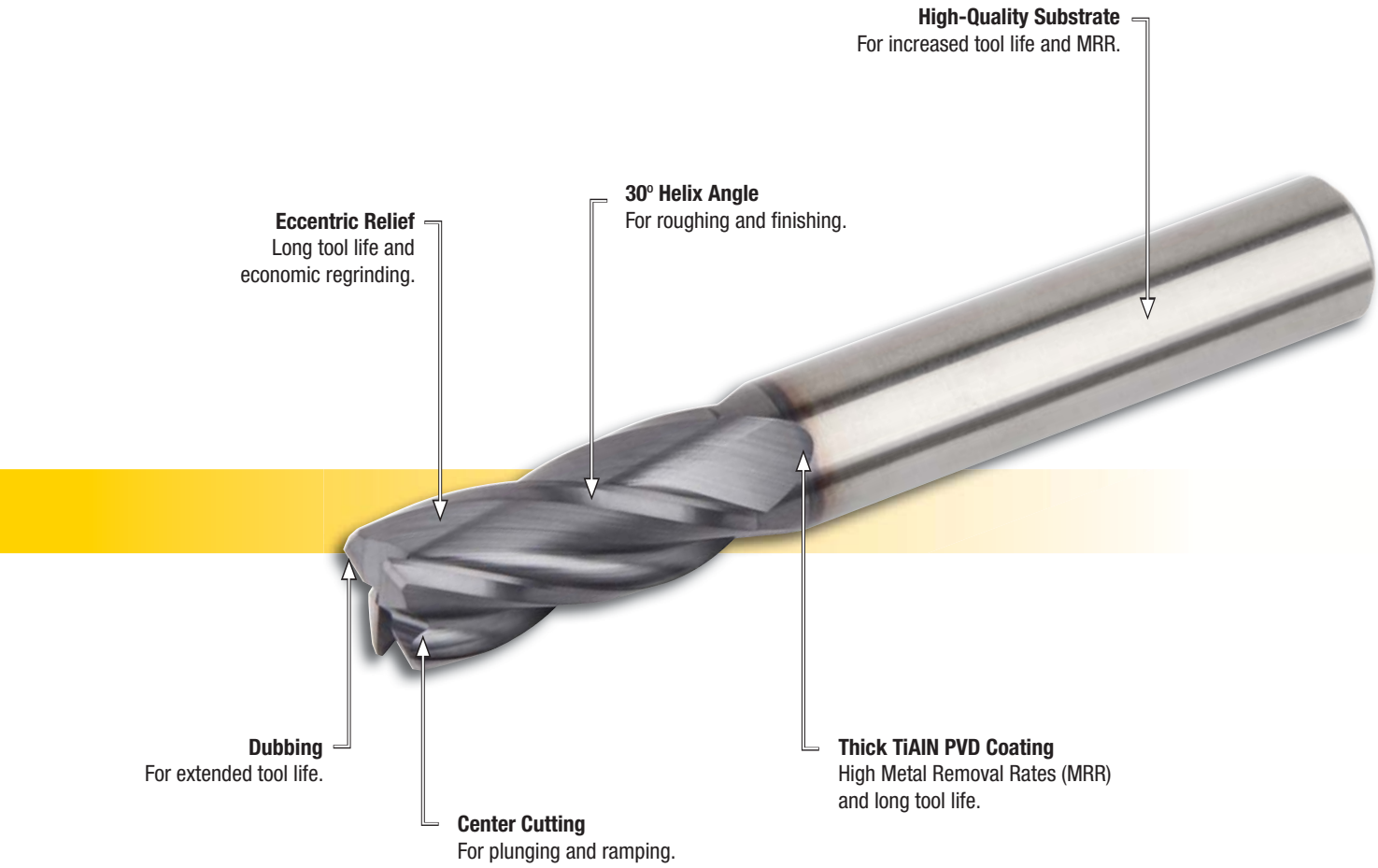
### Customization

- Intermediate diameters available.

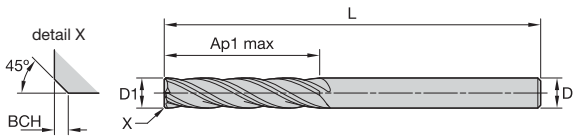
### Extensive Standard Offering

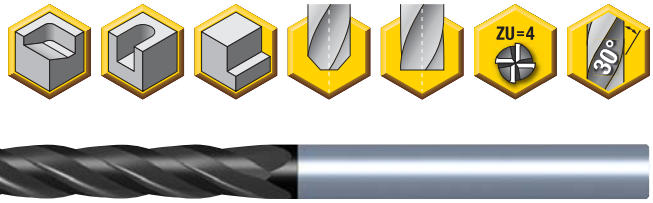
- Diameter range 1/64–1".
- Sharp edge, chamfer edge, and ball nose as standard offering.

# Designed for roughing and finishing with one tool at a value price.



- Center cutting.

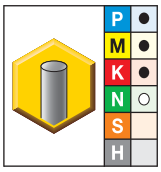


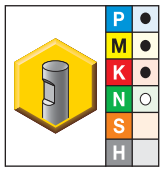




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## 4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch



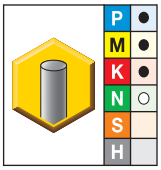



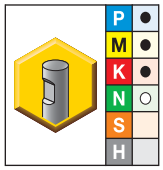

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| **4SE0015IR003A** | – | 1/64 | 1/8 | 1/32 | 1 1/2 | – |
| **4SE0031IR008A** | – | 1/32 | 1/8 | 5/64 | 1 1/2 | – |
| **4SE0062IR010A** | – | 1/16 | 1/8 | 7/64 | 1 1/2 | – |
| **4SE0078IR018A** | – | 5/64 | 1/8 | 3/16 | 1 1/2 | – |
| **4SE0093IR037A** | – | 3/32 | 1/8 | 3/8 | 1 1/2 | – |
| **4SE0093IL062A** | – | 3/32 | 1/8 | 5/8 | 2 | – |
| **4SE0109IR037A** | – | 7/64 | 1/8 | 3/8 | 1 1/2 | – |
| **4CH0125IS025A** | – | 1/8 | 1/8 | 1/4 | 1 1/2 | .010 |
| **4SE0125IS025A** | – | 1/8 | 1/8 | 1/4 | 1 1/2 | – |
| **4CH0125IR050A** | – | 1/8 | 1/8 | 1/2 | 1 1/2 | .010 |
| **4SE0125IR050A** | – | 1/8 | 1/8 | 1/2 | 1 1/2 | – |
| **4CH0125IL075A** | – | 1/8 | 1/8 | 3/4 | 2 1/4 | .010 |
| **4SE0125IL075A** | – | 1/8 | 1/8 | 3/4 | 2 1/4 | – |
| **4CH0125IX100A** | – | 1/8 | 1/8 | 1 | 3 | .010 |
| **4SE0125IX100A** | – | 1/8 | 1/8 | 1 | 3 | – |
| **4CH0140IR056A** | – | 9/64 | 3/16 | 9/16 | 2 | .010 |
| **4SE0140IR056A** | – | 9/64 | 3/16 | 9/16 | 2 | – |
| **4CH0156IR056A** | – | 5/32 | 3/16 | 9/16 | 2 | .010 |
| **4SE0156IR056A** | – | 5/32 | 3/16 | 9/16 | 2 | – |
| **4CH0187IR062A** | – | 3/16 | 3/16 | 5/8 | 2 | .010 |
| **4SE0187IR062A** | – | 3/16 | 3/16 | 5/8 | 2 | – |
| **4CH0187IS075A** | – | 3/16 | 3/16 | 3/4 | 1 1/2 | .010 |
| **4SE0187IS075A** | – | 3/16 | 3/16 | 3/4 | 1 1/2 | – |
| **4CH0187IL075A** | – | 3/16 | 3/16 | 3/4 | 2 1/2 | .010 |
| **4SE0187IL075A** | – | 3/16 | 3/16 | 3/4 | 2 1/2 | – |
| **4CH0187IX112A** | – | 3/16 | 3/16 | 1 1/8 | 3 | .010 |
| **4SE0187IX112A** | – | 3/16 | 3/16 | 1 1/8 | 3 | – |
| **4CH0203IR062A** | – | 13/64 | 1/4 | 5/8 | 2 1/2 | .016 |
| **4SE0203IR062A** | – | 13/64 | 1/4 | 5/8 | 2 1/2 | – |
| **4CH0218IR043A** | – | 7/32 | 1/4 | 7/16 | 2 | .016 |
| **4SE0218IR043A** | – | 7/32 | 1/4 | 7/16 | 2 | – |
| **4CH0218IL062A** | – | 7/32 | 1/4 | 5/8 | 2 1/2 | .016 |

*(continued)*

*(4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch — continued)*



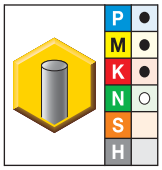



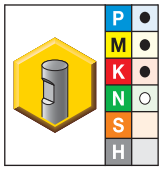

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| 4SE0218IL062A | – | 7/32 | 1/4 | 5/8 | 2 1/2 | – |
| 4CH0234IR075A | – | 15/64 | 1/4 | 3/4 | 2 1/2 | .016 |
| 4SE0234IR075A | – | 15/64 | 1/4 | 3/4 | 2 1/2 | – |
| 4CH0250IS050A | – | 1/4 | 1/4 | 1/2 | 2 | .016 |
| 4SE0250IS050A | – | 1/4 | 1/4 | 1/2 | 2 | – |
| 4CH0250IR075A | – | 1/4 | 1/4 | 3/4 | 2 1/2 | .016 |
| 4SE0250IR075A | – | 1/4 | 1/4 | 3/4 | 2 1/2 | – |
| 4CH0250IL112A | – | 1/4 | 1/4 | 1 1/8 | 3 | .016 |
| 4SE0250IL112A | – | 1/4 | 1/4 | 1 1/8 | 3 | – |
| 4CH0250IX150A | – | 1/4 | 1/4 | 1 1/2 | 4 | .016 |
| 4SE0250IX150A | – | 1/4 | 1/4 | 1 1/2 | 4 | – |
| 4CH0265IR075A | – | 17/64 | 5/16 | 3/4 | 2 1/2 | .016 |
| 4SE0265IR075A | – | 17/64 | 5/16 | 3/4 | 2 1/2 | – |
| 4CH0281IR075A | – | 9/32 | 5/16 | 3/4 | 2 1/2 | .016 |
| 4SE0281IR075A | – | 9/32 | 5/16 | 3/4 | 2 1/2 | – |
| 4CH0296IR081A | – | 19/64 | 5/16 | 13/16 | 2 1/2 | .016 |
| 4SE0296IR081A | – | 19/64 | 5/16 | 13/16 | 2 1/2 | – |
| 4CH0312IS050A | – | 5/16 | 5/16 | 1/2 | 2 | .016 |
| 4SE0312IS050A | – | 5/16 | 5/16 | 1/2 | 2 | – |
| 4CH0312IR081A | – | 5/16 | 5/16 | 13/16 | 2 1/2 | .016 |
| 4SE0312IR081A | – | 5/16 | 5/16 | 13/16 | 2 1/2 | – |
| 4CH0312IL112A | – | 5/16 | 5/16 | 1 1/8 | 3 | .016 |
| 4SE0312IL112A | – | 5/16 | 5/16 | 1 1/8 | 3 | – |
| 4CH0312IX162A | – | 5/16 | 5/16 | 1 5/8 | 4 | .016 |
| 4SE0312IX162A | – | 5/16 | 5/16 | 1 5/8 | 4 | – |
| 4CH0328IR100A | – | 21/64 | 3/8 | 1 | 2 1/2 | .020 |
| 4SE0328IR100A | – | 21/64 | 3/8 | 1 | 2 1/2 | – |
| 4CH0343IR100A | – | 11/32 | 3/8 | 1 | 2 1/2 | .020 |
| 4SE0343IR100A | – | 11/32 | 3/8 | 1 | 2 1/2 | – |
| 4CH0359IR100A | – | 23/64 | 3/8 | 1 | 2 1/2 | .020 |
| 4SE0359IR100A | – | 23/64 | 3/8 | 1 | 2 1/2 | – |
| 4CH0375IS062A | – | 3/8 | 3/8 | 5/8 | 2 | .020 |
| 4SE0375IS062A | – | 3/8 | 3/8 | 5/8 | 2 | – |
| 4CH0375IR100A | – | 3/8 | 3/8 | 1 | 2 1/2 | .020 |
| 4SE0375IR100A | – | 3/8 | 3/8 | 1 | 2 1/2 | – |
| 4CH0375IL112A | – | 3/8 | 3/8 | 1 1/8 | 3 | .020 |
| 4SE0375IL112A | – | 3/8 | 3/8 | 1 1/8 | 3 | – |
| 4CH0375IX175A | – | 3/8 | 3/8 | 1 3/4 | 4 | .020 |
| 4SE0375IX175A | – | 3/8 | 3/8 | 1 3/4 | 4 | – |
| 4CH0390IR100A | – | 25/64 | 7/16 | 1 | 2 3/4 | .020 |
| 4SE0390IR100A | – | 25/64 | 7/16 | 1 | 2 3/4 | – |
| 4CH0406IR100A | – | 13/32 | 7/16 | 1 | 2 3/4 | .020 |
| 4SE0406IR100A | – | 13/32 | 7/16 | 1 | 2 3/4 | – |
| 4CH0421IR100A | – | 27/64 | 7/16 | 1 | 2 3/4 | .020 |
| 4SE0421IR100A | – | 27/64 | 7/16 | 1 | 2 3/4 | – |
| 4CH0437IS100A | – | 7/16 | 7/16 | 1 | 2 1/2 | .020 |
| 4SE0437IS100A | – | 7/16 | 7/16 | 1 | 2 1/2 | – |
| 4CH0437IR100A | – | 7/16 | 7/16 | 1 | 2 3/4 | .020 |
| 4SE0437IR100A | – | 7/16 | 7/16 | 1 | 2 3/4 | – |
| 4CH0437IL200A | – | 7/16 | 7/16 | 2 | 4 | .020 |
| 4SE0437IL200A | – | 7/16 | 7/16 | 2 | 4 | – |
| 4CH0437IX300A | – | 7/16 | 7/16 | 3 | 6 | .020 |

*(continued)*

*(4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch — continued)*



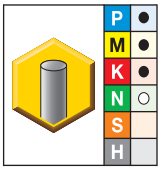



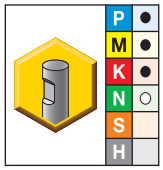

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| 4SE0437IX300A | – | 7/16 | 7/16 | 3 | 6 | – |
| 4CH0453IR100A | – | 29/64 | 1/2 | 1 | 3 | .020 |
| 4SE0453IR100A | – | 29/64 | 1/2 | 1 | 3 | – |
| 4CH0468IR100A | – | 15/32 | 1/2 | 1 | 3 | .020 |
| 4SE0468IR100A | – | 15/32 | 1/2 | 1 | 3 | – |
| 4CH0484IR100A | – | 31/64 | 1/2 | 1 | 3 | .020 |
| 4SE0484IR100A | – | 31/64 | 1/2 | 1 | 3 | – |
| 4CH0500IS062A | – | 1/2 | 1/2 | 5/8 | 2 1/2 | .020 |
| 4SE0500IS062A | – | 1/2 | 1/2 | 5/8 | 2 1/2 | – |
| 4CH0500IR100A | 4CH0500IR100B | 1/2 | 1/2 | 1 | 3 | .020 |
| 4SE0500IR100A | 4SE0500IR100B | 1/2 | 1/2 | 1 | 3 | – |
| 4CH0500IL200A | 4CH0500IL200B | 1/2 | 1/2 | 2 | 4 | .020 |
| 4SE0500IL200A | 4SE0500IL200B | 1/2 | 1/2 | 2 | 4 | – |
| 4CH0500IX300A | – | 1/2 | 1/2 | 3 | 6 | .020 |
| 4SE0500IX300A | – | 1/2 | 1/2 | 3 | 6 | – |
| 4CH0562IR075A | – | 9/16 | 9/16 | 3/4 | 3 | .020 |
| 4SE0562IR075A | – | 9/16 | 9/16 | 3/4 | 3 | – |
| 4CH0562IL125A | 4CH0562IL125B | 9/16 | 9/16 | 1 1/4 | 3 1/2 | .020 |
| 4SE0562IL125A | 4SE0562IL125B | 9/16 | 9/16 | 1 1/4 | 3 1/2 | – |
| 4CH0562IX225A | – | 9/16 | 9/16 | 2 1/4 | 5 | .020 |
| 4SE0562IX225A | – | 9/16 | 9/16 | 2 1/4 | 5 | – |
| 4CH0625IS075A | – | 5/8 | 5/8 | 3/4 | 3 | .020 |
| 4SE0625IS075A | – | 5/8 | 5/8 | 3/4 | 3 | – |
| 4CH0625IR125A | 4CH0625IR125B | 5/8 | 5/8 | 1 1/4 | 3 1/2 | .020 |
| 4SE0625IR125A | 4SE0625IR125B | 5/8 | 5/8 | 1 1/4 | 3 1/2 | – |
| 4CH0625IL225A | 4CH0625IL225B | 5/8 | 5/8 | 2 1/4 | 5 | .020 |
| 4SE0625IL225A | 4SE0625IL225B | 5/8 | 5/8 | 2 1/4 | 5 | – |
| 4CH0625IX400A | – | 5/8 | 5/8 | 4 | 7 | .020 |
| 4SE0625IX400A | – | 5/8 | 5/8 | 4 | 7 | – |
| 4CH0687IR137A | – | 11/16 | 3/4 | 1 3/8 | 4 | .020 |
| 4SE0687IR137A | – | 11/16 | 3/4 | 1 3/8 | 4 | – |
| 4SE0750IS100A | – | 3/4 | 3/4 | 1 | 3 | – |
| 4CH0750IR150A | 4CH0750IR150B | 3/4 | 3/4 | 1 1/2 | 4 | .020 |
| 4SE0750IR150A | 4SE0750IR150B | 3/4 | 3/4 | 1 1/2 | 4 | – |
| 4CH0750IR225A | 4CH0750IR225B | 3/4 | 3/4 | 2 1/4 | 5 | .020 |
| 4SE0750IR225A | 4SE0750IR225B | 3/4 | 3/4 | 2 1/4 | 5 | – |
| 4CH0750IL300A | 4CH0750IL300B | 3/4 | 3/4 | 3 | 6 | .020 |
| 4SE0750IL300A | 4SE0750IL300B | 3/4 | 3/4 | 3 | 6 | – |
| 4CH0750IX400A | – | 3/4 | 3/4 | 4 | 7 | .020 |
| 4SE0750IX400A | – | 3/4 | 3/4 | 4 | 7 | – |

*(continued)*

*(4SE-4CH..IS-IR-IL-IX • 4 Flute • Inch — continued)*



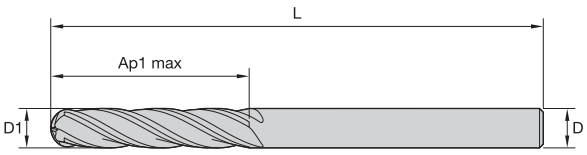



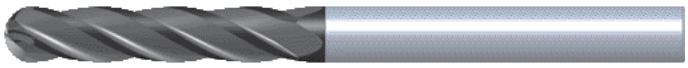

● first choice
○ alternate choice

| KC633M | KC633M | D1 | D | length of cut Ap1 max | length L | BCH |
|---|---|---|---|---|---|---|
| **4CH0875IR150A** | **4CH0875IR150B** | 7/8 | 7/8 | 1 1/2 | 4 | .020 |
| **4SE0875IR150A** | **4SE0875IR150B** | 7/8 | 7/8 | 1 1/2 | 4 | – |
| **4CH0875IL225A** | **4CH0875IL225B** | 7/8 | 7/8 | 2 1/4 | 5 | .020 |
| **4SE0875IL225A** | **4SE0875IL225B** | 7/8 | 7/8 | 2 1/4 | 5 | – |
| **4CH1000IS150A** | **–** | 1 | – | 1 1/2 | 4 | .020 |
| **4CH1000IR225A** | **4CH1000IR225B** | 1 | – | 2 1/4 | 5 | .020 |
| **4CH1000IL300A** | **4CH1000IL300B** | 1 | – | 3 | 6 | .020 |
| **4CH1000IX400A** | **–** | 1 | – | 4 | 7 | .020 |
| **4SE1000IS150A** | **–** | 1 | 1 | 1 1/2 | 4 | – |
| **4SE1000IR225A** | **4SE1000IR225B** | 1 | 1 | 2 1/4 | 5 | – |
| **4SE1000IL300A** | **4SE1000IL300B** | 1 | 1 | 3 | 6 | – |
| **4SE1000IX400A** | **–** | 1 | 1 | 4 | 7 | – |

NOTE: For application data, please see page Q28.

- Center cutting.

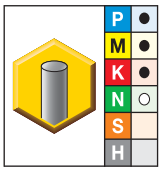




**End Mill Tolerances**

| D1 | tolerance | D | tolerance h6 |
|---|---|---|---|
| All | +.000/- .002" | ≤1/8" | +0/-.00024" |
| | | >1/8–1/4" | +0/-.00031" |
| | | >1/4–3/8" | +0/-.00035" |
| | | >3/8–23/32" | +0/-.00043" |
| | | >23/32–1 3/16" | +0/-.00051" |

## 4BN..IS-IR-IL-IX • 4 Flute • Ball Nose • Inch

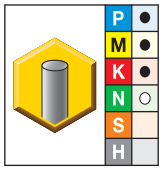



● first choice
○ alternate choice

| KC633M | D1 | D | length of cut Ap1 max | length L |
|---|---|---|---|---|
| 4BN0031IR008A | 1/32 | 1/8 | 5/64 | 1 1/2 |
| 4BN0047IR012A | 3/64 | 1/8 | 1/8 | 1 1/2 |
| 4BN0062IR019A | 1/16 | 1/8 | 3/16 | 1 1/2 |
| 4BN0078IR019A | 5/64 | 1/8 | 3/16 | 1 1/2 |
| 4BN0094IR019A | 3/32 | 1/8 | 3/16 | 1 1/2 |
| 4BN0094IL037A | 3/32 | 1/8 | 3/8 | 1 1/2 |
| 4BN0109IR037A | 7/64 | 1/8 | 3/8 | 1 1/2 |
| 4BN0125IS025A | 1/8 | 1/8 | 1/4 | 1 1/2 |
| 4BN0125IR050A | 1/8 | 1/8 | 1/2 | 1 1/2 |
| 4BN0125IL075A | 1/8 | 1/8 | 3/4 | 2 1/4 |
| 4BN0125IX075A | 1/8 | 1/8 | 3/4 | 3 |
| 4BN0141IR056A | 9/64 | 3/16 | 9/16 | 2 |
| 4BN0156IR056A | 5/32 | 3/16 | 9/16 | 2 |
| 4BN0172IR062A | 11/64 | 3/16 | 5/8 | 2 |
| 4BN0187IR031A | 3/16 | 3/16 | 5/16 | 1 1/2 |
| 4BN0187IL062A | 3/16 | 3/16 | 5/8 | 2 |
| 4BN0187IX100A | 3/16 | 3/16 | 1 | 4 |
| 4BN0203IR062A | 13/64 | 1/4 | 5/8 | 2 1/2 |
| 4BN0219IR062A | 7/32 | 1/4 | 5/8 | 2 1/2 |
| 4BN0234IR075A | 15/64 | 1/4 | 3/4 | 2 1/2 |
| 4BN0250IS050A | 1/4 | 1/4 | 1/2 | 2 |
| 4BN0250IR075A | 1/4 | 1/4 | 3/4 | 2 1/2 |
| 4BN0250IR112A | 1/4 | 1/4 | 1 1/8 | 3 |
| 4BN0250IL150A | 1/4 | 1/4 | 1 1/2 | 4 |
| 4BN0250IX150A | 1/4 | 1/4 | 1 1/2 | 6 |
| 4BN0281IR075A | 9/32 | 5/16 | 3/4 | 2 1/2 |
| 4BN0312IS050A | 5/16 | 5/16 | 1/2 | 2 |
| 4BN0312IR081A | 5/16 | 5/16 | 13/16 | 2 1/2 |
| 4BN0312IL112A | 5/16 | 5/16 | 1 1/8 | 3 |
| 4BN0312IX162A | 5/16 | 5/16 | 1 5/8 | 4 |
| 4BN0344IR100A | 11/32 | 3/8 | 1 | 2 1/2 |
| 4BN0375IS100A | 3/8 | 3/8 | 1 | 2 1/2 |

*(continued)*

*(4BN..IS-IR-IL-IX • 4 Flute • Ball Nose • Inch — continued)*

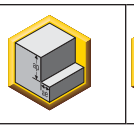



● first choice
○ alternate choice

| KC633M | D1 | D | length of cut Ap1 max | length L |
|---|---|---|---|---|
| **4BN0375IL112A** | 3/8 | 3/8 | 1 1/8 | 3 |
| **4BN0375IR100A** | 3/8 | 3/8 | 1 | 4 |
| **4BN0375IX150A** | 3/8 | 3/8 | 1 1/2 | 6 |
| **4BN0437IR100A** | 7/16 | 1/2 | 1 | 2 1/2 |
| **4BN0500IS100A** | 1/2 | 1/2 | 1 | 3 |
| **4BN0500IR100A** | 1/2 | 1/2 | 1 | 4 |
| **4BN0500IX150A** | 1/2 | 1/2 | 1 1/2 | 6 |
| **4BN0500IR200A** | 1/2 | 1/2 | 2 | 4 |
| **4BN0500IL200A** | 1/2 | 1/2 | 2 | 4 1/2 |
| **4BN0500IX300A** | 1/2 | 1/2 | 3 | 6 |
| **4BN0562IR125A** | 9/16 | 9/16 | 1 1/4 | 3 1/2 |
| **4BN0625IR125A** | 5/8 | 5/8 | 1 1/4 | 3 1/2 |
| **4BN0625IL225A** | 5/8 | 5/8 | 2 1/4 | 5 |
| **4BN0750IR150A** | 3/4 | 3/4 | 1 1/2 | 4 |
| **4BN0750IL300A** | 3/4 | 3/4 | 3 | 6 |
| **4BN0875IR150A** | 7/8 | 7/8 | 1 1/2 | 4 |
| **4BN1000IR150A** | 1 | 1 | 1 1/2 | 4 |
| **4BN1000IL225A** | 1 | 1 | 2 1/4 | 5 |

NOTE: For application data, please see page Q29.

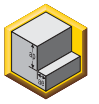
## GOmill GP • 4SE/CH..IS-IR • 4 Flute • Short • Regular



| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC633M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. D1 — Diameter inch | 1/64 .0156 | 1/32 .0313 | 1/16 .0625 | 5/64 .0781 | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 460 | – | 620 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 520 | IPT | .0001 | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 490 | IPT | .0001 | .0002 | .0003 | .0004 | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 380 | IPT | .0001 | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 200 | – | 260 | IPT | .0001 | .0002 | .0003 | .0004 | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 490 | IPT | .0001 | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 360 | – | 460 | IPT | .0001 | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 380 | IPT | .0002 | .0003 | .0006 | .0008 | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 200 | – | 260 | IPT | .0001 | .0003 | .0005 | .0006 | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 490 | IPT | .0001 | .0003 | .0006 | .0007 | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## GOmill GP • 4SE/CH..IL-IX • 4 Flute • Long • Extra Long



| Material Group | | Side Milling (A) A ap | A ae | KC633M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). D1 — Diameter inch | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 460 | – | 620 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 390 | – | 520 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 300 | – | 490 | IPT | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 300 | – | 380 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 200 | – | 260 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 390 | – | 490 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 360 | – | 460 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 820 | – | 3250 | IPT | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## GOmill GP • 4BN..IS-IR • 4 Flute • Ball Nose • Short • Regular

| Material Group | | Side Milling (A) and Slotting (B) A ap | A ae | B ap | KC633M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%. D1 — Diameter inch | 1/32 .0313 | 1/16 .0625 | 5/64 .0781 | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 0.5 x D | 490 | – | 660 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 460 | – | 620 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 520 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 490 | IPT | .0002 | .0003 | .0004 | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 0.5 x D | 300 | – | 380 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 200 | – | 260 | IPT | .0002 | .0003 | .0004 | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 0.5 x D | 390 | – | 490 | IPT | .0002 | .0004 | .0005 | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 360 | – | 460 | IPT | .0002 | .0004 | .0004 | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 3250 | IPT | .0003 | .0006 | .0008 | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 2450 | IPT | .0003 | .0005 | .0006 | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 0.5 x D | 820 | – | 2450 | IPT | .0003 | .0006 | .0007 | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

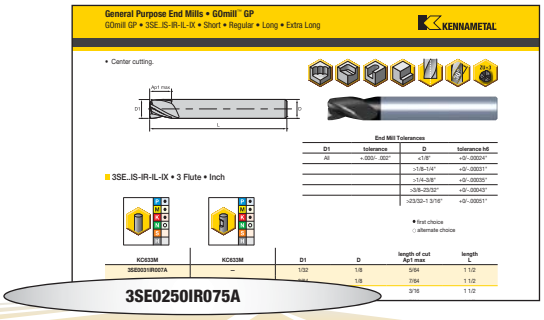
## GOmill GP • 4BN..IL-IX • 4 Flute • Ball Nose • Long • Extra Long

| Material Group | | Side Milling (A) A ap | A ae | KC633M Cutting Speed — vc SFM min | | max | Recommended feed per tooth (IPT = inch/th) for side milling (A). D1 — Diameter inch | 3/32 .0938 | 1/8 .1250 | 3/16 .1875 | 1/4 .2500 | 5/16 .3125 | 3/8 .3750 | 1/2 .5000 | 5/8 .6250 | 3/4 .7500 | 1 1.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 0 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 1 | Ap1 max | 0.1 x D | 490 | – | 660 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 460 | – | 620 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 3 | Ap1 max | 0.1 x D | 390 | – | 520 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 4 | Ap1 max | 0.1 x D | 300 | – | 490 | IPT | .0005 | .0007 | .0010 | .0014 | .0018 | .0020 | .0026 | .0030 | .0034 | .0039 |
| M | 1 | Ap1 max | 0.1 x D | 300 | – | 380 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| | 2 | Ap1 max | 0.1 x D | 200 | – | 260 | IPT | .0004 | .0006 | .0009 | .0012 | .0016 | .0018 | .0023 | .0027 | .0031 | .0036 |
| K | 1 | Ap1 max | 0.1 x D | 390 | – | 490 | IPT | .0007 | .0009 | .0014 | .0018 | .0023 | .0027 | .0034 | .0040 | .0044 | .0049 |
| | 2 | Ap1 max | 0.1 x D | 360 | – | 460 | IPT | .0005 | .0007 | .0011 | .0015 | .0020 | .0023 | .0029 | .0034 | .0039 | .0045 |
| N | 1 | Ap1 max | 0.1 x D | 820 | – | 3250 | IPT | .0009 | .0013 | .0019 | .0025 | .0031 | .0038 | .0050 | .0063 | .0075 | .0100 |
| | 2 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0008 | .0010 | .0015 | .0020 | .0025 | .0030 | .0040 | .0050 | .0060 | .0080 |
| | 4 | Ap1 max | 0.1 x D | 820 | – | 2450 | IPT | .0008 | .0011 | .0017 | .0023 | .0028 | .0034 | .0045 | .0056 | .0068 | .0090 |

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

## How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.




| 3 | SE | 0250 | IR | 075 | A |
|---|---|---|---|---|---|
| Number of Flutes | End Mill Shape | Cutting Diameter inch | Standard | Ap1 max inch | Shank Style |
| **2** = 2 Flute<br>**3** = 3 Flute<br>**4** = 4 Flute | **CH** = Chamfer Edge<br>**BN** = Ball Nose<br>**SE** = Sharp Edge | | **IS** = Factory Standard Short<br>**IR** = Factory Standard Regular<br>**IL** = Factory Standard Long<br>**IX** = Factory Standard Extra Long | | **A** = Plain Shank<br>**B** = Weldon® Shank |

| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1115547 | HEC328S4 | KC610M | 6086587 | 4SE0328IR100A | KC633M |
| 1115548 | HEC875S4 | KC610M | 6086520 | 4SE0875IR150A | KC633M |
| 1115565 | BNEC031S2 | KC610M | 5876721 | 2BN0031IR007A | KC633M |
| 1115567 | BNEC875S2 | KC610M | 5876774 | 2BN0875IR150A | KC633M |
| 1115568 | BNEC250S2113 | KC610M | 5876750 | 2BN0250IR112A | KC633M |
| 1115569 | BNEC312S2113 | KC610M | 5876754 | 2BN0312IL112A | KC633M |
| 1115570 | BNEC375S2113 | KC610M | 5876758 | 2BN0375IL112A | KC633M |
| 1115582 | BNEC016S4 | KC610M | no replacement | no replacement | no replacement |
| 1115583 | BNEC047S4 | KC610M | 5824030 | 4BN0047IR012A | KC633M |
| 1115584 | BNEC172S4 | KC610M | 5824512 | 4BN0172IR062A | KC633M |
| 1115587 | BNEC375S4113 | KC610M | 5824532 | 4BN0375IL112A | KC633M |
| 1115588 | BNEC125S4300 | KC610M | no replacement | no replacement | no replacement |
| 1115589 | HEC062S2013 | KC610M | 6086330 | 2SE0062IR012A | KC633M |
| 1115591 | HEC250S2050 | KC610M | 6086399 | 2SE0250IS050A | KC633M |
| 1115592 | HEC312S2050 | KC610M | 6086404 | 2SE0312IS050A | KC633M |
| 1115593 | HEC375S2063 | KC610M | 6086409 | 2SE0375IS062A | KC633M |
| 1115594 | HEC438S2063 | KC610M | 6086414 | 2SE0437IR062A | KC633M |
| 1115595 | HEC500S2063 | KC610M | 6086418 | 2SE0500IS062A | KC633M |
| 1115596 | HEC750S2100 | KC610M | 6086449 | 2SE0750IS100A | KC633M |
| 1115597 | HEC062S4013 | KC610M | no replacement | no replacement | no replacement |
| 1115597 | HEC062S4013 | KC610M | 5824318 | 4CH0062IR011A | KC633M |
| 1115598 | HEC125S4025 | KC610M | 6086561 | 4SE0125IS025A | KC633M |
| 1115599 | HEC156S4031 | KC610M | 6086567 | 4SE0156IR056A | KC633M |
| 1115599 | HEC156S4031 | KC610M | no replacement | no replacement | no replacement |
| 1115601 | HEC250S4050 | KC610M | 6086576 | 4SE0250IS050A | KC633M |
| 1115602 | HEC500S4063 | KC610M | 6086333 | 4SE0500IS062A | KC633M |
| 1115603 | HEC750S4100 | KC610M | 6086515 | 4SE0750IS100A | KC633M |
| 1115616 | HEC2MS2 | KC610M | 5873010 | 2CH0200MR006A | KC633M |
| 1115617 | HEC3MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115618 | HEC4MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115619 | HEC5MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115620 | HEC6MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115621 | HEC7MS2 | KC610M | 5873028 | 2CH0700MR020A | KC633M |
| 1115622 | HEC8MS2 | KC610M | 5873029 | 2CH0800MR020A | KC633M |
| 1115624 | HEC10MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115624 | HEC10MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115626 | HEC12MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115632 | HEC25MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115633 | HEC35MS2 | KC610M | 5873015 | 2CH0350MR012A | KC633M |
| 1115635 | HEC45MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115638 | HEC100S2 | KC610M | 6086456 | 2SE1000IS150A | KC633M |
| 1115640 | HEC125S2 | KC610M | 6086388 | 2SE0125IL050A | KC633M |
| 1115642 | HEC156S2 | KC610M | 6086392 | 2SE0156IL056A | KC633M |
| 1115644 | HEC188S2 | KC610M | 6086394 | 2SE0187IR062A | KC633M |
| 1115645 | HEC219S2 | KC610M | 6086398 | 2SE0218IL062A | KC633M |
| 1115646 | HEC062S2 | KC610M | 6086329 | 2SE0062IL018A | KC633M |
| 1115647 | HEC250S2 | KC610M | 6086400 | 2SE0250IR075A | KC633M |
| 1115649 | HEC281S2 | KC610M | 6086403 | 2SE0281IR075A | KC633M |
| 1115651 | HEC016S2 | KC610M | 6086327 | 2SE0016IR003A | KC633M |
| 1115652 | HEC312S2 | KC610M | 6086405 | 2SE0312IR081A | KC633M |
| 1115653 | HEC047S2 | KC610M | no replacement | no replacement | no replacement |
| 1115653 | HEC047S2 | KC610M | no replacement | no replacement | no replacement |
| 1115654 | HEC266S2 | KC610M | no replacement | no replacement | no replacement |
| 1115655 | HEC375S2 | KC610M | 6086410 | 2SE0375IR100A | KC633M |
| 1115656 | HEC328S2 | KC610M | no replacement | no replacement | no replacement |
| 1115657 | HEC344S2 | KC610M | 6086408 | 2SE0343IR100A | KC633M |
| 1115658 | HEC438S2 | KC610M | 6086415 | 2SE0437IL100A | KC633M |
| 1115661 | HEC500S2 | KC610M | 6086419 | 2SE0500IR100A | KC633M |
| 1115662 | HEC469S2 | KC610M | 6086417 | 2SE0468IR100A | KC633M |
| 1115665 | HEC625S2 | KC610M | 6086446 | 2SE0625IL125A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1115666 | HEC688S2 | KC610M | 6086448 | 2SE0687IR137A | KC633M |
| 1115667 | HEC750S2 | KC610M | 6086450 | 2SE0750IR150A | KC633M |
| 1115668 | HEC094S2 | KC610M | 6086384 | 2SE0093IL037A | KC633M |
| 1115669 | HEC203S3 | KC610M | no replacement | no replacement | no replacement |
| 1115672 | HEC016S4 | KC610M | 6086553 | 4SE0015IR003A | KC633M |
| 1115673 | HEC031S4 | KC610M | 5824317 | 4CH0031IR008A | KC633M |
| 1115673 | HEC031S4 | KC610M | 5824317 | 4CH0031IR008A | KC633M |
| 1115674 | HEC344S4 | KC610M | 6086588 | 4SE0343IR100A | KC633M |
| 1115675 | HEC360S4 | KC610M | 6086589 | 4SE0359IR100A | KC633M |
| 1115678 | HEC484S4 | KC610M | 6086603 | 4SE0484IR100A | KC633M |
| 1115679 | HEC125S2100 | KC610M | no replacement | no replacement | no replacement |
| 1115680 | HEC125S2075 | KC610M | 6086389 | 2SE0125IX075A | KC633M |
| 1115681 | HEC125S4075 | KC610M | 6086563 | 4SE0125IL075A | KC633M |
| 1115689 | HEC100S3 | KC610M | 6143979 | 3SE1000IR150A | KC633M |
| 1115691 | HEC125S3 | KC610M | 6143910 | 3SE0125IL050A | KC633M |
| 1115693 | HEC156S3 | KC610M | 6143943 | 3SE0156IR056A | KC633M |
| 1115694 | HEC188S3 | KC610M | 6143945 | 3SE0188IR056A | KC633M |
| 1115695 | HEC219S3 | KC610M | 6143949 | 3SE0219IR062A | KC633M |
| 1115696 | HEC062S3 | KC610M | 6143905 | 3SE0062IR019A | KC633M |
| 1115697 | HEC250S3 | KC610M | 6143952 | 3SE0250IR075A | KC633M |
| 1115698 | HEC281S3 | KC610M | 6143955 | 3SE0281IR075A | KC633M |
| 1115699 | HEC312S3 | KC610M | 6143958 | 3SE0312IL081A | KC633M |
| 1115701 | HEC375S3 | KC610M | 6143964 | 3SE0375IL100A | KC633M |
| 1115702 | HEC438S3 | KC610M | 6143969 | 3SE0437IX100A | KC633M |
| 1115705 | HEC500S3 | KC610M | 6143970 | 3SE0500IR100A | KC633M |
| 1115707 | HEC625S3 | KC610M | 6143975 | 3SE0625IL125A | KC633M |
| 1115710 | HEC750S3 | KC610M | 6143977 | 3SE0750IL150A | KC633M |
| 1115711 | HEC094S3 | KC610M | 6143907 | 3SE0094IR037A | KC633M |
| 1115714 | HEC2MS4 | KC610M | 5824218 | 4CH0200MR006A | KC633M |
| 1115715 | HEC3MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115716 | HEC4MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115717 | HEC5MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115718 | HEC6MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115719 | HEC7MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115720 | HEC8MS4 | KC610M | 5824229 | 4CH0800MR020A | KC633M |
| 1115721 | HEC9MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115722 | HEC10MS4 | KC610M | 5824232 | 4CH1000MR022A | KC633M |
| 1115723 | HEC11MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115724 | HEC12MS4 | KC610M | 5824189 | 4CH1200DL026A | KC633M |
| 1115725 | HEC14MS4 | KC610M | 5824238 | 4CH1400MR032A | KC633M |
| 1115726 | HEC16MS4 | KC610M | 5824241 | 4CH1600MR032A | KC633M |
| 1115727 | HEC18MS4 | KC610M | 5824244 | 4CH1800MR038A | KC633M |
| 1115728 | HEC20MS4 | KC610M | 5824247 | 4CH2000MR038A | KC633M |
| 1115729 | HEC25MMS4 | KC610M | no replacement | no replacement | no replacement |
| 1115730 | HEC25MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115731 | HEC35MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115732 | HEC45MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115733 | HEC100S4 | KC610M | 6086522 | 4SE1000IS150A | KC633M |
| 1115734 | HEC125S4 | KC610M | 6086562 | 4SE0125IR050A | KC633M |
| 1115735 | HEC156S4 | KC610M | 6086567 | 4SE0156IR056A | KC633M |
| 1115736 | HEC188S4 | KC610M | 6086568 | 4SE0187IR062A | KC633M |
| 1115737 | HEC219S4 | KC610M | 6086574 | 4SE0218IL062A | KC633M |
| 1115738 | HEC062S4 | KC610M | 5824318 | 4CH0062IR011A | KC633M |
| 1115738 | HEC062S4 | KC610M | no replacement | no replacement | no replacement |
| 1115739 | HEC250S4 | KC610M | 6086577 | 4SE0250IR075A | KC633M |
| 1115740 | HEC281S4 | KC610M | 6086581 | 4SE0281IR075A | KC633M |
| 1115741 | HEC312S4 | KC610M | 6086584 | 4SE0312IR081A | KC633M |
| 1115741 | HEC312S4 | KC610M | no replacement | no replacement | no replacement |
| 1115742 | HEC375S4 | KC610M | 6086591 | 4SE0375IR100A | KC633M |
| 1115743 | HEC438S4 | KC610M | 6086597 | 4SE0437IS100A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1115744 | HEC500S4 | KC610M | 6086334 | 4SE0500IR100A | KC633M |
| 1115746 | HEC625S4 | KC610M | 6086511 | 4SE0625IR125A | KC633M |
| 1115747 | HEC688S4 | KC610M | 6086514 | 4SE0687IR137A | KC633M |
| 1115748 | HEC750S4 | KC610M | 6086516 | 4SE0750IR150A | KC633M |
| 1115749 | HEC094S4 | KC610M | 6086558 | 4SE0093IR037A | KC633M |
| 1115751 | HEC047S4 | KC610M | no replacement | no replacement | no replacement |
| 1115751 | HEC047S4 | KC610M | no replacement | no replacement | no replacement |
| 1115785 | BNEC2MS2 | KC610M | 5874192 | 2BN0200MR006A | KC633M |
| 1115786 | BNEC3MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115787 | BNEC4MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115788 | BNEC5MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115789 | BNEC6MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115791 | BNEC8MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115793 | BNEC10MS2 | KC610M | no replacement | no replacement | no replacement |
| 1115804 | BNEC100S2 | KC610M | 5876775 | 2BN1000IR150A | KC633M |
| 1115805 | BNEC125S2 | KC610M | 5876728 | 2BN0125IR050A | KC633M |
| 1115806 | BNEC156S2 | KC610M | 5876742 | 2BN0156IL056A | KC633M |
| 1115807 | BNEC188S2 | KC610M | 5876744 | 2BN0187IR062A | KC633M |
| 1115808 | BNEC219S2 | KC610M | 5876747 | 2BN0219IR062A | KC633M |
| 1115809 | BNEC062S2 | KC610M | 5876722 | 2BN0063IR018A | KC633M |
| 1115810 | BNEC250S2 | KC610M | 5876749 | 2BN0250IR075A | KC633M |
| 1115812 | BNEC312S2 | KC610M | 5876753 | 2BN0312IR081A | KC633M |
| 1115815 | BNEC500S2 | KC610M | 5876763 | 2BN0500IR100A | KC633M |
| 1115816 | BNEC562S2 | KC610M | no replacement | no replacement | no replacement |
| 1115817 | BNEC625S2 | KC610M | 5876767 | 2BN0625IR125A | KC633M |
| 1115819 | BNEC750S2 | KC610M | 5876771 | 2BN0750IR150A | KC633M |
| 1115820 | BNEC094S2 | KC610M | 5876725 | 2BN0094IL037A | KC633M |
| 1115821 | BNEC2MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115822 | BNEC3MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115823 | BNEC5MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115824 | BNEC6MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115825 | BNEC7MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115826 | BNEC8MS4 | KC610M | 5824924 | 4BN0800DL019A | KC633M |
| 1115828 | BNEC10MS4 | KC610M | 5824925 | 4BN1000DL022A | KC633M |
| 1115830 | BNEC12MS4 | KC610M | 5824926 | 4BN1200DL026A | KC633M |
| 1115836 | BNEC25MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115837 | BNEC35MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115838 | BNEC45MS4 | KC610M | no replacement | no replacement | no replacement |
| 1115839 | BNEC100S4 | KC610M | 5824557 | 4BN1000IR150A | KC633M |
| 1115840 | BNEC125S4 | KC610M | 5824507 | 4BN0125IR050A | KC633M |
| 1115841 | BNEC156S4 | KC610M | 5824511 | 4BN0156IR056A | KC633M |
| 1115842 | BNEC188S4 | KC610M | 5824514 | 4BN0187IL062A | KC633M |
| 1115843 | BNEC219S4 | KC610M | 5824517 | 4BN0219IR062A | KC633M |
| 1115844 | BNEC062S4 | KC610M | 5824501 | 4BN0062IR019A | KC633M |
| 1115845 | BNEC250S4 | KC610M | 5824520 | 4BN0250IR075A | KC633M |
| 1115846 | BNEC281S4 | KC610M | 5824524 | 4BN0281IR075A | KC633M |
| 1115847 | BNEC312S4 | KC610M | 5824526 | 4BN0312IR081A | KC633M |
| 1115848 | BNEC375S4 | KC610M | 5824530 | 4BN0375IS100A | KC633M |
| 1115850 | BNEC500S4 | KC610M | 5824535 | 4BN0500IS100A | KC633M |
| 1115851 | BNEC562S4 | KC610M | 5824551 | 4BN0562IR125A | KC633M |
| 1115852 | BNEC625S4 | KC610M | 5824552 | 4BN0625IR125A | KC633M |
| 1115854 | BNEC750S4 | KC610M | 5824554 | 4BN0750IR150A | KC633M |
| 1115855 | BNEC094S4 | KC610M | 5824504 | 4BN0094IL037A | KC633M |
| 1115865 | BNEC078S4 | KC610M | 5824502 | 4BN0078IR019A | KC633M |
| 1115866 | BNEC109S4 | KC610M | 5824505 | 4BN0109IR037A | KC633M |
| 1115867 | HEC078S2 | KC610M | 6086382 | 2SE0078IR018A | KC633M |
| 1115868 | HEC109S2 | KC610M | no replacement | no replacement | no replacement |
| 1115869 | HEC109S4 | KC610M | 6086560 | 4SE0109IR037A | KC633M |
| 1115870 | HEC141S2 | KC610M | 6086390 | 2SE0140IR056A | KC633M |
| 1115871 | HEC172S2 | KC610M | 6086393 | 2SE0171IR062A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1115872 | HEC172S4 | KC610M | no replacement | no replacement | no replacement |
| 1115872 | HEC172S4 | KC610M | no replacement | no replacement | no replacement |
| 1115872 | HEC172S4 | KC610M | no replacement | no replacement | no replacement |
| 1115873 | HEC203S2 | KC610M | no replacement | no replacement | no replacement |
| 1115874 | HEC203S4 | KC610M | 6086572 | 4SE0203IR062A | KC633M |
| 1115875 | HEC234S2 | KC610M | no replacement | no replacement | no replacement |
| 1115876 | HEC234S4 | KC610M | 6086575 | 4SE0234IR075A | KC633M |
| 1115877 | HEC297S4 | KC610M | 6086582 | 4SE0296IR081A | KC633M |
| 1115878 | HEC297S2 | KC610M | no replacement | no replacement | no replacement |
| 1115890 | HEC031S2 | KC610M | 6086328 | 2SE0031IR007A | KC633M |
| 1115894 | BNEC031S4 | KC610M | 5824029 | 4BN0031IR008A | KC633M |
| 1115895 | HEC078S4 | KC610M | 6086556 | 4SE0078IR018A | KC633M |
| 1115896 | HEC266S4 | KC610M | 6086580 | 4SE0265IR075A | KC633M |
| 1115896 | HEC266S4 | KC610M | 6086580 | 4SE0265IR075A | KC633M |
| 1115900 | HEC6MS275M | KC610M | 5873026 | 2CH0600ML028A | KC633M |
| 1115901 | HEC8MS275M | KC610M | 5873031 | 2CH0800ML028A | KC633M |
| 1115902 | HEC10MS2100M | KC610M | no replacement | no replacement | no replacement |
| 1115902 | HEC10MS2100M | KC610M | no replacement | no replacement | no replacement |
| 1115910 | HEC6MS475M | KC610M | 5824227 | 4CH0600ML028A | KC633M |
| 1115911 | HEC8MS475M | KC610M | 5824230 | 4CH0800ML028A | KC633M |
| 1115912 | HEC141S4 | KC610M | 6086565 | 4SE0140IR056A | KC633M |
| 1115913 | HEC375S4063 | KC610M | 6086590 | 4SE0375IS062A | KC633M |
| 1115914 | HEC10MS4100M | KC610M | 5824234 | 4CH1000MX045A | KC633M |
| 1115915 | HEC12MS4100M | KC610M | no replacement | no replacement | no replacement |
| 1115919 | HEC16MS4150M | KC610M | 5824243 | 4CH1600MX075A | KC633M |
| 1115921 | HEC20MS4150M | KC610M | no replacement | no replacement | no replacement |
| 1115923 | BNEC6MS275M | KC610M | no replacement | no replacement | no replacement |
| 1115934 | BNEC6MS475M | KC610M | 5824954 | 4BN0600MR030A | KC633M |
| 1115935 | BNEC8MS475M | KC610M | no replacement | no replacement | no replacement |
| 1115936 | BNEC10MS4100M | KC610M | 5824956 | 4BN1000MR040A | KC633M |
| 1115944 | HEC469S4 | KC610M | 6086602 | 4SE0468IR100A | KC633M |
| 1115945 | HEC188S2075 | KC610M | 6086395 | 2SE0187IL075A | KC633M |
| 1115946 | HEC188S2113 | KC610M | 6086396 | 2SE0187IX112A | KC633M |
| 1115947 | HEC250S2113 | KC610M | 6086401 | 2SE0250IL112A | KC633M |
| 1115948 | HEC312S2113 | KC610M | 6086406 | 2SE0312IL112A | KC633M |
| 1115949 | HEC375S2113 | KC610M | 6086411 | 2SE0375IL112A | KC633M |
| 1115952 | HEC100S2225 | KC610M | 6086457 | 2SE1000IR225A | KC633M |
| 1115953 | HEC625S2225 | KC610M | 6086447 | 2SE0625IX225A | KC633M |
| 1115954 | HEC750S2225 | KC610M | 6086451 | 2SE0750IR225A | KC633M |
| 1115955 | HEC100S2300 | KC610M | 6086458 | 2SE1000IL300A | KC633M |
| 1115957 | HEC500S2300 | KC610M | 6086441 | 2SE0500IX300A | KC633M |
| 1115959 | HEC750S2300 | KC610M | 6086452 | 2SE0750IL300A | KC633M |
| 1115960 | HEC250S2150 | KC610M | 6086402 | 2SE0250IX150A | KC633M |
| 1115961 | HEC312S2163 | KC610M | 6086407 | 2SE0312IX162A | KC633M |
| 1115962 | HEC375S2175 | KC610M | 6086412 | 2SE0375IX175A | KC633M |
| 1115963 | HEC188S4075 | KC610M | 6086570 | 4SE0187IL075A | KC633M |
| 1115964 | BNEC500S4450 | KC610M | 5824539 | 4BN0500IL200A | KC633M |
| 1115965 | HEC188S4113 | KC610M | 6086571 | 4SE0187IX112A | KC633M |
| 1115966 | HEC250S4113 | KC610M | 6086578 | 4SE0250IL112A | KC633M |
| 1115967 | HEC312S4113 | KC610M | 6086585 | 4SE0312IL112A | KC633M |
| 1115968 | HEC375S4113 | KC610M | 6086592 | 4SE0375IL112A | KC633M |
| 1115970 | HEC500S4450 | KC610M | no replacement | no replacement | no replacement |
| 1115971 | HEC100S4225 | KC610M | 6086523 | 4SE1000IR225A | KC633M |
| 1115972 | HEC625S4225 | KC610M | 6086512 | 4SE0625IL225A | KC633M |
| 1115973 | HEC750S4225 | KC610M | 6086517 | 4SE0750IR225A | KC633M |
| 1115974 | HEC100S4300 | KC610M | 6086524 | 4SE1000IL300A | KC633M |
| 1115975 | HEC438S4600 | KC610M | 6086600 | 4SE0437IX300A | KC633M |
| 1115976 | HEC500S4300 | KC610M | 6086336 | 4SE0500IX300A | KC633M |
| 1115979 | HEC750S4300 | KC610M | 6086518 | 4SE0750IL300A | KC633M |
| 1115980 | HEC250S4150 | KC610M | 6086579 | 4SE0250IX150A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1115981 | HEC312S4163 | KC610M | 6086586 | 4SE0312IX162A | KC633M |
| 1115982 | HEC375S4175 | KC610M | 6086593 | 4SE0375IX175A | KC633M |
| 1115983 | BNEC188S2300 | KC610M | no replacement | no replacement | no replacement |
| 1115984 | BNEC250S2150 | KC610M | 5876751 | 2BN0250IL150A | KC633M |
| 1115986 | BNEC375S2175 | KC610M | no replacement | no replacement | no replacement |
| 1115987 | BNEC100S2300 | KC610M | 5876776 | 2BN1000IL300A | KC633M |
| 1115989 | BNEC500S2300 | KC610M | 5876766 | 2BN0500IX300A | KC633M |
| 1115990 | BNEC625S2300 | KC610M | 5876769 | 2BN0625IX300A | KC633M |
| 1115991 | BNEC750S2600 | KC610M | 5876773 | 2BN0750IX300A | KC633M |
| 1115992 | BNEC188S4300 | KC610M | no replacement | no replacement | no replacement |
| 1115993 | BNEC250S4150 | KC610M | 5824522 | 4BN0250IL150A | KC633M |
| 1115994 | BNEC312S4400 | KC610M | 5824528 | 4BN0312IX162A | KC633M |
| 1115995 | BNEC375S4175 | KC610M | no replacement | no replacement | no replacement |
| 1115996 | HEC625S4075 | KC610M | 6086340 | 4SE0625IS075A | KC633M |
| 1115997 | BNEC100S4300 | KC610M | no replacement | no replacement | no replacement |
| 1115999 | BNEC500S4300 | KC610M | 5824540 | 4BN0500IX300A | KC633M |
| 1116000 | BNEC625S4300 | KC610M | no replacement | no replacement | no replacement |
| 1116001 | BNEC750S4600 | KC610M | 5824555 | 4BN0750IL300A | KC633M |
| 1116031 | HEC125S4100 | KC610M | 6086564 | 4SE0125IX100A | KC633M |
| 1191644 | BNEC062S2 | K600 | 5876722 | 2BN0063IR018A | KC633M |
| 1191659 | BNEC250S2 | K600 | 5876749 | 2BN0250IR075A | KC633M |
| 1191660 | BNEC250S4 | K600 | 5824520 | 4BN0250IR075A | KC633M |
| 1191669 | BNEC4MS4 | KC610M | 5824952 | 4BN0400MR025A | KC633M |
| 1191670 | BNEC500S2 | K600 | 5876763 | 2BN0500IR100A | KC633M |
| 1191672 | BNEC500S4 | K600 | 5824535 | 4BN0500IS100A | KC633M |
| 1191679 | BNEC750S4 | K600 | 5824554 | 4BN0750IR150A | KC633M |
| 1192162 | HEC100S2 | K600 | 6086456 | 2SE1000IS150A | KC633M |
| 1192163 | HEC10MS2100M | K600 | no replacement | no replacement | no replacement |
| 1192163 | HEC10MS2100M | K600 | no replacement | no replacement | no replacement |
| 1192164 | HEC10MS2 | K600 | no replacement | no replacement | no replacement |
| 1192164 | HEC10MS2 | K600 | no replacement | no replacement | no replacement |
| 1192165 | HEC10MS4100M | K600 | 5824234 | 4CH1000MX045A | KC633M |
| 1192166 | HEC10MS4 | K600 | 5824232 | 4CH1000MR022A | KC633M |
| 1192168 | HEC12MS2 | K600 | no replacement | no replacement | no replacement |
| 1192169 | HEC12MS4100M | K600 | no replacement | no replacement | no replacement |
| 1192171 | HEC12MS4 | K600 | 5824189 | 4CH1200DL026A | KC633M |
| 1192174 | HEC14MS4 | K600 | 5824238 | 4CH1400MR032A | KC633M |
| 1192177 | HEC16MS4150M | K600 | 5824243 | 4CH1600MX075A | KC633M |
| 1192178 | HEC16MS4 | K600 | 5824241 | 4CH1600MR032A | KC633M |
| 1192179 | HEC188S4 | K600 | 6086568 | 4SE0187IR062A | KC633M |
| 1192181 | HEC18MS4 | K600 | 5824244 | 4CH1800MR038A | KC633M |
| 1192183 | HEC20MS2 | K600 | 5873050 | 2CH2000MR038A | KC633M |
| 1192185 | HEC20MS4 | K600 | 5824247 | 4CH2000MR038A | KC633M |
| 1192186 | HEC250S2 | K600 | 6086400 | 2SE0250IR075A | KC633M |
| 1192187 | HEC250S4 | K600 | 6086577 | 4SE0250IR075A | KC633M |
| 1192189 | HEC25MMS4 | K600 | no replacement | no replacement | no replacement |
| 1192192 | HEC2MS2 | K600 | 5873010 | 2CH0200MR006A | KC633M |
| 1192194 | HEC312S4 | K600 | no replacement | no replacement | no replacement |
| 1192194 | HEC312S4 | K600 | 6086584 | 4SE0312IR081A | KC633M |
| 1192196 | HEC375S2 | K600 | 6086410 | 2SE0375IR100A | KC633M |
| 1192197 | HEC375S4 | K600 | 6086591 | 4SE0375IR100A | KC633M |
| 1192198 | HEC3MS2 | K600 | no replacement | no replacement | no replacement |
| 1192199 | HEC3MS4 | K600 | no replacement | no replacement | no replacement |
| 1192200 | HEC438S4 | K600 | 6086597 | 4SE0437IS100A | KC633M |
| 1192201 | HEC4MS2 | K600 | no replacement | no replacement | no replacement |
| 1192202 | HEC4MS4 | K600 | no replacement | no replacement | no replacement |
| 1192203 | HEC500S2 | K600 | 6086419 | 2SE0500IR100A | KC633M |
| 1192204 | HEC500S4 | K600 | 6086334 | 4SE0500IR100A | KC633M |
| 1192206 | HEC5MS2 | K600 | no replacement | no replacement | no replacement |
| 1192207 | HEC5MS4 | K600 | no replacement | no replacement | no replacement |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1192208 | HEC625S3 | K600 | 6143975 | 3SE0625IL125A | KC633M |
| 1192209 | HEC6MS275M | K600 | 5873026 | 2CH0600ML028A | KC633M |
| 1192210 | HEC6MS2 | K600 | no replacement | no replacement | no replacement |
| 1192211 | HEC6MS475M | K600 | no replacement | no replacement | no replacement |
| 1192212 | HEC6MS4 | K600 | no replacement | no replacement | no replacement |
| 1192213 | HEC750S4 | K600 | 6086516 | 4SE0750IR150A | KC633M |
| 1192215 | HEC8MS275M | K600 | 5873031 | 2CH0800ML028A | KC633M |
| 1192216 | HEC8MS2 | K600 | 5873029 | 2CH0800MR020A | KC633M |
| 1192218 | HEC8MS4 | K600 | 5824229 | 4CH0800MR020A | KC633M |
| 1228656 | HEC094S2 | K600 | 6086384 | 2SE0093IL037A | KC633M |
| 1232322 | BNEC562S4 | K600 | 5824551 | 4BN0562IR125A | KC633M |
| 1232451 | HEC438S3 | K600 | 6143969 | 3SE0437IX100A | KC633M |
| 1232452 | HEC188S2 | K600 | 6086394 | 2SE0187IR062A | KC633M |
| 1232453 | HEC500S3 | K600 | 6143970 | 3SE0500IR100A | KC633M |
| 1257524 | BNEC016S2 | KC610M | no replacement | no replacement | no replacement |
| 1257525 | BNEC016S2 | K600 | no replacement | no replacement | no replacement |
| 1257527 | BNEC031S2 | K600 | 5876721 | 2BN0031IR007A | KC633M |
| 1257530 | BNEC031S4 | K600 | 5824029 | 4BN0031IR008A | KC633M |
| 1257531 | BNEC047S2 | KC610M | 5876723 | 2BN0047IR018A | KC633M |
| 1257532 | BNEC047S2 | K600 | 5876723 | 2BN0047IR018A | KC633M |
| 1257534 | BNEC047S4 | K600 | 5824030 | 4BN0047IR012A | KC633M |
| 1257537 | BNEC062S4 | K600 | 5824501 | 4BN0062IR019A | KC633M |
| 1257539 | BNEC078S2 | KC610M | no replacement | no replacement | no replacement |
| 1257540 | BNEC078S2 | K600 | no replacement | no replacement | no replacement |
| 1257541 | BNEC078S4O | K600 | 5824502 | 4BN0078IR019A | KC633M |
| 1257542 | BNEC094S2 | K600 | 5876725 | 2BN0094IL037A | KC633M |
| 1257544 | BNEC094S4 | K600 | 5824504 | 4BN0094IL037A | KC633M |
| 1257548 | BNEC100S2 | KC635M | 5876775 | 2BN1000IR150A | KC633M |
| 1257549 | BNEC100S2 | K600 | 5876775 | 2BN1000IR150A | KC633M |
| 1257551 | BNEC100S2300 | K600 | 5876776 | 2BN1000IL300A | KC633M |
| 1257553 | BNEC100S4 | KC635M | 5824557 | 4BN1000IR150A | KC633M |
| 1257554 | BNEC100S4 | K600 | 5824557 | 4BN1000IR150A | KC633M |
| 1257557 | BNEC100S4300 | K600 | no replacement | no replacement | no replacement |
| 1257558 | BNEC109S2 | KC610M | 5876726 | 2BN0109IR037A | KC633M |
| 1257559 | BNEC109S2 | K600 | 5876726 | 2BN0109IR037A | KC633M |
| 1257560 | BNEC109S4O | K600 | 5824505 | 4BN0109IR037A | KC633M |
| 1257568 | BNEC125S2 | KC635M | 5876728 | 2BN0125IR050A | KC633M |
| 1257569 | BNEC125S2 | K600 | 5876728 | 2BN0125IR050A | KC633M |
| 1257571 | BNEC125S2075 | KC610M | 5876729 | 2BN0125IL075A | KC633M |
| 1257575 | BNEC125S4 | KC635M | 5824507 | 4BN0125IR050A | KC633M |
| 1257576 | BNEC125S4 | K600 | 5824507 | 4BN0125IR050A | KC633M |
| 1257577 | BNEC125S4075 | KC610M | 5824508 | 4BN0125IL075A | KC633M |
| 1257578 | BNEC125S4075 | K600 | 5824508 | 4BN0125IL075A | KC633M |
| 1257579 | BNEC125S4300 | K600 | no replacement | no replacement | no replacement |
| 1257584 | BNEC141S4 | KC610M | 5824510 | 4BN0141IR056A | KC633M |
| 1257585 | BNEC156S2 | K600 | 5876742 | 2BN0156IL056A | KC633M |
| 1257587 | BNEC156S4 | K600 | 5824511 | 4BN0156IR056A | KC633M |
| 1257594 | BNEC172S4O | K600 | 5824512 | 4BN0172IR062A | KC633M |
| 1257598 | BNEC188S2 | KC635M | 5876744 | 2BN0187IR062A | KC633M |
| 1257599 | BNEC188S2 | K600 | 5876744 | 2BN0187IR062A | KC633M |
| 1257600 | BNEC188S2075 | KC610M | 5876745 | 2BN0187IL075A | KC633M |
| 1257601 | BNEC188S2075 | K600 | 5876745 | 2BN0187IL075A | KC633M |
| 1257602 | BNEC188S2300 | K600 | no replacement | no replacement | no replacement |
| 1257605 | BNEC188S4 | KC635M | 5824514 | 4BN0187IL062A | KC633M |
| 1257606 | BNEC188S4 | K600 | 5824514 | 4BN0187IL062A | KC633M |
| 1257607 | BNEC188S4075 | KC610M | no replacement | no replacement | no replacement |
| 1257608 | BNEC188S4075 | K600 | no replacement | no replacement | no replacement |
| 1257609 | BNEC188S4300 | K600 | no replacement | no replacement | no replacement |
| 1257619 | BNEC203S4 | KC610M | 5824516 | 4BN0203IR062A | KC633M |
| 1257620 | BNEC203S4 | K600 | 5824516 | 4BN0203IR062A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1257621 | BNEC219S2 | K600 | 5876747 | 2BN0219IR062A | KC633M |
| 1257624 | BNEC219S4O | K600 | 5824517 | 4BN0219IR062A | KC633M |
| 1257626 | BNEC234S4 | KC610M | 5824518 | 4BN0234IR075A | KC633M |
| 1257629 | BNEC250S2 | KC635M | 5876749 | 2BN0250IR075A | KC633M |
| 1257631 | BNEC250S2113 | K600 | 5876750 | 2BN0250IR112A | KC633M |
| 1257632 | BNEC250S2150 | K600 | 5876751 | 2BN0250IL150A | KC633M |
| 1257634 | BNEC250S4 | KC635M | 5824520 | 4BN0250IR075A | KC633M |
| 1257636 | BNEC250S4113 | KC610M | 5824521 | 4BN0250IR112A | KC633M |
| 1257637 | BNEC250S4113 | K600 | 5824521 | 4BN0250IR112A | KC633M |
| 1257638 | BNEC250S4150 | K600 | 5824522 | 4BN0250IL150A | KC633M |
| 1257641 | BNEC266S4 | KC610M | no replacement | no replacement | no replacement |
| 1257642 | BNEC266S4 | K600 | no replacement | no replacement | no replacement |
| 1257647 | BNEC281S4 | K600 | 5824524 | 4BN0281IR075A | KC633M |
| 1257650 | BNEC312S2 | KC635M | 5876753 | 2BN0312IR081A | KC633M |
| 1257651 | BNEC312S2 | K600 | 5876753 | 2BN0312IR081A | KC633M |
| 1257656 | BNEC312S4 | KC635M | 5824526 | 4BN0312IR081A | KC633M |
| 1257657 | BNEC312S4 | K600 | 5824526 | 4BN0312IR081A | KC633M |
| 1257659 | BNEC312S4113 | KC610M | 5824527 | 4BN0312IL112A | KC633M |
| 1257660 | BNEC312S4113 | K600 | 5824527 | 4BN0312IL112A | KC633M |
| 1257661 | BNEC312S4400 | K600 | 5824528 | 4BN0312IX162A | KC633M |
| 1257665 | BNEC344S4 | KC610M | 5824529 | 4BN0344IR100A | KC633M |
| 1257674 | BNEC375S2113 | K600 | 5876758 | 2BN0375IL112A | KC633M |
| 1257675 | BNEC375S2175 | K600 | no replacement | no replacement | no replacement |
| 1257677 | BNEC375S4 | KC635M | 5824530 | 4BN0375IS100A | KC633M |
| 1257678 | BNEC375S4 | K600 | 5824530 | 4BN0375IS100A | KC633M |
| 1257680 | BNEC375S4113 | K600 | 5824532 | 4BN0375IL112A | KC633M |
| 1257681 | BNEC375S4175 | K600 | no replacement | no replacement | no replacement |
| 1257706 | BNEC500S2 | KC635M | 5876763 | 2BN0500IR100A | KC633M |
| 1257708 | BNEC500S2300 | K600 | 5876766 | 2BN0500IX300A | KC633M |
| 1257709 | BNEC500S4 | KC635M | 5824535 | 4BN0500IS100A | KC633M |
| 1257711 | BNEC500S4450 | K600 | 5824539 | 4BN0500IL200A | KC633M |
| 1257712 | BNEC500S4300 | K600 | 5824540 | 4BN0500IX300A | KC633M |
| 1257714 | BNEC562S2 | KC635M | no replacement | no replacement | no replacement |
| 1257715 | BNEC562S2 | K600 | no replacement | no replacement | no replacement |
| 1257718 | BNEC562S4 | KC635M | 5824551 | 4BN0562IR125A | KC633M |
| 1257723 | BNEC625S2 | KC635M | 5876767 | 2BN0625IR125A | KC633M |
| 1257724 | BNEC625S2 | K600 | 5876767 | 2BN0625IR125A | KC633M |
| 1257726 | BNEC625S2300 | K600 | 5876769 | 2BN0625IX300A | KC633M |
| 1257728 | BNEC625S4 | KC635M | 5824552 | 4BN0625IR125A | KC633M |
| 1257729 | BNEC625S4 | K600 | 5824552 | 4BN0625IR125A | KC633M |
| 1257732 | BNEC625S4300 | K600 | no replacement | no replacement | no replacement |
| 1257740 | BNEC750S2 | KC635M | 5876771 | 2BN0750IR150A | KC633M |
| 1257741 | BNEC750S2 | K600 | 5876771 | 2BN0750IR150A | KC633M |
| 1257744 | BNEC750S2600 | K600 | 5876773 | 2BN0750IX300A | KC633M |
| 1257746 | BNEC750S4 | KC635M | 5824554 | 4BN0750IR150A | KC633M |
| 1257750 | BNEC750S4600 | K600 | 5824555 | 4BN0750IL300A | KC633M |
| 1257755 | BNEC875S2 | KC635M | 5876774 | 2BN0875IR150A | KC633M |
| 1257758 | BNEC875S4 | KC610M | 5824556 | 4BN0875IR150A | KC633M |
| 1257759 | BNEC875S4 | KC635M | 5824556 | 4BN0875IR150A | KC633M |
| 1257760 | BNEC875S4 | K600 | 5824556 | 4BN0875IR150A | KC633M |
| 1272879 | HEC016S2 | K600 | 6086327 | 2SE0016IR003A | KC633M |
| 1272882 | HEC016S4 | K600 | 6086553 | 4SE0015IR003A | KC633M |
| 1272883 | HEC031S2 | K600 | 6086328 | 2SE0031IR007A | KC633M |
| 1272884 | HEC031S3 | KC610M | 6143903 | 3SE0031IR007A | KC633M |
| 1272886 | HEC031S4 | K600 | 6086554 | 4SE0031IR008A | KC633M |
| 1272887 | HEC047S2 | K600 | no replacement | no replacement | no replacement |
| 1272888 | HEC047S3 | KC610M | 6143904 | 3SE0047IR011A | KC633M |
| 1272889 | HEC047S4 | K600 | no replacement | no replacement | no replacement |
| 1272890 | HEC062S2 | K600 | 6086329 | 2SE0062IL018A | KC633M |
| 1272891 | HEC062S3 | K600 | 6143905 | 3SE0062IR019A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1272892 | HEC062S4 | K600 | 5824318 | 4CH0062IR011A | KC633M |
| 1272894 | HEC078S2 | K600 | 6086382 | 2SE0078IR018A | KC633M |
| 1272895 | HEC078S4 | K600 | 6086556 | 4SE0078IR018A | KC633M |
| 1272896 | HEC094S3 | K600 | 6143907 | 3SE0094IR037A | KC633M |
| 1272897 | HEC094S4 | K600 | 6086558 | 4SE0093IR037A | KC633M |
| 1272900 | HEC100S2 | KC635M | 6086456 | 2SE1000IS150A | KC633M |
| 1272902 | HEC100S2225 | K600 | 6086457 | 2SE1000IR225A | KC633M |
| 1272904 | HEC100S3 | K600 | 6143979 | 3SE1000IR150A | KC633M |
| 1272905 | HEC100S4 | KC635M | 6086522 | 4SE1000IS150A | KC633M |
| 1272906 | HEC100S4 | K600 | 6086522 | 4SE1000IS150A | KC633M |
| 1272908 | HEC100S4225 | K600 | 6086523 | 4SE1000IR225A | KC633M |
| 1272910 | HEC100S4300 | K600 | 6086524 | 4SE1000IL300A | KC633M |
| 1272911 | HEC109S2 | K600 | no replacement | no replacement | no replacement |
| 1272912 | HEC109S3 | K600 | 6143908 | 3SE0109IR037A | KC633M |
| 1272912 | HEC109S3 | K600 | 6143908 | 3SE0109IR037A | KC633M |
| 1272913 | HEC109S4 | K600 | 6086560 | 4SE0109IR037A | KC633M |
| 1272915 | HEC11MS4 | K600 | no replacement | no replacement | no replacement |
| 1272917 | HEC125S2 | KC635M | 6086388 | 2SE0125IL050A | KC633M |
| 1272918 | HEC125S2 | K600 | 6086388 | 2SE0125IL050A | KC633M |
| 1272919 | HEC125S2075 | K600 | 6086389 | 2SE0125IX075A | KC633M |
| 1272920 | HEC125S2100 | K600 | no replacement | no replacement | no replacement |
| 1272921 | HEC125S3 | K600 | 6143910 | 3SE0125IL050A | KC633M |
| 1272922 | HEC125S4 | KC635M | 6086562 | 4SE0125IR050A | KC633M |
| 1272923 | HEC125S4 | K600 | 6086562 | 4SE0125IR050A | KC633M |
| 1272926 | HEC125S4075 | K600 | 6086563 | 4SE0125IL075A | KC633M |
| 1272927 | HEC125S4100 | K600 | 6086564 | 4SE0125IX100A | KC633M |
| 1272932 | HEC141S2 | K600 | 6086390 | 2SE0140IR056A | KC633M |
| 1272933 | HEC141S3 | KC610M | 6143942 | 3SE0141IR056A | KC633M |
| 1272933 | HEC141S3 | KC610M | 6143942 | 3SE0141IR056A | KC633M |
| 1272934 | HEC141S4 | K600 | 6086565 | 4SE0140IR056A | KC633M |
| 1272935 | HEC156S2 | K600 | 6086392 | 2SE0156IL056A | KC633M |
| 1272936 | HEC156S3 | K600 | 6143943 | 3SE0156IR056A | KC633M |
| 1272937 | HEC156S4 | K600 | 6086567 | 4SE0156IR056A | KC633M |
| 1272942 | HEC172S4 | K600 | no replacement | no replacement | no replacement |
| 1272945 | HEC188S2 | KC635M | 6086394 | 2SE0187IR062A | KC633M |
| 1272948 | HEC188S2075 | K600 | 6086395 | 2SE0187IL075A | KC633M |
| 1272949 | HEC188S2113 | K600 | 6086396 | 2SE0187IX112A | KC633M |
| 1272950 | HEC188S3 | K600 | 6143945 | 3SE0188IR056A | KC633M |
| 1272951 | HEC188S4 | KC635M | 6086568 | 4SE0187IR062A | KC633M |
| 1272954 | HEC188S4075 | K600 | 6086570 | 4SE0187IL075A | KC633M |
| 1272956 | HEC188S4113 | K600 | 6086571 | 4SE0187IX112A | KC633M |
| 1272957 | HEC203S2 | K600 | no replacement | no replacement | no replacement |
| 1272958 | HEC203S4 | K600 | 6086572 | 4SE0203IR062A | KC633M |
| 1272959 | HEC219S2 | K600 | 6086398 | 2SE0218IL062A | KC633M |
| 1272960 | HEC219S3 | K600 | 6143949 | 3SE0219IR062A | KC633M |
| 1272962 | HEC219S4 | K600 | 6086574 | 4SE0218IL062A | KC633M |
| 1272965 | HEC234S2 | K600 | no replacement | no replacement | no replacement |
| 1272967 | HEC234S4 | K600 | 6086575 | 4SE0234IR075A | KC633M |
| 1272970 | HEC250S2 | KC635M | 6086400 | 2SE0250IR075A | KC633M |
| 1272973 | HEC250S2113 | K600 | 6086401 | 2SE0250IL112A | KC633M |
| 1272974 | HEC250S2150 | K600 | 6086402 | 2SE0250IX150A | KC633M |
| 1272975 | HEC250S3 | K600 | 6143952 | 3SE0250IR075A | KC633M |
| 1272977 | HEC250S4 | KC635M | 6086577 | 4SE0250IR075A | KC633M |
| 1272981 | HEC250S4113 | K600 | 6086578 | 4SE0250IL112A | KC633M |
| 1272982 | HEC250S4150 | K600 | 6086579 | 4SE0250IX150A | KC633M |
| 1272987 | HEC266S2 | K600 | no replacement | no replacement | no replacement |
| 1272989 | HEC281S2 | K600 | 6086403 | 2SE0281IR075A | KC633M |
| 1272990 | HEC281S3 | K600 | 6143955 | 3SE0281IR075A | KC633M |
| 1272991 | HEC281S4 | K600 | 6086581 | 4SE0281IR075A | KC633M |
| 1272992 | HEC297S2 | K600 | no replacement | no replacement | no replacement |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1272994 | HEC297S4 | K600 | 6086582 | 4SE0296IR081A | KC633M |
| 1272996 | HEC312S2 | KC635M | 6086405 | 2SE0312IR081A | KC633M |
| 1272997 | HEC312S2 | K600 | 6086405 | 2SE0312IR081A | KC633M |
| 1273000 | HEC312S2113 | K600 | 6086406 | 2SE0312IL112A | KC633M |
| 1273001 | HEC312S2163 | K600 | 6086407 | 2SE0312IX162A | KC633M |
| 1273002 | HEC312S3 | K600 | 6143958 | 3SE0312IL081A | KC633M |
| 1273003 | HEC312S4 | KC635M | 6086584 | 4SE0312IR081A | KC633M |
| 1273005 | HEC312S4113 | K600 | 6086585 | 4SE0312IL112A | KC633M |
| 1273006 | HEC312S4163 | K600 | 6086586 | 4SE0312IX162A | KC633M |
| 1273008 | HEC328S2 | K600 | no replacement | no replacement | no replacement |
| 1273009 | HEC328S3 | KC610M | no replacement | no replacement | no replacement |
| 1273011 | HEC344S2 | K600 | 6086408 | 2SE0343IR100A | KC633M |
| 1273012 | HEC344S3 | KC610M | no replacement | no replacement | no replacement |
| 1273013 | HEC344S3 | K600 | no replacement | no replacement | no replacement |
| 1273014 | HEC344S4 | K600 | 6086588 | 4SE0343IR100A | KC633M |
| 1273015 | HEC35MS2 | K600 | 5873015 | 2CH0350MR012A | KC633M |
| 1273020 | HEC360S4 | K600 | 6086589 | 4SE0359IR100A | KC633M |
| 1273021 | HEC375S2 | KC635M | 6086410 | 2SE0375IR100A | KC633M |
| 1273024 | HEC375S2113 | K600 | 6086411 | 2SE0375IL112A | KC633M |
| 1273025 | HEC375S2175 | K600 | 6086412 | 2SE0375IX175A | KC633M |
| 1273026 | HEC375S3 | K600 | 6143964 | 3SE0375IL100A | KC633M |
| 1273031 | HEC375S4 | KC635M | 6086591 | 4SE0375IR100A | KC633M |
| 1273034 | HEC375S4113 | K600 | 6086592 | 4SE0375IL112A | KC633M |
| 1273035 | HEC375S4175 | K600 | 6086593 | 4SE0375IX175A | KC633M |
| 1273040 | HEC406S3 | KC610M | no replacement | no replacement | no replacement |
| 1273049 | HEC438S2 | KC635M | 6086415 | 2SE0437IL100A | KC633M |
| 1273050 | HEC438S2 | K600 | 6086415 | 2SE0437IL100A | KC633M |
| 1273053 | HEC438S4 | KC635M | 6086597 | 4SE0437IS100A | KC633M |
| 1273056 | HEC438S4600 | K600 | 6086600 | 4SE0437IX300A | KC633M |
| 1273058 | HEC45MS4 | K600 | no replacement | no replacement | no replacement |
| 1273067 | HEC500S2 | KC635M | 6086419 | 2SE0500IR100A | KC633M |
| 1273071 | HEC500S2300 | K600 | 6086441 | 2SE0500IX300A | KC633M |
| 1273072 | HEC500S4 | KC635M | 6086334 | 4SE0500IR100A | KC633M |
| 1273076 | HEC500S4450 | K600 | no replacement | no replacement | no replacement |
| 1273079 | HEC500S4300 | K600 | 6086336 | 4SE0500IX300A | KC633M |
| 1273086 | HEC625S2 | KC635M | 6086446 | 2SE0625IL125A | KC633M |
| 1273087 | HEC625S2 | K600 | 6086446 | 2SE0625IL125A | KC633M |
| 1273089 | HEC625S2225 | K600 | 6086447 | 2SE0625IX225A | KC633M |
| 1273093 | HEC625S4 | KC635M | 6086511 | 4SE0625IR125A | KC633M |
| 1273094 | HEC625S4 | K600 | 6086511 | 4SE0625IR125A | KC633M |
| 1273096 | HEC625S4225 | K600 | 6086512 | 4SE0625IL225A | KC633M |
| 1273099 | HEC688S2 | K600 | 6086448 | 2SE0687IR137A | KC633M |
| 1273101 | HEC688S4 | K600 | 6086514 | 4SE0687IR137A | KC633M |
| 1273104 | HEC750S2 | KC635M | 6086450 | 2SE0750IR150A | KC633M |
| 1273105 | HEC750S2 | K600 | 6086450 | 2SE0750IR150A | KC633M |
| 1273107 | HEC750S2225 | K600 | 6086451 | 2SE0750IR225A | KC633M |
| 1273108 | HEC750S2300 | K600 | 6086452 | 2SE0750IL300A | KC633M |
| 1273109 | HEC750S3 | K600 | 6143977 | 3SE0750IL150A | KC633M |
| 1273110 | HEC750S4 | KC635M | 6086516 | 4SE0750IR150A | KC633M |
| 1273112 | HEC750S4225 | K600 | 6086517 | 4SE0750IR225A | KC633M |
| 1273113 | HEC750S4300 | K600 | 6086518 | 4SE0750IL300A | KC633M |
| 1273117 | HEC875S2 | KC610M | 6086454 | 2SE0875IR150A | KC633M |
| 1273118 | HEC875S2 | K600 | 6086454 | 2SE0875IR150A | KC633M |
| 1273121 | HEC875S4 | K600 | 6086520 | 4SE0875IR150A | KC633M |
| 1287025 | HEC062S4013 | K600 | 5824318 | 4CH0062IR011A | KC633M |
| 1287026 | HEC094S2018 | KC610M | 6086383 | 2SE0093IR018A | KC633M |
| 1287027 | HEC094S4018 | KC610M | 5824320 | 4CH0093IR037A | KC633M |
| 1287028 | HEC094S4018 | K600 | 5824320 | 4CH0093IR037A | KC633M |
| 1287029 | HEC125S2025 | KC610M | 6086387 | 2SE0125IR025A | KC633M |
| 1287030 | HEC125S2025 | K600 | 6086387 | 2SE0125IR025A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 1287031 | HEC125S4025 | K600 | 6086561 | 4SE0125IS025A | KC633M |
| 1287032 | HEC156S2031 | KC610M | 6086391 | 2SE0156IR031A | KC633M |
| 1287033 | HEC156S2031 | K600 | 6086391 | 2SE0156IR031A | KC633M |
| 1287034 | HEC156S4031 | K600 | 6086567 | 4SE0156IR056A | KC633M |
| 1287041 | HEC250S2050 | K600 | 6086399 | 2SE0250IS050A | KC633M |
| 1287042 | HEC250S4050 | K600 | 6086576 | 4SE0250IS050A | KC633M |
| 1287043 | HEC312S2050 | K600 | 6086404 | 2SE0312IS050A | KC633M |
| 1287044 | HEC312S4050 | KC610M | 6086583 | 4SE0312IS050A | KC633M |
| 1287045 | HEC312S4050 | K600 | 6086583 | 4SE0312IS050A | KC633M |
| 1287047 | HEC375S2063 | K600 | 6086409 | 2SE0375IS062A | KC633M |
| 1287048 | HEC438S2063 | K600 | 6086414 | 2SE0437IR062A | KC633M |
| 1287049 | HEC438S4063 | KC610M | 6086597 | 4SE0437IS100A | KC633M |
| 1287050 | HEC438S4063 | K600 | 6086597 | 4SE0437IS100A | KC633M |
| 1287053 | HEC500S2063 | K600 | 6086418 | 2SE0500IS062A | KC633M |
| 1287054 | HEC500S4063 | K600 | 6086333 | 4SE0500IS062A | KC633M |
| 1287057 | HEC625S2075 | KC610M | 6086445 | 2SE0625IR075A | KC633M |
| 1287058 | HEC625S2075 | K600 | 6086445 | 2SE0625IR075A | KC633M |
| 1287059 | HEC625S4075 | K600 | 6086340 | 4SE0625IS075A | KC633M |
| 1287062 | HEC750S2100 | K600 | 6086449 | 2SE0750IS100A | KC633M |
| 1287063 | HEC750S4100 | K600 | 6086515 | 4SE0750IS100A | KC633M |
| 1331259 | BNEC234S4 | K600 | 5824518 | 4BN0234IR075A | KC633M |
| 1333665 | HEC047S3 | K600 | 6143904 | 3SE0047IR011A | KC633M |
| 1339881 | HEC375S4063 | K600 | 6086590 | 4SE0375IS062A | KC633M |
| 1509014 | HEC109S3 | KC610M | 6143908 | 3SE0109IR037A | KC633M |
| 1515714 | HEC141S3 | K600 | 6143942 | 3SE0141IR056A | KC633M |
| 1535110 | BNEC141S4O | K600 | 5824510 | 4BN0141IR056A | KC633M |
| 1562642 | HEC281S4 | KC635M | 6086581 | 4SE0281IR075A | KC633M |
| 1616172 | HEC031S2 | KC635M | 6086328 | 2SE0031IR007A | KC633M |
| 1616173 | HEC031S4 | KC635M | 6086554 | 4SE0031IR008A | KC633M |
| 1616174 | HEC062S2 | KC635M | 6086329 | 2SE0062IL018A | KC633M |
| 1616176 | HEC062S4 | KC635M | 5824318 | 4CH0062IR011A | KC633M |
| 1616177 | HEC094S2 | KC635M | 6086384 | 2SE0093IL037A | KC633M |
| 1616178 | HEC094S4 | KC635M | 6086558 | 4SE0093IR037A | KC633M |
| 1616179 | HEC156S2 | KC635M | 6086392 | 2SE0156IL056A | KC633M |
| 1616180 | HEC156S4 | KC635M | 6086567 | 4SE0156IR056A | KC633M |
| 1616181 | HEC219S2 | KC635M | 6086398 | 2SE0218IL062A | KC633M |
| 1616182 | HEC219S4 | KC635M | 6086574 | 4SE0218IL062A | KC633M |
| 1616183 | HEC281S2 | KC635M | 6086403 | 2SE0281IR075A | KC633M |
| 2229299 | BNEC094S2 | KC635M | 5876725 | 2BN0094IL037A | KC633M |
| 2229301 | BNEC094S4 | KC635M | 5824504 | 4BN0094IL037A | KC633M |
| 2234615 | BNEC375S4300 | KC635M | no replacement | no replacement | no replacement |
| 2657737 | HEC094S2063 | K600 | 6086385 | 2SE0093IX062A | KC633M |
| 2657738 | HEC094S4063 | K600 | 6086559 | 4SE0093IL062A | KC633M |
| 2657739 | HEC188S2031 | K600 | no replacement | no replacement | no replacement |
| 2657740 | HEC188S4031 | K600 | no replacement | no replacement | no replacement |
| 2657741 | HEC219S2044 | K600 | 6086397 | 2SE0218IR043A | KC633M |
| 2657742 | HEC219S4044 | K600 | 6086573 | 4SE0218IR043A | KC633M |
| 2657763 | HEC375S2088 | K600 | no replacement | no replacement | no replacement |
| 2657764 | HEC375S3088 | K600 | 6143963 | 3SE0375IR088A | KC633M |
| 2657765 | HEC375S3113 | K600 | 6143965 | 3SE0375IX112A | KC633M |
| 2657766 | HEC375S4088 | K600 | 6086591 | 4SE0375IR100A | KC633M |
| 2657773 | HEC438S2200 | K600 | 6086416 | 2SE0437IX200A | KC633M |
| 2657774 | HEC438S4100 | K600 | 6086598 | 4SE0437IR100A | KC633M |
| 2657775 | HEC438S4200 | K600 | no replacement | no replacement | no replacement |
| 2657776 | HEC500S2200 | K600 | 6086420 | 2SE0500IL200A | KC633M |
| 2657777 | HEC500S3200 | K600 | 6143971 | 3SE0500IL200A | KC633M |
| 2657778 | HEC500S4200 | K600 | no replacement | no replacement | no replacement |
| 2657779 | HEC562S2075 | K600 | 6086442 | 2SE0562IR075A | KC633M |
| 2657780 | HEC562S2125 | K600 | 6086443 | 2SE0562IL125A | KC633M |
| 2657781 | HEC562S2225 | K600 | 6086444 | 2SE0562IX225A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 2657782 | HEC562S4075 | K600 | 6086337 | 4SE0562IR075A | KC633M |
| 2657783 | HEC562S4125 | K600 | 6086338 | 4SE0562IL125A | KC633M |
| 2657784 | HEC562S4225 | K600 | 6086339 | 4SE0562IX225A | KC633M |
| 2657785 | HEC625S2400 | K600 | no replacement | no replacement | no replacement |
| 2657786 | HEC625S4400 | K600 | 6086513 | 4SE0625IX400A | KC633M |
| 2657787 | HEC750S2400 | K600 | 6086453 | 2SE0750IX400A | KC633M |
| 2657788 | HEC750S3225 | K600 | 6143978 | 3SE0750IX225A | KC633M |
| 2657789 | HEC750S4400 | K600 | 6086519 | 4SE0750IX400A | KC633M |
| 2657791 | HEC875S4225 | K600 | 6086521 | 4SE0875IL225A | KC633M |
| 2657792 | HEC100S2400 | K600 | 6086459 | 2SE1000IX400A | KC633M |
| 2657793 | HEC100S3225 | K600 | 6143980 | 3SE1000IX225A | KC633M |
| 2657794 | HEC100S4400 | K600 | 6086525 | 4SE1000IX400A | KC633M |
| 2657797 | HEC1250S2200 | K600 | no replacement | no replacement | no replacement |
| 2657798 | HEC1250S4200 | K600 | no replacement | no replacement | no replacement |
| 2657799 | BNEC094S2018 | K600 | 5876724 | 2BN0094IR018A | KC633M |
| 2657800 | BNEC125S2025 | K600 | 5876727 | 2BN0125IS025A | KC633M |
| 2657801 | BNEC125S2075L | K600 | 5876730 | 2BN0125IX075A | KC633M |
| 2657802 | BNEC156S2031 | K600 | 5876741 | 2BN0156IR031A | KC633M |
| 2657823 | BNEC188S2031 | K600 | 5876743 | 2BN0187IS031A | KC633M |
| 2657824 | BNEC188S2100 | K600 | 5876746 | 2BN0187IX100A | KC633M |
| 2657825 | BNEC250S2050 | K600 | 5876748 | 2BN0250IS050A | KC633M |
| 2657826 | BNEC250S2150L | K600 | 5876752 | 2BN0250IX150A | KC633M |
| 2657827 | BNEC312S2050 | K600 | no replacement | no replacement | no replacement |
| 2657828 | BNEC312S2150 | K600 | 5876755 | 2BN0312IX150A | KC633M |
| 2657829 | BNEC375S2063 | K600 | 5876756 | 2BN0375IS062A | KC633M |
| 2657830 | BNEC375S2088 | K600 | 5876757 | 2BN0375IR087A | KC633M |
| 2657831 | BNEC406S2100 | K600 | 5876760 | 2BN0406IR100A | KC633M |
| 2657832 | BNEC438S2100 | K600 | 5876761 | 2BN0437IR100A | KC633M |
| 2657833 | BNEC500S2063 | K600 | 5876762 | 2BN0500IS062A | KC633M |
| 2657834 | BNEC500S2150 | K600 | 5876764 | 2BN0500IX150A | KC633M |
| 2657835 | BNEC500S2200 | K600 | 5876765 | 2BN0500IL200A | KC633M |
| 2657836 | BNEC750S2100 | K600 | 5876770 | 2BN0750IS100A | KC633M |
| 2657837 | BNEC750S2200 | K600 | 5876772 | 2BN0750IL200A | KC633M |
| 2657839 | BNEC094S4018 | K600 | 5824503 | 4BN0094IR019A | KC633M |
| 2657840 | BNEC125S4025 | K600 | 5824506 | 4BN0125IS025A | KC633M |
| 2657841 | BNEC125S4075L | K600 | 5824509 | 4BN0125IX075A | KC633M |
| 2657842 | BNEC156S4031 | K600 | 5824511 | 4BN0156IR056A | KC633M |
| 2657843 | BNEC188S4031 | K600 | 5824513 | 4BN0187IR031A | KC633M |
| 2657844 | BNEC188S4100 | K600 | 5824515 | 4BN0187IX100A | KC633M |
| 2657845 | BNEC250S4050 | K600 | 5824519 | 4BN0250IS050A | KC633M |
| 2657846 | BNEC250S4150L | K600 | 5824523 | 4BN0250IX150A | KC633M |
| 2657847 | BNEC312S4050 | K600 | 5824525 | 4BN0312IS050A | KC633M |
| 2657848 | BNEC312S4150 | K600 | no replacement | no replacement | no replacement |
| 2657849 | BNEC375S4063 | K600 | no replacement | no replacement | no replacement |
| 2657850 | BNEC375S4088 | K600 | no replacement | no replacement | no replacement |
| 2657851 | BNEC406S4100 | K600 | no replacement | no replacement | no replacement |
| 2657852 | BNEC438S4100 | K600 | 5824534 | 4BN0437IR100A | KC633M |
| 2657853 | BNEC500S4063 | K600 | no replacement | no replacement | no replacement |
| 2657854 | BNEC500S4150 | K600 | 5824537 | 4BN0500IX150A | KC633M |
| 2657855 | BNEC500S4200 | K600 | 5824538 | 4BN0500IR200A | KC633M |
| 2657856 | BNEC750S4100 | K600 | no replacement | no replacement | no replacement |
| 2657857 | BNEC750S4200 | K600 | no replacement | no replacement | no replacement |
| 2657858 | BNEC125S2075 | K600 | 5876729 | 2BN0125IL075A | KC633M |
| 2881042 | HEC094S2063 | KC610M | 6086385 | 2SE0093IX062A | KC633M |
| 2881073 | HEC094S4063 | KC610M | 6086559 | 4SE0093IL062A | KC633M |
| 2881074 | HEC188S2031 | KC610M | no replacement | no replacement | no replacement |
| 2881075 | HEC188S4031 | KC610M | no replacement | no replacement | no replacement |
| 2881076 | HEC219S2044 | KC610M | 6086397 | 2SE0218IR043A | KC633M |
| 2881077 | HEC219S4044 | KC610M | 6086573 | 4SE0218IR043A | KC633M |
| 2881078 | HEC375S2088 | KC610M | no replacement | no replacement | no replacement |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 2881079 | HEC375S3088 | KC610M | 6143963 | 3SE0375IR088A | KC633M |
| 2881080 | HEC375S3113 | KC610M | 6143965 | 3SE0375IX112A | KC633M |
| 2881081 | HEC375S4088 | KC610M | 6086591 | 4SE0375IR100A | KC633M |
| 2881082 | HEC391S2100 | KC610M | no replacement | no replacement | no replacement |
| 2881083 | HEC391S4100 | KC610M | 6086594 | 4SE0390IR100A | KC633M |
| 2881084 | HEC406S2100 | KC610M | 6086413 | 2SE0406IR100A | KC633M |
| 2881085 | HEC406S4100 | KC610M | 6086595 | 4SE0406IR100A | KC633M |
| 2881087 | HEC422S4100 | KC610M | 6086596 | 4SE0421IR100A | KC633M |
| 2881088 | HEC438S2200 | KC610M | 6086416 | 2SE0437IX200A | KC633M |
| 2881089 | HEC438S4100 | KC610M | 6086598 | 4SE0437IR100A | KC633M |
| 2881090 | HEC438S4200 | KC610M | 6086599 | 4SE0437IL200A | KC633M |
| 2881091 | HEC500S2200 | KC610M | 6086420 | 2SE0500IL200A | KC633M |
| 2881092 | HEC500S3200 | KC610M | 6143971 | 3SE0500IL200A | KC633M |
| 2881093 | HEC500S4200 | KC610M | 6086335 | 4SE0500IL200A | KC633M |
| 2881094 | HEC562S2075 | KC610M | 6086442 | 2SE0562IR075A | KC633M |
| 2881095 | HEC562S2125 | KC610M | 6086443 | 2SE0562IL125A | KC633M |
| 2881096 | HEC562S2225 | KC610M | 6086444 | 2SE0562IX225A | KC633M |
| 2881097 | HEC562S4075 | KC610M | 6086337 | 4SE0562IR075A | KC633M |
| 2881098 | HEC562S4125 | KC610M | 6086338 | 4SE0562IL125A | KC633M |
| 2881099 | HEC562S4225 | KC610M | 6086339 | 4SE0562IX225A | KC633M |
| 2881100 | HEC750S3225 | KC610M | 6143978 | 3SE0750IX225A | KC633M |
| 2881101 | HEC100S3225 | KC610M | 6143980 | 3SE1000IX225A | KC633M |
| 2887945 | HEC250S4150L | K600 | no replacement | no replacement | no replacement |
| 2887946 | HEC375S4150L | K600 | no replacement | no replacement | no replacement |
| 2888924 | BNEC375S4300L | K600 | no replacement | no replacement | no replacement |
| 2888925 | BNEC375S2300L | K600 | 5876759 | 2BN0375IX300A | KC633M |
| 2890374 | HEC094S2063 | KC635M | 6086385 | 2SE0093IX062A | KC633M |
| 2890375 | HEC094S4063 | KC635M | 6086559 | 4SE0093IL062A | KC633M |
| 2890376 | HEC188S2031 | KC635M | no replacement | no replacement | no replacement |
| 2890377 | HEC188S4031 | KC635M | 6086569 | 4SE0187IS075A | KC633M |
| 2890378 | HEC219S2044 | KC635M | 6086397 | 2SE0218IR043A | KC633M |
| 2890379 | HEC219S4044 | KC635M | 6086573 | 4SE0218IR043A | KC633M |
| 2890380 | HEC375S2088 | KC635M | 6086410 | 2SE0375IR100A | KC633M |
| 2890381 | HEC062S2013 | KC635M | 6086330 | 2SE0062IR012A | KC633M |
| 2890382 | HEC062S4013 | KC635M | 5824318 | 4CH0062IR011A | KC633M |
| 2890383 | HEC375S4088 | KC635M | 6086591 | 4SE0375IR100A | KC633M |
| 2890384 | HEC094S2018 | KC635M | 6086383 | 2SE0093IR018A | KC633M |
| 2890385 | HEC094S4018 | KC635M | 5824320 | 4CH0093IR037A | KC633M |
| 2890386 | HEC125S2025 | KC635M | 6086387 | 2SE0125IR025A | KC633M |
| 2890387 | HEC125S4025 | KC635M | 6086561 | 4SE0125IS025A | KC633M |
| 2890388 | HEC125S2075 | KC635M | 6086389 | 2SE0125IX075A | KC633M |
| 2890389 | HEC125S4075 | KC635M | 6086563 | 4SE0125IL075A | KC633M |
| 2890390 | HEC438S2200 | KC635M | 6086416 | 2SE0437IX200A | KC633M |
| 2890391 | HEC438S4100 | KC635M | 6086598 | 4SE0437IR100A | KC633M |
| 2890392 | HEC438S4200 | KC635M | 6086599 | 4SE0437IL200A | KC633M |
| 2890393 | HEC500S2200 | KC635M | 6086420 | 2SE0500IL200A | KC633M |
| 2890394 | HEC125S2100 | KC635M | no replacement | no replacement | no replacement |
| 2890395 | HEC500S4200 | KC635M | 6086335 | 4SE0500IL200A | KC633M |
| 2890396 | HEC125S4100 | KC635M | 6086564 | 4SE0125IX100A | KC633M |
| 2890397 | HEC562S2125 | KC635M | 6086443 | 2SE0562IL125A | KC633M |
| 2890398 | HEC562S2225 | KC635M | 6086444 | 2SE0562IX225A | KC633M |
| 2890399 | HEC156S2031 | KC635M | 6086391 | 2SE0156IR031A | KC633M |
| 2890400 | HEC562S4125 | KC635M | 6086338 | 4SE0562IL125A | KC633M |
| 2890401 | HEC562S4225 | KC635M | 6086339 | 4SE0562IX225A | KC633M |
| 2890402 | HEC156S4031 | KC635M | 6086567 | 4SE0156IR056A | KC633M |
| 2890403 | HEC188S2075 | KC635M | 6086395 | 2SE0187IL075A | KC633M |
| 2890404 | HEC188S4075 | KC635M | no replacement | no replacement | no replacement |
| 2890405 | HEC188S2113 | KC635M | no replacement | no replacement | no replacement |
| 2890406 | HEC188S4113 | KC635M | 6086571 | 4SE0187IX112A | KC633M |
| 2890781 | HEC250S2050 | KC635M | 6086399 | 2SE0250IS050A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 2890782 | HEC250S4050 | KC635M | 6086576 | 4SE0250IS050A | KC633M |
| 2890863 | HEC250S2113 | KC635M | 6086401 | 2SE0250IL112A | KC633M |
| 2890864 | HEC250S4113 | KC635M | 6086578 | 4SE0250IL112A | KC633M |
| 2890865 | HEC250S2150 | KC635M | 6086402 | 2SE0250IX150A | KC633M |
| 2890866 | HEC250S4150 | KC635M | 6086579 | 4SE0250IX150A | KC633M |
| 2890867 | HEC250S4150L | KC635M | no replacement | no replacement | no replacement |
| 2890868 | HEC312S2050 | KC635M | 6086404 | 2SE0312IS050A | KC633M |
| 2890869 | HEC312S4050 | KC635M | 6086583 | 4SE0312IS050A | KC633M |
| 2890870 | HEC312S2113 | KC635M | 6086406 | 2SE0312IL112A | KC633M |
| 2890871 | HEC312S4113 | KC635M | 6086585 | 4SE0312IL112A | KC633M |
| 2890872 | HEC312S2163 | KC635M | 6086407 | 2SE0312IX162A | KC633M |
| 2890873 | HEC312S4163 | KC635M | 6086586 | 4SE0312IX162A | KC633M |
| 2890874 | HEC375S2063 | KC635M | 6086409 | 2SE0375IS062A | KC633M |
| 2890875 | HEC375S4063 | KC635M | 6086590 | 4SE0375IS062A | KC633M |
| 2890876 | HEC375S2113 | KC635M | 6086411 | 2SE0375IL112A | KC633M |
| 2890877 | HEC375S4113 | KC635M | 6086592 | 4SE0375IL112A | KC633M |
| 2890878 | HEC375S2175 | KC635M | 6086412 | 2SE0375IX175A | KC633M |
| 2890879 | HEC375S4175 | KC635M | 6086593 | 4SE0375IX175A | KC633M |
| 2890880 | HEC375S4150L | KC635M | no replacement | no replacement | no replacement |
| 2890881 | HEC438S2063 | KC635M | 6086414 | 2SE0437IR062A | KC633M |
| 2890882 | HEC438S4063 | KC635M | 6086597 | 4SE0437IS100A | KC633M |
| 2890883 | HEC500S2063 | KC635M | 6086418 | 2SE0500IS062A | KC633M |
| 2890884 | HEC500S4063 | KC635M | 6086333 | 4SE0500IS062A | KC633M |
| 2890885 | HEC500S2300 | KC635M | 6086441 | 2SE0500IX300A | KC633M |
| 2890886 | HEC500S4300 | KC635M | 6086336 | 4SE0500IX300A | KC633M |
| 2890887 | HEC625S2075 | KC635M | 6086445 | 2SE0625IR075A | KC633M |
| 2890888 | HEC625S4075 | KC635M | 6086340 | 4SE0625IS075A | KC633M |
| 2890889 | HEC625S2225 | KC635M | 6086447 | 2SE0625IX225A | KC633M |
| 2890890 | HEC625S4225 | KC635M | 6086512 | 4SE0625IL225A | KC633M |
| 2890891 | HEC625S2400 | KC635M | no replacement | no replacement | no replacement |
| 2890892 | HEC625S4400 | KC635M | 6086513 | 4SE0625IX400A | KC633M |
| 2890893 | HEC750S2100 | KC635M | 6086449 | 2SE0750IS100A | KC633M |
| 2890894 | HEC750S4100 | KC635M | 6086515 | 4SE0750IS100A | KC633M |
| 2890895 | HEC750S2225 | KC635M | 6086451 | 2SE0750IR225A | KC633M |
| 2890896 | HEC750S4225 | KC635M | 6086517 | 4SE0750IR225A | KC633M |
| 2890897 | HEC750S2300 | KC635M | 6086452 | 2SE0750IL300A | KC633M |
| 2890898 | HEC750S4300 | KC635M | 6086518 | 4SE0750IL300A | KC633M |
| 2890899 | HEC750S2400 | KC635M | 6086453 | 2SE0750IX400A | KC633M |
| 2890900 | HEC750S4400 | KC635M | 6086519 | 4SE0750IX400A | KC633M |
| 2890901 | HEC875S2225 | KC635M | 6086455 | 2SE0875IL225A | KC633M |
| 2890902 | HEC875S4225 | KC635M | 6086521 | 4SE0875IL225A | KC633M |
| 2890903 | HEC100S2225 | KC635M | 6086457 | 2SE1000IR225A | KC633M |
| 2890904 | HEC100S4225 | KC635M | 6086523 | 4SE1000IR225A | KC633M |
| 2890905 | HEC100S2300 | KC635M | 6086458 | 2SE1000IL300A | KC633M |
| 2890906 | HEC100S4300 | KC635M | 6086524 | 4SE1000IL300A | KC633M |
| 2890907 | HEC100S2400 | KC635M | 6086459 | 2SE1000IX400A | KC633M |
| 2890908 | HEC100S4400 | KC635M | 6086525 | 4SE1000IX400A | KC633M |
| 2890912 | HEC1250S4200 | KC635M | no replacement | no replacement | no replacement |
| 2890918 | BNEC031S2 | KC635M | 5876721 | 2BN0031IR007A | KC633M |
| 2890919 | BNEC031S4 | KC635M | 5824029 | 4BN0031IR008A | KC633M |
| 2890920 | BNEC062S2 | KC635M | 5876722 | 2BN0063IR018A | KC633M |
| 2890921 | BNEC062S4 | KC635M | 5824501 | 4BN0062IR019A | KC633M |
| 2890922 | BNEC094S2018 | KC635M | 5876724 | 2BN0094IR018A | KC633M |
| 2890943 | BNEC094S4018 | KC635M | 5824503 | 4BN0094IR019A | KC633M |
| 2890944 | BNEC125S2025 | KC635M | 5876727 | 2BN0125IS025A | KC633M |
| 2890945 | BNEC125S2075 | KC635M | 5876729 | 2BN0125IL075A | KC633M |
| 2890946 | BNEC125S2075L | KC635M | 5876730 | 2BN0125IX075A | KC633M |
| 2890947 | BNEC125S4025 | KC635M | 5824506 | 4BN0125IS025A | KC633M |
| 2890948 | BNEC125S4075 | KC635M | 5824508 | 4BN0125IL075A | KC633M |
| 2890949 | BNEC125S4075L | KC635M | 5824509 | 4BN0125IX075A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 2890950 | BNEC156S2 | KC635M | 5876742 | 2BN0156IL056A | KC633M |
| 2890951 | BNEC156S2031 | KC635M | 5876741 | 2BN0156IR031A | KC633M |
| 2890952 | BNEC156S4 | KC635M | 5824511 | 4BN0156IR056A | KC633M |
| 2890953 | BNEC156S4031 | KC635M | 5824511 | 4BN0156IR056A | KC633M |
| 2890954 | BNEC188S2031 | KC635M | 5876743 | 2BN0187IS031A | KC633M |
| 2890955 | BNEC188S2075 | KC635M | 5876745 | 2BN0187IL075A | KC633M |
| 2890956 | BNEC188S2100 | KC635M | 5876746 | 2BN0187IX100A | KC633M |
| 2890957 | BNEC188S4031 | KC635M | 5824513 | 4BN0187IR031A | KC633M |
| 2890958 | BNEC188S4075 | KC635M | no replacement | no replacement | no replacement |
| 2890959 | BNEC188S4100 | KC635M | 5824515 | 4BN0187IX100A | KC633M |
| 2890960 | BNEC250S2050 | KC635M | 5876748 | 2BN0250IS050A | KC633M |
| 2890961 | BNEC250S2113 | KC635M | 5876750 | 2BN0250IR112A | KC633M |
| 2890962 | BNEC250S2150 | KC635M | 5876751 | 2BN0250IL150A | KC633M |
| 2890963 | BNEC250S2150L | KC635M | 5876752 | 2BN0250IX150A | KC633M |
| 2890964 | BNEC250S4050 | KC635M | 5824519 | 4BN0250IS050A | KC633M |
| 2890965 | BNEC250S4113 | KC635M | 5824521 | 4BN0250IR112A | KC633M |
| 2890966 | BNEC250S4150 | KC635M | 5824522 | 4BN0250IL150A | KC633M |
| 2890967 | BNEC250S4150L | KC635M | 5824523 | 4BN0250IX150A | KC633M |
| 2890968 | BNEC312S2050 | KC635M | no replacement | no replacement | no replacement |
| 2890969 | BNEC312S2113 | KC635M | 5876754 | 2BN0312IL112A | KC633M |
| 2890970 | BNEC312S2150 | KC635M | 5876755 | 2BN0312IX150A | KC633M |
| 2890971 | BNEC312S4050 | KC635M | no replacement | no replacement | no replacement |
| 2890972 | BNEC312S4113 | KC635M | 5824527 | 4BN0312IL112A | KC633M |
| 2890973 | BNEC312S4150 | KC635M | no replacement | no replacement | no replacement |
| 2890974 | BNEC375S2063 | KC635M | 5876756 | 2BN0375IS062A | KC633M |
| 2890975 | BNEC375S2088 | KC635M | 5876757 | 2BN0375IR087A | KC633M |
| 2890976 | BNEC375S2113 | KC635M | 5876758 | 2BN0375IL112A | KC633M |
| 2890977 | BNEC375S2175 | KC635M | no replacement | no replacement | no replacement |
| 2890978 | BNEC375S2300 | KC635M | 5876759 | 2BN0375IX300A | KC633M |
| 2890979 | BNEC375S4063 | KC635M | no replacement | no replacement | no replacement |
| 2890980 | BNEC375S4088 | KC635M | no replacement | no replacement | no replacement |
| 2890981 | BNEC375S4113 | KC635M | 5824532 | 4BN0375IL112A | KC633M |
| 2890982 | BNEC375S4175 | KC635M | no replacement | no replacement | no replacement |
| 2890983 | BNEC438S2100 | KC635M | 5876761 | 2BN0437IR100A | KC633M |
| 2890984 | BNEC438S4100 | KC635M | 5824534 | 4BN0437IR100A | KC633M |
| 2890985 | BNEC500S2063 | KC635M | 5876762 | 2BN0500IS062A | KC633M |
| 2890986 | BNEC500S2150 | KC635M | 5876764 | 2BN0500IX150A | KC633M |
| 2890987 | BNEC500S2200 | KC635M | 5876765 | 2BN0500IL200A | KC633M |
| 2890988 | BNEC500S2300 | KC635M | 5876766 | 2BN0500IX300A | KC633M |
| 2890989 | BNEC500S4063 | KC635M | no replacement | no replacement | no replacement |
| 2890990 | BNEC500S4150 | KC635M | 5824537 | 4BN0500IX150A | KC633M |
| 2890991 | BNEC500S4200 | KC635M | 5824538 | 4BN0500IR200A | KC633M |
| 2890992 | BNEC500S4300 | KC635M | 5824540 | 4BN0500IX300A | KC633M |
| 2890993 | BNEC625S2300 | KC635M | 5876769 | 2BN0625IX300A | KC633M |
| 2890994 | BNEC625S4300 | KC635M | no replacement | no replacement | no replacement |
| 2890995 | BNEC750S2100 | KC635M | 5876770 | 2BN0750IS100A | KC633M |
| 2890996 | BNEC750S2200 | KC635M | 5876772 | 2BN0750IL200A | KC633M |
| 2890997 | BNEC750S4100 | KC635M | no replacement | no replacement | no replacement |
| 2890998 | BNEC750S4200 | KC635M | 5824555 | 4BN0750IL300A | KC633M |
| 2890999 | BNEC100S2300 | KC635M | 5876776 | 2BN1000IL300A | KC633M |
| 2891000 | BNEC100S4300 | KC635M | no replacement | no replacement | no replacement |
| 3016760 | BNEC094S2018 | KC610M | 5876724 | 2BN0094IR018A | KC633M |
| 3016761 | BNEC094S4018 | KC610M | 5824503 | 4BN0094IR019A | KC633M |
| 3016762 | BNEC125S2025 | KC610M | 5876727 | 2BN0125IS025A | KC633M |
| 3016773 | BNEC125S2075L | KC610M | no replacement | no replacement | no replacement |
| 3016774 | BNEC125S4025 | KC610M | 5824506 | 4BN0125IS025A | KC633M |
| 3016775 | BNEC125S4075L | KC610M | 5824509 | 4BN0125IX075A | KC633M |
| 3016776 | BNEC156S2031 | KC610M | 5876741 | 2BN0156IR031A | KC633M |
| 3016777 | BNEC156S4031 | KC610M | 5824511 | 4BN0156IR056A | KC633M |
| 3016778 | BNEC188S2031 | KC610M | 5876743 | 2BN0187IS031A | KC633M |

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| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 3016779 | BNEC188S2100 | KC610M | 5876746 | 2BN0187IX100A | KC633M |
| 3016780 | BNEC188S4031 | KC610M | 5824513 | 4BN0187IR031A | KC633M |
| 3016781 | BNEC188S4100 | KC610M | 5824515 | 4BN0187IX100A | KC633M |
| 3016782 | BNEC250S2050 | KC610M | 5876748 | 2BN0250IS050A | KC633M |
| 3016783 | BNEC250S2150L | KC610M | 5876752 | 2BN0250IX150A | KC633M |
| 3016784 | BNEC250S4050 | KC610M | 5824519 | 4BN0250IS050A | KC633M |
| 3016785 | BNEC250S4150L | KC610M | 5824523 | 4BN0250IX150A | KC633M |
| 3016786 | BNEC312S2050 | KC610M | no replacement | no replacement | no replacement |
| 3016787 | BNEC312S2150 | KC610M | 5876755 | 2BN0312IX150A | KC633M |
| 3016788 | BNEC312S4050 | KC610M | no replacement | no replacement | no replacement |
| 3016789 | BNEC312S4150 | KC610M | no replacement | no replacement | no replacement |
| 3016790 | BNEC375S2063 | KC610M | 5876756 | 2BN0375IS062A | KC633M |
| 3016791 | BNEC375S2088 | KC610M | 5876757 | 2BN0375IR087A | KC633M |
| 3016792 | BNEC375S2300L | KC610M | 5876759 | 2BN0375IX300A | KC633M |
| 3018900 | BNEC375S4063 | KC610M | no replacement | no replacement | no replacement |
| 3018901 | BNEC375S4088 | KC610M | no replacement | no replacement | no replacement |
| 3018902 | BNEC375S4300L | KC610M | no replacement | no replacement | no replacement |
| 3018913 | BNEC406S2100 | KC610M | 5876760 | 2BN0406IR100A | KC633M |
| 3018914 | BNEC406S4100 | KC610M | no replacement | no replacement | no replacement |
| 3018915 | BNEC438S2100 | KC610M | 5876761 | 2BN0437IR100A | KC633M |
| 3018916 | BNEC438S4100 | KC610M | 5824534 | 4BN0437IR100A | KC633M |
| 3018917 | BNEC500S2063 | KC610M | 5876762 | 2BN0500IS062A | KC633M |
| 3018918 | BNEC500S2150 | KC610M | 5876764 | 2BN0500IX150A | KC633M |
| 3018919 | BNEC500S2200 | KC610M | 5876765 | 2BN0500IL200A | KC633M |
| 3018920 | BNEC500S4063 | KC610M | no replacement | no replacement | no replacement |
| 3018921 | BNEC500S4150 | KC610M | 5824537 | 4BN0500IX150A | KC633M |
| 3018922 | BNEC500S4200 | KC610M | 5824538 | 4BN0500IR200A | KC633M |
| 3018923 | BNEC750S2100 | KC610M | 5876770 | 2BN0750IS100A | KC633M |
| 3018924 | BNEC750S2200 | KC610M | 5876772 | 2BN0750IL200A | KC633M |
| 3018925 | BNEC750S4100 | KC610M | no replacement | no replacement | no replacement |
| 3018926 | BNEC750S4200 | KC610M | no replacement | no replacement | no replacement |
| 5046911 | HEC313S4044 | K600 | 6086583 | 4SE0312IS050A | KC633M |
| 5046912 | HEC250S4038 | K600 | 6086576 | 4SE0250IS050A | KC633M |
| 5046913 | HEC438S4088 | K600 | 6086597 | 4SE0437IS100A | KC633M |
| 5046916 | HEC47S2013 | K600 | no replacement | no replacement | no replacement |
| 5046917 | HEC500S2200L | K600 | no replacement | no replacement | no replacement |
| 5056432 | HEC16S2 | KC625M | 6086327 | 2SE0016IR003A | KC633M |
| 5056433 | HEC31S2 | KC625M | 6086328 | 2SE0031IR007A | KC633M |
| 5056434 | HEC47S2 | KC625M | no replacement | no replacement | no replacement |
| 5056435 | HEC63S2 | KC625M | 6086381 | 2SE0062IX050A | KC633M |
| 5056436 | HEC63S2018 | KC625M | 6086329 | 2SE0062IL018A | KC633M |
| 5056437 | HEC63S2013 | KC625M | 6086330 | 2SE0062IR012A | KC633M |
| 5056439 | HEC78S2 | KC625M | 6086382 | 2SE0078IR018A | KC633M |
| 5056460 | HEC94S2018 | KC625M | 6086383 | 2SE0093IR018A | KC633M |
| 5056461 | HEC094S2 | KC625M | 6086384 | 2SE0093IL037A | KC633M |
| 5056465 | HEC109S2 | KC625M | no replacement | no replacement | no replacement |
| 5056467 | HEC125S2100 | KC625M | no replacement | no replacement | no replacement |
| 5056468 | HEC125S2075 | KC625M | 6086389 | 2SE0125IX075A | KC633M |
| 5056470 | HEC125S2 | KC625M | 6086388 | 2SE0125IL050A | KC633M |
| 5056471 | HEC125S2025 | KC625M | 6086387 | 2SE0125IR025A | KC633M |
| 5056472 | HEC156S2031 | KC625M | 6086391 | 2SE0156IR031A | KC633M |
| 5056475 | HEC156S2 | KC625M | 6086392 | 2SE0156IL056A | KC633M |
| 5056476 | HEC188S2113 | KC625M | 6086396 | 2SE0187IX112A | KC633M |
| 5056477 | HEC188S2075 | KC625M | 6086395 | 2SE0187IL075A | KC633M |
| 5056478 | HEC188S2 | KC625M | 6086394 | 2SE0187IR062A | KC633M |
| 5056479 | HEC188S2031 | KC625M | no replacement | no replacement | no replacement |
| 5056490 | HEC219S2044 | KC625M | 6086397 | 2SE0218IR043A | KC633M |
| 5056495 | HEC219S2 | KC625M | 6086398 | 2SE0218IL062A | KC633M |
| 5056497 | HEC250S2150 | KC625M | 6086402 | 2SE0250IX150A | KC633M |
| 5056498 | HEC250S2113 | KC625M | 6086401 | 2SE0250IL112A | KC633M |

*(continued)*

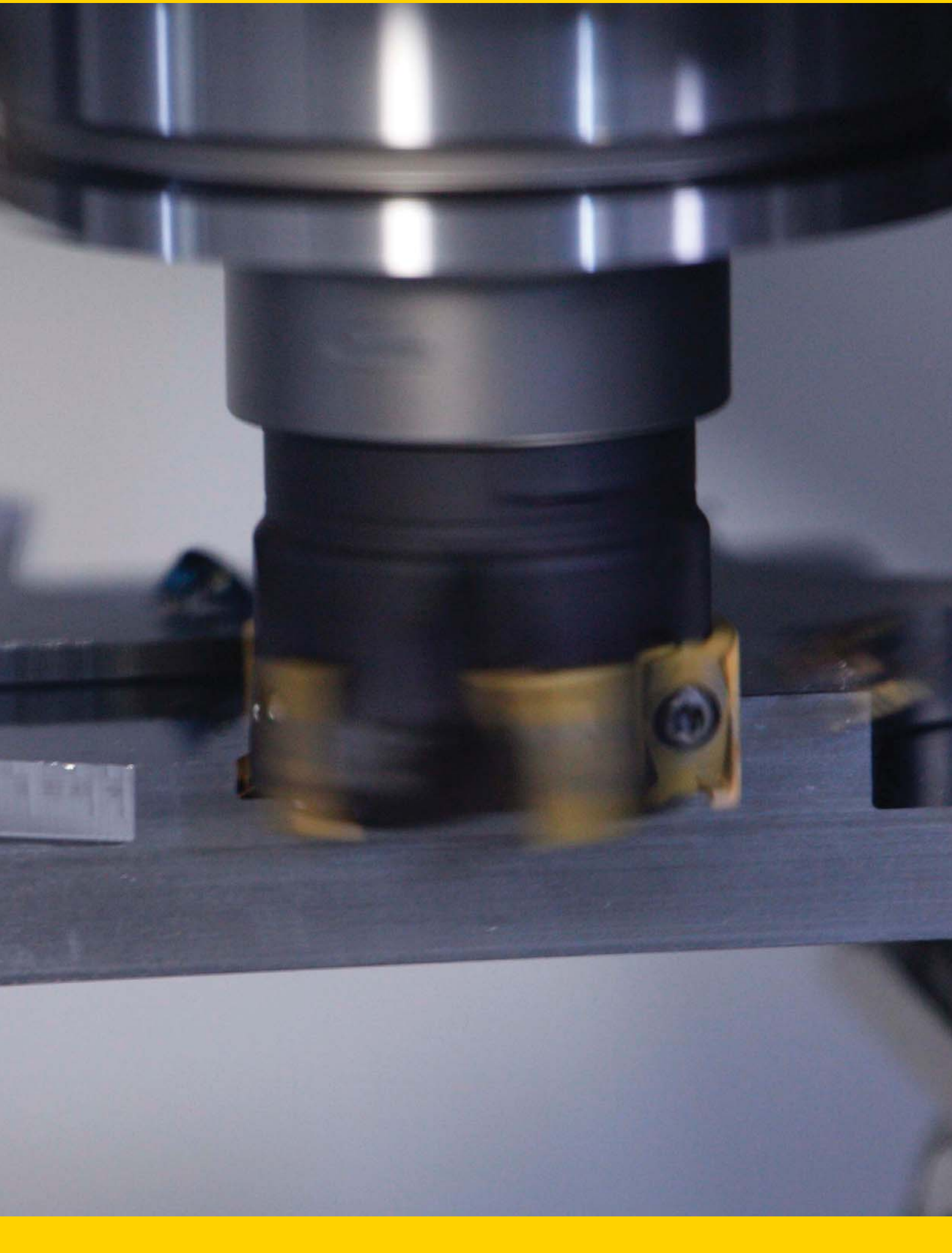
*(continued)*

| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 5056499 | HEC250S2 | KC625M | 6086400 | 2SE0250IR075A | KC633M |
| 5056510 | HEC250S2050 | KC625M | 6086399 | 2SE0250IS050A | KC633M |
| 5056511 | HEC312S2163 | KC625M | 6086407 | 2SE0312IX162A | KC633M |
| 5056512 | HEC312S2 | KC625M | 6086405 | 2SE0312IR081A | KC633M |
| 5056513 | HEC344S2 | KC625M | 6086408 | 2SE0343IR100A | KC633M |
| 5056514 | HEC375S2088 | KC625M | no replacement | no replacement | no replacement |
| 5056515 | HEC375S2113 | KC625M | 6086411 | 2SE0375IL112A | KC633M |
| 5056517 | HEC438S2200 | KC625M | 6086416 | 2SE0437IX200A | KC633M |
| 5056530 | HEC438S2 | KC625M | 6086415 | 2SE0437IL100A | KC633M |
| 5056532 | HEC500S2300 | KC625M | 6086441 | 2SE0500IX300A | KC633M |
| 5056534 | HEC500S2200 | KC625M | 6086420 | 2SE0500IL200A | KC633M |
| 5056535 | HEC500S2 | KC625M | 6086419 | 2SE0500IR100A | KC633M |
| 5056537 | HEC500S2063 | KC625M | 6086418 | 2SE0500IS062A | KC633M |
| 5056539 | HEC625S2400 | KC625M | no replacement | no replacement | no replacement |
| 5056550 | HEC625S2 | KC625M | 6086446 | 2SE0625IL125A | KC633M |
| 5056553 | HEC625S2075 | KC625M | 6086445 | 2SE0625IR075A | KC633M |
| 5056554 | HEC750S2300 | KC625M | 6086452 | 2SE0750IL300A | KC633M |
| 5056555 | HEC750S2 | KC625M | 6086450 | 2SE0750IR150A | KC633M |
| 5056556 | HEC750S2100 | KC625M | 6086449 | 2SE0750IS100A | KC633M |
| 5056557 | HEC875S2 | KC625M | 6086454 | 2SE0875IR150A | KC633M |
| 5056558 | HEC1000S2 | KC625M | 6086456 | 2SE1000IS150A | KC633M |
| 5056858 | HEC688S3138 | K600 | no replacement | no replacement | no replacement |
| 5056859 | HEC563S3113 | K600 | 6143973 | 3SE0563IR112A | KC633M |
| 5057012 | HEC062S4050 | K600 | no replacement | no replacement | no replacement |
| 5057013 | HEC375S4100 | K600 | 6086593 | 4SE0375IX175A | KC633M |
| 5057014 | HEC453S4100 | K600 | 6086601 | 4SE0453IR100A | KC633M |
| 5057015 | HEC500S4100 | K600 | 6086335 | 4SE0500IL200A | KC633M |
| 5057016 | HEC062S4050 | KC625M | no replacement | no replacement | no replacement |
| 5057017 | HEC375S4100 | KC625M | 6086593 | 4SE0375IX175A | KC633M |
| 5057018 | HEC500S4100 | KC625M | 6086335 | 4SE0500IL200A | KC633M |
| 5057019 | HEC375S4100 | KC635M | 6086593 | 4SE0375IX175A | KC633M |
| 5057070 | HEC500S4100 | KC635M | 6086335 | 4SE0500IL200A | KC633M |
| 5057071 | BNEC625S4075 | KC635M | no replacement | no replacement | no replacement |
| 5057072 | BNEC100S4225 | KC625M | 5824558 | 4BN1000IL225A | KC633M |
| 5057073 | BNEC625S4075 | KC625M | no replacement | no replacement | no replacement |
| 5057079 | BNEC100S4225 | K600 | 5824558 | 4BN1000IL225A | KC633M |
| 5058636 | HEC750S4 | KC625M | 6086516 | 4SE0750IR150A | KC633M |
| 5058637 | HEC500S4 | KC625M | 6086334 | 4SE0500IR100A | KC633M |
| 5058638 | HEC375S4088 | KC625M | 6086591 | 4SE0375IR100A | KC633M |
| 5058639 | HEC250S4 | KC625M | 6086577 | 4SE0250IR075A | KC633M |
| 5058686 | HECL750S2200 | KC625M | 6086452 | 2SE0750IL300A | KC633M |
| 5058687 | HECL625S2200 | KC625M | no replacement | no replacement | no replacement |
| 5058981 | BNECL500S2150 | K600 | 5876764 | 2BN0500IX150A | KC633M |
| 5058983 | BNECL500S2100 | K600 | 5876765 | 2BN0500IL200A | KC633M |
| 5058984 | BNECL375S2150 | K600 | 5876759 | 2BN0375IX300A | KC633M |
| 5058985 | BNECL375S2100 | K600 | no replacement | no replacement | no replacement |
| 5058986 | BNECL312S2150 | K600 | 5876755 | 2BN0312IX150A | KC633M |
| 5058987 | BNECL312S2100 | K600 | no replacement | no replacement | no replacement |
| 5058989 | BNECL250S2150 | K600 | 5876752 | 2BN0250IX150A | KC633M |
| 5059060 | BNECL250S2100 | K600 | 5876750 | 2BN0250IR112A | KC633M |
| 5059061 | BNECL188S2100 | K600 | 5876746 | 2BN0187IX100A | KC633M |
| 5059062 | BNECL125S2075 | K600 | 5876730 | 2BN0125IX075A | KC633M |
| 5059063 | BNECL750S2200 | KC625M | 5876773 | 2BN0750IX300A | KC633M |
| 5059065 | BNECL500S2150 | KC625M | 5876764 | 2BN0500IX150A | KC633M |
| 5059066 | BNECL500S2100 | KC625M | 5876765 | 2BN0500IL200A | KC633M |
| 5059110 | BNECL438S2300 | KC625M | no replacement | no replacement | no replacement |
| 5059111 | BNECL375S2300 | KC625M | 5876759 | 2BN0375IX300A | KC633M |
| 5059113 | BNECL375S2150 | KC625M | 5876759 | 2BN0375IX300A | KC633M |
| 5059114 | BNECL375S2100 | KC625M | no replacement | no replacement | no replacement |
| 5059115 | BNECL312S2100 | KC625M | no replacement | no replacement | no replacement |

*(continued)*

*(continued)*

| Old General Purpose | | | GOmill GP Replacement | | |
|---|---|---|---|---|---|
| Order Number | Catalog Number | Grade | Order Number | Catalog Number | Grade |
| 5059116 | BNECL250S2150 | KC625M | 5876752 | 2BN0250IX150A | KC633M |
| 5059118 | BNECL250S2100 | KC625M | 5876750 | 2BN0250IR112A | KC633M |
| 5059119 | BNECL188S2100 | KC625M | 5876746 | 2BN0187IX100A | KC633M |
| 5059161 | BNECL125S2075 | KC625M | 5876730 | 2BN0125IX075A | KC633M |
| 5061835 | BNEC100S2225 | K600 | no replacement | no replacement | no replacement |
| 5061837 | BNEC750S2225 | K600 | no replacement | no replacement | no replacement |
| 5061838 | BNEC625S2225 | K600 | 5876768 | 2BN0625IL225A | KC633M |



# Indexable Milling


Indexable Milling Introduction ..... R2–R21

Face Milling ..... S1–S126

Shoulder Milling ..... T1–T136

Slot Milling ..... U1–U41

Copy Milling ..... V1–V159

Thread Milling ..... W1–W55

Technical Information ..... X1–X20

Recommended Starting Speeds ..... X22–X37

# Indexable Milling Products

Our latest Metalcutting Innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

For more information about the latest products and services from Kennametal, please contact your Kennametal Representative or Authorized Kennametal Distributor, or visit **kennametal.com**.

## FACE MILLS

- Dodeka™ Mini
- Dodeka
- Dodeka MAX™
- Mill 16™
- KSSM 45°
- KSOM™ Mini
- KSOM
- KSSM8+™
- Fix-Perfect™
- HexaCut™
- KSSR™ 6°
- MEGA
- KBDM™
- KSCM™ PCD AluMill™
- Fix-Perfect 0° Aluminum

## SHOULDER MILLS

- Mill 4-11™
- Mill 4-15™
- Mill 1-7™
- Mill 1-10™
- Mill 1-14™
- Mill 1-18™
- Mill 1-25™
- 5720VZ
- KSSM™
- KSSM-KSSP, Helical Cutters
- 5230VS

## SLOT MILLS

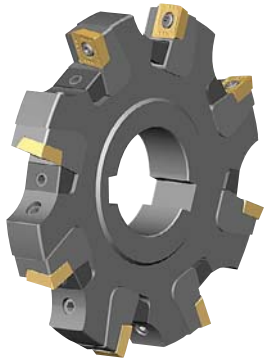
- KTMS™ T-Slot
- KVNS™
- SN
- LN
- KSSM™

## COPY MILLS

- 7792VX
- KenFeed™ 2X
- Rodeka™
- KSRM™
- 7713VR
- 5505VX
- KDMB™ and KDMT™
- Z-Axis • Plunge Milling Cutters
- KCRA
- KIPR

## INDEXABLE THREAD MILLS

- TM Series
  - TM24
  - TM25
  - TM40
  - TM41
- KTMD U Series
- TMS — Thread Milling System



# The Most Advanced Milling Solutions in the Industry

For unsurpassed quality, value, and performance, you can trust Kennametal to provide the most comprehensive line of reliable metalcutting tools. Whatever your indexable milling product requirements, be assured that you will find the appropriate solution in this all-inclusive, easy-to-use guide.

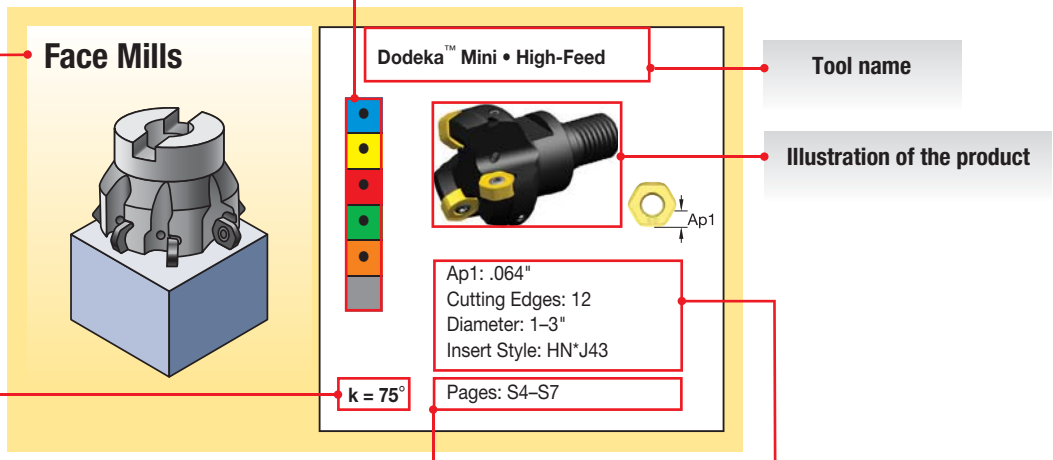
For every milling application, workpiece, or equipment need, we offer the best tools on the market, designed to reduce your machining time, provide superior surface finishes, and exceed your expectations!

**Identify material to be machined:**
Each tool has a material grid marked with a letter indicating the materials that can be machined.

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ○ | Steel |
| M | ● | Stainless Steel |
| K | | Cast Iron |
| N | | Non-Ferrous |
| S | ○ | High-Temp Alloys |
| H | ○ | Hardened Materials |

**Choose your application:**
- Face Milling
- Chamfer Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling




**Tool name**

**Illustration of the product**

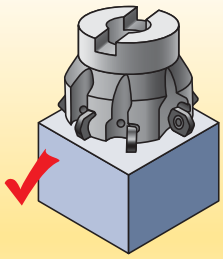
**Lead angle**

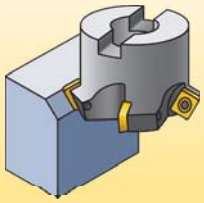
**Location of introduction detail, tool bodies, inserts, and cutting data.**

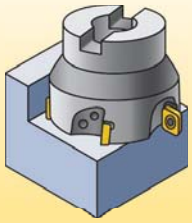
**Select tool based on maximum depth of cut and diameter required:**
Information is given in this area to provide specific detail as a quick reference.

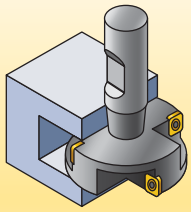
# How to Navigate the 2018 Catalog

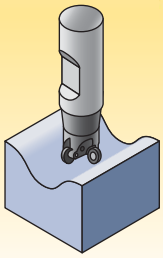
## Step 1 • Select Application

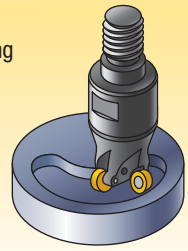

Face Milling

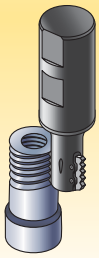

Chamfer Milling


Shoulder Milling (End Milling)


Slotting


Copy Milling

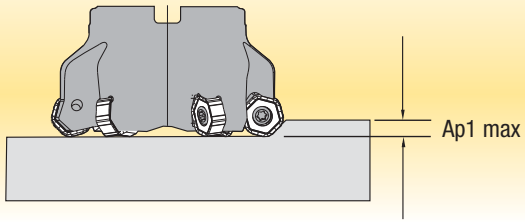

Ceramic Milling


Thread Milling

## Step 2 • Select Workpiece Material

| ISO Description | | ● first choice ○ alternate choice | Material Group | |
|---|---|---|---|---|
| Steel | P | ● | P1–P2 | Carbon steels |
| | | | P3–P4 | Alloy steels and tool steels |
| | | | P5–P6 | Ferritic, martensitic, and PH stainless steels |
| Stainless Steel | M | ● | M1–M2 | Austenitic stainless steels |
| | | | M3 | Duplex stainless steels (ferritic and austenitic mixture) |
| Cast Iron | K | | K1–K2 | Gray, ductile, CGI, and malleable cast irons >80 KSI |
| | | | K3 | Ductile, CGI, and malleable cast irons >80 KSI |
| Non-Ferrous Materials | N | | N1–N2 | Aluminum alloys <12.2% Si |
| | | | N3 | Aluminum alloys >12.2% Si |
| High-Temp Alloys | S | ● | S1–S2 | Iron- and cobalt-based heat-resistant alloys |
| | | | S3 | Nickel-based heat-resistant alloys |
| | | | S4 | Alpha-Beta titanium alloys |
| Hardened Materials | H | ○ | H1 | Hardened steels and irons |

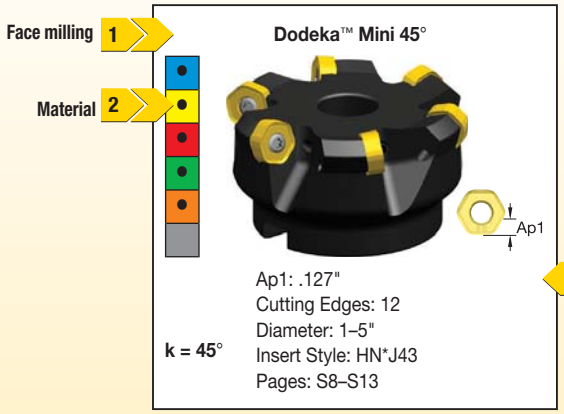
## Step 3 • Select a Maximum Axial Depth of Cut (Ap)



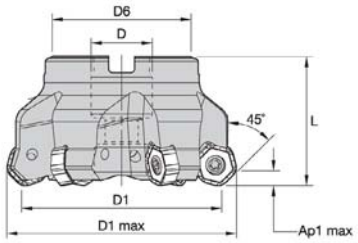

*(continued)*

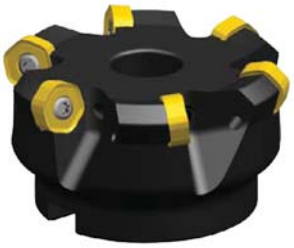
## How to Navigate the 2018 Catalog *(continued)*

### Step 4 • Select Milling Cutter from Application Selector




### Select the Cutter



Dodeka Mini 45° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| 4130426 | KSHR150HN4345M3 | 1.500 | 1.822 | .500 | 1.440 | 1.575 | .127 | 4 | .57 | 16700 |
| 4130427 | KSHR150HN4345F3 | 1.500 | 1.822 | .500 | 1.440 | 1.575 | .127 | 5 | .56 | 16700 |
| 4130428 | KSHR200HN4345C3 | 2.000 | 2.321 | .750 | 1.750 | 1.575 | .127 | 4 | .93 | 12500 |
| 4130429 | KSHR200HN4345M3 | 2.000 | 2.321 | .750 | 1.750 | 1.575 | .127 | 5 | .93 | 12500 |
| 4130430 | KSHR200HN4345F3 | 2.000 | 2.321 | .750 | 1.750 | 1.575 | .127 | 6 | .97 | 12500 |
| 4130431 | KSHR250HN4345C3 | 2.500 | 2.821 | .750 | 1.750 | 1.575 | .127 | 4 | 1.20 | 10000 |
| 4130432 | KSHR250HN4345M3 | 2.500 | 2.821 | .750 | 1.750 | 1.575 | .127 | 6 | 1.27 | 10000 |
| 4130493 | KSHR250HN4345F3 | 2.500 | 2.821 | .750 | 1.750 | 1.575 | .127 | 8 | 1.29 | 10000 |

4

### Step 5 • Insert Selection Guide

Insert Selection Guide

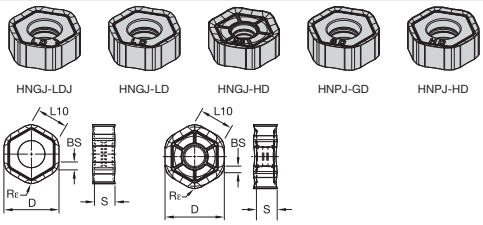
| Material Group | Light Machining (Light geometry) wear resistance | | General Purpose | | Heavy Machining (Strong geometry) toughness | |
|---|---|---|---|---|---|---|
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1 – P2 | .E..LD | KCPM40 | .S..GD | KCPM40 | .S..HD | KCPM40 |
| P3 – P4 | .E..LD | KCPK30 | .S..GD | KCPK30 | .S..HD | KCPK30 |
| P5 – P6 | .E..LD | KC725M | .S..GD | KC725M | .S..HD | KCPK30 |
| M1 – M2 | .E..LD | KCS22M | .S..GD | KCSM40 | .S..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | .S..GD | KCSM40 | .S..HD | KCPM40 |
| K1 – K2 | .E..LD | KCK15 | .S..GD | KCK15 | .S..HD | KCK15 |
| K3 | .E..LD | KCS20M | .S..GD | KCS20M | .S..HD | KCS20M |
| N1 – N2 | .F..LDJ | KC410M | .F..LDJ | KC410M | .E..LD | KCS10M |
| N3 | .F..LDJ | KC410M | .F..LDJ | KC410M | .E..LD | KCS10M |
| S1 – S2 | .E..LD | KC725M | .S..GD | KC725M | .S..HD | KC725M |
| S3 | .E..LD | KCSM40 | .S..GD | KCSM40 | .S..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | .S..GD | KCSM40 | .S..HD | KCSM40 |
| H1 | .E..LD | KCS10M | .E..LD | KCS10M | .E..LD | KCS10M |

5

*(continued)*

# How to Navigate the 2018 Catalog *(continued)*

## Step 6 • Insert Chart, Providing the Inserts and Grades




### HNPJ-GD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HNPJ43ANSNGD | .472 | .057 | .254 | .039 | .175 | .003 | 12 | – | – | – | ● | ● | ● | ● | ● | ● | ● |

## Step 7 • Defining the Feed per Tooth

Geometry (S.GD)
20% radial width of cut, follow arrows for value.
% = radial width of cut (Ae) ÷ cutter diameter (D1)
Using a round or ball nose insert, consider the axial depth of cut; see separate chart on the cutter page.

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .F..LDJ | .005 | .010 | .019 | .004 | .007 | .014 | .003 | .006 | .012 | .003 | .006 | .012 | .003 | .006 | .011 | .F..LDJ |
| .E..LD | .005 | .014 | .029 | .004 | .011 | .021 | .003 | .009 | .019 | .003 | .009 | .017 | .003 | .008 | .017 | .E..LD |
| .S..GD | .010 | .022 | .038 | .007 | .016 | .028 | .006 | .014 | .024 | .006 | .013 | .022 | .006 | .013 | .022 | .S..GD |
| .S..HD | .010 | .024 | .039 | .007 | | .029 | .006 | .015 | .025 | .006 | .014 | .023 | .006 | .014 | .023 | .S..HD |

7

NOTE: Use "Light Machining" values as starting feed ra

7

Always consider starting with the "Light Machining" value. Once established, increase the feed per tooth from the chart.
These are minimum values and can be increased when the application has been proven.
Light Machining — Low Feed Rate, High Speed
General Purpose — Normal Feed, Normal Speed
Heavy Machining — Higher Feed, Reduced Speed

## Step 8 • Recommended Starting Speeds [SFM]

8

| Material Group | | SC6525 | | | SP4019 | | | SP6519 | | | KCSM30 | | | KCSM40 | | | X400 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1460 | 1000 | 560 | 1245 | 900 | 560 | 1165 | 855 | 510 | 1460 | 1265 | 1180 | – | – | – | 1015 | 755 | 475 |
| | 2 | 1280 | 885 | 475 | 1085 | 785 | 475 | 1015 | 755 | 460 | 1200 | 1065 | 870 | – | – | – | 900 | 675 | 410 |
| | 3 | 1150 | 785 | 410 | 970 | 690 | 410 | 900 | 655 | 395 | 1115 | 950 | 770 | – | – | – | 785 | 590 | 375 |
| | 4 | 820 | 575 | 310 | 755 | 525 | 310 | 690 | 490 | 295 | 985 | 805 | 655 | – | – | – | 590 | 425 | 280 |
| | 5 | 625 | 475 | 310 | 590 | 425 | 280 | 560 | 410 | 280 | 805 | 755 | 655 | 675 | 575 | 475 | – | – | – |
| | 6 | 560 | 395 | 230 | 510 | 360 | 195 | 475 | 330 | 195 | 720 | 560 | 425 | 590 | 425 | 310 | – | – | – |
| M | 1 | 785 | 705 | 560 | 1100 | 785 | 475 | 1065 | 770 | 460 | 885 | 785 | 720 | 820 | 675 | 560 | – | – | – |
| | 2 | 755 | 625 | 475 | 985 | 705 | 425 | 920 | 675 | 410 | 805 | 705 | 575 | 705 | 575 | 475 | – | – | – |
| | 3 | 575 | 510 | 360 | 785 | 575 | 360 | 770 | 560 | 330 | 605 | 525 | 410 | 575 | 425 | 330 | – | – | – |
| K | 1 | 1540 | 1065 | 575 | 1295 | 950 | 575 | 1165 | 870 | 560 | – | – | – | – | – | – | – | – | – |
| | 2 | 1200 | 820 | 460 | 1000 | 720 | 460 | 950 | 690 | 425 | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | 920 | 675 | 410 | 870 | 625 | 395 | – | – | – | – | – | – | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE: For starting speed recommendations, please refer to section X22–X37 pages. Kennametal provides starting speed conditions for both wet and dry applications. Fine pitch cutters, such as Mill16™, KSSR™, and HexaCut™, also have separate speed tables provided.

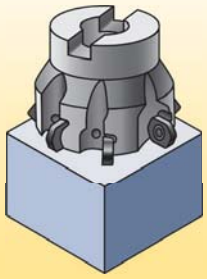
### Choose the Application

- Face Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

● first choice
○ alternate choice

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

## Face Mills



### Dodeka™ Mini • High-Feed

Ap1: .064"
Cutting Edges: 12
Diameter: 1–3"
Insert Style: HN*J43
k = 75° Pages: S4–S7

### Dodeka™ Mini 45°

Ap1: .127"
Cutting Edges: 12
Diameter: 1–5"
Insert Style: HN*J43
k = 45° Pages: S8–S13

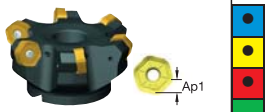
### Dodeka™ Mini 30°

Ap1: .174"
Cutting Edges: 12
Diameter: 1.5–5"
Insert Style: HN*J43
k = 30° Pages: S14–S16

### Dodeka™ • High Feed • 75°

Ap1: .087"
Cutting Edges: 12
Diameter: 2–6"
Insert Style: HN*J535
k = 75° Pages: S17–S19

### Dodeka™




Ap1: .178"
Cutting Edges: 12
Diameter: 2–12"
Insert Style: HN*J535
k = 45° Pages: S20–S23

### Dodeka MAX™

Ap1: .315"
Cutting Edges: 12
Diameter: 3–12"
Insert Style: HN*J75
k = 45° Pages: S24–S26

### Mill 16™

Ap1: .217"
Cutting Edges: 16
Diameter: 2–10"
Split case: 12–20"
Insert Style: ON*X64
k= 46.5° Pages: S30–S34

### KSSM™ 45°

Ap1: .260"
Cutting Edges: 4
Diameter: 1.26–7.87"
Insert Style: SE*T443
k= 45° Pages: S39–S41

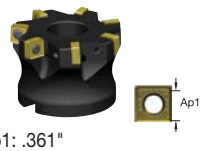
### KSOM™ Mini

Ap1: .138" (8 cutting edges)
Ap2: .354" (4 cutting edges)
Diameter: 1.25–6"
Insert Style: OF*T53
k = 47° Pages: S44–S48

### KSOM™

Ap1: .197" (8 cutting edges)
Ap2: .461" (4 cutting edges)
Diameter: 2.5–6"
Insert Style: OF*T64
k = 47° Pages: S50–S53

### KSSM8+™ • IC10




Ap1: .361"
Cutting Edges: 8
Diameter: 2–4"
Insert Style: SN*J31
k= 2° Pages: S56–S57

### KSSM8+ • IC12

Ap1: Ap1: .236" (-ENLD)
Ap1: .467" (-SNGD)
Cutting Edges: 8
Diameter: 2–6"
Insert Style: SN*J44
k= 3° Pages: S58–S60

### Fix-Perfect™ 20° • Cast Iron • IC12

Ap1: .232" (8 cutting edges)
Ap2: .374" (4 cutting edges)
Diameter: 2–10"
Insert Style: SPHX1205
k = 20° Pages: S64–S66

### Fix-Perfect™ 0° • Cast Iron • IC12

Ap1: .236" (8 cutting edges)
Ap1: .394" (4 cutting edges)
Diameter: 2–6"
Insert Style: SPHX1205
k = 0° Pages: S67–S69

### Fix-Perfect™ 20° • Cast Iron • IC15

Ap1: .256" (8 cutting edges)
Ap2: .374" (4 cutting edges)
Diameter: 2–10"
Insert Style: SPHX15T6
k = 20° Pages: S70–S72

*(continued)*

*(Face Mills Application Selection Guide — continued)*

### HexaCut™ 45° • Cast Iron

Ap1: .256"
Cutting Edges: 12
Diameter: 3.15–12"
Insert Style: HN*535
**k = 45°** Pages: S77–S80

### HexaCut™ 30° • Cast Iron

Ap1: .315"
Cutting Edges: 12
Diameter: 3.15–12"
Insert Style: HN*535
**k = 30°** Pages: S82–S83

### KSSR™ 6°

Ap1: .197"
Cutting Edges: 8
Diameter: 2.5–10"
Insert Style: SNXF43
**k = 6°** Pages: S88–S90

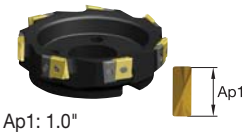
### MEGA 45° • Heavy Duty

Ap1: .675"
Cutting Edges: 4
Diameter: 5–12"
Insert Style: LNPU86
**k = 45°** Pages: S94–S95

### MEGA 60 • Heavy Duty

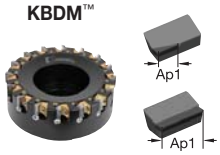
Ap1: .840"
Cutting Edges: 4
Diameter: 5–12"
Insert Style: LNPU76
**k = 30°** Pages: S98–S99

### MEGA 90 • Heavy Duty



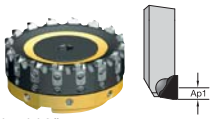

Ap1: 1.0"
Cutting Edges: 4
Diameter: 5–12"
Insert Style: LNPU76
**k = 0°** Pages: S100–S101

### KBDM™



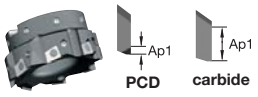

Ap1: 0.100/0.250/0.500"
Cutting Edges: 1
Diameter: 2.5–8"
Insert Style: KSDR10
Pages: S104–S106

### KSCM™ AluMill™




Ap1: .118"
Cutting Edges: 1
Diameter: 2.5–12"
**k = 0°** Pages: S109–S111

### Fix-Perfect™ 0° • Aluminum

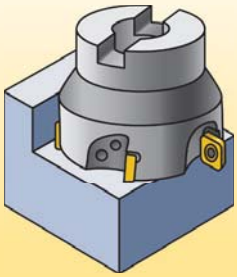



Ap1: .205" (PCD)
Ap1: .374" (carbide)
Cutting Edges: 4
Diameter: 1.5–8"
Insert Style: BGHX15L5
**k = 0°** Pages: S121–S125

● first choice
○ alternate choice

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

## Shoulder Mills



### Mill 4-11™

Ap1: .433"
Cutting Edges: 4
Diameter: .625–3"
Insert Style: LN*U43
Pages: T4–T10

k = 0°

### Mill 4-15™

Ap1: .610"
Cutting Edges: 4
Diameter: 1–6"
Insert Style: LN*U54
Pages: T14–T20

k = 0°

### Mill 1-7™

Ap1: .275"
Cutting Edges: 2
Diameter: .500–.745"
Insert Style: EP07
Pages: T24–T25

k = 0°

### Mill 1-10™

Ap1: .396"
Cutting Edges: 2
Diameter: .500–4.00"
Insert Style: EC10
Pages: T29–T37

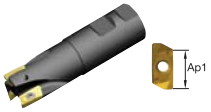
k = 0°

### Mill 1-10™ Helical

Ap1: .70–1.80"
Cutting Edges: 2
Diameter: .750–2.00"
Insert Style: EC10
Pages: T40–T47

k = 0°

### Mill 1-14™



Ap1: .551–.580"
Cutting Edges: 2
Diameter: .625–4.00"
Insert Style: EC14
Pages: T49–T59

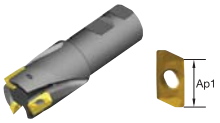
k = 0°

### Mill 1-14™ Helical

Ap1: 1.10–2.13"
Cutting Edges: 2
Diameter: 1.25–2.50"
Insert Style: EC14
Pages: T63–T70

k = 0°

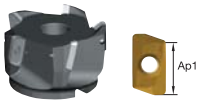
### Mill 1-18™



Ap1: .64–.71"
Cutting Edges: 2
Diameter: .97–8.00"
Insert Style: EC18
Pages: T75–T85

k = 0°

### Mill 1-25™



Ap1: .98"
Cutting Edges: 2
Diameter: 1.50–5.00"
Insert Style: KG25
Pages: T89–T93

k = 0°

### 5720VZ16

Ap: .630"
Cutting Edges: 2
Diameter: 1–3"
Insert Style: ZDET16M5
Pages: T96–T100

k = 0°

### KSSM™ 0° IC 10

Ap1: .259"
Cutting Edges: 4
Diameter: .750–3.0"
Insert Style: SP*T31
Pages: T107–T112

k = 0°

### KSSM™ 0° IC 12

Ap1: .361"
Cutting Edges: 4
Diameter: 2.00–10.00"
Insert Style: SD*T43
Pages: T113–T117

k = 0°

### KSSM™ • Helical 0° IC 12

Ap1: 1.691–4.110"
Cutting Edges: 4
Diameter: 2.00–3.00"
Insert Style: SD*T43
Pages: T119–T124

k = 0°

### 5230VS09

Cutting Edges: 4
Diameter: 2"
Insert Style: SD*T09
Pages: T127–T130

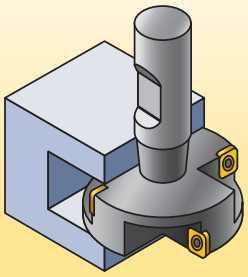
k = 0°

### 5230VS12

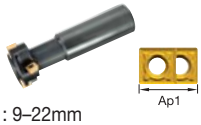
Cutting Edges: 4
Diameter: 2–4"
Insert Style: SDHT1204/
SDMW1204
Pages: T131–T133

k = 0°

## Slotting



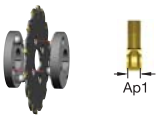
### KTMS™ Slotting Cutter




k = 0°

Ap1: 9–22mm
Cutting Edges: 4
Diameter: 21–50mm
Insert Style: SDMT
Pages: U3–U4

### KVNS™ A2™ Slotting Cutters




k = 0°

Ap1: .063–.245"
Cutting Edge: 1
Diameter: 2.5–10"
Pages: U7–U10

### 0° SN Slotting Cutters

k = 0°

B min: .161–.187"
Cutting Edges: 4
Diameter: 3–6"
Insert Style: SNHX
Pages: U13–U15

### 0° LN Slotting Cutters

k = 0°

B min: .250–.500"
Cutting Edges: 4
Diameter: 2.5–8"
Insert Style: LNEU/LNEQ
Pages: U17–U22

### KSSM™ Slotting Cutters • IC 10

k = 0°

B min: .551–.709"
Cutting Edges: 4
Diameter: 4–12"
Insert Style: SP*T10T3
Pages: U25–U31

### KSSM™ Slotting Cutters • IC 12

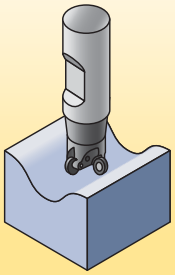
k = 0°

B min: .709–.917"
Cutting Edges: 4
Diameter: 5–12"
Insert Style: SD*T1204
Pages: U32–U40

● first choice
○ alternate choice

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

## Copy Mills



### 7792VXP06

Ap1: .035"
Cutting Edges: 4
Diameter: .625–1.250"
Insert Style: XP*T0603
Pages: V4–V8

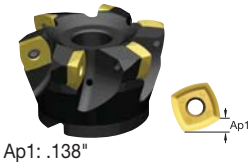
### 7792VXD09

Ap1: .059"
Cutting Edges: 4
Diameter: 1–2"
Insert Style: XD*T0904
Pages: V9–V16

### 7792VXD12

Ap1: .098"
Cutting Edges: 4
Diameter: 1.25–6.3"
Insert Style: XD*T1205
Pages: V17–V24

### 7792VXE16



Ap1: .138"
Cutting Edges: 4
Diameter: 1.5–6"
Insert Style: XE*1605
Pages: V25–V29

### KenFeed™ 2X Series

Ap1: .059"
Cutting Edges: 6
Diameter: 1–3"
Insert Style: WOEJ09
Pages: V36–V40

HF

### Rodeka™ 10

Ap1: .200"
Cutting Edges: 8
Diameter: 1–2"
Insert Style: RN*J10
Pages: V44–V50

### Rodeka™ IC12

Ap1: .117"/.236"
Cutting Edges: 12/8
Diameter: 1.25–4"
Insert Style: RN*J12
Pages: V51–V57

Round

### Rodeka 16

Ap1: .156"
Cutting Edges: 12
Diameter: 1.5–5"
Insert Style: RN*J16
Pages: V58–V60

### Rodeka 12X

Ap1: .236"
Cutting Edges: 8
Diameter: 1.575–3.15"
Insert Style: RNGJ12
Pages: V62–V64

### KSRM™ • IC12

Ap1: .236"
Diameter: 1.25–4"
Insert Style: RP*T1204
Pages: V68–V73

Round

### KSRM™ • IC16

Ap1: .315"
Diameter: 1.5–6"
Insert Style: RP*T1605
Pages: V75–V79

Round

### KSRM™ • IC 1/2"

Ap1: .250"
Diameter: 1.25–3"
Insert Style: RP*T43
Pages: V81–V85

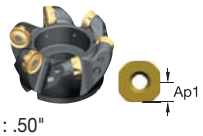
Round

### KSRM™ • IC 3/4"

Ap1: .375"
Diameter: 2–8"
Insert Style: RCGT64
Pages: V87–V90

Round

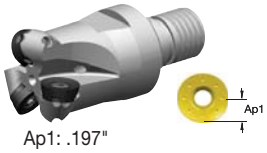
### KSRM™ • IC 1.0"



Ap1: .50"
Diameter: 3–8"
Insert Style: RCGT86
Pages: V91–V93

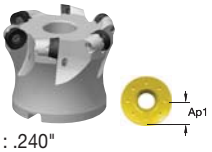
Round

### 7713VR10



Ap1: .197"
Diameter: 1–2.5"
Insert Style: RP*10
Pages: V97–V101

### 7713VR12



Ap1: .240"
Diameter: 1–3"
Insert Style: RP*12
Pages: V102–V107

*(continued)*

*(Copy Mills Application Selection Guide — continued)*

### 5505VX

Ap1: .625-2"
Diameter: .625-2"
Insert Style: XPNT
Pages: V111–V118

### Ball Nose End Mills • KDMB™

Ap1: .125–.625"
Diameter: .25–1.25"
Insert Style: KDMB
Pages: V121–V131

### KDMT™ High Feed

Ap1: up to .04"
Diameter: .5–.75"
Insert Style: KDMT
Pages: V132–V135

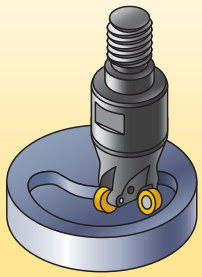
**HF**

### Z-Axis Plunge Mill

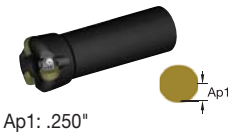
Ap1: .433"
Diameter: 1.25–6"
Insert Style: SD*T43
Pages: V139–V143

**k = 1.5°**

## Ceramic Mills



### KCRA

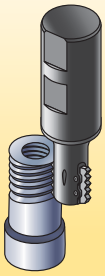



Ap1: .250"
Diameter: 1.5–3"
Insert Style: RNGN43
Pages: V148–V151

### KIPR

Ap: .249"
Diameter: .625–1.5"
Insert Style: RPG2150/
RPG32/RPG43
Pages: V155–V159

## Thread Mills



### Indexable Thread Mills • Parallel and Conical Threads

Inserts: TM24, TM25, TM40, TM41
Diameter: .450–2.320"
Pages: W4–W27

### KTMD U Series

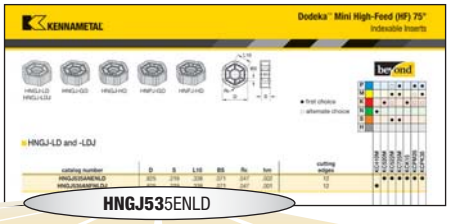
Diameter: 580–2.090"
Pages: W29–W37

### TMS Thread Milling System

Diameter: .354–1.811"
Mini Shank: STN10
Normal Shank: STN11, STN16, STN27
Long Shank: STN16, STN27
Pages: W39–W47

## How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



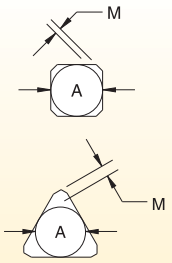

### H — Insert Shape

| | | |
|---|---|---|
| A | Parallelogram | 85° |
| C | Rhomboid | 80° |
| E | | 75° |
| H | Hexagon | 120° |
| L | Rectangular | 90° |
| O | Octagon | 135° |
| R | Round | — |
| S | Square | 90° |
| T | Triangular | 60° |
| X | Kennametal Standard Form | |

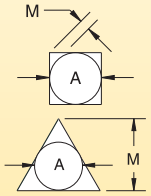
### N — Insert Clearance Angle

| | |
|---|---|
| A | 3° |
| B | 5° |
| C | 7° |
| D | 15° |
| E | 20° |
| F | 25° |
| G | 30° |
| N | 0° |
| P | 11° |

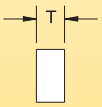
### G — Tolerance Class




Indexable inserts with facets/wipers




Indexable inserts with corner radii




Insert thickness

### J — Geometry and Clamping Type

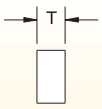
### 5 — Size

| A | symbol |
|---|---|
| 1.000 | 8 |
| .750 | 6 |
| .625 | 5 |
| .500 | 4 |
| .375 | 3 |
| .250 | 2 |

inscribed circle "A"

For shapes A, L, and X, see position #1; use length of leading cutting edge in increments of 1/4".

### 3 — Thickness




insert thickness

| T | in 1/16" |
|---|---|
| .0938 | 1.5 |
| .125 | 2 |
| .1562 | 2.5 |
| .1875 | 3 |
| .2188 | 3.5 |
| .2500 | 4 |
| .3125 | 5 |

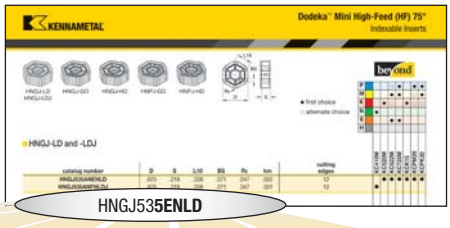
| tolerance class | tolerance on "A" | tolerance on "M" | tolerance on "T" | tolerance class | tolerance on "A" | tolerance on "M" | tolerance on "T" |
|---|---|---|---|---|---|---|---|
| A | .001 | .0002 | .001 | J | .002–.005* | .0002 | .001 |
| B | .001 | .0002 | .005 | K | .002–.005* | .0005 | .001 |
| C | .001 | .0005 | .001 | L | .002–.005* | .001 | .001 |
| D | .001 | .0005 | .005 | M | .002–.005* | .003–.008* | .005 |
| E | .001 | .001 | .001 | N | .002–.005* | .003–.008* | .001 |
| F | .0005 | .0002 | .001 | P** | .0015 | .0015 | .0015 |
| G | .001 | .001 | .005 | U | .003–.010* | .005–.015* | .005 |
| H | .0005 | .0005 | .001 | — | — | — | — |

*See table below for tolerances according to insert size and class.
**Kennametal standard only.

| A | tolerances on "A" | | tolerances on "M" | |
|---|---|---|---|---|
| | classes J, K, L, M, N | class U | classes M & N | class U |
| .1875–.3937 | .002 | .003 | .003 | .005 |
| .4375–.5625 | .003 | .005 | .005 | .008 |
| .5906–.8125 | .004 | .007 | .006 | .011 |
| .8661–1.188 | .005 | .010 | .007 | .015 |
| 1.250–1.378 | .006 | .010 | .008 | .015 |

| symbol | hole | shape of hole | chipbreaker | shape of insert's section |
|---|---|---|---|---|
| N | without | | without | |
| R | | | single sided | |
| F | | | double sided | |
| A | with | cylindrical hole | without | |
| M | | | single sided | |
| G | | | double sided | |
| W | | partly cylindrical hole, 40–60° countersink | without | |
| T | | | single sided | |
| Q | | partly cylindrical hole, 40–60° double countersink | without | |
| U | | | double sided | |
| B | | partly cylindrical hole, 70–90° countersink | without | |
| H | | | single sided | |
| C | | partly cylindrical hole, 70–90° double countersink | without | |
| J | | | double sided | |
| X | special design | | | |

*By referencing this easy-to-use guide, you can identify the correct product to meet your needs.*




| 5 | E | N | – | L | D | |
|---|---|---|---|---|---|---|
| Corner Configuration | Cutting Edge Form | Insert Hand | Facet Width | Edge Prep Size | Rake Face Angle | Added Info |

## Cutting Edge Form

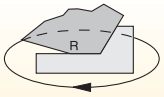
**F** Sharp

**E** Honed

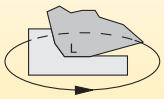
**T** T-land

**S** Honed T-land

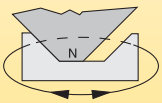
## Insert Hand



direction of cutter rotation



direction of cutter rotation



direction of cutter rotation

## Facet Width

| | |
|---|---|
| .0312 | 2 |
| .0469 | 3 |
| .0625 | 4 |
| .0938 | 6 |

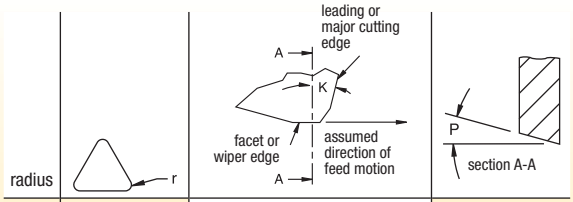
Facet width is number of 1/64" increments (1/32" for old styles).

## Edge Prep Size

**L** = Light — sharp or lightly honed and/or T-land
**G** = General — medium hone and/or T-land
**H** = Heavy — large hone and/or T-land

## Added Info

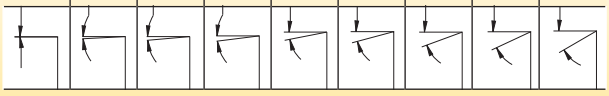
**J** = Polished rake face
**P** = Partial T-land
**W** = Wiper/radiused facet



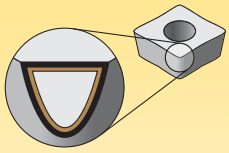

| radius | | | | wiper edge clearance P | |
|---|---|---|---|---|---|
| 0 | .004 | If letter is replaced by number(s), refer to table for radius "r". | | A | 3° |
| 0.5 | .008 | | | B | 5° |
| 1 | 1/64 | | | C | 7° |
| 2 | 1/32 | lead angle K | | D | 15° |
| 3 | 3/64 | A | 45° | E | 20° |
| 4 | 1/16 | D | handed 30° | F | 25° |
| 5 | 5/64 | K | neutral 30° | G | 30° |
| 6 | 3/32 | E | handed 15° | N | 0° |
| 7 | 7/64 | L | neutral 15° | P | 11° |
| 8 | 1/8 | P | 0° | | |

## Rake Face Angle

| N | A | B | C | P | D | E | F | G |
|---|---|---|---|---|---|---|---|---|
| 0° or less | 3° | 5° | 7° | 11° | 15° | 20° | 25° | 30° |



Nominal or average angle of rake on insert face at leading cutting edge before edge prep and before installation.

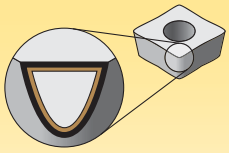


**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

**Grades**

| Coating | Grade Description | wear resistance ↔ toughness: 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|
| GH1 | Uncoated submicron carbide grade with high wear resistance. GH1 is suitable for machining of aluminum and non-ferrous materials. Also a good choice for the finishing of cast iron. This grade can be used both wet and dry and is designed for light and general machining. | K, N | K, N | K, N | | | | | | |
| GH2 | Uncoated, fine grained carbide grade with good strength. GH is suitable for machining of aluminum and non-ferrous materials. Also good choice for cast iron for medium toughness requirements. This grade can be used both wet and dry and is designed for light and general machining. | | | | K, N, S | K, N, S | K, N | | | |
| K110M | Uncoated carbide grade K110M is a universal grade for machining non-ferrous material. For use in light and general machining. K110M can be used with or without coolant. | | K, N, S | K, N, S | N | | | | | |
| K115M | Uncoated carbide grade. K115M is a premium uncoated grade designed for high edge-wear resistance in non-ferrous and cast iron materials. Recommended to be used with coolant. | K, N | K, N | N | | | | | | |
| K313 | Uncoated carbide grade. K313 is suitable for machining cast iron, high-temperature alloys and non-ferrous materials. This grade can be used both wet and dry and is designed for light and general machining. | K, N, S | K, N, S | K, N | | | | | | |
| KBK50 | A high CBN content, PcBN tip brazed onto a carbide insert. Designed to machine at highest speeds and tool life on semi-finishing and finishing cast iron materials. | K | K | K | | | | | | |
| KC410M | PVD, $TiB_2$ coating on grade KC410M is extremely hard and provides very good wear characteristics at higher cutting speeds. KC410M resists built-up edge, can help reduce burring, and generates excellent surface finishes. The grade is best suited for aluminum with <10% silicon and other non-ferrous materials. | N | N | N | | | | | | |



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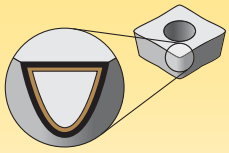
| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

Preferred grade.

wear resistance ← → toughness

Grades

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KC422M | The PVD $TiB_2$ coating is very wear resistant. Together with hard coating and a tough substrate, this is an excellent combination for medium to roughing applications in aluminum <10% silicon and other non-ferrous materials. | N | | | | | | | | | |
| KC505M | Coated carbide with PVD TiAlN. KC505M is a highly wear-resistant grade primarily used for light maching applications in steel and hardened steels. | P | | | | | | | | | |
| | | H | | | | | | | | | |
| KC510M | Coated carbide grade with a TiAiN coating (PVD). KC510M is a highly wear-resistant grade primarily for use in milling aluminum and high-temperature alloys in light applications. Can also be used for machining of steel and hardened steel. | P | | | | | | | | | |
| | | N | | | | | | | | | |
| | | S | | | | | | | | | |
| | | H | | | | | | | | | |
| KC514M | Coated carbide grade with a thicker PVD TiAlN coating. KC514M combines high wear resistance with good toughness. Primarily for light to medium machining of cast irons. This grade can be used both wet and dry. | K | | | | | | | | | |
| KC515M | Premium-coated grade K10 substrate with built-in wear resistance and (TiAlN) coating for extended life during finishing applications. Used in finish ball nose and back draft inserts for the die and mold industry. Capable of running at moderate to high cutting speeds. | P | | | | | | | | | |
| | | M | | | | | | | | | |
| | | K | | | | | | | | | |
| KC520M | Coated carbide grade with TiAlN coating (PVD). KC520M is a carbide grade developed specifically for general machining of ductile cast iron. This grade can be used with or without coolant. | K | | | | | | | | | |
| KC522M | Coated carbide grade with a AlTiN (PVD) coating. KC522M is engineered to provide better performance in general machining of high-temperature alloys and stainless steel. KC522M resists breakage and offers improved wear resistance and increased strength. | P | | | | | | | | | |
| | | M | | | | | | | | | |
| | | K | | | | | | | | | |
| | | S | | | | | | | | | |



**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

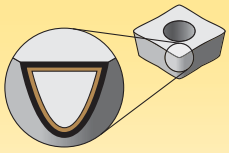
| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

Preferred grade.

wear resistance ← → toughness

Grades

| Coating | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| KC524M | Coated carbide grade with a thicker PVD TiAlN coating. KC524M combines good wear resistance with high toughness. Primarily for general machining of all cast irons. This grade can be used both wet and dry. | K | | | | | | | | | |
| KC525M | Coated carbide grade with a TiAlN coating (PVD). New universal carbide grade for milling steel, stainless steel, and high-temperature alloys. KC525M can be used with or without coolant. Primarily for use in light and general machining. | P, M, S | | | | | | | | | |
| KC530M | Premium PVD-coated carbide grade (P40) with a TiAlN coating. Enables extended tool life at moderate feeds and high cutting speeds. First choice for milling in all steels, including die and mold steels. Recommended for use without coolant. | P, M | | | | | | | | | |
| KC725M | Coated carbide grade with an advanced PVD TiAlN coating. KC725M is a high-performance grade for milling steel, stainless steel, and ductile cast iron. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining. | P, M, S | | | | | | | | | |
| KC735M | PVD/TiN coated carbide grade. This grade offers an unusual combination of high toughness and wear resistance. Even under extreme toughness requirements, it achieves outstanding results in general and heavy-machining applications. Suitable for dry and wet machining. | P, M | | | | | | | | | |
| KCK15 | Coated carbide grade with CVD multilayer coating (TiN/MT TiCN/$Al_2O_3$) and advanced Beyond™ post-coat treatment. KCK15 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results in dry, but can also be used wet. | K | | | | | | | | | |
| KCK20 | A new PVD multilayer AlTiN + AlCrN coated carbide with an excellent combination of wear resistance and coating strength.<br>The KCK20 grade is specifically engineered to maximize coating adhesion and edge strength, making this grade ideal in wet interrupted cutting of gray and ductile irons, and can also be used in dry conditions.<br>It can be used in a wide range of applications, from finishing to roughing, to maximize productivity wherever strength and reliability are needed. | K | | | | | | | | | |



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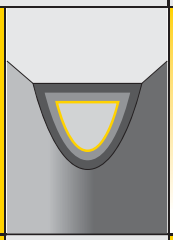
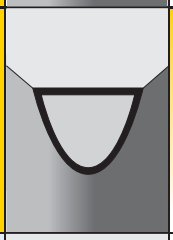
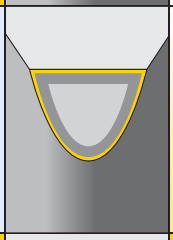
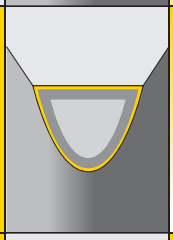
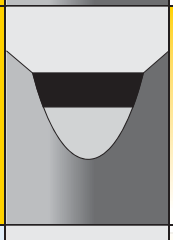
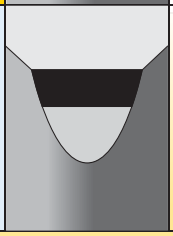
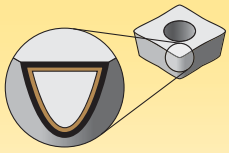
| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

Preferred grade.

wear resistance ⟷ toughness

Grades

| Coating | | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KCPK30 |  | Coated carbide grade with CVD multilayer (TiN/TiCN/$Al_2O_3$) and advanced Beyond™ post-coat treatment. Substrate is very tough. KCPK30 has a wide application area in general and roughing milling of steels and cast irons. Performs best dry, but can also be used wet. | P | | | | | ■ | ■ | ■ | ■ | |
| | | | K | | | | | ■ | ■ | ■ | ■ | |
| KCPM40 |  | Coated carbide grade with an advanced PVD TiAlN/AlCrN coating. Tough substrate with excellent capability at higher temperatures. KCPM40™ is the first choice for milling steel and stainless steel. Good thermal shock resistance makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining. | P | | | | | ■ | ■ | ■ | ■ | |
| | | | M | | | | | ■ | ■ | ■ | ■ | |
| KCSM30 |  | Submicron substrate coated with high-performance TiAlN-PVD coating is an excellent choice for titanium, but also high-temperature alloys and stainless with higher speeds for light to medium cuts. First choice for application with thin to medium chip thickness, dry and wet. | P | | | | ■ | ■ | ■ | | | |
| | | | M | | | | | ■ | ■ | ■ | | |
| | | | S | | | | ■ | ■ | ■ | ■ | | |
| KCSM40 |  | Coated carbide grade with an advanced PVD TiAlN/TiN coating. Premium substrate with newly developed binder composition. KCSM40 is a high-performance grade for titanium, super alloys, and stainless steel. High thermal shock resistance of the substrate makes this grade ideal for wet machining. First choice for roughing and unsuitable cutting conditions. | M | | | | | ■ | ■ | ■ | ■ | |
| | | | S | | | | | ■ | ■ | ■ | ■ | |
| KD1400 |  | A PCD-tip brazed to a carbide carrier for high-speed machining of non-ferrous materials. KD1400 has excellent chipping resistance with good wear characteristics. Coolant is preferred. | N | ■ | ■ | ■ | | | | | | |
| KD1410 |  | A PCD-tip brazed to carbide for machining aluminum with a very high silicon content, abrasive non-ferrous materials, and fiber-reinforced plastics. KD1410 can be used at very high cutting speeds, even where good surface finishes are required. This grade can be used both wet or dry but is suggested to use coolant where good surface finishes are required. | N | | ■ | ■ | | | | | | |

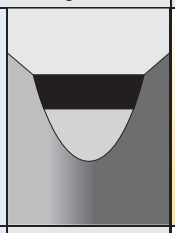
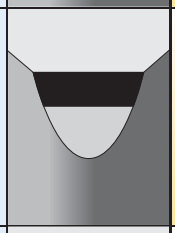
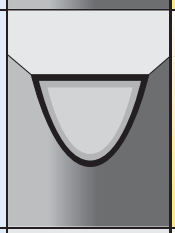
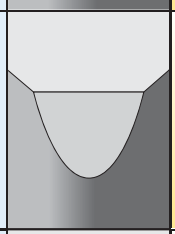
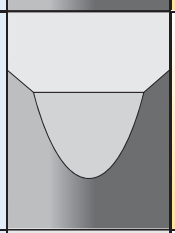
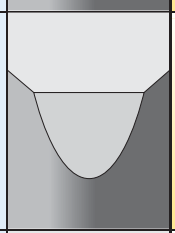
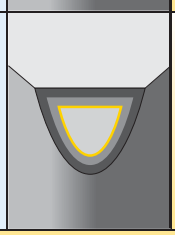


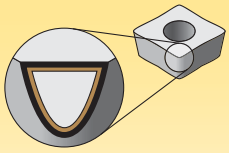
**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

wear resistance ⟷ toughness

Grades

| Coating | | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KD1415 |  | PCD-tip brazed to carbide for general machining of aluminum with a low silicon content, non-ferrous heavy metals, and plastics. KD1415™ can be used at high cutting speeds and for continuous cutting, even where outstanding surface finishes are required. KD1415 is suitable for wet and dry machining. | N | | ■ | ■ | | | | | | |
| KD1425 |  | A PCD-tipped brazed to a carbide carrier for high-speed machining of aluminum and other non-ferrous materials. KD1425™ provides superior wear resistance with moderate toughness to resist chipping. Coolant is preferred. | N | ■ | ■ | ■ | | | | | | |
| KTPK20 |  | Cermet with PVD-TiAlN/AlCrN multi-layer coating. This tough cermet is primarily used in light and general machining of steel, stainless steels, and cast irons. Performs best dry. | P<br>M<br>K | | | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■ | | | | |
| KY3500 |  | A ceramic cutting material based on micro-grain $Si_3N_4$ primarily for use in light to general machining of gray cast iron and ferritic ductile cast iron. Dry machining is preferred while using this grade. | K | | | | ■ | ■ | ■ | ■ | | |
| KYS30 |  | KYS30™ is the latest in the line of α/βSiAlON grades for general purpose to finish machining of high-temperature alloys. This grade provides excellent wear characteristics, with better toughness and thermal shock resistance than whisker ceramics. KYS30 also gives improved thermal stability. | S | | | | ■ | ■ | ■ | | | |
| KYSP30 |  | Combines excellent wear properties, fracture toughness, and thermal shock resistance for general purpose to finish machining of high-temperature alloys. KYSP30 provides superior depth-of-cut notch resistance compared to whisker ceramics. | S | | | | | ■ | ■ | ■ | | |
| MP91M |  | CVD-coated carbide grade with TiN/MT-TiCN/$Al_2O_3$. Tough substrate in combination with wear resistant for roughing and semi-finishing of steel, cast iron, and hardened materials. | P<br>K<br>H | | | | | ■<br>■<br>■ | ■<br>■<br>■ | ■<br>■<br>■ | | |



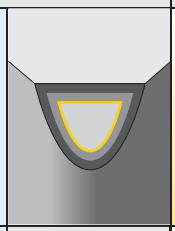
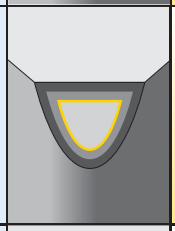
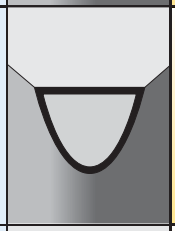
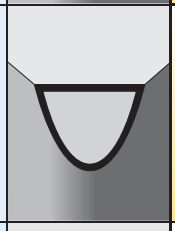
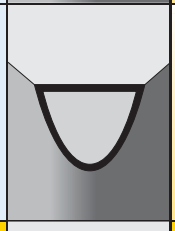
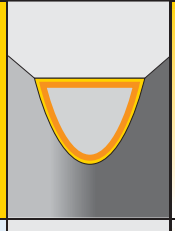
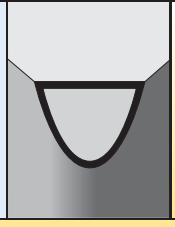
**Coatings provide high-speed capability and are engineered for finishing to heavy roughing.**

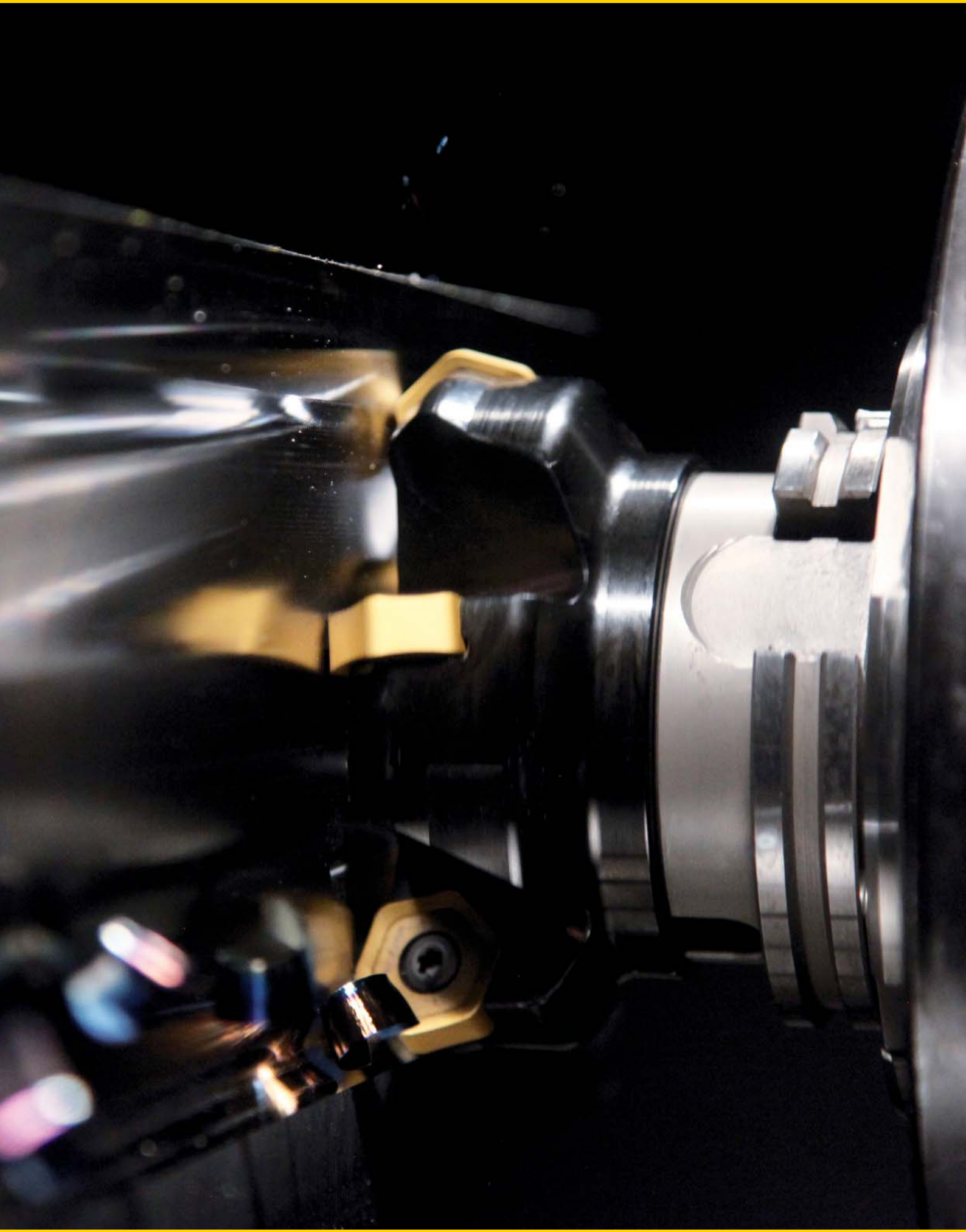
| | |
|---|---|
| P | Steel |
| M | Stainless Steel |
| K | Cast Iron |
| N | Non-Ferrous |
| S | High-Temp Alloys |
| H | Hardened Materials |

Preferred grade.

wear resistance ⟷ toughness

Grades

| Coating | | Grade Description | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SC3025 |  | Coated carbide grade with CVD multilayer coating (TiN/TiCN/$Al_2O_3$). SC3025 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results when using dry, but can also be used wet. | K | | | | | | | | | |
| SC6525 |  | Coated carbide grade with CVD multi-layer (TiN/TiCN/$Al_2O_3$). Tough substrate with good speed capability. SC6525 has a wide application area in general and roughing milling of steels, stainless steels, and cast irons. Performs best dry, but can also be used wet. | P<br>M<br>K | | | | | | | | | |
| SP4019 |  | Fine-grained substrate coated with PVD TiAlN nano-composite. First choice for applications with thin to medium chip thickness. This grade works on many workpiece materials, dry and wet. | M<br>K<br>N<br>S<br>H | | | | | | | | | |
| SP6519 |  | Coated carbide grade with PVD TiAlN nano-composite coating on a tough substrate. Primarily for use in general and heavy machining, dry and wet. | P<br>M<br>K<br>N<br>S<br>H | | | | | | | | | |
| X400 |  | Coated carbide grade with thick PVD TiAlN nanocomposite on X-Grade™ technology substrate. With excellent toughness, good choice for difficult cutting conditions on alloyed and hardened steels. Usable in combination with high feeds. | P<br>H | | | | | | | | | |
| X500 |  | CVD TiN/TiCN/TiN coated carbide on tough substrate (X-Grade™ technology). For difficult applications with heavy impacts, vibrations, or unstable conditions. High stability against thermal cracks. Excellent grade for high-temperature alloys, stainless steels, and titanium. | P<br>M<br>S | | | | | | | | | |
| X700 |  | PVD TiAlN nano-coating on premium substrate (X-Grade™ technology). Milling of stainless steel, super alloys, and titanium with medium applications. | M<br>S | | | | | | | | | |



# Indexable Milling • Face Milling


Dodeka • Leader in Advanced Face Milling (12 Edges per Insert) ..... S2–S26

Mill 16 • 16-Edged Inserts for Machining Cast Iron Materials ..... S28–S35

KSSM 45° • Conventional Machining ..... S38–S41

KSOM Mini • KSOM • Best in Class-Free Cutting Face Mills ..... S42–S53

KSSM8+ • 8-Edged Double-Sided Face Mills with Lead Angle Close to 0° ..... S54–S60

Fix-Perfect • Cast Iron Rougher and Finisher ..... S62–S73

HexaCut Series • Machining Automotive Components ..... S74–S84

KSSR • Cast Iron • Roughing and Finishing 6° Lead ..... S86–S90

MEGA 45 • For True Heavy-Duty Machining ..... S92–S95

MEGA 60/90 • For True Heavy-Duty Machining ..... S96–S101

KBDM • PCD Face Milling ..... S102–S107

KSCM AluMill ..... S108–S118

Fix-Perfect Aluminum ..... S120–S126

# Dodeka™ Series

## Leader in Advanced Face Milling Applications

### Primary Application

Dodeka Mini, Dodeka, and Dodeka MAX™ platform face milling boosters are the most comprehensive face milling boosters on the market today. Twelve true cutting edges per insert mean low cost-per-edge and high productivity. With Beyond™ premium milling grades, achieve up to 30% higher metal removal rates (MRR), 25% lower cutting forces due to soft cutting action, and up to 35% better tool life in light to heavy machining.

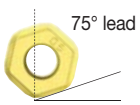
## Features and Benefits

**Dodeka Series • Most comprehensive face milling platform on the market. Providing an excellent cost-per-cutting edge with market leading performance. The Dodeka Series platform will cover all your face milling application needs.**

All cutter body variations can be loaded with one insert style.

**Dodeka Mini High-Feed 75°**
**Dodeka High-Feed 75°**

**12** True Cutting Edges

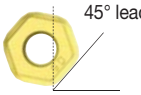



| | |
|---|---|
| **Dodeka Mini** | **Ap1 max = .065"** |
| **Dodeka** | **Ap1 max = .087"** |

Dodeka Mini HF and Dodeka HF can be loaded with all Dodeka Mini standard inserts, except wiper inserts.

**Dodeka Mini 45°**
**Dodeka 45°**
**Dodeka MAX 45°**

**12** True Cutting Edges

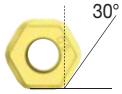



| | |
|---|---|
| **Dodeka Mini** | **Ap1 max = .127"** |
| **Dodeka** | **Ap1 max = .178"** |
| **Dodeka MAX** | **Ap1 max = .315"** |

Best-in-class leader in face milling up to Ap1 max = .315".

**Dodeka Mini 30°**

**12** True Cutting Edges




| | |
|---|---|
| **Dodeka Mini** | **Ap1 max = .171"** |

Achieve a higher axial depth-of-cut capability up to Ap1 = .174" with standard Dodeka Mini inserts.

## Dodeka™ Mini Series

insert size HN.J43
Ap1 max = .171"
pages S4–S16

## Dodeka

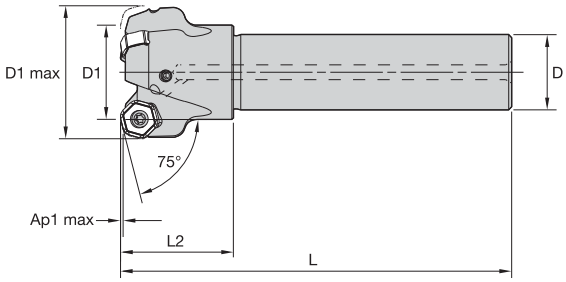
insert size HN.J535
Ap1 max = .178"
pages S17–S23

## Dodeka MAX™

insert size HN.J75
Ap1 max = .315"
pages S24–S26

P M K N S **Applicable in most material groups • Excellent results in machining titanium**

- High-feed capability.
- .06" depth-of-cut capability.
- Twelve cutting edges per insert.



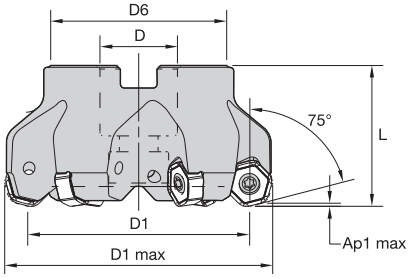
## Dodeka Mini High-Feed 75° • Cylindrical End Mills

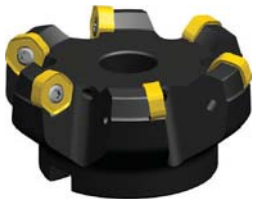
| order number | catalog number | D1 | D1 max | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **4136407** | **KSHRHF100D02C075HN43L480** | 1.000 | 1.518 | .750 | 4.800 | 1.250 | .064 | 2 | .73 | 19800 |
| **4136408** | **KSHRHF100D03C075HN43L480** | 1.000 | 1.518 | .750 | 4.800 | 1.250 | .064 | 3 | .69 | 19800 |
| **4136410** | **KSHRHF125D04C100HN43L520** | 1.250 | 1.768 | 1.000 | 5.200 | 1.500 | .065 | 4 | 1.28 | 17600 |

## Spare Parts

| D1 | insert screw | in. lbs. | wrench |
|---|---|---|---|
| 1.000 | **193.492** | 31 | **170.025** |
| 1.250 | **193.492** | 31 | **170.025** |

- Twelve cutting edges per insert.
- High-feed capability.



## Dodeka Mini High-Feed 75° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| 4136411 | KSHRHF150HN43F3 | 1.500 | 2.018 | .750 | 1.750 | 1.575 | .065 | 5 | .75 | 16700 |
| 4136412 | KSHRHF200HN43M3 | 2.000 | 2.517 | .750 | 1.750 | 1.575 | .065 | 5 | 1.10 | 12500 |
| 4136413 | KSHRHF250HN43M3 | 2.500 | 3.017 | .750 | 1.750 | 1.575 | .065 | 6 | 1.49 | 10000 |
| 4136414 | KSHRHF300HN43M4 | 3.000 | 3.517 | 1.000 | 2.189 | 1.750 | .065 | 8 | 2.21 | 8300 |

## Spare Parts

| D1 | insert screw | in. lbs. | wrench | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | 193.492 | 31 | 170.025 | S445 |
| 2.000 | 193.492 | 31 | 170.025 | S445 |
| 2.500 | 193.492 | 31 | 170.025 | S445 |
| 3.000 | 193.492 | 31 | 170.025 | S458 |

### Dodeka Mini High-Feed

First choice for long reach face milling applications or light fixtures.

Chip thinning effect due to lead angle 14,5°. Tremendous enlargement of feed rate and metal removal rate (MRR).

***Up to 40% shorter machining cycle time versus conventional milling.***

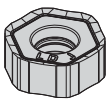
## Insert Selection Guide

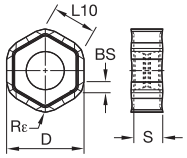
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——— | ———► | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPM40 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KCPK30 |
| M1–M2 | .E..LD | KC522M | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCPM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .S..HD | KCK15 |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .S..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LD | KC510M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LD | KC510M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| H1 | .E..LD | KC510M | **.E..LD** | **KC510M** | .E..LD | KC510M |

## Indexable Inserts

- First choice for machining aluminum.

● first choice
○ alternate choice


HNGJ-LDJ

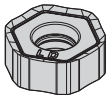


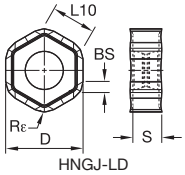
HNGJ-LDJ

### HNGJ-LDJ

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANFNLDJ** | .472 | .060 | .254 | .039 | .176 | .001 | 12 | ● | ● | – | – | – | – | – | – | – | – |

- First choice for light machining.


HNGJ-LD



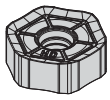
HNGJ-LD

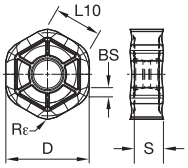
### HNGJ-LD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANENLD** | .472 | .060 | .254 | .039 | .176 | .002 | 12 | – | – | ● | ● | ● | ● | ● | ● | ● | – |
| **HNGJ438ANENLD** | .472 | — | .253 | .126 | .177 | .002 | 12 | – | – | – | – | – | ● | – | ● | – | – |

Face Milling

• First choice for high-performance heavy roughing.


HNGJ-HD



HNGJ-HD

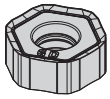
● first choice
○ alternate choice

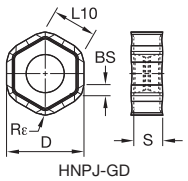
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | ● | ● | | ● | ○ | ● |
| K | | | ● | ● | ○ | | ● | ○ | | |
| N | ● | ● | ○ | | | | | | | |
| S | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | |

## HNGJ-HD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANSNHD** | .472 | .057 | .254 | .039 | .173 | .006 | 12 | – | – | – | – | ● | – | ● | ● | ● | ● |

• First choice for general purpose.


HNPJ-GD

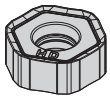


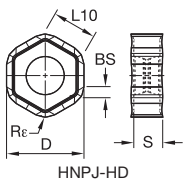
HNPJ-GD

## HNPJ-GD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ43ANSNGD** | .472 | .057 | .254 | .039 | .175 | .003 | 12 | – | – | – | ● | ● | ● | ● | ● | ● | ● |

• First choice for heavy roughing.


HNPJ-HD



HNPJ-HD

## HNPJ-HD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ43ANSNHD** | .472 | .057 | .254 | .039 | .173 | .006 | 12 | – | – | – | ● | ● | ● | ● | ● | ● | ● |
| **HNPJ438ANSNHD** | .472 | – | .253 | .126 | .174 | .004 | 12 | – | – | – | – | ● | ● | ● | ● | ● | ● |



## Recommended Starting Feeds

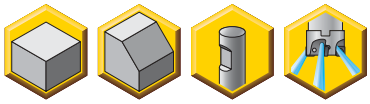
### Recommended Starting Feeds [IPT]

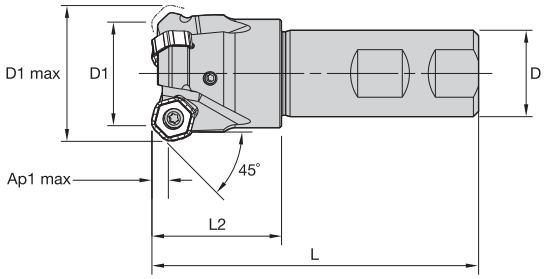
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .018 | **.051** | .089 | .013 | **.036** | .063 | .010 | **.027** | .047 | .008 | **.024** | .041 | .008 | **.022** | .037 | .F..LDJ |
| .E..LD | .020 | **.066** | .112 | .015 | **.047** | .079 | .011 | **.035** | .058 | .010 | **.030** | .051 | .009 | **.028** | .046 | .E..LD |
| .S..GD | .036 | **.086** | .132 | .026 | **.061** | .092 | .019 | **.045** | .068 | .017 | **.039** | .059 | .015 | **.036** | .054 | .S..GD |
| .S..HD | .036 | **.093** | .153 | .026 | **.066** | .106 | .019 | **.049** | .078 | .017 | **.042** | .068 | .015 | **.039** | .062 | .S..HD |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.





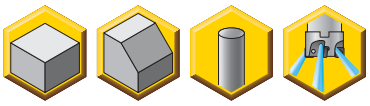
## Dodeka Mini 45° • Weldon® End Mills

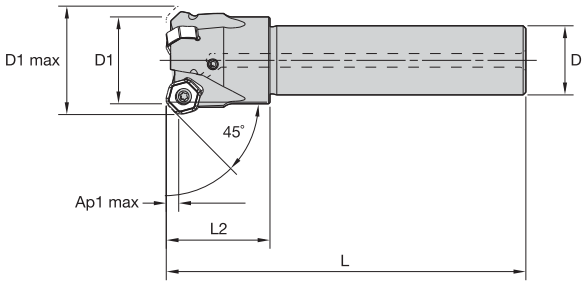
| order number | catalog number | D1 | D1 max | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **4130514** | **KSHR100D02W075HN06** | 1.000 | 1.322 | .750 | 3.280 | 1.250 | .127 | 2 | .46 | 19800 |
| **4130515** | **KSHR100D03W075HN06** | 1.000 | 1.322 | .750 | 3.280 | 1.250 | .127 | 3 | .44 | 19800 |
| **4130516** | **KSHR125D03W100HN06** | 1.250 | 1.572 | 1.000 | 3.780 | 1.500 | .127 | 3 | .88 | 17600 |
| **4130517** | **KSHR125D04W100HN06** | 1.250 | 1.572 | 1.000 | 3.780 | 1.500 | .127 | 4 | .89 | 17600 |

## Spare Parts

| D1 | insert screw | in. lbs. | wrench |
|---|---|---|---|
| 1.000 | **193.492** | 31 | **170.025** |
| 1.250 | **193.492** | 31 | **170.025** |

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.





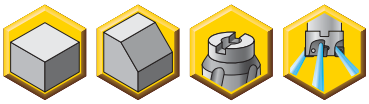
## Dodeka Mini 45° • Cylindrical End Mills

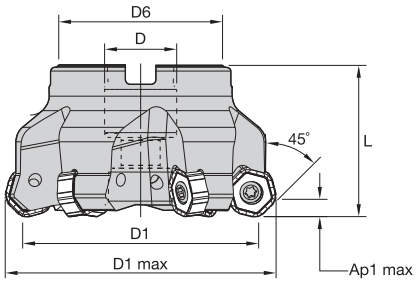
| order number | catalog number | D1 | D1 max | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **4130518** | **KSHR100D02C075HN06L480** | 1.000 | 1.322 | .750 | 4.800 | 1.250 | .127 | 2 | .64 | 19800 |
| **4130519** | **KSHR100D03C075HN06L480** | 1.000 | 1.322 | .750 | 4.800 | 1.250 | .127 | 3 | .62 | 19800 |
| **4130533** | **KSHR100D03C100HN06L800** | 1.000 | 1.322 | 1.000 | 8.000 | 1.250 | .127 | 3 | 1.64 | 19800 |
| **4130520** | **KSHR125D03C100HN06L520** | 1.250 | 1.572 | 1.000 | 5.200 | 1.500 | .127 | 3 | 1.19 | 17600 |
| **4130521** | **KSHR125D04C100HN06L520** | 1.250 | 1.572 | 1.000 | 5.200 | 1.500 | .127 | 4 | 1.20 | 17600 |

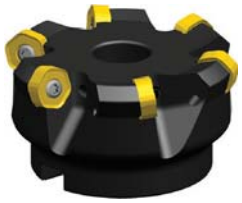
## Spare Parts

| D1 | insert screw | in. lbs. | wrench |
|---|---|---|---|
| 1.000 | **193.492** | 31 | **170.025** |
| 1.250 | **193.492** | 31 | **170.025** |

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.





## Dodeka Mini 45° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **4130426** | **KSHR150HN4345M3** | 1.500 | 1.822 | .500 | 1.440 | 1.575 | .127 | 4 | .57 | 16700 |
| **4130427** | **KSHR150HN4345F2** | 1.500 | 1.822 | .500 | 1.440 | 1.575 | .127 | 5 | .56 | 16700 |
| **4130428** | **KSHR200HN4345C3** | 2.000 | 2.321 | .750 | 1.750 | 1.575 | .127 | 4 | .93 | 12500 |
| **4130429** | **KSHR200HN4345M3** | 2.000 | 2.321 | .750 | 1.750 | 1.575 | .127 | 5 | .93 | 12500 |
| **4130430** | **KSHR200HN4345F3** | 2.000 | 2.321 | .750 | 1.750 | 1.575 | .127 | 6 | .97 | 12500 |
| **4130431** | **KSHR250HN4345C3** | 2.500 | 2.821 | .750 | 1.750 | 1.575 | .127 | 4 | 1.20 | 10000 |
| **4130432** | **KSHR250HN4345M3** | 2.500 | 2.821 | .750 | 1.750 | 1.575 | .127 | 6 | 1.27 | 10000 |
| **4130493** | **KSHR250HN4345F3** | 2.500 | 2.821 | .750 | 1.750 | 1.575 | .127 | 8 | 1.29 | 10000 |
| **4130494** | **KSHR300HN4345C4** | 3.000 | 3.321 | 1.000 | 2.189 | 1.750 | .127 | 5 | 1.90 | 8300 |
| **4130495** | **KSHR300HN4345M4** | 3.000 | 3.321 | 1.000 | 2.189 | 1.750 | .127 | 8 | 2.09 | 8300 |
| **4130496** | **KSHR300HN4345F4** | 3.000 | 3.321 | 1.000 | 2.189 | 1.750 | .127 | 10 | 2.07 | 8300 |
| **4130497** | **KSHR400HN4345C6** | 4.000 | 4.321 | 1.500 | 3.661 | 1.750 | .127 | 6 | 3.48 | 6300 |
| **4130498** | **KSHR400HN4345M6** | 4.000 | 4.321 | 1.500 | 3.661 | 1.750 | .127 | 9 | 3.66 | 6300 |
| **4130499** | **KSHR400HN4345F6** | 4.000 | 4.321 | 1.500 | 3.661 | 1.750 | .127 | 12 | 3.62 | 6300 |
| **4130500** | **KSHR500HN4345C6** | 5.000 | 5.320 | 1.500 | 3.652 | 2.380 | .127 | 8 | 6.38 | 5000 |
| **4130501** | **KSHR500HN4345M6** | 5.000 | 5.320 | 1.500 | 3.652 | 2.380 | .127 | 12 | 6.59 | 5000 |
| **4130502** | **KSHR500HN4345F6** | 5.000 | 5.320 | 1.500 | 3.652 | 2.380 | .127 | 16 | 6.70 | 5000 |



## Spare Parts

| D1 | insert screw | in. lbs. | wrench | socket-head cap screw | coolant lock screw assembly |
|---|---|---|---|---|---|
| 1.500 | **193.492** | 31 | **170.025** | **S424** | **–** |
| 2.000 | **193.492** | 31 | **170.025** | **S445** | **–** |
| 2.500 | **193.492** | 31 | **170.025** | **S445** | **–** |
| 3.000 | **193.492** | 31 | **170.025** | **S458** | **–** |
| 4.000 | **193.492** | 31 | **170.025** | **–** | **S2165C** |
| 5.000 | **193.492** | 31 | **170.025** | **–** | **S2163C** |

## Insert Selection Guide

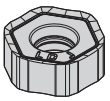
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPM40 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KCPK30 |
| M1–M2 | .E..LD | KC522M | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCPM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .S..HD | KCK15 |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .S..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LD | KC510M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LD | KC510M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| H1 | .E..LD | KC510M | **.E..LD** | **KC510M** | .E..LD | KC510M |

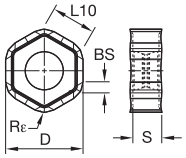
## Indexable Inserts

- First choice for machining aluminum.

● first choice
○ alternate choice

| | | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | | ● | ● | | ● | ○ | ● |
| K | | | | ● | ● | ○ | | ● | ○ | | |
| N | | ● | ● | ○ | | | | | | | |
| S | | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | | |


HNGJ-LDJ

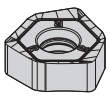


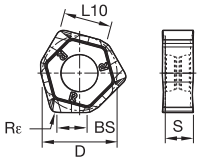
HNGJ-LDJ

### HNGJ-LDJ

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANFNLDJ** | .472 | .060 | .254 | .039 | .176 | .001 | 12 | ● | ● | – | – | – | – | – | – | – | – |

- Wiper insert for fine finishing aluminum.


Wiper XNGJ *



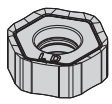
Wiper XNGJ *

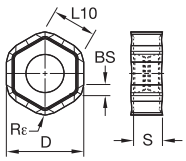
### XNGJ-LDJ3W

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XNGJ43ANFNLDJ3W** | .472 | .189 | .283 | .063 | .178 | .001 | 3 | – | ● | – | – | – | – | – | – | – | – |

* For wiper insert XNGJ, 3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.

- First choice for light machining.


HNGJ-LD*



HNGJ-LD*

● first choice
○ alternate choice

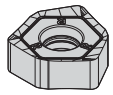
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | ● | ● | | ● | ○ | ● |
| K | | | ● | ● | ○ | | ● | ○ | | |
| N | ● | ● | ○ | | | | | | | |
| S | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | |

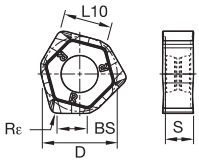
## HNGJ-LD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANENLD** | .472 | .060 | .254 | .039 | .176 | .002 | 12 | – | – | ● | ● | ● | ● | ● | ● | ● | – |
| **HNGJ438ANENLD** | .472 | — | .253 | .126 | .177 | .002 | 12 | – | – | – | – | – | ● | – | ● | – | – |

* For wiper insert HNGJ-LD, 3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.

- Wiper insert for excellent floor finish.


Wiper XNGJ *

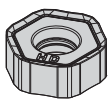


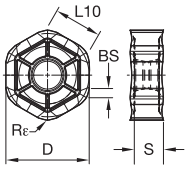
Wiper XNGJ *

## XNGJ-LD3W

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XNGJ43ANENLD3W** | .472 | .189 | .283 | .063 | .178 | .002 | 3 | – | – | ● | – | ● | ● | – | – | ● | ● |

* For wiper insert XNGJ, 3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.


HNGJ-HD



HNGJ-HD

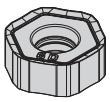
## HNGJ-HD

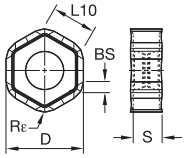
| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANSNHD** | .472 | .057 | .254 | .039 | .173 | .006 | 12 | – | – | – | – | ● | – | – | – | ● | ● |

- First choice for general purpose.

● first choice
○ alternate choice

| | | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | | ● | ● | | ● | ○ | ● |
| K | | | | ● | ● | ○ | | ● | ○ | | |
| N | | ● | ● | ○ | | | | | | | |
| S | | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | | |


HNPJ-GD

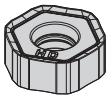


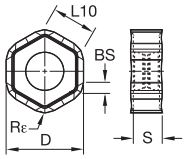
HNPJ-GD

## HNPJ-GD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ43ANSNGD** | .472 | .057 | .254 | .039 | .175 | .003 | 12 | – | – | – | ● | ● | ● | ● | ● | ● | ● |

- First choice for heavy roughing.


HNPJ-HD



HNPJ-HD

## HNPJ-HD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ43ANSNHD** | .472 | .057 | .254 | .039 | .173 | .006 | 12 | – | – | – | ● | ● | ● | ● | ● | ● | ● |
| **HNPJ438ANSNHD** | .472 | — | .253 | .126 | .174 | .004 | 12 | – | – | – | – | ● | ● | ● | ● | ● | ● |



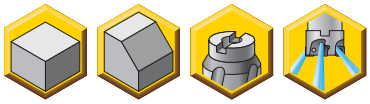
## Recommended Starting Feeds [IPT]

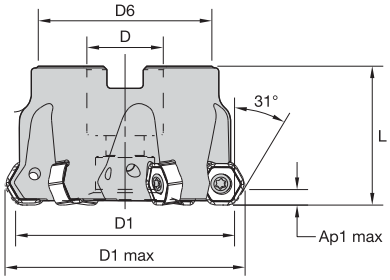
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

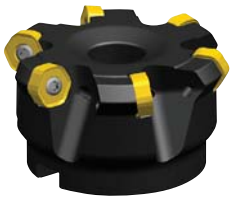
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .007 | **.018** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .F..LDJ |
| .E..LD | .007 | **.024** | .040 | .005 | **.017** | .029 | .004 | **.013** | .021 | .003 | **.011** | .019 | .003 | **.010** | .017 | .E..LD |
| .S..GD | .013 | **.031** | .046 | .009 | **.022** | .033 | .007 | **.016** | .025 | .006 | **.014** | .022 | .006 | **.013** | .020 | .S..GD |
| .S..HD | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..HD |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Twelve cutting edges per insert.
- Higher Ap1 max with standard inserts.
- Productivity booster in all materials.





## Dodeka Mini 30° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **4136389** | **KSHRHD150HN43M2** | 1.500 | 1.750 | .500 | 1.440 | 1.575 | .171 | 4 | .48 | 16700 |
| **4136390** | **KSHRHD150HN43F2** | 1.500 | 1.750 | .500 | 1.440 | 1.575 | .171 | 5 | .48 | 16700 |
| **4136391** | **KSHRHD200HN43C3** | 2.000 | 2.250 | .750 | 1.750 | 1.575 | .171 | 4 | .85 | 12500 |
| **4136392** | **KSHRHD200HN43M3** | 2.000 | 2.250 | .750 | 1.750 | 1.575 | .171 | 5 | .87 | 12500 |
| **4136394** | **KSHRHD250HN43M3** | 2.500 | 2.750 | .750 | 1.750 | 1.575 | .171 | 6 | 1.21 | 10000 |
| **4136395** | **KSHRHD300HN43C4** | 3.000 | 3.250 | 1.000 | 2.189 | 1.750 | .171 | 5 | 1.86 | 8300 |
| **4136396** | **KSHRHD300HN43M4** | 3.000 | 3.250 | 1.000 | 2.189 | 1.750 | .171 | 8 | 1.96 | 8300 |
| **4136397** | **KSHRHD400HN43C6** | 4.000 | 4.249 | 1.500 | 3.661 | 1.750 | .171 | 6 | 3.36 | 6300 |
| **4136399** | **KSHRHD500HN43C6** | 5.000 | 5.249 | 1.500 | 3.652 | 2.380 | .171 | 8 | 6.31 | 5000 |
| **4136400** | **KSHRHD500HN43M6** | 5.000 | 5.249 | 1.500 | 3.652 | 2.380 | .171 | 12 | 6.53 | 5000 |



## Spare Parts

| D1 | insert screw | in. lbs. | wrench | socket-head cap screw | coolant lock screw assembly |
|---|---|---|---|---|---|
| 1.500 | **193.492** | 31 | **170.025** | **S424** | **–** |
| 2.000 | **193.492** | 31 | **170.025** | **S445** | **–** |
| 2.500 | **193.492** | 31 | **170.025** | **S445** | **–** |
| 3.000 | **193.492** | 31 | **170.025** | **S458** | **–** |
| 4.000 | **193.492** | 31 | **170.025** | **–** | **S2165C** |
| 5.000 | **193.492** | 31 | **170.025** | **–** | **S2163C** |

## Insert Selection Guide

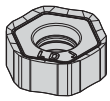
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPM40 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KCPK30 |
| M1–M2 | .E..LD | KC522M | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCPM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .S..HD | KCK15 |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .S..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LD | KC510M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LD | KC510M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| H1 | .E..LD | KC510M | **.E..LD** | **KC510M** | .E..LD | KC510M |

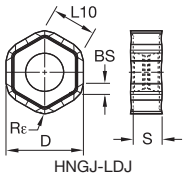


- First choice for machining aluminum.

● first choice
○ alternate choice

| | | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | | ● | ● | | ● | ○ | ● |
| K | | | | ● | ● | ○ | | ● | ○ | | |
| N | | ● | ● | ○ | | | | | | | |
| S | | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | | |


HNGJ-LDJ

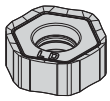


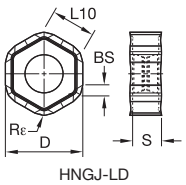
HNGJ-LDJ

### HNGJ-LDJ

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANFNLDJ** | .472 | .060 | .254 | .039 | .176 | .001 | 12 | ● | ● | – | – | – | – | – | – | – | – |

- First choice for light machining.

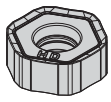

HNGJ-LD

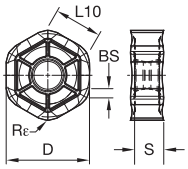


HNGJ-LD

### HNGJ-LD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ43ANENLD** | .472 | .060 | .254 | .039 | .176 | .002 | 12 | – | – | ● | ● | ● | ● | ● | ● | ● | – |
| **HNGJ438ANENLD** | .472 | – | .253 | .126 | .177 | .002 | 12 | – | – | – | – | – | ● | – | ● | – | – |


HNGJ-HD



HNGJ-HD

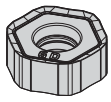
● first choice
○ alternate choice

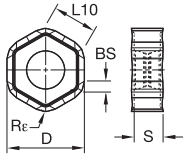
| | | K313 | KC410M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | ● | | ● | ● | ○ |
| M | | | | | | ● | ● | | ● | ○ | ● |
| K | | | | ● | ● | ○ | | ● | ○ | | |
| N | | ● | ● | ○ | | | | | | | |
| S | | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | | |

## HNGJ-HD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **HNGJ43ANSNHD** | .472 | .057 | .254 | .039 | .173 | .006 | 12 |

- First choice for general purpose.


HNPJ-GD

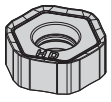


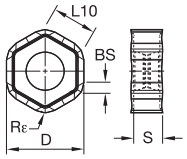
HNPJ-GD

## HNPJ-GD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **HNPJ43ANSNGD** | .472 | .057 | .254 | .039 | .175 | .003 | 12 |

- First choice for heavy roughing.


HNPJ-HD



HNPJ-HD

## HNPJ-HD

| catalog number | D | BS | L10 | Rε | S | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **HNPJ43ANSNHD** | .472 | .057 | .254 | .039 | .173 | .006 | 12 |
| **HNPJ438ANSNHD** | .472 | — | .253 | .126 | .174 | .004 | 12 |

Face Milling

## Recommended Starting Feeds

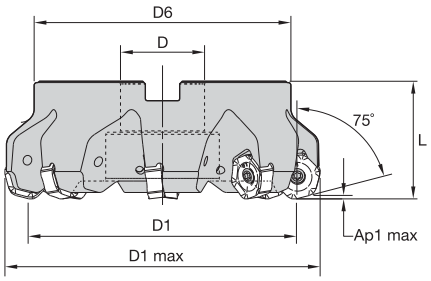
### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.015** | .026 | .004 | **.011** | .019 | .003 | **.008** | .014 | .003 | **.007** | .012 | .002 | **.006** | .011 | .F..LDJ |
| .E..LD | .006 | **.019** | .032 | .004 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .S..GD | .011 | **.025** | .038 | .008 | **.018** | .027 | .006 | **.013** | .020 | .005 | **.012** | .018 | .005 | **.011** | .016 | .S..GD |
| .S..HD | .011 | **.027** | .043 | .008 | **.019** | .031 | .006 | **.014** | .023 | .005 | **.013** | .020 | .005 | **.012** | .018 | .S..HD |

**NOTE: Use "Light Machining" values as starting feed rate.**
**Please see pages X22–X37 for recommended starting speeds.**

- High feed rates for rough face milling.
- .08" depth-of-cut capability.
- Twelve cutting edges per insert.



## Dodeka High-Feed 75° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| 4047419 | KSHRHF200HN5315C3 | 2.000 | 2.746 | .750 | 1.750 | 1.595 | .087 | 4 | 1.13 | 11300 |
| 4047420 | KSHRHF250HN5315C3 | 2.500 | 3.245 | .750 | 2.144 | 1.595 | .087 | 5 | 1.60 | 8900 |
| 4047421 | KSHRHF300HN5315C4 | 3.000 | 3.745 | 1.000 | 2.346 | 1.770 | .087 | 6 | 2.23 | 7400 |
| 4047422 | KSHRHF400HN5315C5 | 4.000 | 4.744 | 1.250 | 3.819 | 1.770 | .087 | 8 | 3.91 | 5800 |
| 4047583 | KSHRHF500HN5315C6 | 5.000 | 5.416 | 1.500 | 3.810 | 2.400 | .087 | 9 | 6.87 | 4700 |
| 4047584 | KSHRHF600HN5315C8 | 6.000 | 6.748 | 2.000 | 4.880 | 2.400 | .087 | 12 | 10.51 | 4000 |

## Spare Parts

| D1 | insert screw | in. lbs. | wrench | socket-head cap screw | socket-head cap screw with coolant groove | coolant lock screw | coolant lock screw | coolant shower plate |
|---|---|---|---|---|---|---|---|---|
| 2.000 | 193.492 | 31 | 170.025 | S445 | S445CG | – | – | – |
| 2.500 | 193.492 | 31 | 170.025 | S445 | S445CG | – | – | – |
| 3.000 | 193.492 | 31 | 170.025 | S458 | S458CG | – | – | – |
| 4.000 | 193.492 | 31 | 170.025 | – | – | S2162C | – | – |
| 5.000 | 193.492 | 31 | 170.025 | – | – | – | 420.201 | 470.240 |
| 6.000 | 193.492 | 31 | 170.025 | – | – | – | 420.241 | 470.241 |

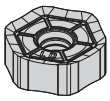
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPK30 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| M1–M2 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .S..HD | KC520M |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .S..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

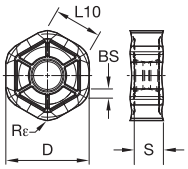
## Indexable Inserts

beyond

- First choice for light machining and aluminum.



HNGJ-LD
HNGJ-LDJ




HNGJ-LD
HNGJ-LDJ

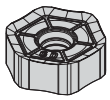
● first choice
○ alternate choice

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | ○ | |
| M | | | | ● | ● | | ● | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | ● |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | |
| H | | | | | | | | | | |

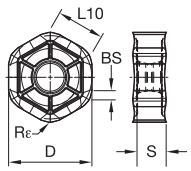
### HNGJ-LDJ and -LD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ535ANFNLDJ** | .625 | .219 | .338 | .071 | .047 | .001 | 12 | ● | – | – | – | – | – | – | – | – |
| **HNGJ535ANENLD** | .625 | .219 | .338 | .071 | .047 | .002 | 12 | – | ● | ● | ● | ● | ● | – | ● | – |

- First choice for general purpose.



HNGJ-GD



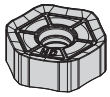

HNGJ-GD

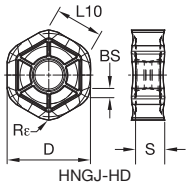
### HNGJ-GD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ535ANSNGD** | .625 | .219 | .338 | .071 | .047 | .004 | 12 | – | – | – | ● | ● | ● | ● | ● | – |

Face Milling

- First choice for heavy roughing.


HNGJ-HD



HNGJ-HD

● first choice
○ alternate choice

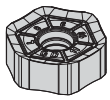
beyond

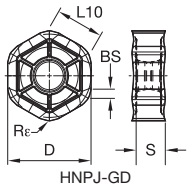
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | ○ | |
| M | | | ● | ● | | ● | ○ | ● | |
| K | | ● | ○ | | ● | ○ | | | ● |
| N | ● | | | | | | | | |
| S | | | ● | ● | | | | ● | |
| H | | | | | | | | | |

## HNGJ-HD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ535ANSNHD** | .625 | .215 | .338 | .065 | .047 | .007 | 12 | – | ● | – | ● | ● | ● | ● | ● | – |
| **HNGJ53511ANSNHD** | .625 | .214 | .334 | — | .171 | .008 | 12 | – | ● | – | ● | – | ● | ● | ● | – |

- First choice for general purpose.


HNPJ-GD

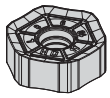


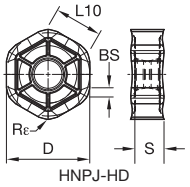
HNPJ-GD

## HNPJ-GD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ535ANSNGD** | .625 | .219 | .338 | .071 | .047 | .004 | 12 | – | ● | ● | ● | ● | ● | ● | – | – |

- First choice for heavy roughing.


HNPJ-HD



HNPJ-HD

## HNPJ-HD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ535ANSNHD** | .625 | .215 | .338 | .065 | .047 | .007 | 12 | – | ● | ● | ● | ● | ● | ● | ● | – |
| **HNPJ53511ANSNHD** | .625 | .214 | .334 | — | .171 | .005 | 12 | – | – | ● | ● | ● | ● | ● | ● | – |



## Recommended Starting Feeds

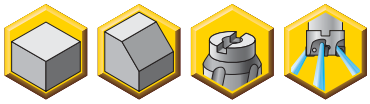
### Recommended Starting Feeds [IPT]

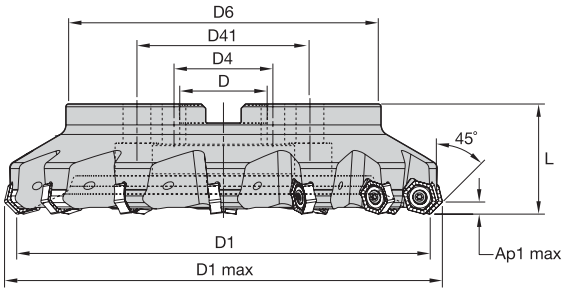
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .018 | **.051** | .089 | .013 | **.036** | .063 | .010 | **.027** | .047 | .008 | **.024** | .041 | .008 | **.022** | .037 | .F..LDJ |
| .E..LD | .025 | **.073** | .112 | .018 | **.052** | .079 | .014 | **.039** | .058 | .012 | **.034** | .051 | .011 | **.031** | .046 | .E..LD |
| .S..GD | .036 | **.079** | .129 | .026 | **.056** | .090 | .019 | **.042** | .066 | .017 | **.036** | .058 | .015 | **.033** | .053 | .S..GD |
| .S..HD | .036 | **.093** | .153 | .026 | **.066** | .106 | .019 | **.049** | .078 | .017 | **.042** | .068 | .015 | **.039** | .062 | .S..HD |

**NOTE: Use "Light Machining" values as starting feed rate.**
**Please see pages X22–X37 for recommended starting speeds.**

- Twelve cutting edges per insert.
- Through-coolant on cutters <4.0" diameter. 5.0" diameter cutters and above do not have through-coolant.
- Soft cutting action.

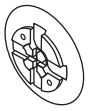




## Dodeka 45° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D4 | D41 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3326850 | KSHR200HN5345C3 | 2.000 | 2.434 | .750 | – | – | 1.593 | 1.570 | .178 | 4 | .81 | 12500 |
| 3326851 | KSHR200HN5345M3 | 2.000 | 2.434 | .750 | – | – | 1.593 | 1.570 | .178 | 5 | .82 | 12500 |
| 3747124 | KSHR250HN5345XC3 | 2.500 | 2.933 | .750 | – | – | 1.986 | 1.570 | .177 | 5 | 1.25 | 10000 |
| 3326852 | KSHR250HN5345C3 | 2.500 | 2.933 | .750 | – | – | 1.986 | 1.570 | .178 | 6 | 1.32 | 10000 |
| 3326923 | KSHR250HN5345M3 | 2.500 | 2.933 | .750 | – | – | 1.986 | 1.570 | .178 | 7 | 1.34 | 10000 |
| 3747125 | KSHR300HN5345XC4 | 3.000 | 3.433 | 1.000 | – | – | 2.189 | 1.750 | .177 | 5 | 1.86 | 8300 |
| 3326924 | KSHR300HN5345C4 | 3.000 | 3.433 | 1.000 | – | – | 2.189 | 1.750 | .178 | 6 | 1.79 | 8300 |
| 3326925 | KSHR300HN5345M4 | 3.000 | 3.433 | 1.000 | – | – | 2.032 | 1.750 | .178 | 9 | 1.97 | 8300 |
| 3747126 | KSHR400HN5345XC5 | 4.000 | 4.232 | 1.250 | – | – | 2.722 | 1.750 | .177 | 6 | 3.17 | 6300 |
| 3326926 | KSHR400HN5345C5 | 4.000 | 4.432 | 1.250 | – | – | 2.722 | 1.750 | .178 | 8 | 2.93 | 6300 |
| 3326927 | KSHR400HN5345M5 | 4.000 | 4.432 | 1.250 | – | – | 2.722 | 1.750 | .178 | 11 | 3.14 | 6300 |
| 3747127 | KSHR500HN5345XC6 | 5.000 | 5.431 | 1.500 | – | – | 3.652 | 2.380 | .177 | 8 | 6.20 | 5000 |
| 3326928 | KSHR500HN5345C6 | 5.000 | 5.431 | 1.500 | – | – | 3.652 | 2.380 | .178 | 10 | 5.94 | 5000 |
| 3326929 | KSHR500HN5345M6 | 5.000 | 5.431 | 1.500 | – | – | 3.652 | 2.380 | .178 | 14 | 6.21 | 5000 |
| 3747128 | KSHR600HN5345XC8 | 6.000 | 6.432 | 2.000 | – | – | 4.722 | 2.380 | .177 | 10 | 9.01 | 4100 |
| 3326930 | KSHR600HN5345C8 | 6.000 | 6.432 | 2.000 | – | – | 4.722 | 2.380 | .178 | 12 | 9.10 | 4100 |
| 3326931 | KSHR600HN5345M8 | 6.000 | 6.432 | 2.000 | – | – | 4.722 | 2.380 | .178 | 16 | 9.36 | 4100 |
| 3494648 | KSHR800HN5345C10 | 8.000 | 8.432 | 2.500 | 4.000 | – | 5.118 | 2.380 | .177 | 16 | 13.14 | 3130 |
| 3494649 | KSHR1000HN5345C10 | 10.000 | 10.433 | 2.500 | 4.000 | – | 7.120 | 2.380 | .177 | 20 | 24.52 | 2510 |
| 3494650 | KSHR1200HN5345C10 | 12.000 | 12.433 | 2.500 | 4.000 | 7.000 | 9.016 | 3.150 | .177 | 24 | 42.66 | 2090 |

## Spare Parts

| D1 | insert screw | in. lbs. | wrench | socket-head cap screw | socket-head cap screw with coolant groove | coolant lock screw | coolant lock screw assembly |  coolant shower plate |
|---|---|---|---|---|---|---|---|---|
| 2.000 | **193.492** | 31 | **170.025** | **S445** | **S445CG** | – | – | – |
| 2.500 | **193.492** | 31 | **170.025** | **S445** | **S445CG** | – | – | – |
| 3.000 | **193.492** | 31 | **170.025** | **S458** | **S458CG** | – | – | – |
| 4.000 | **193.492** | 31 | **170.025** | – | – | – | **S2162C** | – |
| 5.000 | **193.492** | 31 | **170.025** | – | – | **420.201** | – | **470.240** |
| 6.000 | **193.492** | 31 | **170.025** | – | – | **420.241** | – | **470.241** |
| 8.000 | **193.492** | 31 | **170.025** | – | – | – | – | **470.242** |
| 10.000 | **193.492** | 31 | **170.025** | – | – | – | – | **470.243** |
| 12.000 | **193.492** | 31 | **170.025** | – | – | – | – | **470.244** |

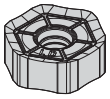
NOTE: Please order all spare parts separately.

## Insert Selection Guide

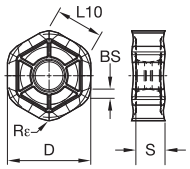
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPK30 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| M1–M2 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .S..HD | KC520M |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .S..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GD** | **KCSM40** | .S..HD | KCSM40 |
| H1 | – | – | – | – | – | – |

beyond

- First choice for light machining and aluminum.



HNGJ-LD
HNGJ-LDJ




HNGJ-LD
HNGJ-LDJ

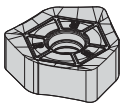
● first choice
○ alternate choice

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | ○ | |
| M | | | | ● | ● | | ● | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | ● |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | |
| H | | | | | | | | | | |

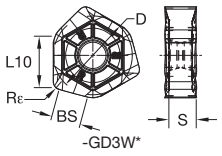
## HNGJ-LDJ and -LD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ535ANFNLDJ** | .625 | .219 | .338 | .071 | .047 | .001 | 12 | ● | – | – | – | – | – | – | – | – |
| **HNGJ535ANENLD** | .625 | .219 | .338 | .071 | .047 | .002 | 12 | – | ● | ● | ● | ● | ● | – | ● | – |

- Wiper insert for excellent surface floor finish.



-GD3W*




-GD3W*

## XNGJ-LDJ3W and -GD3W

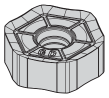
| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XNGJ535ANFNLDJ3W** | .625 | .217 | .377 | .230 | .063 | .001 | 3 | ● | – | – | – | – | – | – | – | – |
| **XNGJ535ANSNGD3W** | .625 | .217 | .377 | .230 | .063 | .004 | 3 | – | – | – | ● | ● | ● | – | ● | – |

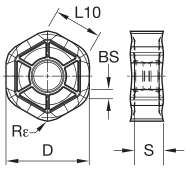
*3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.

| | | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | ○ | |
| M | | | | ● | ● | | ● | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | ● |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | |
| H | | | | | | | | | | |

● first choice
○ alternate choice

• First choice for general purpose.


HNGJ-GD

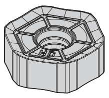


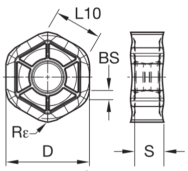
HNGJ-GD

## HNGJ-GD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ535ANSNGD** | .625 | .219 | .338 | .071 | .047 | .004 | 12 | – | – | – | ● | ● | ● | ● | ● | – |

• First choice for heavy roughing.


HNGJ-HD

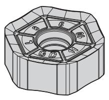


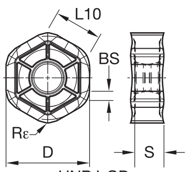
HNGJ-HD

## HNGJ-HD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ535ANSNHD** | .625 | .215 | .338 | .065 | .047 | .007 | 12 | – | ● | – | ● | ● | ● | ● | ● | – |
| **HNGJ53511ANSNHD** | .625 | .214 | .334 | — | .171 | .008 | 12 | – | ● | – | ● | – | ● | ● | ● | – |

• First choice for general purpose.


HNPJ-GD



HNPJ-GD

## HNPJ-GD

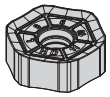
| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ535ANSNGD** | .625 | .219 | .338 | .071 | .047 | .004 | 12 | – | ● | ● | ● | ● | ● | ● | – | – |

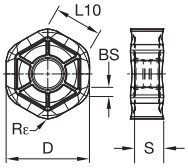
beyond

- First choice for heavy roughing.

● first choice
○ alternate choice

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | ○ | |
| M | | | | ● | ● | | ● | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | ● |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | |
| H | | | | | | | | | | |


HNPJ-HD

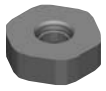


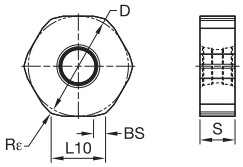
HNPJ-HD

## HNPJ-HD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ535ANSNHD** | .625 | .215 | .338 | .065 | .047 | .007 | 12 | – | ● | ● | ● | ● | ● | ● | ● | – |
| **HNPJ53511ANSNHD** | .625 | .214 | .334 | — | .171 | .005 | 12 | – | – | ● | ● | ● | ● | ● | ● | – |

- Ceramic KYON 3500 for machining gray cast iron with high cutting speed.


HNEC-ANSN



HNEC-ANSN

## HNEC-ANSN Ceramic Insert

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNEC535ANSN** | .625 | .219 | .361 | .077 | .047 | .008 | 12 | – | – | – | – | – | – | – | – | ● |



## Recommended Starting Feeds

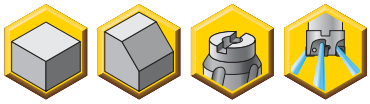
### Recommended Starting Feeds [IPT]

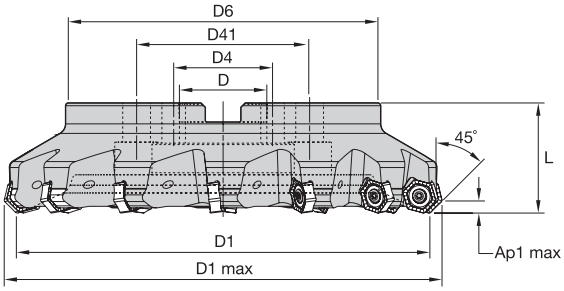
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

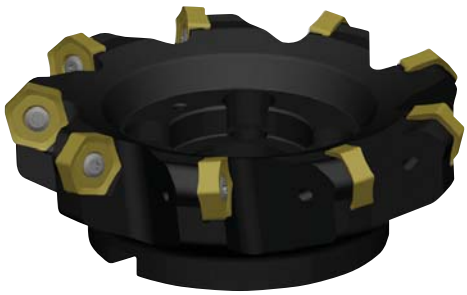
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .007 | **.018** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .F..LDJ |
| .E..LD | .009 | **.026** | .040 | .007 | **.019** | .029 | .005 | **.014** | .021 | .004 | **.012** | .019 | .004 | **.011** | .017 | .E..LD |
| .S..GD | .013 | **.028** | .045 | .009 | **.020** | .032 | .007 | **.015** | .024 | .006 | **.013** | .021 | .006 | **.012** | .019 | .S..GD |
| .S..HD | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..HD |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Twelve cutting edges per insert.
- 25% lower cutting forces.
- Laser-hardened pocket seats.



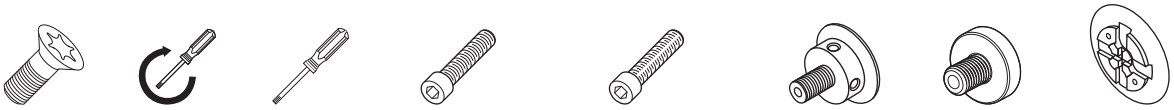


## Dodeka MAX 45° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D4 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4057578** | **KSHR300HN7545M4** | 3.000 | 3.682 | 1.000 | — | 2.188 | 1.750 | .315 | 4 | 2.14 | 8300 |
| **4057579** | **KSHR400HN7545M5** | 4.000 | 4.682 | 1.250 | — | 2.875 | 1.750 | .315 | 5 | 3.18 | 6300 |
| **4057580** | **KSHR500HN7545M6** | 5.000 | 5.682 | 1.500 | — | 3.812 | 2.375 | .315 | 6 | 6.40 | 5000 |
| **4057581** | **KSHR600HN7545M8** | 6.000 | 6.682 | 2.000 | — | 5.000 | 2.375 | .315 | 9 | 9.87 | 4100 |
| **4057582** | **KSHR800HN7545M10** | 8.000 | 8.682 | 2.500 | 4.000 | 5.000 | 2.375 | .315 | 12 | 13.55 | 3130 |
| **4057576** | **KSHR1000HN7545C10** | 10.000 | 10.682 | 2.500 | 4.000 | 6.963 | 2.375 | .315 | 12 | 25.80 | 2510 |
| **4057583** | **KSHR1000HN7545M10** | 10.000 | 10.682 | 2.500 | 4.000 | 6.963 | 2.375 | .315 | 14 | 13.55 | 2510 |

## Spare Parts



| D1 | insert screw | in. lbs. | Torx Plus wrench | socket-head cap screw | socket-head cap screw with coolant groove | coolant lock screw assembly | coolant lock screw | coolant shower plate |
|---|---|---|---|---|---|---|---|---|
| 3.000 | **193.531** | 71 | **TTP25** | **S458** | **S458CG** | — | — | — |
| 4.000 | **193.531** | 71 | **TTP25** | — | — | **S2162C** | — | — |
| 5.000 | **193.531** | 71 | **TTP25** | — | — | — | **420.201** | **470.240** |
| 6.000 | **193.531** | 71 | **TTP25** | — | — | — | **420.241** | **470.241** |
| 8.000 | **193.531** | 71 | **TTP25** | — | — | — | — | **470.242** |
| 10.000 | **193.531** | 71 | **TTP25** | — | — | — | — | **470.243** |

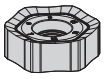
NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus bit (order number 6205892 BTQTP25L90) may be purchased separately in order to ensure proper torque setting.

## Insert Selection Guide

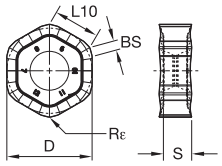
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GD | KCPM40 | **.S..GD** | **KCPK30** | .S..HD | KCPM40 |
| P3–P4 | .E..GD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPK30 |
| P5–P6 | .E..GD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| M1–M2 | .E..GD | KC725M | **.S..GD** | **KC725M** | .S..HD | KCSM40 |
| M3 | .E..GD | KCPM40 | **.S..GD** | **KC725M** | .S..HD | KCSM40 |
| K1–K2 | .E..GD | KCK15 | **.S..GD** | **KCK15** | .S..HD | KCK15 |
| K3 | .E..GD | KCK15 | **.S..GD** | **KC520M** | .S..HD | KC520M |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..GD | KC725M | **.S..GD** | **KC725M** | .S..HD | KCSM40 |
| S3 | .E..GD | KCPM40 | **.S..GD** | **KC725M** | .S..HD | KCSM40 |
| S4 | .E..GD | KC725M | **.S..GD** | **KC725M** | .S..HD | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

## Indexable Inserts

- First choice for light machining.



HNGJ-GD




HNGJ-GD

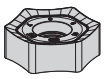
● first choice
○ alternate choice

| | | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● | ○ |
| M | | | ● | | ○ | ○ | ● |
| K | | ● | | ● | ● | | |
| N | | | | | | | |
| S | | | ● | | | | ● |
| H | | | | | | | |

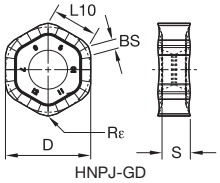
### HNGJ-GD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGJ75ANENGD** | .875 | .292 | .505 | .074 | .047 | .002 | 12 | – | ● | – | ● | ● | – |

- First choice for general purpose.



HNPJ-GD

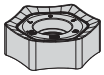



HNPJ-GD

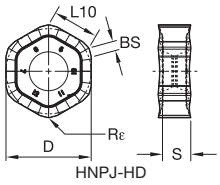
### HNPJ-GD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ755ANSNGD** | .875 | .296 | .505 | – | .079 | .005 | 12 | ● | ● | – | ● | – | – |

- First choice for heavy roughing.



HNPJ-HD




HNPJ-HD

● first choice
○ alternate choice

| | | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● | ○ |
| M | | | ● | | ○ | ○ | ● |
| K | | ● | | ● | ● | | |
| N | | | | | | | |
| S | | | ● | | | | ● |
| H | | | | | | | |

## HNPJ-HD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPJ75ANSNHD** | .875 | .288 | .505 | .074 | .047 | .010 | 12 | – | ● | ● | ● | ● | ● |
| **HNPJ755ANSNHD** | .875 | .292 | .505 | — | .079 | .009 | 12 | – | ● | – | ● | ● | – |
| **HNPJ759ANSNHD** | .875 | .289 | .505 | — | .138 | .009 | 12 | ● | – | ● | ● | – | – |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..GD | .009 | **.026** | .046 | .007 | **.019** | .033 | .005 | **.014** | .025 | .004 | **.012** | .022 | .004 | **.011** | .020 | .E..GD |
| .S..GD | .013 | **.029** | .050 | .009 | **.021** | .036 | .007 | **.016** | .027 | .006 | **.014** | .023 | .006 | **.013** | .021 | .S..GD |
| .S..HD | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..HD |

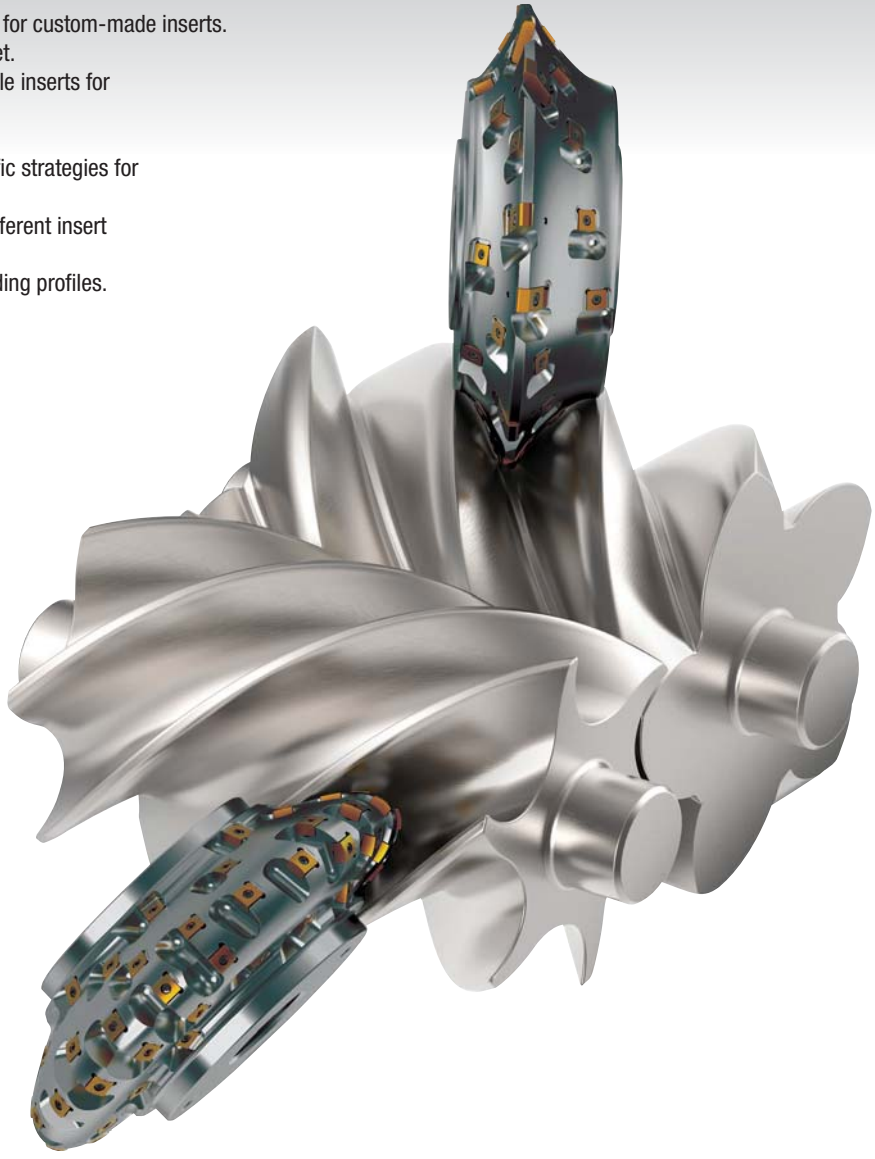
NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

Solution Capabilities

# SCREW-ROTOR MILLING

**Kennametal customers benefit from the highest service levels, our long-term experience, and application knowledge in milling of screw-rotors.**

- Faster availability due to standardized processes for custom-made inserts.
- Solutions for all machines currently on the market.
- Very close contour profile with standardized profile inserts for minimum grinding allowance.
- Tools can be used in many different materials.
- Increased productivity through application-specific strategies for optimized milling.
- Smooth cutting action due to multiple rows of different insert alignments for optimum performance.
- Innovative solutions for small rotors with demanding profiles.



Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

# Mill 16™

## Face Mills for Cast Iron Machining.

**Screw-On Clamping**

**Wedge Clamping**

### Features

- 16 effective cutting edges per insert.
- Ap1 max = .216" (5,5mm).
- Coarse, medium and fine pitch cutters.
- Cutter bodies with pocket seat numbering system.
- Cutter diameter range = 1.969–9.843" (50–250mm).
- High-precision periphery ground inserts.
- Inserts with cutting edge numbering system.
- Lower cutting forces.
- Clearance on second main cutting edge.

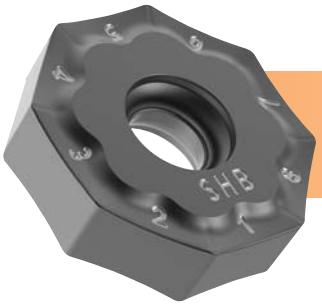
### Benefits

- Low cost per edge to cut cost per part (CPP).
- Perfect fit for most cast iron face milling requirements.
- High feed rates to boost productivity and reduce cycle time.
- Comprehensive standard offering to address most needs of the shop floor.
- Improved axial runout and tool life.
- Very smooth cutting action and lower cutting forces.
- Orientated edge positioning to support axial and radial runout.
- Reliable cutting above Ap1 = .216" (5,5mm) addresses castings with varying skin thickness.

## Primary Application

The new Mill 16™ series is a specially-made platform for rough milling of components like engine heads and blocks, housings and gear boxes in cast iron materials (CGI, DCI, GCI), and all other cast iron face milling jobs. Best-in-class for machining CGI materials.

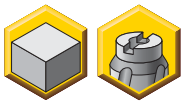
**Split Case Design**

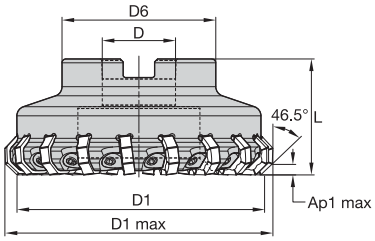



**Innovative insert design to reduce cutting forces and increase productivity at lower cost per edge.**

- Semi-finishing and light machining
- Medium roughing
- Heavy roughing

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.





## Mill 16 • Shell Mills • Wedge Clamping

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **6001979** | **MILL16E200Z05ON08W** | 2.000 | 2.495 | .750 | 2.000 | 2.000 | .215 | 5 | 1.45 | 11100 |
| **6001980** | **MILL16E250Z06ON08W** | 2.500 | 2.995 | .750 | 2.000 | 2.000 | .215 | 6 | 2.03 | 9300 |
| **6134103** | **MILL16E300Z08ON08W** | 3.000 | 3.495 | 1.000 | 2.189 | 1.750 | .215 | 8 | 2.17 | 8200 |
| **6002121** | **MILL16E300Z10ON08W** | 3.000 | 3.495 | 1.000 | 2.189 | 1.750 | .215 | 10 | 2.06 | 8200 |
| **6134104** | **MILL16E400Z10ON08W** | 4.000 | 4.494 | 1.250 | 3.150 | 2.000 | .215 | 10 | 4.27 | 6800 |
| **6002122** | **MILL16E400Z14ON08W** | 4.000 | 4.494 | 1.250 | 3.150 | 2.000 | .215 | 14 | 4.09 | 6800 |
| **6134105** | **MILL16E500Z14ON08W** | 5.000 | 5.494 | 1.500 | 3.150 | 2.375 | .215 | 14 | 6.55 | 5900 |
| **6002123** | **MILL16E500Z18ON08W** | 5.000 | 5.494 | 1.500 | 3.150 | 2.375 | .215 | 18 | 6.38 | 5900 |
| **6134106** | **MILL16E600Z16ON08W** | 6.000 | 6.494 | 2.000 | 3.937 | 2.381 | .215 | 16 | 8.68 | 5300 |
| **6002124** | **MILL16E600Z22ON08W** | 6.000 | 6.494 | 2.000 | 3.937 | 2.381 | .215 | 22 | 8.39 | 5300 |
| **6134107** | **MILL16E800Z20ON08W** | 8.000 | 8.494 | 2.500 | 5.118 | 2.400 | .215 | 20 | 14.60 | 4500 |
| **6002125** | **MILL16E800Z28ON08W** | 8.000 | 8.494 | 2.500 | 5.118 | 2.400 | .215 | 28 | 14.29 | 4500 |
| **6134108** | **MILL16E1000Z24ON08W *** | 10.000 | 10.494 | 2.500 | 5.512 | 2.400 | .215 | 24 | 22.08 | 4000 |
| **6019339** | **MILL16E1000Z34ON08W** | 10.000 | 10.494 | 2.500 | 5.512 | 2.400 | .215 | 34 | 21.69 | 4000 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

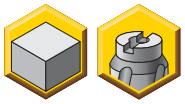


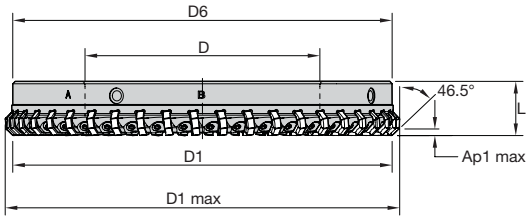
## Spare Parts

| D1 | wedge | wedge screw | in. lbs. | wrench | mounting screw with coolant grooves | adjustable torque wrench | bit SW3 for adjustable torque wrench |
|---|---|---|---|---|---|---|---|
| 2.000 | **CW16** | **12748601000** | 62 | **12148044900** | **KLSS0714C** | **DTQ50140** | **BTQSW3L90** |
| 2.500 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |
| 3.000 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |
| 4.000 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |
| 5.000 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |
| 6.000 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |
| 8.000 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |
| 10.000 | **CW16** | **12748601000** | 62 | **12148044900** | **–** | **DTQ50140** | **BTQSW3L90** |

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.





## Mill 16 • Split Case Design

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **6202190** | **MILL16E1200Z42ON08WSC *** | 12.000 | 12.494 | 7.677 | 12.000 | 1.772 | .215 | 42 | 22.48 | 3600 |
| **6202291** | **MILL16E1400Z48ON08WSC *** | 14.000 | 14.494 | 9.055 | 14.000 | 1.772 | .215 | 48 | 30.97 | 3300 |
| **6202292** | **MILL16E1600Z56ON08WSC *** | 16.000 | 16.494 | 11.024 | 16.000 | 1.772 | .215 | 56 | 37.15 | 3100 |
| **6202293** | **MILL16E2000Z70ON08WSC *** | 20.000 | 20.494 | 14.961 | 20.000 | 1.772 | .215 | 70 | 48.45 | 2800 |

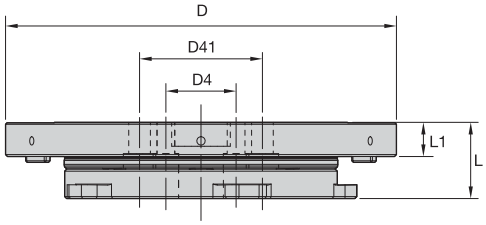
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

| D1 | wedge | wedge screw | in. lbs. | wrench |
|---|---|---|---|---|
| 12.000 | **CW16** | **12748601000** | 62 | **12148044900** |
| 14.000 | **CW16** | **12748601000** | 62 | **12148044900** |
| 16.000 | **CW16** | **12748601000** | 62 | **12148044900** |
| 20.000 | **CW16** | **12748601000** | 62 | **12148044900** |

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.



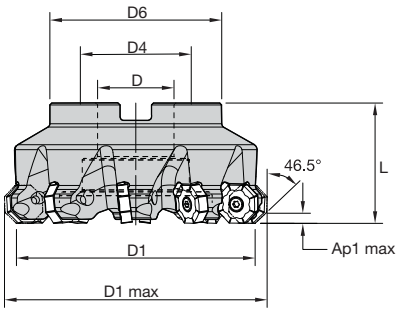


## Carrier Flange Assembly

| order number | catalog number | D | D4 | D41 | L1 | L | lbs |
|---|---|---|---|---|---|---|---|
| **6152251** | **D315CFA *** | 12.402 | 4.000 | 7.000 | 1.339 | 3.071 | 59.29 |
| **6152252** | **D355CFA *** | 13.976 | 4.000 | 7.000 | 1.378 | 3.071 | 81.99 |
| **6152253** | **D400CFA *** | 15.748 | 4.000 | 7.000 | 1.378 | 3.071 | 112.34 |
| **6152254** | **D500CFA *** | 19.685 | 4.000 | 7.000 | 1.378 | 3.071 | 192.59 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

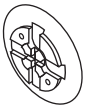
- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.



## Mill 16 • Screw-On Clamping

| order number | catalog number | D1 | D1 max | D | D4 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6159069** | **MILL16E200Z04ON08SC** | 2.000 | 2.498 | .750 | – | 1.969 | 1.580 | .216 | 4 | .90 | 14500 |
| **6159070** | **MILL16E250Z04ON08SC** | 2.500 | 2.973 | .750 | – | 1.969 | 1.576 | .220 | 4 | 1.29 | 12200 |
| **6159072** | **MILL16E300Z05ON08SC** | 3.000 | 3.473 | 1.000 | – | 2.362 | 1.751 | .220 | 5 | 2.17 | 10700 |
| **6159074** | **MILL16E400Z06ON08SC** | 4.000 | 4.473 | 1.250 | – | 3.150 | 2.001 | .220 | 6 | 4.11 | 8900 |
| **6159076** | **MILL16E500Z08ON08SC** | 5.000 | 5.473 | 1.500 | – | 3.543 | 2.376 | .220 | 8 | 6.85 | 7700 |
| **6159078** | **MILL16E600Z10ON08SC** | 6.000 | 6.472 | 2.000 | – | 3.937 | 2.382 | .220 | 10 | 8.07 | 7000 |
| **6159080** | **MILL16E800Z10ON08SC** | 8.000 | 8.472 | 2.500 | 4.000 | 5.118 | 2.401 | .220 | 10 | 14.17 | 5900 |
| **6159082** | **MILL16E1000Z12ON08SC** | 10.000 | 10.472 | 2.500 | 4.000 | 5.512 | 2.401 | .220 | 12 | 23.86 | 5200 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench | socket-head cap screw | socket-head cap screw with coolant groove | coolant lock screw |  coolant shower plate |
|---|---|---|---|---|---|---|---|
| 2.000 | **MS2060** | 40 | **TTP20** | – | **KLSS0714C** | – | – |
| 2.500 | **MS2060** | 40 | **TTP20** | **S445** | – | – | – |
| 3.000 | **MS2060** | 40 | **TTP20** | **S458** | – | – | – |
| 4.000 | **MS2060** | 40 | **TTP20** | – | – | **420.162** | – |
| 5.000 | **MS2060** | 40 | **TTP20** | – | – | **420.201** | **470.232** |
| 6.000 | **MS2060** | 40 | **TTP20** | – | – | **420.241** | **470.241** |
| 8.000 | **MS2060** | 40 | **TTP20** | – | – | – | **470.242** |
| 10.000 | **MS2060** | 40 | **TTP20** | – | – | – | **470.243** |

## Insert Selection Guide

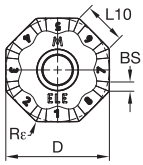
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | .E..LE | KC514M | .S..GP | KC514M | .S..HB | KC514M |
| K3 | .E..LE | KCK20 | .S..GP | KCK20 | .S..HB | KCK15 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

## Indexable Inserts

- ...ANENLE = semi-finishing with improved surface floor finish.
- ...ENLE = light machining.

● first choice
○ alternate choice

ONGX08-LE



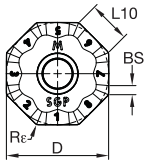
ONGX08-LE

### ONGX-LE • High-Precision Periphery Ground

| catalog number | D | S | L10 | BS | Rε | hm | KC514M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ONGX64ANENLE | .787 | .229 | .323 | .059 | .031 | .002 | ● | ● | ● | – | – |
| ONGX645ENLE | .787 | .229 | .326 | — | .079 | .002 | ● | ● | ● | – | – |

- ...ANSNGP = medium roughing with improved surface floor finish.
- ...SNGP = medium roughing with low cutting forces.

ONGX-GP



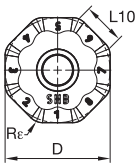
ONGX-GP

### ONGX-GP • High-Precision Periphery Ground

| catalog number | D | S | L10 | BS | Rε | hm | KC514M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ONGX64ANSNGP | .787 | .229 | .323 | .059 | .031 | .006 | ● | ● | ● | – | – |
| ONGX645SNGP | .787 | .229 | .326 | — | .079 | .006 | ● | ● | ● | ● | – |

- First choice for heavy roughing.

ONGX-HB



ONGX-HB

● first choice
○ alternate choice

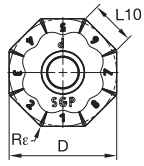
| | |
|---|---|
| P | |
| M | |
| K | ● ● ● ● ● |
| N | |
| S | |
| H | |

## ONGX-HB • High-Precision Periphery Ground

| catalog number | D | S | L10 | BS | Rε | hm | KC514M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ONGX642SNHB** | .787 | .229 | .326 | – | .032 | .007 | ● | ● | – | – | – |
| **ONGX645SNHB** | .787 | .229 | .326 | – | .079 | .007 | ● | ● | ● | ● | – |
| **ONGX648SNHB** | .787 | .229 | .326 | – | .118 | .007 | ● | ● | ● | – | – |

- Medium roughing with lower cutting forces.

ONPX-GP



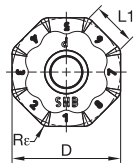
ONPX-GP

## ONPX-GP • Precision Pressed and Sintered to Size

| catalog number | D | S | L10 | BS | Rε | hm | KC514M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ONPX642SNGP** | .787 | .229 | .326 | – | .032 | .006 | – | ● | ● | ● | – |

- Heavy roughing with regular performance.

ONPX-HB



ONPX-HB

## ONPX-HB • Precision Pressed and Sintered to Size

| catalog number | D | S | L10 | BS | Rε | hm | KC514M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ONPX645SNHB** | .787 | .229 | .326 | – | .079 | .007 | – | ● | ● | ● | – |



## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LE | .009 | **.026** | .046 | .007 | **.019** | .033 | .005 | **.014** | .025 | .004 | **.012** | .022 | .004 | **.011** | .020 | .E..LE |
| .S..GP | .013 | **.029** | .049 | .009 | **.021** | .035 | .007 | **.016** | .026 | .006 | **.014** | .023 | .006 | **.012** | .021 | .S..GP |
| .S..HB | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..HB |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## User Information

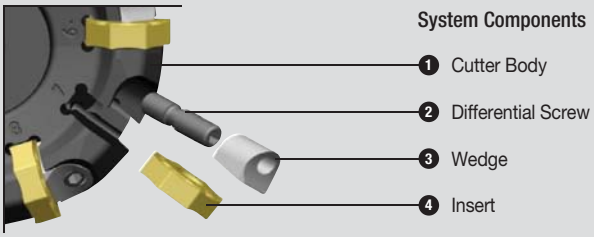
- Only use with indexable inserts ONPX0806**/ONGX0806** (ONPX64**/ONGX64**).
- Only use original Kennametal spare parts as per the current catalog.

- Maintenance and repair of cutters should only be carried out by Kennametal.
- The tools must only be used in combination with suitable tool adapters and machine spindles.
- Use only the recommended torque settings when assembling the cutters for use. For further information contact the KMT CAS Team.

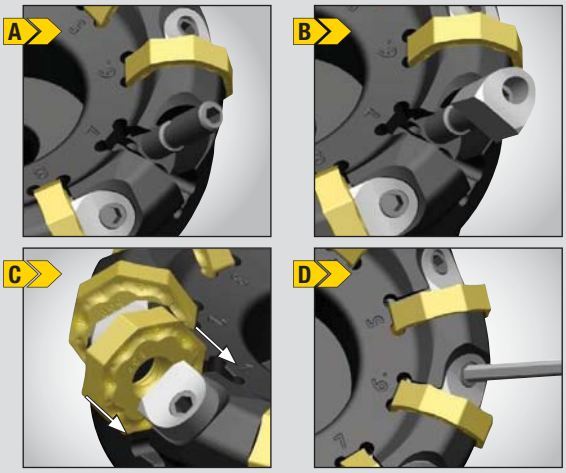
* These assembly instructions relate only to the Kennametal Mill 16 Face Mill family and not to its connection to a spindle or spindle adapter.

## Preparation

- Prior to use, ensure the cutter is thoroughly cleaned and remove all dirt, grease, and anti-corrosive protection.
- Carefully grease the differential screws with copper grease. Ensure the rest of the cutter is clean.
- When loading the inserts into the cutter, please ensure that they are inserted in the clean pocket seat in the correct position.
- Mounting position: The flat side of the clamping wedge sits on top of the insert face. We recommend to mount the inserts by following the insert's edge numbering system for orientated insert seating. Active cutting edges shall all have the same cutting edge number.




## Insert Clamping and Adjusting




### Pre-setting of Inserts

A. Screw the differential screw ❷ into the cutter body ❶ by approximately 2 turns using a 3mm hex wrench.

B. Place wedge ❸ on differential screw ❷ and fasten into the cutter body.

C. Push insert ❹ into the pocket seat by hand in the direction shown.

D. Clamp insert ❹ with wedge ❸ by rotating the differential screw with a clamping force of MA = 18 in/lbs (2 Nm). The differential screw must not stick out of wedge.

E. Repeat steps A–D for all inserts.

### Tightening the Inserts

F. Tighten all inserts of the pockets with the wedge using the differential screw with a clamping torque of MA = 62 in/lbs (7 Nm).

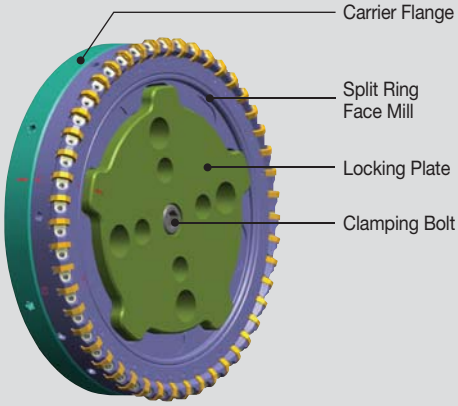
# Split Cutter Assembly Instructions

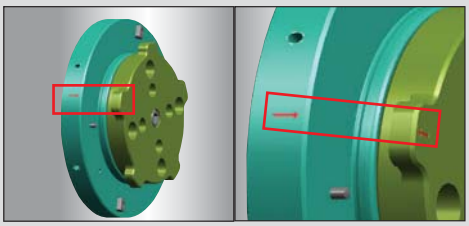
Please read and follow the instructions below for safe and productive application.

## User Information

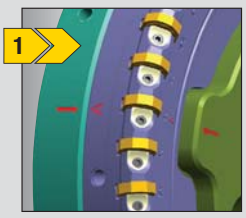
These assembly instructions relate only to Kennametal split-case milling cutters and not to its connection to a spindle or spindle adapter.

### System Components

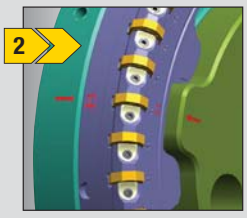


Initial position must be in such a way that the arrows in the carrier flange and locking plate coincide with each other.




Place the split ring face mill over the carrier flange in such a way that arrows in the locking plate and carrier flange coincide with the marking "A" in the cutter.




Turn the cutter ring clockwise from marking "A" to marking "B".

Tighten the clamping bolt with a torque of 100 Nm.

Extended Kennametal Service

# Adjustable Torque Wrenches

When working with inserts, it is especially important to use the correct torque. Kennametal offers extended service levels by assuring best tightening with adjustable torque wrenches. Please order separately as needed.

## Adjustable torque wrenches • 5.3–47.8 in. lbs (0,6–5,4 Nm)

3641463

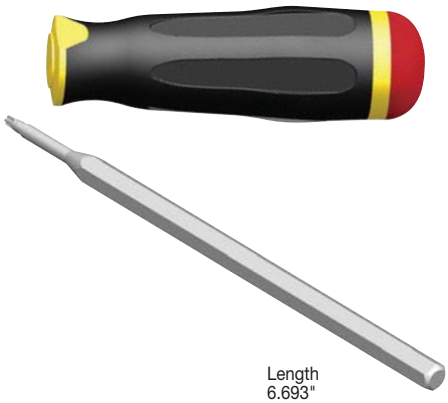
3641464

3641465

| Order Number | ANSI/ISO Catalog Number | Description | Nm range | in. lbs range |
|---|---|---|---|---|
| **3641463** | **DTQ0615** | Torque control wrench handle | 0,7–1,5 Nm | 5.4–13.3 |
| **3641464** | **DTQ1530** | Torque control wrench handle | 1,6–3,0 Nm | 13.4–26.6 |
| **3641465** | **DTQ3054** | Torque control wrench handle | 3,1–5,4 Nm | 26.7–47.8 |

## Blades

| Order Number | Description | Drive | Max Torque |
|---|---|---|---|
| **3641466** | Blade Screw Driver TORX | BTQT6 | 0,8 Nm |
| **3641467** | Blade Screw Driver TORX | BTQT7 | 1,4 Nm |
| **3641468** | Blade Screw Driver TORX | BTQT8 | 2,4 Nm |
| **3641469** | Blade Screw Driver TORX | BTQT9 | 3,3 Nm |
| **3641470** | Blade Screw Driver TORX | BTQT10 | 4,0 Nm |
| **3641471** | Blade Screw Driver TORX | BTQT15 | 7,0 Nm |
| **3641472** | Blade Screw Driver TORX | BTQT20 | 10,5 Nm |
| **3641473** | Blade Screw Driver TORX | BTQT25 | 20,0 Nm |
| **3641474** | Blade Screw Driver TORX PLUS | BTQ6IP | 0,9 Nm |
| **3641475** | Blade Screw Driver TORX PLUS | BTQ7IP | 1,7 Nm |
| **3641476** | Blade Screw Driver TORX PLUS | BTQ8IP | 2,8 Nm |
| **3641477** | Blade Screw Driver TORX PLUS | BTQ9IP | 3,6 Nm |
| **3641478** | Blade Screw Driver TORX PLUS | BTQ10IP | 5,0 Nm |



Length
6.693"
(170mm)

## Adjustable torque wrenches • 3.7–10.3 in. lbs (5–14 Nm)

| Order Number | ANSI/ISO Catalog Number | Description |
|---|---|---|
| 6197561 | DTQ50140 | Torque Wrench Handle 5-14Nm + bitholder |
| 6205876 | BTQSW3L90 | Bit SW3 L=90mm |
| 6205877 | BTQT15L90 | Bit Torx 15 L=90mm |
| 6205878 | BTQT20L90 | Bit Torx 20 L=90mm |
| 6205879 | BTQT25L90 | Bit Torx 25 L=90mm |
| 6205880 | BTQTP15L90 | Bit Torx Plus 15 L=90mm |
| 6205891 | BTQTP20L90 | Bit Torx Plus 20 L=90mm |
| 6205892 | BTQTP25L90 | Bit Torx Plus 25 L=90mm |

NOTE: For a complete overview of our screw drivers, bits, torque wrenches, and bit drivers, see pages X2–X3.

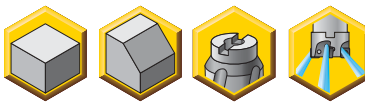
# KSSM™ 45°

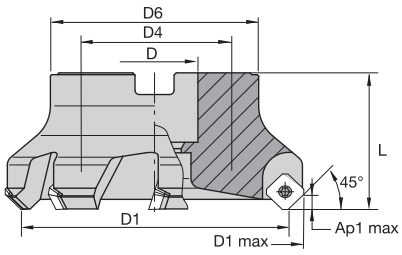
Universal face mill for conventional machining.

## Features and Benefits

- Insert SE.T1404.
- Ap1 max = .260".
- Four true cutting edges.
- Pocket seat protection with carbide shims.
- Easy handling and rapid insert change.

- Consumes less power.
- Rapid insert changes.





## KSSM 45° • Shell Mills

| order number | catalog number | D1 | D1 max | D | D4 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1817866** | **KSSISR197SE44345C3** | 1.970 | 2.515 | .750 | – | 1.750 | 1.575 | .260 | 3 | .87 | 22500 |
| **1817867** | **KSSISR197SE44345M3** | 1.970 | 2.515 | .750 | – | 1.750 | 1.575 | .260 | 4 | .88 | 22500 |
| **1817868** | **KSSISR248SE44345C4** | 2.480 | 3.024 | 1.000 | – | 2.190 | 1.575 | .260 | 4 | 1.31 | 20200 |
| **1817869** | **KSSISR248SE44345M4** | 2.480 | 3.024 | 1.000 | – | 2.190 | 1.575 | .260 | 5 | 1.30 | 20200 |
| **1817870** | **KSSISR315SE44345C4** | 3.150 | 3.691 | 1.000 | – | 2.190 | 1.969 | .260 | 4 | 2.16 | 18000 |
| **1817871** | **KSSISR315SE44345M4** | 3.150 | 3.691 | 1.000 | – | 2.190 | 1.969 | .260 | 6 | 2.19 | 18000 |
| **1817872** | **KSSISR394SE44345C5** | 3.940 | 4.477 | 1.250 | – | 2.880 | 1.969 | .260 | 5 | 3.58 | 16000 |
| **1817933** | **KSSISR394SE44345M5** | 3.940 | 4.477 | 1.250 | – | 2.880 | 1.969 | .260 | 7 | 3.60 | 16000 |
| **1817934** | **KSSISR492SE44345C6** | 4.920 | 5.460 | 1.500 | – | 3.810 | 2.480 | .260 | 6 | 6.50 | 14400 |
| **1817935** | **KSSISR492SE44345M6** | 4.920 | 5.460 | 1.500 | – | 3.810 | 2.480 | .260 | 8 | 6.56 | 14400 |
| **1817936** | **KSSISR630SE44345C6** | 6.300 | 6.836 | 1.500 | – | 3.810 | 2.480 | .260 | 7 | 9.91 | 12500 |
| **1817937** | **KSSISR630SE44345M6** | 6.300 | 6.836 | 1.500 | – | 3.810 | 2.480 | .260 | 10 | 10.03 | 12500 |
| **1817938** | **KSSISR787SE44345C10** | 7.870 | 8.410 | 2.500 | 4.000 | 6.125 | 2.480 | .260 | 8 | 13.24 | 11300 |
| **1817939** | **KSSISR787SE44345M10** | 7.870 | 8.410 | 2.500 | 4.000 | 6.125 | 2.480 | .260 | 12 | 13.37 | 11300 |

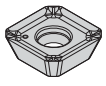
## Spare Parts

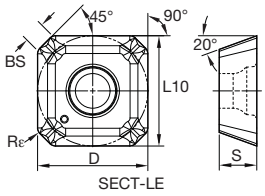
| D1 | insert screw | in. lbs. | Torx Plus driver | shim | shim screw | hex driver | in. lbs. | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|
| 1.970 | **MS2078** | 35 | **DT15IP** | – | – | – | – | **S2043** |
| 2.480 | **MS2078** | 35 | **DT15IP** | – | – | – | – | **S2044** |
| 3.150 | **MS2078** | 35 | **DT15IP** | **SM455** | **SRS3** | **DH35M** | 40 | – |
| 3.940 | **MS2078** | 35 | **DT15IP** | **SM455** | **SRS3** | **DH35M** | 40 | – |
| 4.920 | **MS2078** | 35 | **DT15IP** | **SM455** | **SRS3** | **DH35M** | 40 | – |
| 6.300 | **MS2078** | 35 | **DT15IP** | **SM455** | **SRS3** | **DH35M** | 40 | – |
| 7.870 | **MS2078** | 35 | **DT15IP** | **SM455** | **SRS3** | **DH35M** | 40 | – |

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——— | ———► | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| P3–P4 | .E..GP2 | KCPK30 | **.E..GB2** | **KCPK30** | .S..GB2 | KCPK30 |
| P5–P6 | .E..GP2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M1–M2 | .E..LD2 | KC725M | **.E..GP2** | **KC725M** | .S..GP2 | KC725M |
| M3 | .E..GP2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GP2 | KCPM40 |
| K1–K2 | .E..GP2 | KCK15 | **.E..GB2** | **KCK15** | .S..GB2 | KCK15 |
| K3 | .E..GP2 | KC520M | **.E..GB2** | **KC520M** | .S..GB2 | KC520M |
| N1–N2 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| N3 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| S1–S2 | .E..LD2 | KC725M | **.E..GP2** | **KC725M** | .S..GP2 | KC725M |
| S3 | .E..GB2 | KC725M | **.S..GP2** | **KC725M** | .S..GB2 | KC725M |
| S4 | .E..GB2 | KC725M | **.S..GP2** | **KC725M** | .S..GB2 | KC725M |
| H1 | – | – | – | – | – | – |

## Indexable Inserts


SECT-LE



SECT-LE

● first choice
○ alternate choice

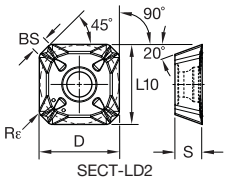
beyond

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | | | | ● | | ● | | ○ | ● | |
| M | | | | ● | | ○ | ○ | ● | ○ | |
| K | | | ● | | ● | ○ | | ○ | | ● |
| N | | ● | | | | | | | | |
| S | | | | ● | | | ● | ● | | |
| H | | | | | | | | | | |

### SECT-LE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCSM30 | KC522M | KCPM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SECT443AEFN7LE** | .551 | .188 | .551 | .104 | .039 | .001 | 4 | ● | – | – | – | – | – | – | – | – |

SECT-LD2

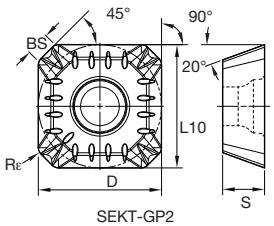


SECT-LD2

### SECT-LD2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCSM30 | KC522M | KCPM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SECT443AEEN7LD2** | .551 | .188 | .551 | .104 | .039 | .002 | 4 | – | – | ● | – | – | – | – | – | – |

SEKT-GP2

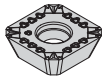


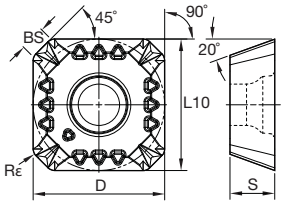
SEKT-GP2

### SEKT-GP2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCSM30 | KC522M | KCPM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SEKT443AEEN7GP2** | .551 | .188 | .551 | .104 | .039 | .002 | 4 | – | ● | ● | ● | ● | – | – | ● | – |
| **SEKT443AESN7GP2** | .551 | .188 | .551 | .104 | .039 | .004 | 4 | – | ● | ● | ● | ● | – | – | ● | – |

Face Milling


SEPT-GB2



SEPT-GB2

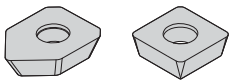
beyond

● first choice
○ alternate choice

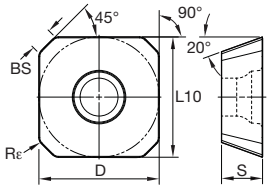
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | | ○ | ● | | |
| M | | | ● | | ○ | ○ | ● | ○ | | |
| K | | ● | | ● | ○ | | ○ | | ● | |
| N | ● | | | | | | | | | |
| S | | | ● | | | ● | ● | | | |
| H | | | | | | | | | | |

## SEPT-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCSM30 | KC522M | KCPM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SEPT443AEEN7GB2** | .551 | .188 | .551 | .104 | .039 | .003 | 4 | – | – | ● | ● | ● | – | – | – | – |
| **SEPT443AESN7GB2** | .551 | .188 | .551 | .104 | .039 | .005 | 4 | – | – | ● | ● | ● | – | – | – | – |


SECW-GNW


SECW-GN



SECW-GNW
SECW-GN

## SECW-GN

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCSM30 | KC522M | KCPM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SECW443AESN7GN** | .551 | .188 | .551 | .104 | .039 | .006 | 4 | – | – | – | – | – | – | – | – | ● |

## SECW-GNW

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCSM30 | KC522M | KCPM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SECW443AEEN22GNW** | .551 | .188 | .325 | .325 | .063 | .002 | 2 | – | – | ● | – | – | – | – | – | – |



## Recommended Starting Feeds

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LE | .007 | **.024** | .040 | .005 | **.017** | .029 | .004 | **.013** | .021 | .003 | **.011** | .019 | .003 | **.010** | .017 | .F..LE |
| .E..LD2 | .007 | **.025** | .045 | .005 | **.018** | .032 | .004 | **.013** | .024 | .003 | **.012** | .021 | .003 | **.011** | .019 | .E..LD2 |
| .E..LD | .009 | **.026** | .046 | .007 | **.019** | .033 | .005 | **.014** | .024 | .004 | **.012** | .021 | .004 | **.011** | .020 | .E..LD |
| .E..GP | .007 | **.025** | .050 | .005 | **.018** | .036 | .004 | **.013** | .027 | .003 | **.012** | .023 | .003 | **.011** | .021 | .E..GP |
| .E..GP2 | .009 | **.029** | .050 | .007 | **.021** | .036 | .005 | **.016** | .027 | .004 | **.014** | .023 | .004 | **.012** | .021 | .E..GP2 |
| .E..GB2 | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .E..GB2 |
| .S..GP2 | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..GP2 |
| .S..GB2 | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..GB2 |
| .S..GN | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..GN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

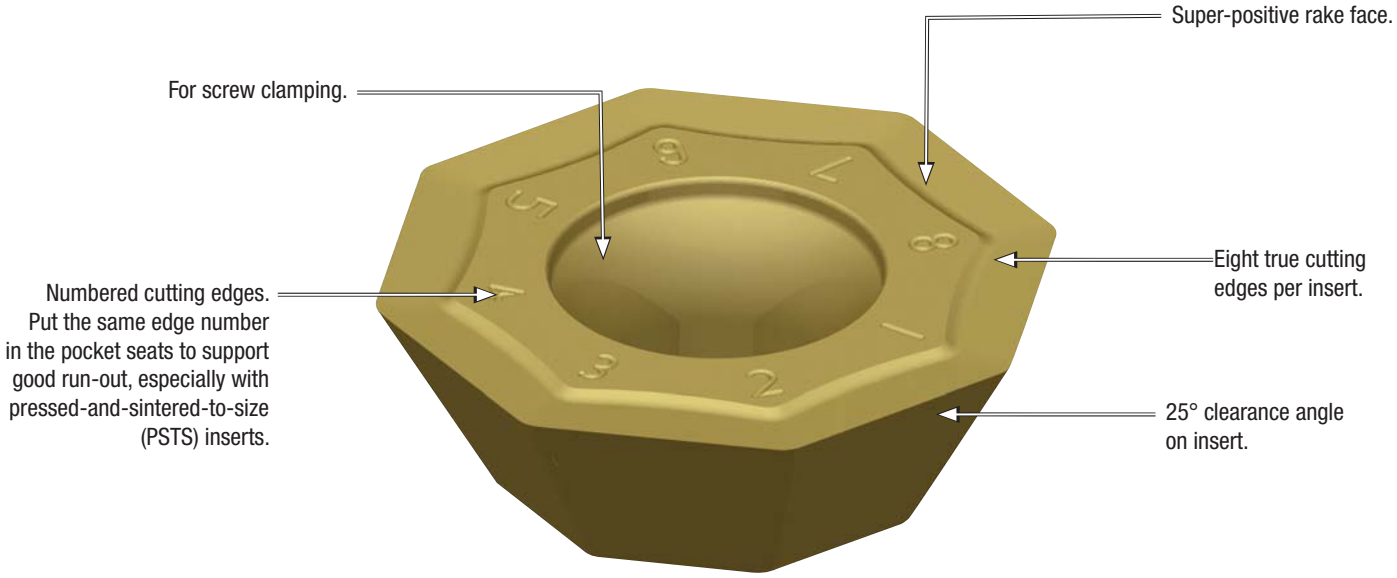
# KSOM™ Mini • KSOM Milling Tools

### Primary Application

High-positive face mills with eight cutting edges for use in most workpieces materials. Due to its design, face milling, plunging, helical interpolation, and ramping are possible with KSOM mills.

## Features and Benefits

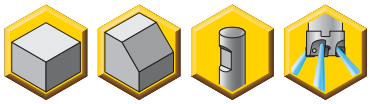
- Super-positive rake face for soft cutting action.
- Low cutting forces deliver higher feed capability.
- 25° clearance angle on insert allows excellent free cutting.
- Excellent performance in stainless steel and super alloys.
- First choice solution for machining turbocharger materials like 1.4826, 1.4838, 1.4848, and 1.4849.

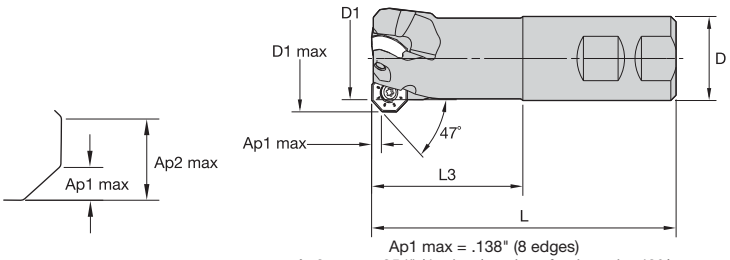



**KSOM Mini: insert OF*T53**
— Ap1 max = .138" (8 indexes)
— Ap2 max = .354" (4 indexes)

**KSOM insert OF*T64**
— Ap1 max = .197" (8 indexes)
— Ap2 max = .461" (4 indexes)

- Eight cutting edges per insert.
- Super soft cutting.






Ap1 max = .138" (8 edges)
Ap2 max = .354" (4 edges); reduce feed rate by 40%

## KSOM Mini • Weldon® End Mills

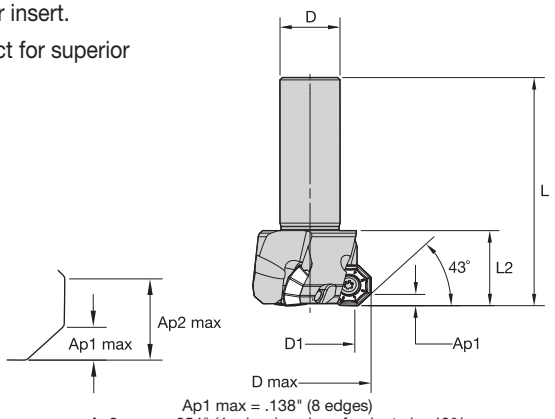
| order number | catalog number | D1 | D1 max | D | L | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3093625** | **KSOM125OF5345M3** | 1.250 | 1.610 | .750 | 3.047 | 1.000 | .138 | 2 | 11.0° | .53 | 20050 |
| **3093600** | **KSOM125OF5345F5** | 1.250 | 1.610 | 1.250 | 4.530 | 2.250 | .138 | 3 | 11.0° | 1.45 | 20050 |
| **3093627** | **KSOM150OF5345M3** | 1.500 | 1.856 | .750 | 3.047 | 1.000 | .138 | 3 | 8.0° | .60 | 16710 |
| **3093623** | **KSOM150OF5345F3** | 1.500 | 1.856 | .750 | 3.047 | 1.000 | .138 | 4 | 8.0° | .56 | 16710 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench |
|---|---|---|---|
| 1.250 | **193.433** | 53 | **TTP15** |
| 1.500 | **193.433** | 53 | **TTP15** |

NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus15 (order number 6205880) may be purchased separately in order to ensure proper torque setting.

- Eight cutting edges per insert.
- Super soft cutting effect for superior surface floor finishing.




Ap1 max = .138" (8 edges)
Ap2 max = .354" (4 edges); reduce feed rate by 40%

## Cylindrical End Mills

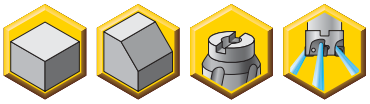
| order number | catalog number | D1 | D1 max | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5358938** | **KSOM125Z03C100OF53X** | 1.250 | 1.603 | 1.000 | 3.280 | 1.000 | .138 | 3 | 11.0° | .74 | 20050 |

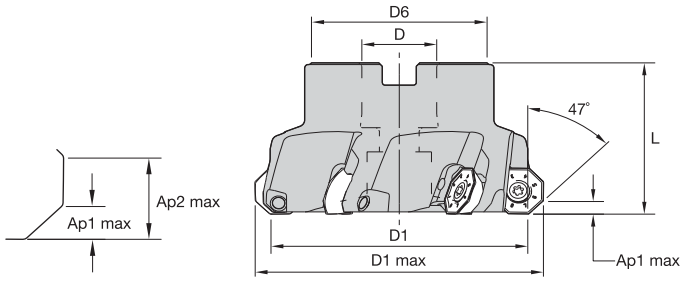
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench |
|---|---|---|---|
| 1.250 | **193.433** | 53 | **TTP15** |

NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus20 (order number 6205891) may be purchased separately in order to ensure proper torque setting.

- Eight cutting edges per insert.
- Super soft cutting.





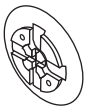

Ap1 max = .138" (8 edges)
Ap2 max = .354" (4 edges); reduce feed rate by 40%

## KSOM Mini • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5359020** | **KSOM150Z04OF53S050X** | 1.500 | 1.850 | .500 | 1.440 | 1.575 | .138 | 4 | 8.0° | .58 | 16710 |
| **3093634** | **KSOM200OF5345M3** | 2.000 | 2.350 | .750 | 1.593 | 1.570 | .138 | 4 | 5.2° | .85 | 12530 |
| **5359021** | **KSOM200Z06OF53S075X** | 2.000 | 2.346 | .750 | 1.750 | 1.570 | .138 | 6 | 5.2° | .88 | 12530 |
| **3093635** | **KSOM250OF5345M3** | 2.500 | 2.846 | .750 | 1.986 | 1.570 | .138 | 5 | 3.8° | 1.38 | 10030 |
| **5359023** | **KSOM250Z07OF53S075X** | 2.500 | 2.843 | .750 | 2.144 | 1.570 | .138 | 7 | 3.8° | 1.43 | 10030 |
| **3093636** | **KSOM300OF5345M4** | 3.000 | 3.343 | 1.000 | 2.031 | 1.750 | .138 | 6 | 3.0° | 1.88 | 8350 |
| **5359024** | **KSOM300Z09OF53S100X** | 3.000 | 3.341 | 1.000 | 2.188 | 1.750 | .138 | 9 | 3.0° | 1.98 | 8350 |
| **3093637** | **KSOM400OF5345M5** | 4.000 | 4.340 | 1.250 | 2.722 | 1.750 | .138 | 7 | 2.1° | 2.77 | 6270 |
| **3093638** | **KSOM500OF5345M6** | 5.000 | 5.340 | 1.500 | 3.652 | 2.380 | .138 | 8 | 1.6° | 5.63 | 5010 |
| **3093632** | **KSOM500OF5345F6** | 5.000 | 5.340 | 1.500 | 3.652 | 2.380 | .138 | 12 | 1.6° | 6.07 | 5010 |

NOTE: "X" in the catalog number stands for improved finishing capabilities.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench | socket-head cap screw | coolant lock screw | coolant lock screw |  coolant shower plate |
|---|---|---|---|---|---|---|---|
| 1.500 | **193.433** | 53 | **TTP15** | **S424** | – | – | – |
| 2.000 | **193.433** | 53 | **TTP15** | **S445** | – | – | – |
| 2.500 | **193.433** | 53 | **TTP15** | **S445** | – | – | – |
| 3.000 | **193.433** | 53 | **TTP15** | **S458** | – | – | – |
| 4.000 | **193.433** | 53 | **TTP15** | – | **S2162C** | – | – |
| 5.000 | **193.433** | 53 | **TTP15** | – | – | **420.201** | **470.240** |

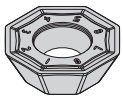
NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus15 (order number 6205880) may be purchased separately in order to ensure proper torque setting.

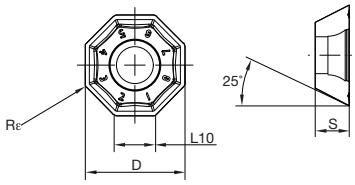
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LB | KCPK30 | **.E..GB** | **KCPM40** | .S..HB | KCPK30 |
| P3–P4 | .E..LB | KCPK30 | **.E..GB** | **KCPK30** | .S..HB | KCPK30 |
| P5–P6 | .E..LB | KC725M | **.E..GB** | **KC725M** | .S..HB | KC725M |
| M1–M2 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| M3 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| K1–K2 | .E..LB | KCK15 | **.E..GB** | **KC520M** | .E..GB | KCK15 |
| K3 | .E..LB | KCPK30 | **.E..GB** | **KC520M** | .S..HB | KCPK30 |
| N1–N2 | .F..LBJ | KC410M | **.E..LBJ** | **KC422M** | .E..LBJ | KC422M |
| N3 | .F..LBJ | KC410M | **.F..LNJ** | **KC410M** | .F..LNJ | KC410M |
| S1–S2 | .E..LB | KC725M | **.E..GB** | **KC725M** | .S..HB | KC725M |
| S3 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| S4 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

## Indexable Inserts

- First choice for machining aluminum with low feed rate.


OF.T-LNJ



OF.T-LNJ

● first choice
○ alternate choice

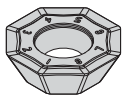
beyond

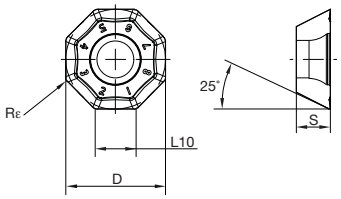
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | ● | ● | | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | |
| N | | ● | ● | | | | | | | |
| S | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | |

### OFKT-LNJ

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT53AFFN4LNJ** | .579 | .197 | .236 | – | .031 | .001 | 8 | ● | – | – | – | – | – | – | – | – |

- First choice for machining aluminum.


OF.T-LBJ

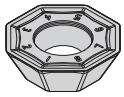


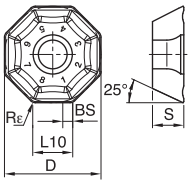
OF.T-LBJ

### OFKT-LBJ

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT53AFEN4LBJ** | .579 | .197 | .236 | – | .031 | .001 | 8 | – | ● | – | – | – | – | – | – | – |
| **OFKT53AFFN4LBJ** | .579 | .197 | .236 | – | .031 | .001 | 8 | ● | – | – | – | – | – | – | – | – |

- First choice for light machining.
- -LB light geometry is the first choice for turbine blade applications.


OF.T-LB



OF.T-LB

● first choice
○ alternate choice

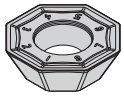
beyond

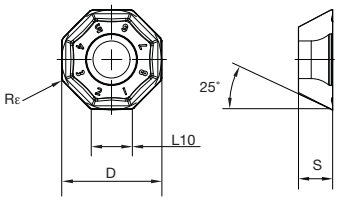
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | ● | ● | | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | |
| N | ● | ● | | | | | | | | |
| S | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | |

## OFKT-LB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT53AFEN6LB** | .579 | .197 | .236 | .048 | .031 | .004 | 8 | – | – | – | ● | ● | ● | ● | – | ● |
| **OFKT53AFSN6LB** | .579 | .197 | .236 | .048 | .031 | .009 | 8 | – | – | ● | ● | ● | – | ● | – | – |

- First choice for general purpose.
- -GB medium geometry for roughing and finishing operations on all materials.


OF.T-GB

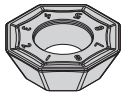


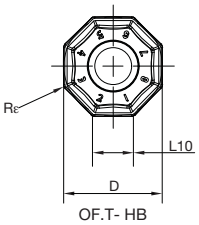
OF.T-GB

## OFKT-GB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT53AFEN4GB** | .579 | .197 | .236 | — | .031 | .006 | 8 | – | – | ● | ● | ● | ● | ● | ● | ● |

- First choice for heavy roughing.


OF.T- HB

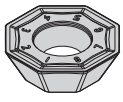


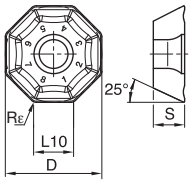
OF.T- HB

## OFKT-HB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT53AFSN4HB** | .579 | .197 | .236 | — | .031 | .008 | 8 | – | – | – | ● | ● | – | ● | – | ● |

- First choice for general purpose.
- -GB medium geometry for roughing and finishing operations on all materials.


OF.T-GB



OF.T-GB

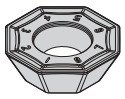
● first choice
○ alternate choice

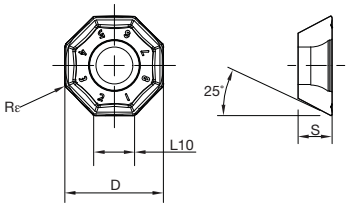
| | | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | ○ |
| M | | | | | ● | ● | | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | |
| N | | ● | ● | | | | | | | |
| S | | | | | ● | ● | | | | ● |
| H | | | | | | | | | | |

## OFPT-GB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFPT53AFEN4GB** | .579 | .197 | .236 | — | .031 | .006 | 8 | – | – | ● | – | ● | ● | ● | ● | – |

- First choice for heavy roughing.


OF.T- HB



OF.T- HB

## OFPT-HB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFPT53AFSN4HB** | .579 | .197 | .236 | — | .031 | .008 | 8 | – | – | ● | – | ● | ● | ● | – | ● |



## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

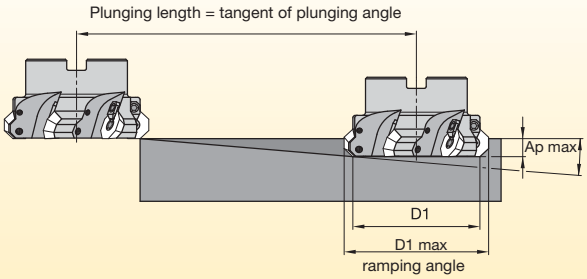
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LBJ | .007 | **.025** | .041 | .005 | **.018** | .030 | .004 | **.013** | .022 | .003 | **.012** | .019 | .003 | **.011** | .018 | .F..LBJ |
| .F..LNJ | .007 | **.025** | .041 | .005 | **.018** | .030 | .004 | **.013** | .022 | .003 | **.012** | .019 | .003 | **.011** | .018 | .F..LNJ |
| .E..LBJ | .007 | **.025** | .045 | .005 | **.018** | .033 | .004 | **.013** | .024 | .003 | **.012** | .021 | .003 | **.011** | .019 | .E..LBJ |
| .E..LB | .014 | **.029** | .047 | .010 | **.021** | .034 | .007 | **.016** | .025 | .006 | **.014** | .022 | .006 | **.013** | .020 | .E..LB |
| .S..LB | .014 | **.029** | .051 | .010 | **.021** | .037 | .007 | **.016** | .027 | .006 | **.014** | .024 | .006 | **.012** | .022 | .S..LB |
| .E..GB | .014 | **.034** | .055 | .010 | **.025** | .039 | .007 | **.018** | .029 | .006 | **.016** | .025 | .006 | **.015** | .023 | .E..GB |
| .S..HB | .014 | **.034** | .059 | .010 | **.025** | .042 | .007 | **.018** | .031 | .006 | **.016** | .027 | .006 | **.015** | .025 | .S..HB |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# KSOM Mini Application • OF.T06L5

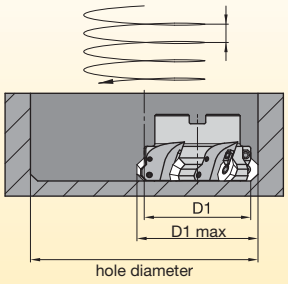
## Ramping




### Inch version

| D1 inch | D1 max inch | Ap max inch | ramping angle (°) | ramping length inch |
|---|---|---|---|---|
| 1.25 | 1.61 | .354 | 11,0 | 1.82 |
| 1.50 | 1.85 | .354 | 8,0 | 2.52 |
| 2.00 | 2.35 | .354 | 5,2 | 3.89 |
| 2.50 | 2.85 | .354 | 3,8 | 5.34 |
| 3.00 | 3.34 | .354 | 3,0 | 6.76 |
| 4.00 | 4.34 | .354 | 2,1 | 9.66 |
| 5.00 | 5.34 | .354 | 1,6 | 12.69 |
| 6.00 | 6.34 | .354 | 1,3 | 15.61 |

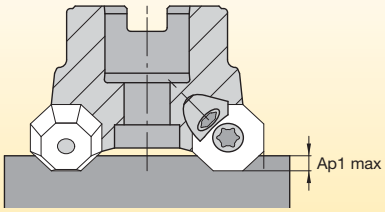
## Helical Interpolation




### Inch version

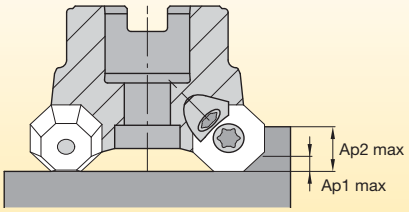
| D1 inch | D1 max inch | hole diameter min inch | hole diameter max inch | Ap/Rev inch |
|---|---|---|---|---|
| 1.25 | 1.61 | 2.41 | 3.20 | .185 |
| 1.50 | 1.85 | 2.91 | 3.69 | .185 |
| 2.00 | 2.35 | 3.90 | 4.68 | .185 |
| 2.50 | 2.85 | 4.93 | 5.68 | .185 |
| 3.00 | 3.34 | 5.89 | 6.68 | .185 |
| 4.00 | 4.34 | 7.89 | 8.67 | .185 |
| 5.00 | 5.34 | 9.89 | 10.67 | .185 |
| 6.00 | 6.34 | 11.89 | 12.67 | .185 |

## Plunging



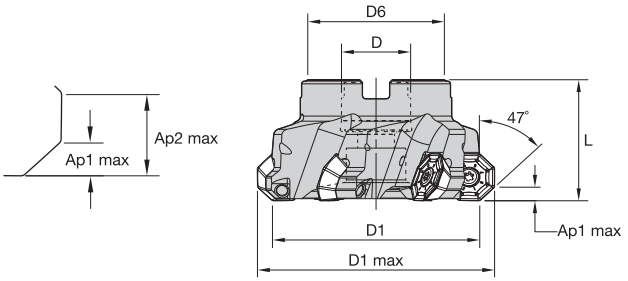

| max plunging depth | inch |
|---|---|
| Ap1 max | .13 |

## Face Milling




| max DOC Ap | inch | chipload (fz) |
|---|---|---|
| Ap1 max | .14 | 1 x fz |
| Ap2 max | .35 | 0,6 x fz |

- Eight cutting edges per insert.
- Super soft cutting.

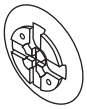



Ap1 max = .138" (8 edges)
Ap2 max = .354" (4 edges); reduce feed rate by 40%

## KSOM • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3093645** | **KSOM250OF6445M3** | 2.500 | 2.945 | .750 | 1.986 | 1.750 | .197 | 4 | 5.5° | 1.47 | 10100 |
| **3093640** | **KSOM250OF6445F3** | 2.500 | 2.945 | .750 | 1.986 | 1.750 | .197 | 5 | 5.5° | 1.29 | 10100 |
| **3093646** | **KSOM300OF6445M4** | 3.000 | 3.441 | 1.000 | 2.031 | 1.750 | .197 | 4 | 4.2° | 1.83 | 7900 |
| **3093641** | **KSOM300OF6445F4** | 3.000 | 3.441 | 1.000 | 2.031 | 1.750 | .197 | 6 | 4.2° | 1.68 | 7900 |
| **3093647** | **KSOM400OF6445M5** | 4.000 | 4.436 | 1.250 | 2.722 | 1.750 | .197 | 5 | 2.9° | 2.69 | 6300 |
| **3093642** | **KSOM400OF6445F5** | 4.000 | 4.436 | 1.250 | 2.722 | 1.750 | .197 | 8 | 2.9° | 2.79 | 6300 |
| **3093648** | **KSOM500OF6445M6** | 5.000 | 5.433 | 1.500 | 3.652 | 2.380 | .197 | 6 | 2.2° | 5.54 | 5000 |
| **3093643** | **KSOM500OF6445F6** | 5.000 | 5.433 | 1.500 | 3.652 | 2.380 | .197 | 10 | 2.2° | 5.94 | 5000 |
| **3093649** | **KSOM600OF6445M8** | 6.000 | 6.431 | 2.000 | 4.722 | 2.380 | .197 | 7 | 1.8° | 8.51 | 3900 |
| **3093644** | **KSOM600OF6445F8** | 6.000 | 6.431 | 2.000 | 4.722 | 2.380 | .197 | 12 | 1.8° | 8.66 | 3900 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench | socket-head cap screw | coolant lock* screw assembly | coolant* lock screw |  coolant* shower plate |
|---|---|---|---|---|---|---|---|
| 2.500 | **193.409** | 53 | **TTP20** | **S445** | – | – | – |
| 3.000 | **193.409** | 53 | **TTP20** | **S458** | – | – | – |
| 4.000 | **193.409** | 53 | **TTP20** | – | **S2162C** | – | – |
| 5.000 | **193.409** | 53 | **TTP20** | – | – | **420.201** | **470.240** |
| 6.000 | **193.409** | 53 | **TTP20** | – | – | **420.241** | **470.241** |

* Coolant clamping screw and coolant cap must be purchased separately.

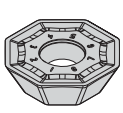
NOTE: Adjustable torque wrench (order number 6197561) and bit TorxPlus20 (order number 6205891) may be purchased separately in order to ensure proper torque setting.

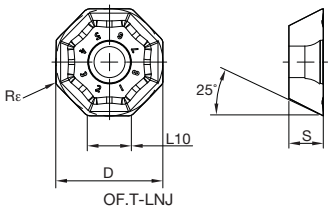
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LB | KCPK30 | **.E..GB** | **KCPM40** | .S..HB | KCPM40 |
| P3–P4 | .E..LB | KCPK30 | **.E..GB** | **KCPK30** | .S..HB | KCPK30 |
| P5–P6 | .E..LB | KC725M | **.E..GB** | **KC725M** | .S..HB | KC725M |
| M1–M2 | .E..LB | KC725M | **.E..GB** | **KC725M** | .S..HB | KC725M |
| M3 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| K1–K2 | .E..LB | KCK15 | **.E..GB** | **KC520M** | .S..HB | KCK15 |
| K3 | .E..LB | KC520M | **.E..GB** | **KC520M** | .S..HB | KC520M |
| N1–N2 | .F..LNJ | KC410M | **.F..LNJ** | **KC410M** | .F..LNJ | KC410M |
| N3 | .F..LNJ | KC410M | **.F..LNJ** | **KC410M** | .F..LNJ | KC410M |
| S1–S2 | .E..LB | KC725M | **.E..GB** | **KC725M** | .S..HB | KC725M |
| S3 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| S4 | .E..LB | KCSM40 | **.E..GB** | **KCSM40** | .S..HB | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |



- First choice for machining aluminum.


OF.T-LNJ



OF.T-LNJ

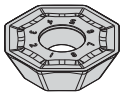
● first choice
○ alternate choice

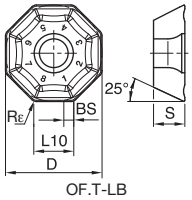
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |

### OFKT-LNJ

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT64AFFN6LNJ** | .736 | .236 | .295 | – | .047 | .001 | 8 | ● | – | – | – | – | – | – | – | – |

- First choice for light machining.


OF.T-LB



OF.T-LB

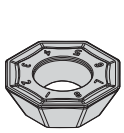
### OFKT-LB

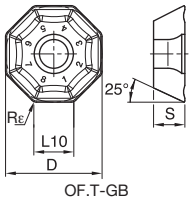
| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OFKT64AFEN6LB** | .736 | .236 | .295 | .083 | .047 | .004 | 8 | – | – | ● | ● | – | ● | – | – | ● |
| **OFKT64AFSN6LB** | .736 | .236 | .295 | .083 | .047 | .009 | 8 | – | – | – | ● | – | ● | – | – | – |

- First choice for general purpose.
- -GB medium geometry for roughing and finishing operations on all materials.

● first choice
○ alternate choice

| | | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |


OF.T-GB

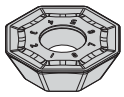


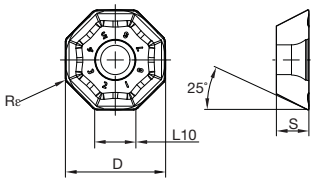
OF.T-GB

## OFKT-GB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **OFKT64AFEN6GB** | .736 | .236 | .295 | — | .047 | .006 | 8 |

- First choice for heavy roughing.


OF.T- HB

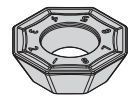


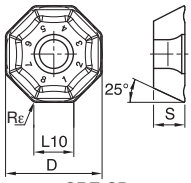
OF.T- HB

## OFKT-HB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **OFKT64AFSN6HB** | .736 | .236 | .295 | — | .047 | .008 | 8 |

- First choice for general purpose.


OF.T-GB

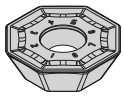


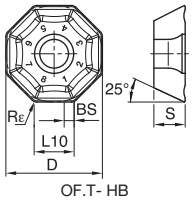
OF.T-GB

## OFPT-GB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **OFPT64AFEN6GB** | .736 | .236 | .295 | — | .047 | .006 | 8 |

- First choice for heavy roughing.


OF.T- HB



OF.T- HB

## OFPT-HB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **OFPT64AFSN6HB** | .736 | .236 | .295 | — | .047 | .008 | 8 |

Face Milling

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

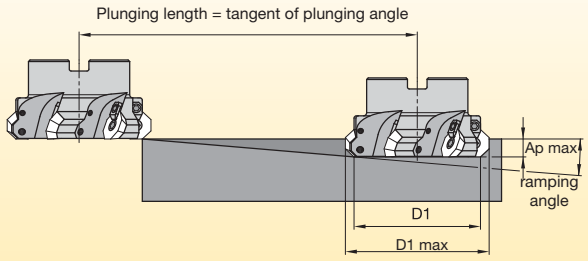
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LNJ | .007 | **.027** | .048 | .005 | **.019** | .035 | .004 | **.015** | .026 | .003 | **.013** | .022 | .003 | **.012** | .021 | .F..LNJ |
| .E..LB | .014 | **.029** | .047 | .010 | **.021** | .034 | .007 | **.016** | .025 | .006 | **.014** | .022 | .006 | **.013** | .020 | .E..LB |
| .S..LB | .014 | **.029** | .053 | .010 | **.021** | .038 | .007 | **.016** | .028 | .006 | **.014** | .025 | .006 | **.012** | .022 | .S..LB |
| .E..GB | .014 | **.034** | .055 | .010 | **.025** | .039 | .007 | **.018** | .029 | .006 | **.016** | .026 | .006 | **.015** | .023 | .E..GB |
| .S..HB | .014 | **.034** | .059 | .010 | **.025** | .042 | .007 | **.018** | .031 | .006 | **.016** | .027 | .006 | **.015** | .025 | .S..HB |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.



# KSOM Application • OF.T07L6

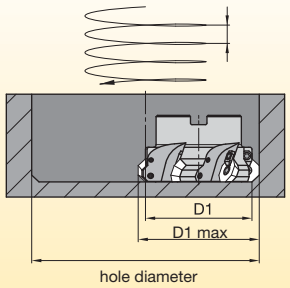
## Ramping




### Inch version

| D1 inch | D1 max inch | Ap max inch | ramping angle (°) | ramping length inch |
|---|---|---|---|---|
| 2.50 | 2.94 | .46 | 5.5 | 4.78 |
| 3.00 | 3.44 | .46 | 4.2 | 6.27 |
| 4.00 | 4.43 | .46 | 2.9 | 9.09 |
| 5.00 | 5.43 | .46 | 2.2 | 11.99 |
| 6.00 | 6.43 | .46 | 1.8 | 14.65 |

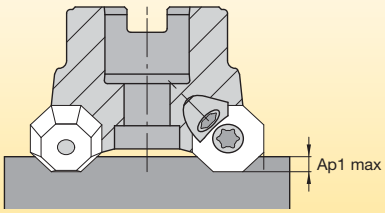
## Helical Interpolation




### Inch version

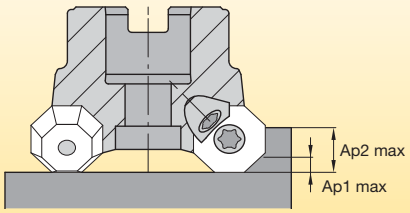
| D1 inch | D1 max inch | hole diameter min inch | hole diameter max inch | Ap/Rev inch |
|---|---|---|---|---|
| 2.50 | 2.94 | 4.872 | 5.748 | .248 |
| 3.00 | 3.44 | 5.868 | 6.744 | .248 |
| 4.00 | 4.43 | 7.863 | 8.739 | .248 |
| 5.00 | 5.43 | 9.859 | 10.736 | .248 |
| 6.00 | 6.43 | 11.857 | 12.733 | .248 |

## Plunging




| max plunging depth | inch |
|---|---|
| Ap1 max | .17 |

## Face Milling




| max DOC Ap | inch | chipload (fz) |
|---|---|---|
| Ap1 max | .20 | 1 x fz |
| Ap2 max | .46 | 0,6 x fz |

# KSSM8+™ Face Milling Platform

## Primary Application

The KSSM8+ platform is a first-choice face milling platform for **versatility** and a **reduced cost per edge**. This platform just got better with the latest pressing technology from Kennametal, which delivers pressed and sintered-to-size (PSTS) inserts ideal for general machining in **cast iron and steel**. With our latest KCPM40™ grade offering, PSTS inserts deliver exceptional performance. Now more than ever, the KSSM8+ platform is the economical solution for applications requiring a **near 0° shoulder**.

# Features and Benefits

## Features

- Double-sided insert with 8 cutting edges.
- Face mill with close to a 0° shoulder.
  - IC 10 (2° lead)
  - IC 12,7 (3° lead)
- Medium and fine density cutters.
- -LD and -GD geometry inserts.

## Benefits

- Maximized number of cutting edges.
- Lower cost-per-edge.
- Reduced power consumption.
- Reduced deformation/chatter.
- Exceptional surface finish.
- Stronger edge for roughing.

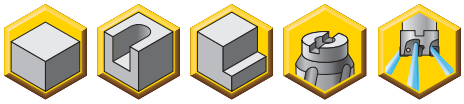
# Versatile Platform with Multiple Insert Options and Grades

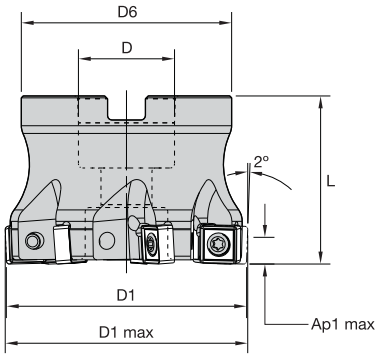
**Cost per Edge**
Double-sided square inserts,
8 cutting edges.

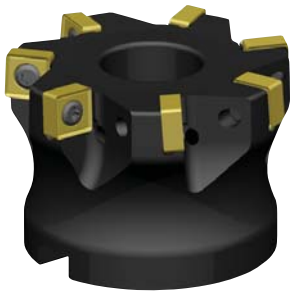
**Optimized Cutting Forces**
4° axial and 10° radial rake
angles reduce power consumption.

**Through Tool Coolant/Air**
Directed to the cutting edge
for optimum cooling.

- Eight cutting edges offer a lower cost per edge.
- Soft cutting action with low cutting forces.





## KSSM8+ • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **5420251** | **KSSM88D200SN3125S075Z05** | 2.000 | 2.025 | .750 | 1.750 | 1.750 | .361 | 5 | .85 | 32500 |
| **5420252** | **KSSM88D200SN3125S075Z06** | 2.000 | 2.025 | .750 | 1.750 | 1.750 | .361 | 6 | .85 | 32500 |
| **5420255** | **KSSM88D300SN3125S100Z07** | 3.000 | 3.025 | 1.000 | 2.190 | 1.750 | .361 | 7 | 1.82 | 25500 |
| **5420257** | **KSSM88D300SN3125S100Z09** | 3.000 | 3.419 | 1.000 | 2.190 | 1.750 | .361 | 9 | 1.82 | 25500 |
| **5420258** | **KSSM88D400SN3125S150Z08** | 4.000 | 4.025 | 1.500 | 3.380 | 2.000 | .361 | 8 | 3.73 | 21700 |

NOTE: Standard milling cutters will accept insert nose radii up to .078" without modification.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver | socket-head cap screw | coolant lock screw assembly |
|---|---|---|---|---|---|
| 2.000 | **193.492** | 35.000 | **DT15** | **S445** | **–** |
| 3.000 | **193.492** | 35.000 | **DT15** | **S458** | **–** |
| 4.000 | **193.492** | 35.000 | **DT15** | **–** | **S-2165-C** |

NOTE: For coolant shower plates (MCC..), only use low-presssure coolant.

## Insert Selection Guide

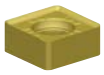
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KC725M | **.E..LD** | **KCPK30** | .S..GD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..GD | KCPM40 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KCPK30** | .S..GD | KCPM40 |
| M1–M2 | .E..LD | KC725M | **.E..LD** | **KC725M** | .S..GD | KCPM40 |
| M3 | .E..LD | KC725M | **.S..GD** | **KCPK30** | .S..GD | KCPM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KC520M** | .S..GD | KCK15 |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .S..GD | KCK15 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LD | KC725M | **.E..LD** | **KC725M** | .E..LD | KC725M |
| S3 | .E..LD | KC725M | **.E..LD** | **KC725M** | .S..GD | KCPM40 |
| S4 | .E..LD | KC725M | **.E..LD** | **KC725M** | .E..LD | KC725M |
| H1 | – | – | **–** | **–** | – | – |

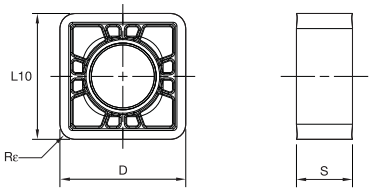
## Indexable Inserts

- First choice for light machining of cast iron and steel.
- Low cutting forces.

● first choice
○ alternate choice

| | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | ○ | ● | | | ● | ● | ○ |
| M | | ● | ● | | | ○ | ● | ● |
| K | ● | ○ | | ● | ● | ○ | | |
| N | | | | | | | | |
| S | | ● | ● | | | | ○ | ● |
| H | | | | | | | | |


SNHJ-LD

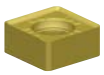


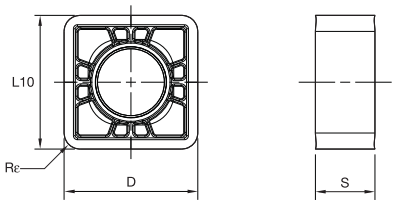
SNHJ-LD

### SNHJ-LD

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNHJ31252ENLD** | .394 | .157 | .394 | .031 | .002 | 8 | ● | – | ● | ● | – | ● | – | – |
| **SNHJ31253ENLD** | .394 | .157 | .394 | .047 | .002 | 8 | – | – | ● | ● | – | – | – | – |

- First choice for general purpose machining.


SNPJ-GD



SNPJ-GD

### SNPJ-GD

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNPJ31252SNGD** | .394 | .157 | .394 | .031 | .003 | 8 | ● | – | – | ● | – | ● | ● | – |
| **SNPJ31253SNGD** | .394 | .157 | .394 | .047 | .003 | 8 | – | – | – | ● | – | – | ● | – |

## Recommended Starting Feeds

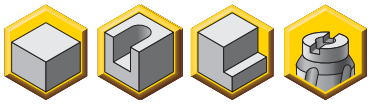
### Recommended Starting Feeds [IPT]

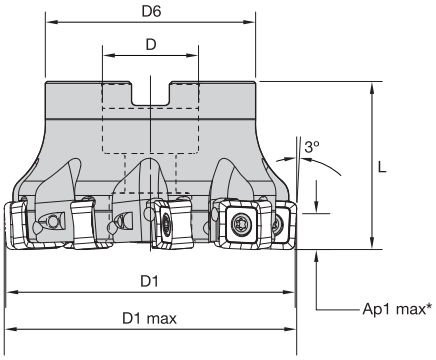
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LD | .007 | **.016** | .028 | .005 | **.012** | .020 | .004 | **.009** | .015 | .003 | **.008** | .013 | .003 | **.007** | .012 | .E..LD |
| .S..GD | .009 | **.020** | .032 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.009** | .015 | .004 | **.009** | .014 | .S..GD |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Eight cutting edges offer a lower cost per edge.
- Soft cutting action with low cutting forces.





## KSSM8+ • Shell Mills

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max* | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **5420150** | **KSSM87D200SN440S075Z05** | 2.000 | 2.045 | .750 | 1.750 | 1.750 | .236 | 5 | .81 | 22500 |
| **5420154** | **KSSM87D300SN440S100Z07** | 3.000 | 3.045 | 1.000 | 2.190 | 1.750 | .236 | 7 | 1.86 | 17400 |
| **5420155** | **KSSM87D300SN440S100Z09** | 3.000 | 3.045 | 1.000 | 2.190 | 1.750 | .236 | 9 | 1.83 | 17400 |
| **5420156** | **KSSM87D400SN440S150Z08** | 4.000 | 4.045 | 1.500 | 3.380 | 2.000 | .236 | 8 | 3.69 | 14700 |
| **5420157** | **KSSM87D400SN440S150Z11** | 4.000 | 4.045 | 1.500 | 3.380 | 2.000 | .236 | 11 | 3.68 | 14700 |
| **5420160** | **KSSM87D600SN440S150Z12** | 6.000 | 6.045 | 1.500 | 3.380 | 2.380 | .236 | 12 | 8.17 | 11700 |
| **5420161** | **KSSM87D600SN440S150Z16** | 6.000 | 6.045 | 1.500 | 3.380 | 2.380 | .236 | 16 | 8.16 | 11700 |

NOTE: Standard milling cutters will accept insert nose radii up to .078" without modification.
*Ap1 max. .236" using insert SNHJ442ENLD.
*Ap1 max. .467" using insert SNPJ442SNGD.



## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver | socket-head cap screw | coolant lock screw assembly |
|---|---|---|---|---|---|
| 2.000 | **193.492** | 35.000 | **DT15** | **S445** | **–** |
| 3.000 | **193.492** | 35.000 | **DT15** | **S458** | **–** |
| 4.000 | **193.492** | 35.000 | **DT15** | **–** | **S2165C** |
| 6.000 | **193.492** | 35.000 | **DT15** | **–** | **S2163C** |

NOTE: For coolant shower plates (MCC..), only use low-pressure coolant.

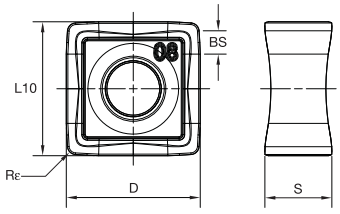
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KC725M | **.E..LD** | **KCPK30** | .S..GD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..GD | KCPM40 |
| P5–P6 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..GD | KCPM40 |
| M1–M2 | .E..LD | KC725M | **.S..GD** | **KC522M** | .S..GD | KCSM40 |
| M3 | .E..LD | KC725M | **.S..GD** | **KCPM40** | .S..GD | KCSM40 |
| K1–K2 | .E..LD | KC520M | **.E..LD** | **KCK15** | .S..GD | KC520M |
| K3 | .E..LD | KCK15 | **.S..GD** | **KC520M** | .S..GD | KCK15 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KCSM40** | .S..GD | KC522M |
| S3 | .E..LD | KC725M | **.S..GD** | **KCSM40** | .S..GD | KCPM40 |
| S4 | .E..LD | KC725M | **.S..GD** | **KCSM40** | .S..GD | KC522M |
| H1 | – | – | **–** | **–** | – | – |



- First choice for light machining of cast iron and steel.

SNHJ-LD



SNHJ-LD

● first choice
○ alternate choice

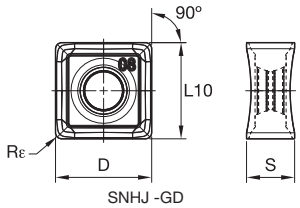
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | | ● | ● | ○ |
| M | | | ● | ● | | | ○ | ● | ● |
| K | | ● | ○ | | ● | ● | ○ | | |
| N | | | | | | | | | |
| S | | | ● | ● | | | | ○ | ● |
| H | | | | | | | | | |

### SNHJ-LD

| catalog number | D | S | BS | L10 | Rε | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNHJ442ENLD** | .500 | .250 | .086 | .500 | .031 | .002 | 8 | ● | – | ● | ● | – | ● | – | – |
| **SNHJ444ENLD** | .500 | .250 | .059 | .500 | .063 | .002 | 8 | ● | – | ● | ● | – | ● | – | – |

- First choice for high-performance roughing.

SNHJ -GD

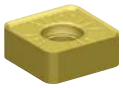


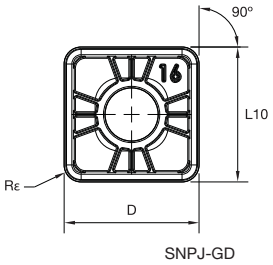
SNHJ -GD

### SNHJ-GD

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNHJ442SNGD** | .500 | .250 | .500 | .031 | .005 | 8 | ● | ● | – | ● | – | ● | ● | ● |

- First choice for regular roughing.


SNPJ-GD



SNPJ-GD

● first choice
○ alternate choice

beyond

| | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | ○ | ● | ● | | | ● | ● | ○ |
| M | | ● | ● | | | ○ | ● | ● |
| K | ● | ○ | | ● | ● | ○ | | |
| N | | | | | | | | |
| S | | ● | ● | | | | ○ | ● |
| H | | | | | | | | |

## SNPJ-GD

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCK20 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNPJ442SNGD** | .500 | .178 | .500 | .031 | .005 | 8 | ● | – | – | ● | – | ● | ● | – |
| **SNPJ444SNGD** | .500 | .178 | .500 | .063 | .005 | 8 | – | – | – | ● | – | ● | ● | – |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LD | .007 | **.018** | .033 | .005 | **.013** | .024 | .004 | **.010** | .018 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .S..GD | .009 | **.023** | .036 | .007 | **.017** | .026 | .005 | **.013** | .019 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GD |

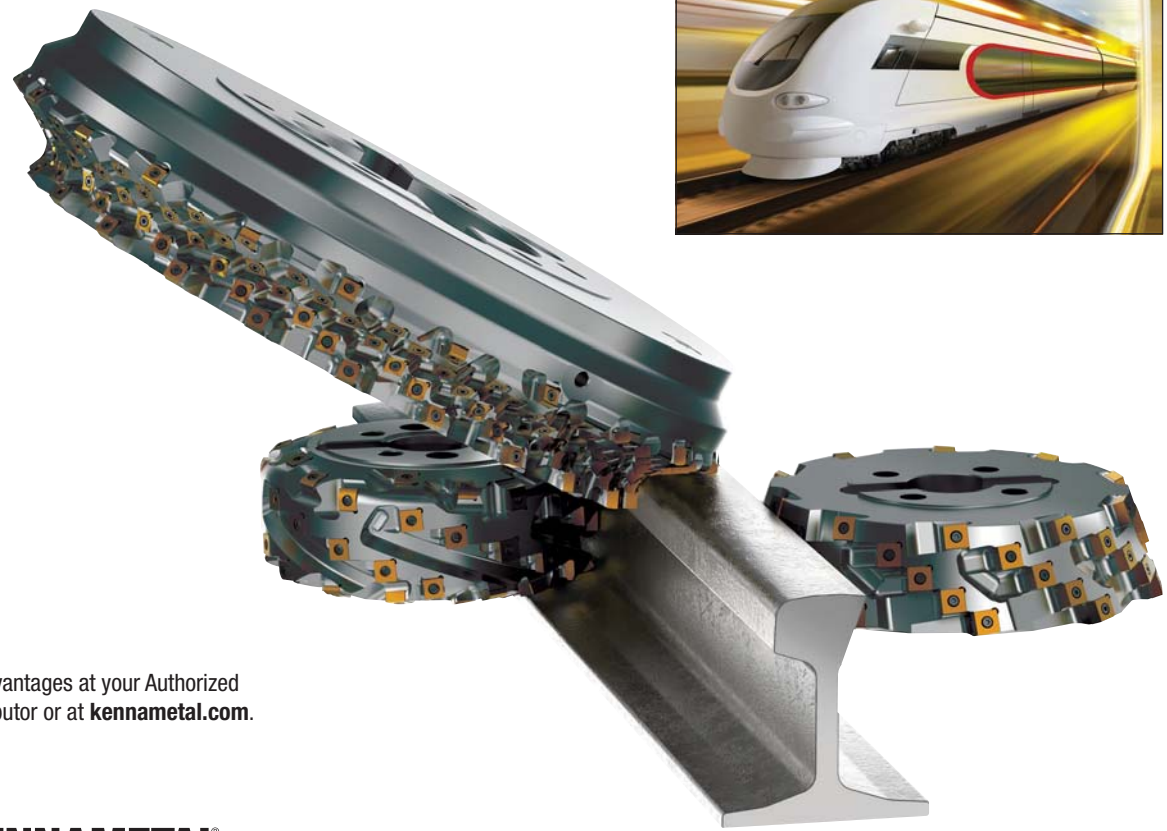
NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

Solution Capabilities

# RAIL MILLING

**Kennametal customers benefit from the highest service levels, our long-term experience, and application knowledge in the rail milling industry.**

- Solutions for all applications in rail and wheel machining.
- Technical support to find the right tools for the application and to learn how to use them the best way.
- Highly productive tooling solutions, including indexable inserts up to eight cutting edges.
- High-performance tools with helix-like partitions and long tool life.
- Solutions available to optimize vibration, performance, and cutting action, depending on the application.



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KENNAMETAL®

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# Fix-Perfect™ Cast Iron Rougher and Finisher

### Primary Application

Performance booster in machining cast iron materials. Based on workpiece requirements, Fix-Perfect roughers and finishers cover all face and shoulder milling applications when machining cast iron materials with best-in-class productivity. Eight true cutting edges per insert deliver low cost per edge and best cost per part (CPP) ceramic inserts available as standard line items.

## Features and Benefits

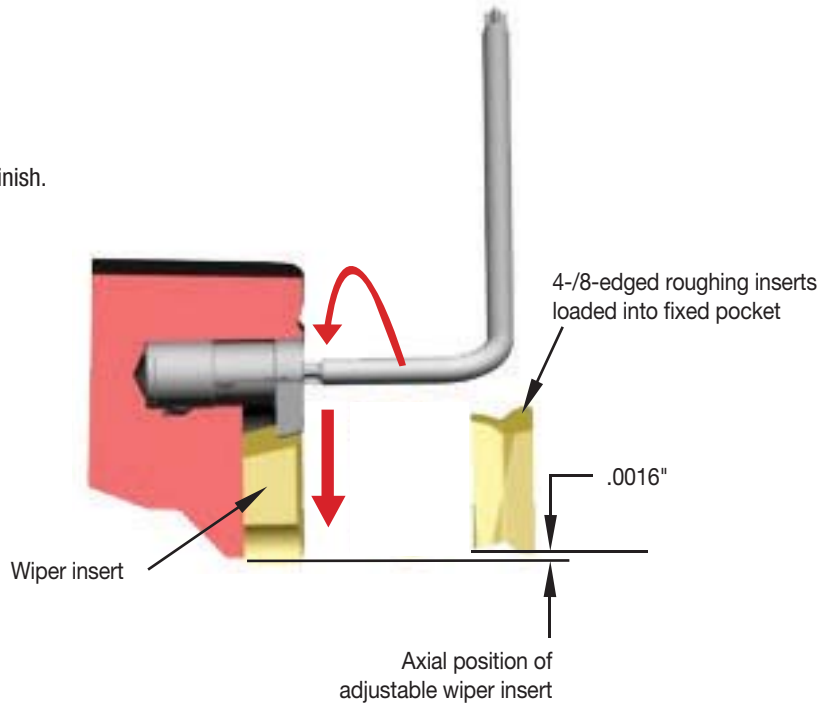
### Fix-Perfect Cast Iron 20° and 0° Roughing and Finishing in One Tool

- Innovative tangential insert clamping.
- First choice for high feed rates.
- Protection of non-cutting edges.
- Adjustable element for fine finishing with wiper inserts.
- PCBN-tipped wiper inserts available for excellent floor finish.
- Micro-precise runout setup.

### Fix-Perfect Cast Iron *Finisher Best-in-Class Fine-Finishing Concept

- Rigid and stable cutter design.
- High-precision pocket seat.
- Perfect axial runout without insert adjustment.
- Reliable, excellent floor finish and flatness.
- Easy handling and low-cost cutter setup.

*Finisher inch cutters available as custom solution



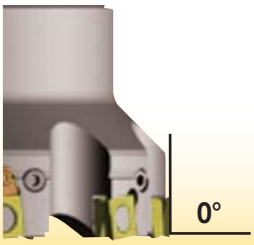
## Fix-Perfect™ *Finisher

## Fix-Perfect Cast Iron

### Fix-Perfect Cast Iron 20º and 0º

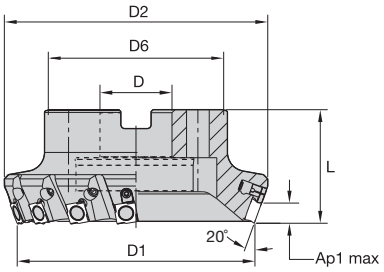
Fix-Perfect 20°

Fix-Perfect 0°




*Finisher inch cutters available as custom solution

- Eight cutting edges per insert.
- Rough and finish in one operation.
- Tangential mounted inserts deliver higher feed rates.
- Adjustable pockets (D1 = 3–10").




Ap1max: .232" (8 edges)
Ap2 max: .374" ( 4 edges); reduce feed rate by 30%

## Fix-Perfect 20° • Shell Mills

| order number | catalog number | D1 | D | D2 | D4 | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1724429** | **50A04RP70SP12CUFP** | 2.000 | .750 | 2.504 | — | 1.750 | 1.750 | .232 | 4 | 0 | 1.24 | 8595 |
| **1724378** | **50A05RP70SP12CUFP** | 2.000 | .750 | 2.504 | — | 1.750 | 1.750 | .232 | 5 | 0 | 1.19 | 8595 |
| **1724379** | **63A07RP70SP12CUFP** | 2.500 | .750 | 2.988 | — | 1.750 | 1.750 | .232 | 7 | 0 | 1.55 | 6876 |
| **1724432** | **80A06RP70SP12C1WUFP** | 3.000 | 1.000 | 3.504 | — | 2.190 | 1.750 | .232 | 6 | 1 | 2.21 | 5730 |
| **1724380** | **80A08RP70SP12C2WUFP** | 3.000 | 1.000 | 3.504 | — | 2.190 | 1.750 | .232 | 8 | 2 | 2.43 | 5730 |
| **1532258** | **100B08RP70SP12C2WUFP** | 4.000 | 1.500 | 4.488 | — | 2.880 | 1.750 | .232 | 8 | 2 | 3.30 | 4298 |
| **1724391** | **100B12RP70SP12C3WUFP** | 4.000 | 1.500 | 4.488 | — | 2.880 | 1.750 | .232 | 12 | 3 | 3.10 | 4298 |
| **1532257** | **125B10RP70SP12C2WUFP** | 5.000 | 1.500 | 5.504 | — | 3.810 | 2.375 | .232 | 10 | 2 | 6.50 | 3438 |
| **1724434** | **160B12RP70SP12C3WUFP** | 6.000 | 2.000 | 6.504 | — | 4.882 | 2.375 | .232 | 12 | 3 | 10.10 | 2865 |
| **1724395** | **160B18RP70SP12C3WUFP** | 6.000 | 2.000 | 6.504 | — | 4.882 | 2.375 | .232 | 18 | 3 | 10.10 | 2865 |
| **1532255** | **200C16RP70SP12C4WUFP** | 8.000 | 2.500 | 8.504 | 4.000 | 5.120 | 2.375 | .232 | 16 | 4 | 14.10 | 2149 |
| **1532254** | **250C20RP70SP12C4WUFP** | 10.000 | 2.500 | 10.504 | 4.000 | 7.120 | 2.375 | .232 | 20 | 4 | 29.30 | 1719 |

## Spare Parts

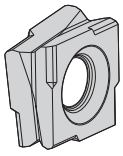
| D1 | adjusting element | adjusting element screw | Torx wrench | clamp stud | set screw | hex wrench | in. lbs. | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|
| 2.000 | — | — | — | **410.081** | **121.612** | **170.003** | 45 | **S445** |
| 2.500 | — | — | — | **410.081** | **121.612** | **170.003** | 45 | **S445** |
| 3.000 | **479.100** | **193.300** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | **S458** |
| 4.000 | **479.100** | **193.300** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | — |
| 5.000 | **479.100** | **193.300** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | — |
| 6.000 | **479.100** | **193.300** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | — |
| 8.000 | **479.100** | **193.300** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | — |
| 10.000 | **479.100** | **193.300** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | — |

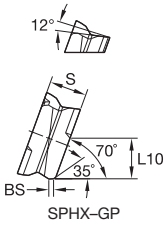
NOTE: Please order spare parts separately.
Torque wrench (KTW45) and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← → | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | .E..GP | KC520M | **.E..GP** | **KCK15** | .S..GP | KCK15 |
| K3 | .E..GP | KC520M | **.E..GP** | **KCK15** | .S..GP | KCK15 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |




SPHX–GP



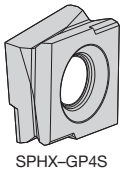
SPHX–GP

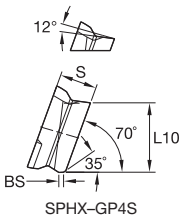
● first choice
○ alternate choice

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | |
| M | | | | | | | | |
| K | ● | ● | ● | ○ | ○ | ● | ● | |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |

## SPHX-GP • Roughing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205ZCELGP** | .213 | .217 | .028 | .002 | 8 | – | ● | ● | – | – | – | – |
| **SPHX1205ZCERGP** | .213 | .217 | .028 | .002 | 8 | – | ● | ● | – | ● | – | – |
| **SPHX1205ZCSRGP** | .213 | .217 | .028 | .006 | 8 | – | – | ● | – | ● | – | – |
| **SPHX1205ZCTLGPK** | .213 | .217 | .028 | .009 | 8 | – | – | – | – | – | – | ● |
| **SPHX1205ZCTRGP** | .213 | .217 | .028 | .009 | 8 | – | – | – | ● | – | – | – |
| **SPHX1205ZCTRGPK** | .213 | .217 | .028 | .009 | 8 | – | – | – | – | – | – | ● |

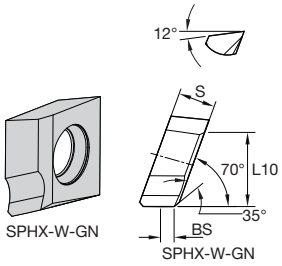

SPHX–GP4S



SPHX–GP4S

## SPHX-GP4S • Roughing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205ZCERGP4S** | .395 | .217 | .028 | .002 | 4 | – | – | ● | – | – | – | – |
| **SPHX1205ZCTRGP4SK** | .396 | .217 | .028 | .009 | 4 | – | – | – | – | – | – | ● |

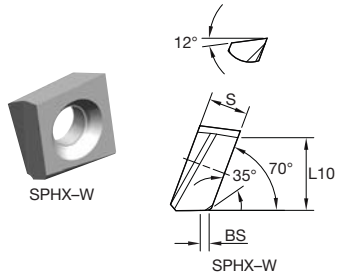



● first choice
○ alternate choice

| | | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | |
| M | | | | | | | | |
| K | | ● | ● | ● | ○ | ○ | ● | ● |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |

## SPHX-W • Finishing • GN

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205ZCERGNT1W** | .394 | .217 | .079 | .001 | 1 | – | – | – | – | – | ● | – |
| **SPHX1205ZCFRGN1W** | .394 | .217 | .079 | .001 | 1 | – | ● | ● | – | – | – | – |
| **SPHX1205ZCFRGN1WK** | .394 | .217 | .079 | .001 | 1 | – | – | – | – | – | – | ● |




## SPHX-W • Finishing • GP

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205ZCER-GP1W** | .394 | .217 | .079 | .001 | 1 | – | ● | ● | – | – | – | – |
| **SPHX1205ZCTR-GP1WK** | .394 | .217 | .079 | .009 | 1 | – | – | – | – | – | – | ● |

NOTE: SPHX-W: Wiper Facet BS = .08".

Face Milling

## Recommended Starting Feeds

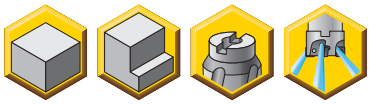
### Recommended Starting Feeds [IPT]

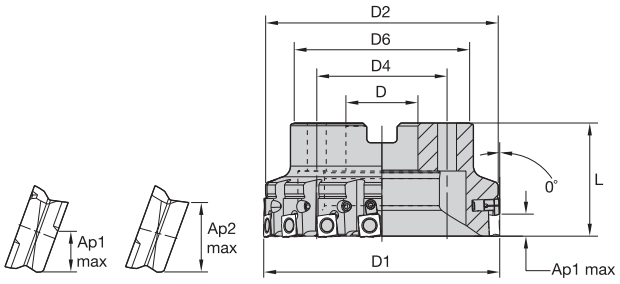
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..GP | .006 | **.020** | .038 | .004 | **.014** | .027 | .003 | **.011** | .020 | .003 | **.009** | .018 | .002 | **.009** | .016 | .E..GP |
| .T..GP | .010 | **.025** | .040 | .007 | **.018** | .029 | .005 | **.013** | .021 | .005 | **.012** | .019 | .004 | **.011** | .017 | .T..GP |
| .S..GP | .010 | **.025** | .040 | .007 | **.018** | .029 | .005 | **.013** | .021 | .005 | **.012** | .019 | .004 | **.011** | .017 | .S..GP |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Eight cutting edges per insert.
- Rough and finish in one operation.
- Tangential mounted inserts deliver higher feed rates.
- Adjustable pockets (D1 = 3–6").






Ap1 max = .236" (8 edges)
Ap2 max = .394" (4 edges); reduce feed rate by 30%

## Fix-Perfect 0° • Shell Mills

| order number | catalog number | D1 | D | D2 | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1724407** | **50A04RP90SP12CUFP** | 2.000 | .750 | 1.929 | 1.750 | 1.750 | .236 | 4 | 0 | .93 | 8595 |
| **1514498** | **50A05RP90SP12CUFP** | 2.000 | .750 | 1.929 | 1.750 | 1.750 | .236 | 5 | 0 | .93 | 8595 |
| **1724409** | **63A05RP90SP12CUFP** | 2.500 | .750 | 2.433 | 1.750 | 1.750 | .236 | 5 | 0 | 1.24 | 6876 |
| **1724417** | **80A06RP90SP12C1WUFP** | 3.000 | 1.000 | 2.906 | 2.190 | 1.750 | .236 | 6 | 1 | 1.81 | 5730 |
| **1724339** | **80A08RP90SP12C2WUFP** | 3.000 | 1.000 | 2.906 | 2.190 | 1.750 | .236 | 8 | 2 | 1.90 | 5730 |
| **1724419** | **100B08RP90SP12C2WUFP** | 4.000 | 1.500 | 3.906 | 2.882 | 1.750 | .236 | 8 | 2 | 2.60 | 4298 |
| **1724351** | **100B12RP90SP12C3WUFP** | 4.000 | 1.500 | 3.906 | 2.882 | 1.750 | .236 | 12 | 3 | 2.86 | 3130 |
| **1724421** | **125B10RP90SP12C2WUFP** | 5.000 | 1.500 | 4.906 | 3.811 | 2.375 | .236 | 10 | 2 | 6.30 | 3438 |
| **1724353** | **125B15RP90SP12C3WUFP** | 5.000 | 1.500 | 4.906 | 3.811 | 2.375 | .236 | 15 | 3 | 6.40 | 3438 |
| **1724424** | **160B12RP90SP12C3WUFP** | 6.000 | 2.000 | 5.906 | 4.882 | 2.375 | .236 | 12 | 3 | 9.10 | 2865 |

## Spare Parts

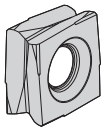
| D1 | adjusting element | Torx wrench | clamp stud | set screw | hex wrench | in. lbs. | socket-head cap screw |
|---|---|---|---|---|---|---|---|
| 2.000 | – | – | **410.081** | **121.612** | **170.003** | 45 | **S446** |
| 2.500 | – | – | **410.081** | **121.612** | **170.003** | 45 | **S445** |
| 3.000 | **479.100** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | **S458** |
| 4.000 | **479.100** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | – |
| 5.000 | **479.100** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | – |
| 6.000 | **479.100** | **KT9** | **410.081** | **121.612** | **170.003** | 45 | – |

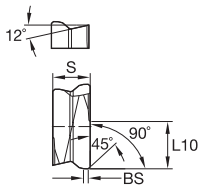
NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | .E..GPB | KC520M | **.E..GPB** | **KCK15** | .S..GPB | KCK15 |
| K3 | .E..GPB | KC520M | **.E..GPB** | **KCK15** | .S..GPB | KCK15 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

## Indexable Inserts • SPHX1205... • Roughing


SPHX-GPB



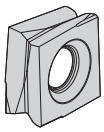
SPHX-GPB

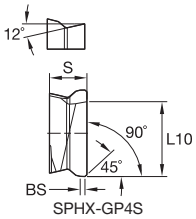
● first choice
○ alternate choice

| | | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KC715M | KC725M | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | ○ | ● | | |
| M | | | | | | | ○ | ● | | |
| K | | ● | ● | ● | ○ | ○ | | | ● | ● |
| N | | | | | | | | | | |
| S | | | | | | | ○ | ● | | |
| H | | | | | | | | | | |

## SPHX-GPB • Roughing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KC715M | KC725M | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX120508PCSRGP** | .256 | .217 | — | .002 | 8 | – | – | ● | – | – | – | – | – | – |
| **SPHX1205PCELGPB** | .259 | .217 | .028 | .001 | 8 | – | – | ● | – | – | – | – | – | – |
| **SPHX1205PCERGPB** | .259 | .217 | .028 | .001 | 8 | – | ● | ● | – | ● | – | – | – | – |
| **SPHX1205PCSRGPB** | .259 | .217 | .028 | .006 | 8 | – | – | ● | – | ● | – | ● | – | – |
| **SPHX1205PCTLGPBK** | .259 | .217 | .028 | .009 | 8 | – | – | – | – | – | – | – | – | ● |
| **SPHX1205PCTRGPB** | .259 | .217 | .028 | .009 | 8 | – | – | – | ● | – | – | – | – | – |
| **SPHX1205PCTRGPBK** | .259 | .217 | .028 | .009 | 8 | – | – | – | – | – | – | – | – | ● |

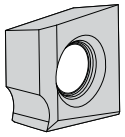

SPHX-GP4S

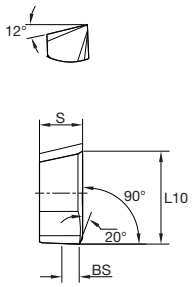


SPHX-GP4S

## SPHX-GP4S • Roughing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KC715M | KC725M | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205PCERGP4SB** | .436 | .217 | .028 | .001 | 4 | – | ● | ● | – | – | – | – | – | – |
| **SPHX1205PCTRGP4SBK** | .436 | .217 | .028 | .009 | 4 | – | – | – | – | – | – | – | – | ● |


SPHX-GN1WB
SPHX-GN1WBK



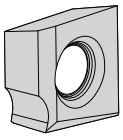
SPHX-GN1WB
SPHX-GN1WBK

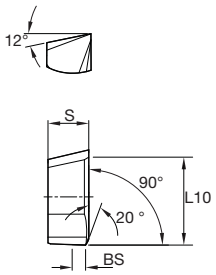
● first choice
○ alternate choice

| | | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KC715M | KC725M | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | ○ | ● | | | |
| M | | | | | | ○ | ● | | | |
| K | | ● | ● | ● | ○ | ○ | | | ● | ● |
| N | | | | | | | | | | |
| S | | | | | | ○ | ● | | | |
| H | | | | | | | | | | |

## SPHX-W • Finishing • GN

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KC715M | KC725M | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205PCERGN1WB** | .433 | .205 | .079 | .002 | 1 | – | – | – | – | ● | – | – | – | – |
| **SPHX1205PCERGNT1WB** | .500 | .217 | .079 | .001 | 1 | – | – | – | – | – | – | – | ● | – |
| **SPHX1205PCFLGN1WB** | .433 | .217 | .079 | .001 | 1 | – | – | ● | – | – | – | – | – | – |
| **SPHX1205PCFRGN1WB** | .433 | .205 | .079 | .001 | 1 | – | ● | ● | ● | – | – | ● | – | – |
| **SPHX1205PCFRGN1WBK** | .433 | .205 | .079 | .001 | 1 | – | – | – | – | – | – | – | – | ● |


SPHX-GP1WB



SPHX-GP1WB

## SPHX-W • Finishing • GP

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KC715M | KC725M | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX1205PCELGPB** | .259 | .217 | .028 | .001 | 8 | – | – | ● | – | – | – | – | – | – |
| **SPHX1205PCER-GP1WB** | .433 | .217 | .079 | .001 | 1 | – | ● | ● | – | – | – | – | – | – |
| **SPHX1205PCTR-GP1WBK** | .433 | .217 | .079 | .009 | 1 | – | – | – | – | – | – | – | – | ● |

NOTE: SPHX-W-GP: Wiper Facet BS = .08".

Face Milling

## Recommended Starting Feeds

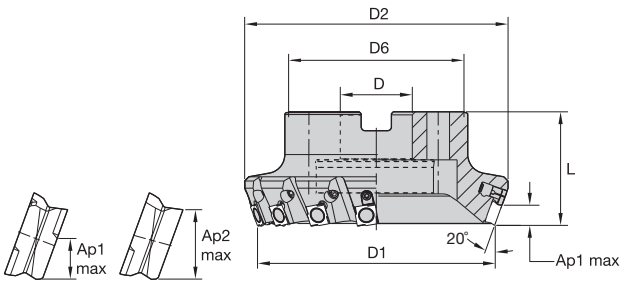
### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..GPB | .005 | **.019** | .033 | .003 | **.013** | .023 | .003 | **.010** | .018 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..GPB |
| .T..GPB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .T..GPB |
| .S..GPB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GPB |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Rough and finish in one operation.
- Tangential mounted inserts deliver higher feed rates.
- Eight cutting edges per insert.

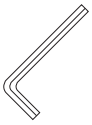


Ap1max: .256" (8 edges)
Ap2 max: .374" ( 4 edges); reduce feed rate by 30%

## Fix-Perfect 20° • Shell Mills

| order number | catalog number | D1 | D | D2 | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1806847** | **125B08RP70SP15C2WUFP** | 5.000 | 1.500 | 5.559 | 3.807 | 2.375 | .256 | 8 | 2 | 7.00 | 3500 |
| **1806848** | **160B10RP70SP15C2WUFP** | 6.000 | 2.000 | 6.559 | 4.877 | 2.375 | .256 | 10 | 2 | 10.40 | 2800 |

## Spare Parts

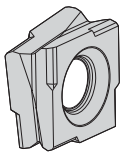
| D1 | adjusting element | adjusting element screw | Torx wrench | clamp stud | clamp screw |  hex wrench | in. lbs. |
|---|---|---|---|---|---|---|---|
| 5.000 | **479.100** | **193.300** | **KT9** | **410.084** | **121.616** | **170.003** | 45 |
| 6.000 | **479.100** | **193.300** | **KT9** | **410.084** | **121.616** | **170.003** | 45 |

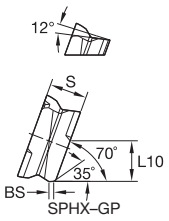
NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | .E..GP | KCK15 | **.E..GP** | **KCK15** | .E..GP | KCK15 |
| K3 | .E..GP | KCK15 | **.E..GP** | **KCK15** | .S..GP | KCPK30 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |




SPHX–GP



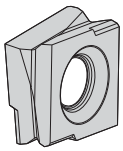
SPHX–GP

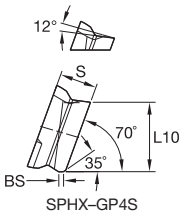
● first choice
○ alternate choice

| | | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | |
| M | | | | | | | | |
| K | | ● | ● | ● | ○ | ○ | ● | ● |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |

## SPHX-GP • Roughing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX15T6ZCERGP** | .257 | .260 | .047 | .001 | 8 | – | – | ● | – | ● | – | – |
| **SPHX15T6ZCSRGP** | .257 | .260 | .047 | .006 | 8 | ● | – | – | – | ● | – | – |
| **SPHX15T6ZCTRGPK** | .256 | .260 | .047 | .009 | 8 | – | – | – | – | – | – | ● |

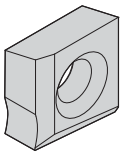

SPHX–GP4S

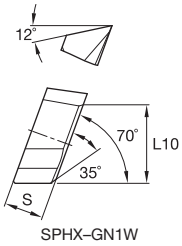


SPHX–GP4S

## SPHX-GP4S • Roughing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX15T6ZCERGP4S** | .492 | .260 | .047 | .002 | 4 | – | – | ● | – | – | – | – |
| **SPHX15T6ZCTRGP4SK** | .493 | .260 | .047 | .009 | 4 | – | – | – | – | – | – | ● |


SPHX–GN1W



SPHX–GN1W

● first choice
○ alternate choice

| | | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | |
| M | | | | | | | | |
| K | | ● | ● | ● | ○ | ○ | ● | ● |
| N | | | | | | | | |
| S | | | | | | | | |
| H | | | | | | | | |

## SPHX-GN1W • Finishing

| catalog number | L10 | S | BS | hm | cutting edges | K110M | KC520M | KCK15 | KTPK20 | KCPK30 | KB1340 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPHX15T6ZCFRGN1W** | .433 | .260 | .106 | .001 | 1 | – | – | ● | – | – | – | – |

## Recommended Starting Feeds

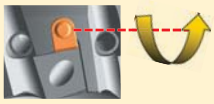
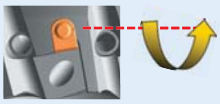
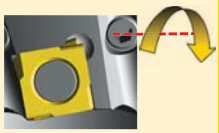
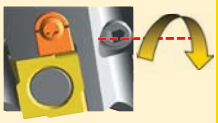
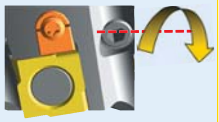
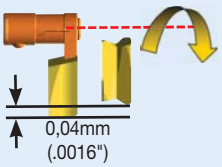
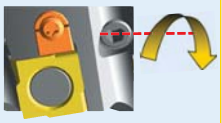
### Recommended Starting Feeds [IPT]

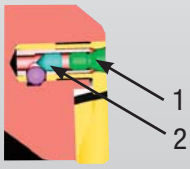
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..GP | .005 | **.020** | .035 | .004 | **.014** | .025 | .003 | **.011** | .019 | .002 | **.009** | .016 | .002 | **.009** | .015 | .E..GP |
| .S..GP | .010 | **.025** | .040 | .007 | **.018** | .029 | .005 | **.013** | .021 | .005 | **.012** | .019 | .004 | **.011** | .017 | .S..GP |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# Introduction to Fitting Cutting Bodies

| procedures: | roughing | | roughing/finishing | |
|---|---|---|---|---|
| | fixed pocket | adjustable pocket | fixed pocket | adjustable pocket |
| 1 Reset adjusting element T x T9 | – |  | – |  |
| 2 Insert roughing insert Tighten SW 3 $M_{An}$ = 44 in. lbs. |  | | | – |
| 3 Tighten adjusting element gently | – |  | – | – |
| 4 Insert finishing insert and pre-tighten SW 3 $M_{VG}$ = 9 in. lbs. | – | – | – |  |
| 5 The finishing insert is positioned .0016" in front of the highest roughing insert | – | – | – |   |
| 6 Tighten the finishing insert $M_{An}$ = 44 in. lbs. | – | – | – |  |




NOTE: This process must be repeated whenever an indexable insert is changed. The ball is loose.

Changing the adjusting element
1. Remove the taper screw①
2. Loosen the SW 1,5 screw②
3. Remove the adjusting element.

ATTENTION: The maximum permissible cutting speed of the milling cutter heads is vc max = 3000 SFM. Only use original parts when clamping the indexable inserts.

# Next Generation of HexaCut™

## Milling Inserts Are Now Available for Roughing and Semi-Finishing of Cast Iron Materials

### Primary Application

The Kennametal HexaCut face milling program is specifically engineered for rough and semi-finish face milling of cast, ductile, and compacted graphite iron. Twelve cutting edges drastically reduce your cost per edge and increase tool life. Shorter setup times and excellent cutter accuracy allow you to apply the HexaCut program to the most demanding jobs. One ceramic and eight carbide grades with six insert geometries deliver high feed rates and will enable you to reach optimum horsepower.

## Features and Benefits

- New insert topographies for existing HexaCut platform with latest cutting edge design.
- Specifically engineered for rough and semi-finish face milling of cast, ductile, and compacted graphite iron.
- Up to 20% better tool life and 10% less power consumption.
- High precision ground on insert IC to achieve a better axial and radial runout.
- First HexaCut roughing insert with integrated wiper facet for better floor finish.

# New Standard Insert Offering for HexaCut™ Series

Roughing and semi-finishing of automotive engine blocks and other cast iron face milling operations.

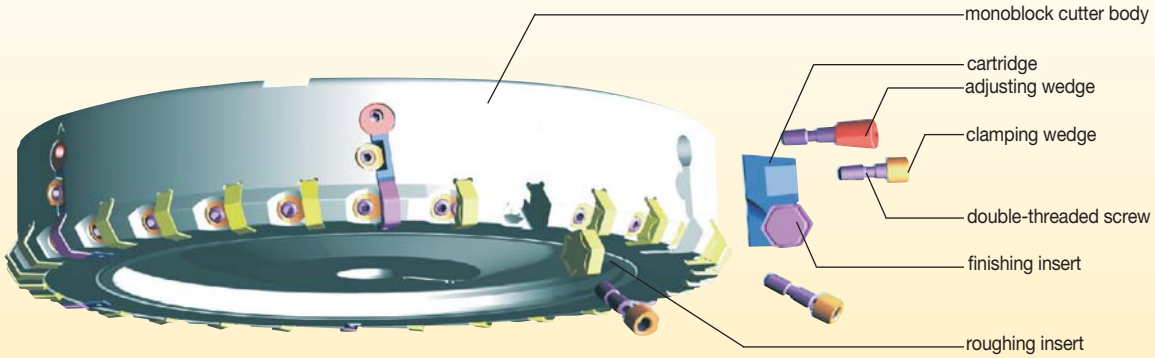
**HNHX0905..ENLE**
New geometry for semi-finishing and light roughing operations.

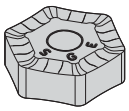
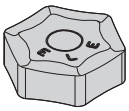
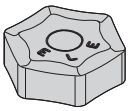
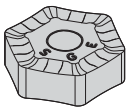
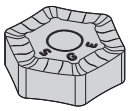
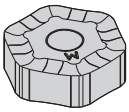
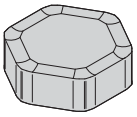
**HNHX0905ANSNGE**
New geometry for roughing; integrated wiper facet for advanced floor finish.

**HNHX0905..SNGE**
New geometry with improved rake and edge prep design for roughing operations.

**HNPX0905..SNGE**
New stable geometry for heavy roughing in severe machining conditions.

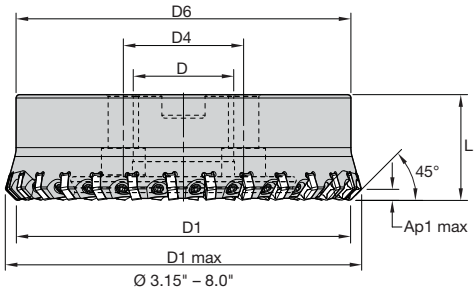
## HexaCut 30° Cutter Body Design with Fixed and Adjustable Pocket Seats




| | | | ▼= roughing indexable insert | | | | | | ▼▼ = finishing indexable insert |
|---|---|---|---|---|---|---|---|---|---|
| | | |  |  |  |  |  |  |  |
| Recommended combination of standard indexable inserts and geometries | | | HNGX 090516 -SNGE Z = 12 | HNHX 090516 - ENLE Z = 12 | HNHX 090520 -ENLE Z = 12 | HNHX 090520 -SGE Z = 12 | HNHX 090530 -SNGE Z = 12 | HNHX 0905 -ANSNGE Z = 12 | HNGF 090504 -MF Z = 12 |
| Operation | Lead | Ap max | | | | | | | |
| ▼/▼▼ | 45° | .256" | ■ OR | ■ OR | ■ OR | ■ | ■ | ■ | |
| ▼ | 30° | .315" | ■ OR | ■ OR | ■ OR | ■ | ■ | | |
| ▼▼ | 30° | .040" | | ■ | ■ OR | ■ OR | ■ | | ■ |
| ▼/▼▼ | 30° | .315" | ■ OR | ■ OR | ■ OR | ■ | ■ | | |

NOTE: Z = number of cutting edges.

- Monoblock cutter design.
- Twelve cutting edges per insert.
- High feed rates.
- CGI milling solution.



## HexaCut Shell Mills • Monoblock Cutter Design • Right Hand

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2402838** | **K400B14RF45HN09C** | 4.000 | 4.500 | 1.250 | 4.000 | 1.970 | .256 | 14 | 5.00 | 3400 |
| **2402839** | **K500B18RF45HN09C** | 5.000 | 5.500 | 1.500 | 5.000 | 2.380 | .256 | 18 | 10.00 | 3000 |

NOTE: Split case design with adapter flange for D1 = 10" and D1 = 12" can be ordered as preferred custom solution standard.

## Spare Parts

| | | | | |
|---|---|---|---|---|
| **D1** | **wedge** | **wedge screw** | **in. lbs.** | **wrench** |
| 4.000 | **12748358200** | **12748600900** | 62 | **12148044900** |
| 5.000 | **12748358200** | **12748600900** | 62 | **12148044900** |

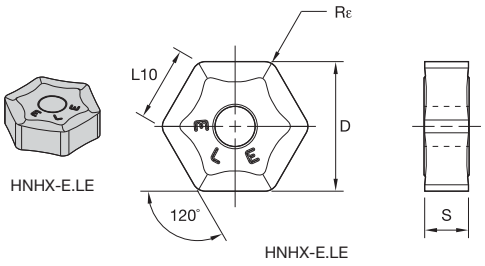
NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | .E..LE | KCK15 | **.S..GE** | **KCK15** | .S..GE | KCK15 |
| K3 | .E..LE | KCK15 | **.S..GE** | **KC514M** | .S..GE | KCK15 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

## Indexable Inserts • HexaCut • HN..0905...

- For semi-finishing and light roughing operations.



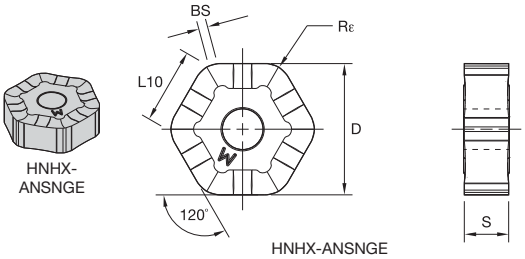

● first choice
○ alternate choice

| | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|
| P | | | | | | |
| M | | | | | | |
| K | ● | ● | ● | ● | ● | ● |
| N | | | | | | |
| S | | | | | | |
| H | | | | | | |

### HNHX-E.LE

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNHX5354ENLE** | .638 | .219 | .368 | .063 | .002 | 12 | ● | ● | – | – | – | – |
| **HNHX5355ENLE** | .638 | .219 | .368 | .079 | .002 | 12 | ● | ● | – | – | – | – |

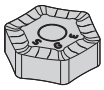
- Roughing geometry with integrated wiper facet for advanced floor finish.

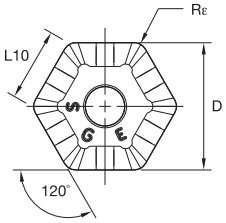



### HNHX-ANSNGE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNHX53ANSNGE** | .638 | .219 | .351 | .044 | .047 | .006 | 12 | ● | ● | – | – | – | – |

- Roughing geometry with improved rake design for lower cutting forces.


HNHX-S.GE



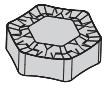
HNHX-S.GE

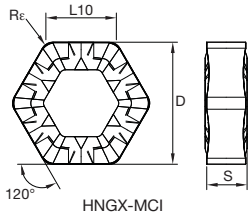
● first choice
○ alternate choice

| | |
|---|---|
| P | |
| M | |
| K | ● |
| N | |
| S | |
| H | |

## HNHX-S.GE

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNHX5354SNGE** | .638 | .219 | .368 | .063 | .006 | 12 | ● | ● | – | – | – | – |
| **HNHX5355SNGE** | .638 | .219 | .368 | .079 | .006 | 12 | ● | ● | – | – | – | – |
| **HNHX5358SNGE** | .638 | .219 | .368 | .118 | .006 | 12 | – | ● | – | – | – | – |

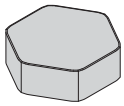

HNGX-MCI

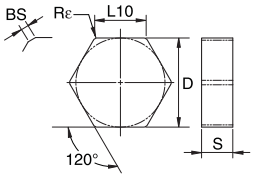


HNGX-MCI

## HNGX-MCI

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNGX5358MCI** | .638 | .219 | .368 | — | .118 | .002 | 12 | – | ● | – | – | – | – |


HNEN-SN

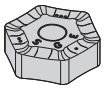


HNEN-SN

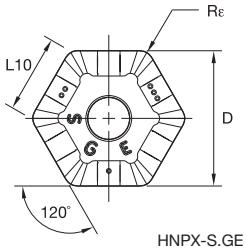
## HNEN-SN

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNEN090508S** | .625 | .219 | .361 | — | .031 | .008 | 12 | – | – | – | – | – | ● |
| **HNEN0905ANSN** | .625 | .222 | .361 | — | — | .008 | 12 | – | – | – | – | ● | ● |
| **HNEN0905XNSN** | .638 | .219 | .368 | .051 | — | .008 | 12 | – | – | – | – | – | ● |

- Heavy roughing geometry for severe machining conditions.



HNPX-S.GE




HNPX-S.GE

● first choice
○ alternate choice

| | | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|
| P | | | | | | | |
| M | | | | | | | |
| K | | ● | ● | ● | ● | ● | ● |
| N | | | | | | | |
| S | | | | | | | |
| H | | | | | | | |

## HNPX-S.GE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KCK15 | KCK20 | KCPK30 | KD200 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HNPX5354SNGE** | .638 | .219 | .368 | – | .063 | .006 | 12 | – | ● | – | – | – | – |
| **HNPX5355SNGE** | .638 | .219 | .368 | – | .079 | .006 | 12 | – | ● | – | – | – | – |
| **HNPX5358SNGE** | .638 | .219 | .368 | – | .118 | .006 | 12 | – | ● | – | – | – | – |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| ...MCI | .010 | **.026** | .046 | .007 | **.019** | .033 | .006 | **.014** | .025 | .005 | **.012** | .021 | .004 | **.011** | .020 | ...MCI |
| .E..LE | .010 | **.025** | .046 | .007 | **.018** | .033 | .006 | **.014** | .025 | .005 | **.012** | .021 | .004 | **.011** | .020 | .E..LE |
| .S..GE | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | .S..GE |
| ...SN | .013 | **.033** | .053 | .009 | **.024** | .038 | .007 | **.018** | .028 | .006 | **.015** | .025 | .006 | **.014** | .023 | ...SN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Adjustment Instructions

### Before Being Used for the First Time

- The milling cutter must be carefully cleaned of anti-corrosive materials, dust, etc.
- The milling cutter should only be washed when all components have been dismantled.
- Only the double-threaded screws of the clamping or adjusting wedge should be lubricated with copper grease; all other components must have clean metallic surfaces.
- A torque wrench is recommended to tighten the double-threaded screws.
- When fitting indexable inserts on the milling cutter, ensure that they are inserted in the correct position in a clean insert seat and that they are held in position during clamping.

### For 45° Roughing Mills without Anvils

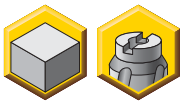
- The double-threaded screws on the clamping wedges for the indexable inserts are first pre-tightened to approximately 17 in. lbs. and then tightened to a final torque of 62 in. lbs.

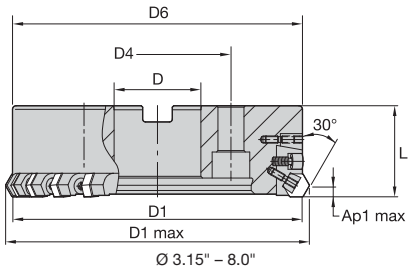
### ATTENTION

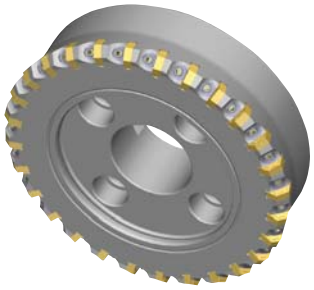
At each tool adjustment, the body, indexable inserts, and spare parts must be checked and replaced, if necessary. Before each tool use, the double-threaded screws of the indexable inserts and the stops must be tightened in the specified order to a torque of 62 in. lbs. In addition, even if the cartridges have not been adjusted, the double-threaded screws of the adjusting wedges must be checked to see if these have been tightened to a torque of 26 in. lbs. If not, they must be re-tightened to this torque.

NOTE: The tools must only be used in accordance with their function. We accept no liability for their improper use. Changes of any kind and/or printing errors are not valid grounds for claims.

- CGI milling solution.
- Monoblock cutter design.
- High feed rates.
- Twelve cutting edges.



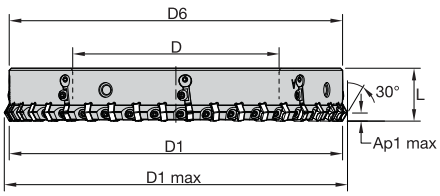


## HexaCut Shell Mills • Monoblock Cutter Design with Adjustable Pockets • Right Hand

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2430830** | **K315A62RF60HN09C** | 3.150 | 3.490 | 1.000 | 3.150 | 2.000 | .315 | 8 | 2 | 3.50 | 3900 |
| **2430931** | **K600B164RF60HN09C** | 6.000 | 6.340 | 2.000 | 6.000 | 2.380 | .315 | 20 | 4 | 15.80 | 2600 |

NOTE: Split case design with adapter flange for D1=10" and D1=12" can be ordered as preferred custom solution standard.



## HexaCut Shell Mills • Split Case Design

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6202335** | **K1200Z328RF60HN09WSC** | 12.000 | 12.369 | 7.677 | 12.000 | 1.969 | .300 | 40 | 8 | 25.87 | 1800 |

NOTE: For carrier flange assembly order number, please see page S31.

## Spare Parts

| D1 | clamp wedge | axial adjustment wedge | wedge screw | lbs | wrench |
|---|---|---|---|---|---|
| 3.150 | **12748358200** | **12748308500** | **12748600900** | 4 | **12148044900** |
| 6.000 | **12748358200** | **12748308500** | **12748600900** | 16 | **12148044900** |

NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

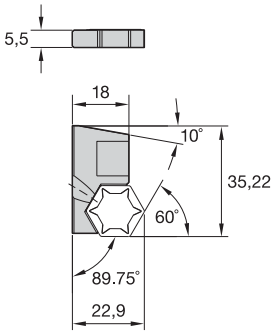
## Setup for Roughing:

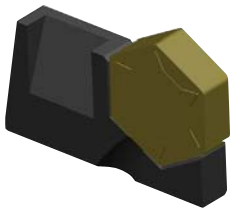
For a cutting depth of <.315" and an achievable surface finish of Ra >3,2.

**High-performance roughing:**
HNHX0905ANSNGE, HNHX090516SNGE,
HNHX090520SNGE, HNHX090530SNGE, HNPX090516SNGE,
HNPX090520SNGE HNPX090530SNGE, HNEN0905XNSN.

**Semi-finishing and light machining:**
HNHX090516ENLE, HNHX090520ENLE, HNHX090530ENLE.

Same inserts to be loaded into fixed and adjustable (cartridges) pockets.



| order number | catalog number |
|---|---|
| 2018164 | 12748500200 |

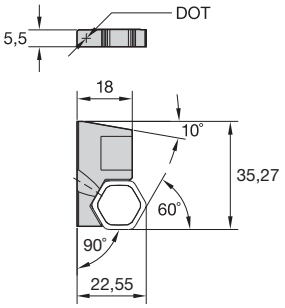
NOTE: Cartridges need to be ordered separately. Number of adjustable pockets (Z ADJ) related to cutting.

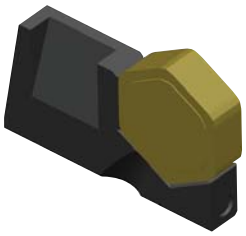
## Setup for Finishing:

For a cutting depth of <.039" and an achievable surface finish of Ra 1,6.

**Semi-finishing insert:**
HNHX090520ENLE (loaded into fixed pocket seats) .

**Finishing wiper insert:**
HNGF090504MF, HNGF090512MF (loaded into finishing cartridge).



| order number | catalog number |
|---|---|
| 2018166 | 12748500400 |

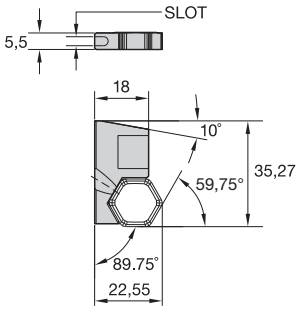
NOTE: Cartridges need to be ordered separately. Number of adjustable pockets (Z ADJ) related to cutting.

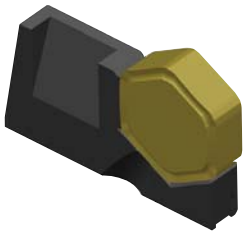
## Setup for Finishing Cartridge for Low Axial Cutting Forces: (Reduced Lead Angle to Support Increased Clearance on the Wiper Edge).

For a cutting depth of <.039" and an achievable surface finish of Ra 1,6.

**Semi-finishing insert:**
HNHX090520ENLE (loaded into fixed pocket seats)

**Finishing wiper insert:**
HNGF090504MF, HNGF090512MF (loaded into finishing cartridge).



| order number | catalog number |
|---|---|
| 2033468 | 12748503400 |

NOTE: Cartridges need to be ordered separately. Number of adjustable pockets (Z ADJ) related to cutting.

## CBN Cartridge

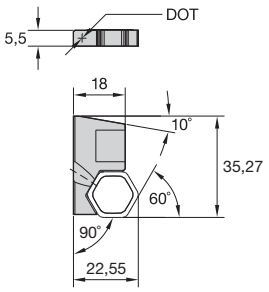
For a cutting depth of <1mm and an achievable surface finish of Ra 1,6.

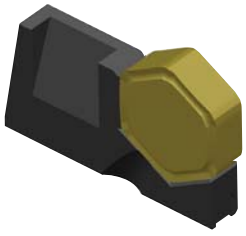
**Semi-finishing insert:**

HNEN0905AMSN KY3500 (loaded into fixed pocket seats).

**Finishing wiper insert:**

HNEN905ANSN KD200 (loaded into finishing cartridge).



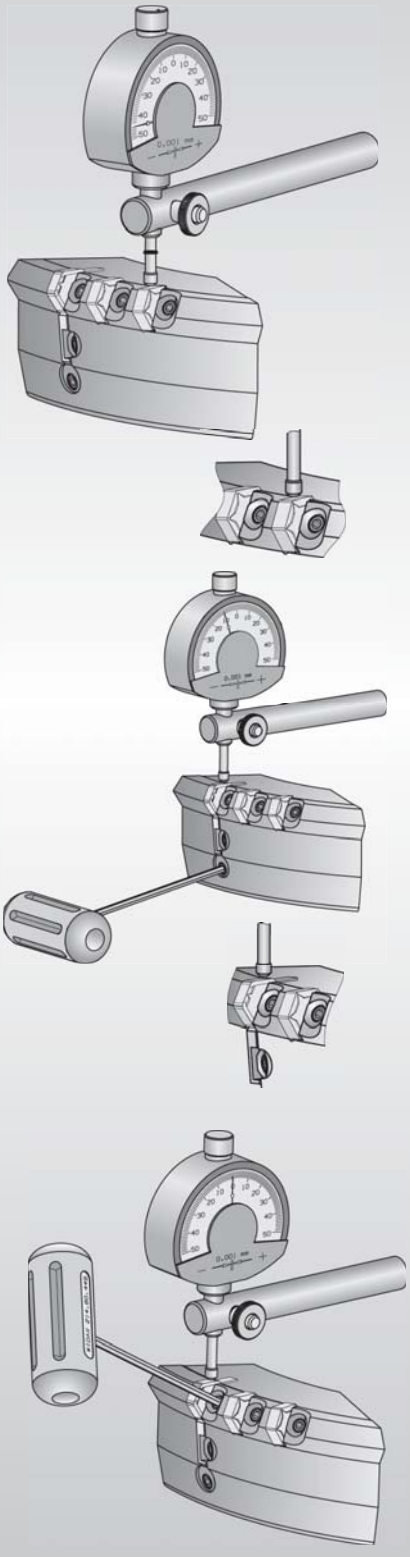



| order number | catalog number |
|---|---|
| 3400879 | 12748500500 |

# Insert setting procedure

This procedure is to be used on all 30° lead roughing/finishing mills using the unmarked roughing cartridge, the finishing cartridge (marked •) and the corrected edge cartridge (marked ▬). These steps must be followed when adjusting the cutters for finishing inserts.

1. Clean all insert pockets.
2. Mount all wedges and cartridges. Torque the cartridge lock wedge screw to 26 in. lbs.
3. Mount all inserts, making sure they are seated properly in the pocket, and torque the insert lock wedge screws to 26 in. lbs.
4. Torque the wedge screws for all fixed pocket inserts to 62 in. lbs.
5. Loosen the cartridge insert wedge screw and the cartridge lock wedge screw.
6. Pressing the insert into the cartridge pocket, adjust the cartridge to .008–.012" below the fixed pocket inserts.
7. Torque the insert lock wedge screw and the cartridge lock wedge screw to 26 in. lbs.
8. Adjust the axial position to .0010–.0015" above the fixed pocket inserts.
9. Loosen the cartridge insert lock wedge screws and then re-torque to 26 in. lbs.
10. Adjust the axial position to the final dimension, .0015–.0020" above the highest fixed pocket insert.
11. Torque the insert lock wedge screws and the cartridge lock wedge screws to 62 in. lbs.
12. Conduct a final check of the axial runout and position.



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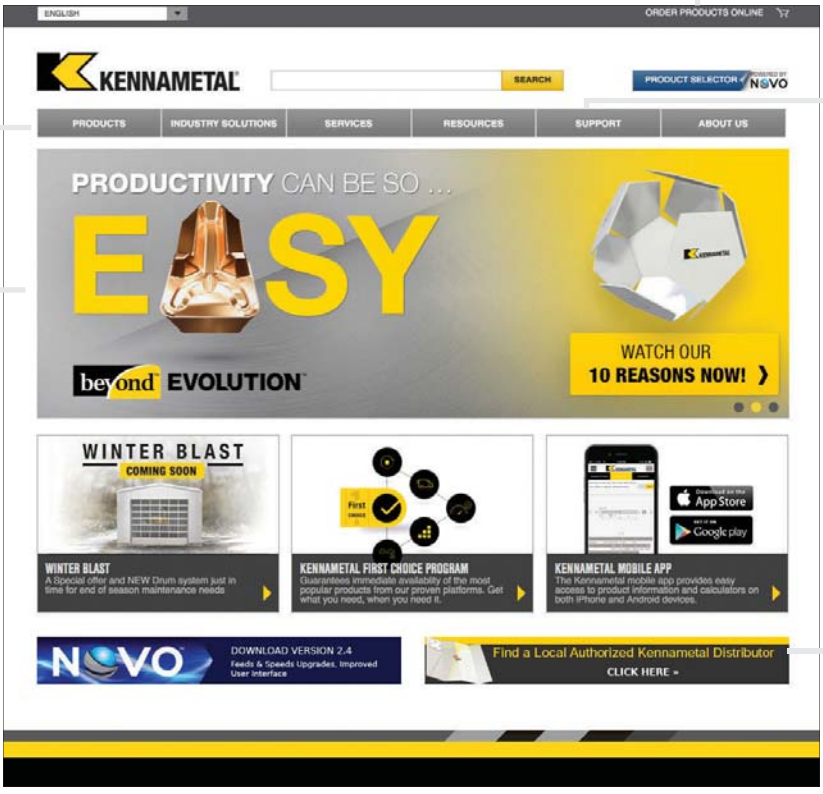


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# The KSSR™ 6° Inserts

## Primary Application

The Kennametal new line of KSSR 6° inserts are versatile, easy to use, and right- or *left-hand neutral, making them ideal for automotive machining operations or any other industry that relies on transfer line manufacturing. Available in carbide and ceramic grades for applications in cast and ductile irons and alloy steels, KSSR 6° inserts can be used for all fine and coarse pitch styles.

*Left-hand cutters are available as non-stock standard.

## Features and Benefits

### KSSR 6° Features

- Available in metric and inch products, diameters from 2.5–4"; for larger diameter custom solution is available.
- Fine and coarse pitch styles.
- Easy to use and to adjust with shorter setup time.
- Wiper inserts in carbide and ceramic provide excellent surface quality.

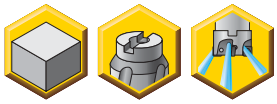
### Improved Versatility

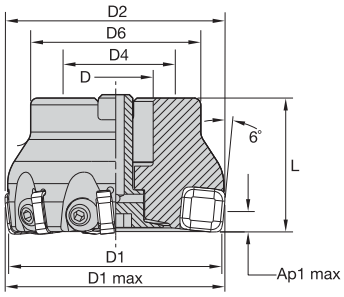
- Proven solution for the automotive segment.
- Right- and *left-hand cutters, ideal for transfer lines.
- Premium grades in carbide and ceramic for applications in cast and ductile irons and alloy steels.
- Inserts are neutral and can be used for right- or left-hand cutting.

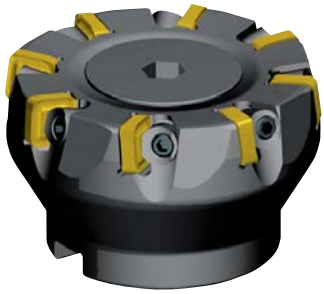
## Unrivaled Benefits

- Capability: .20" maximum depth of cut.
- Excellent accuracy:
  Radial = +/- .0001"
  Axial = adjustable +/- .0001"
- Inserts have eight true cutting edges.

- Eight cutting edges per insert.
- Fast and easy insert indexing.
- Highest feed rates.
- CGI specialist.





## KSSR 6° • Shell Mills • Right Hand • Fixed Pockets

| order number | catalog number | D1 | D1 max | D | D2 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2476832** | **KSSR250SN434M3** | 2.500 | 2.579 | .750 | 2.520 | 1.770 | 1.500 | .200 | 9 | 1.10 | 7500 |
| **2476963** | **KSSR300SN434M4** | 3.000 | 3.079 | 1.000 | 3.017 | 2.200 | 1.750 | .200 | 11 | 1.98 | 6300 |
| **2476964** | **KSSR400SN434M5** | 4.000 | 4.079 | 1.250 | 4.014 | 2.870 | 1.750 | .200 | 15 | 3.08 | 4700 |

NOTE: Coolant screw and coolant cap must be ordered separately.
2466094 and 2466095 are non-stock standard.

## Spare Parts

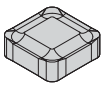
| D1 | clamp wedge | wedge screw | in. lbs. | wrench |
|---|---|---|---|---|
| 2.500 | **12748358200** | **12748600900** | 62 | **12148044900** |
| 3.000 | **12748358200** | **12748600900** | 62 | **12148044900** |
| 4.000 | **12748358200** | **12748600900** | 62 | **12148044900** |

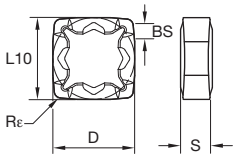
NOTE: Adjustable torque wrench (order number 6197561) and 3mm hex bit (order number 6205876) may be purchased separately in order to ensure proper torque setting.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | .E..LD | KCK15 | **.S..GP** | **KCK15** | .S..HE | KCK15 |
| K3 | .E..LD | KCK20 | **.S..GP** | **KCK20** | .S..HE | KCK20 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |




SNXF-LD



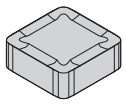
SNXF-LD

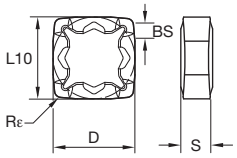
● first choice
○ alternate choice

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | | | | | | | |
| M | | | | | | | |
| K | ● | ● | ● | ● | ● | ● | |
| N | | | | | | | |
| S | | | | | | | |
| H | | | | | | | |

## SNXF-LD

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KC524M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNXF433ENLD** | .500 | .180 | .500 | — | .047 | .002 | 8 | ● | ● | ● | ● | ● | – |
| **SNXF43ZNENLD** | .500 | .174 | .500 | .067 | .063 | .002 | 8 | ● | ● | ● | ● | ● | – |

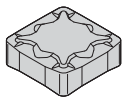

SNXF-GP

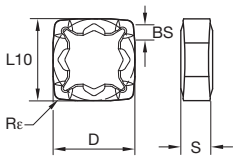


SNXF-GP

## SNXF-GP

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KC524M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNXF433SNGP** | .500 | .184 | .500 | — | .047 | .002 | 8 | ● | ● | ● | ● | ● | – |
| **SNXF43ZNSNGP** | .500 | .184 | .500 | .040 | .047 | .003 | 8 | ● | ● | ● | ● | ● | – |

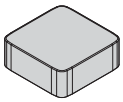

SNXF-HE

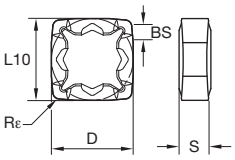


SNXF-HE

## SNXF-HE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KC524M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNXF433SNHE** | .500 | .183 | .500 | — | .047 | .002 | 8 | – | ● | ● | ● | ● | – |
| **SNXF43ZNSNHE** | .500 | .183 | .500 | .039 | .047 | .002 | 8 | ● | – | ● | ● | ● | – |


SNXF-SN



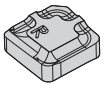
SNXF-SN

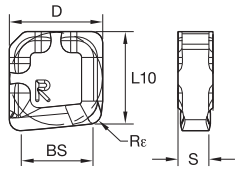
● first choice
○ alternate choice

| | |
|---|---|
| P | |
| M | |
| K | |
| N | |
| S | |
| H | |

## SNXF-SN

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KC524M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNXF433AMSN** | .500 | .187 | .500 | — | .047 | .008 | 8 | – | – | – | – | – | ● |
| **SNXF43ZNAMSN** | .500 | .187 | .500 | .039 | .047 | .008 | 8 | – | – | – | – | – | ● |

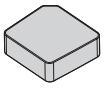

XNXF-LDW

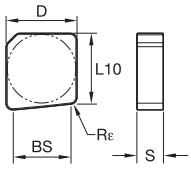


XNXF-LDW

## XNXF-LDW

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KC524M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XNXF43ZNENLDW** | .500 | .174 | .500 | .374 | .063 | .002 | 2 | – | – | ● | – | – | – |


XNXF-ENW



XNXF-ENW

## XNXF-ENW

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC514M | KC524M | KCK15 | KCK20 | KCPK30 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XNXF43ZNENW** | .500 | .188 | .500 | .374 | .047 | .008 | 2 | – | – | – | – | – | ● |

Face Milling

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

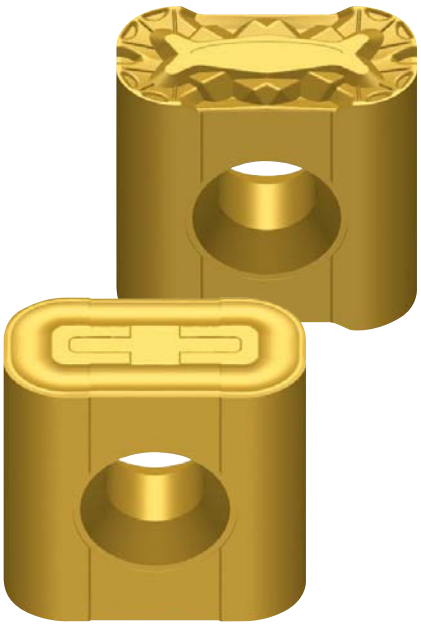
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LD | .007 | **.018** | .033 | .005 | **.013** | .024 | .004 | **.010** | .018 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .S..GP | .008 | **.020** | .036 | .006 | **.015** | .026 | .004 | **.011** | .019 | .004 | **.009** | .017 | .003 | **.009** | .015 | .S..GP |
| .S..HE | .007 | **.020** | .038 | .005 | **.015** | .027 | .004 | **.011** | .020 | .003 | **.010** | .018 | .003 | **.009** | .016 | .S..HE |
| .A..SN | .009 | **.023** | .038 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .018 | .004 | **.010** | .016 | .A..SN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# **Kennametal Tools** for **Railways** and **Wheel Machining**

Kennametal offers a complete line of tooling for wheel and axle maintenance in railroad shops. All tools incorporate the latest technology for maximum metal removal and higher productivity. They are proven performers in actual use over extended periods of time, under a wide range of operating conditions. Standard off-the-shelf inserts and fewer pieces of hardware reduce inventory and operating costs. Included in this range are tools for reconditioning mounted wheel sets, wheel boring, wheel truing, axle turning, and journal burnishing.



Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# MEGA 45°

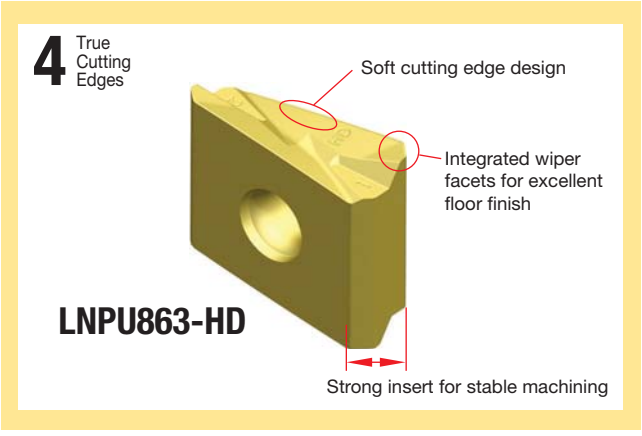
## Superior Heavy-Duty Milling

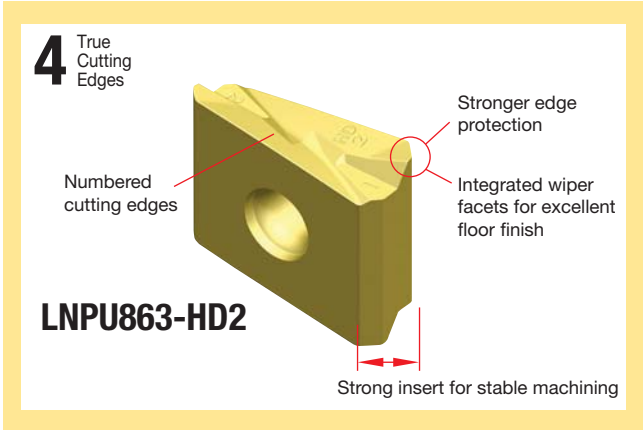
### Primary Application

With four true cutting edges per heavy-duty MEGA 45° insert, you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA 45° inserts for all steel and cast iron indexable milling needs.

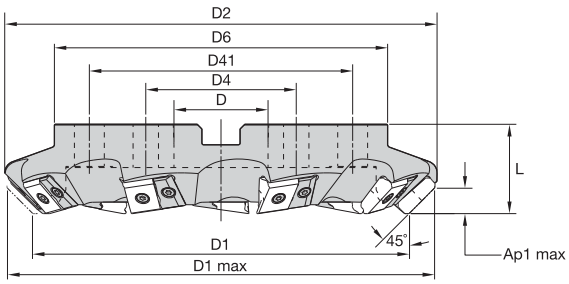
## Features and Benefits

| Features | Benefits |
|---|---|
| • Four true cutting edges per heavy-duty MEGA 45° insert. | • Low cost per edge and high productivity. |
| • Soft cutting edge design. | • 30% lower cutting forces. |
| • Up to 30% increased Metal Removal Rates (MRR). | • Performance leader in steel and cast iron materials. |
| • Carbide pocket shims. | • Excellent cutter body protection. |
| • Cutting edge numbering system. | • Improved run out for better tool life and floor finish. |
| • HD2 geometry. | • Stronger edge protection to handle the toughest milling jobs, especially with scale and surfaces with varying thicknesses. |


4 True Cutting Edges
Soft cutting edge design
Integrated wiper facets for excellent floor finish
LNPU863-HD
Strong insert for stable machining


4 True Cutting Edges
Stronger edge protection
Numbered cutting edges
Integrated wiper facets for excellent floor finish
LNPU863-HD2
Strong insert for stable machining

- Up to 30% higher Metal Removal Rate (MRR).
- Cutter body protection with carbide shims.



## MEGA 45 • Shell Mills

| order number | catalog number | D1 | D1 max | D | D2 | D4 | D41 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4032274** | **MEGA45D500LN863M6** | 5.000 | 6.391 | 1.500 | 6.700 | — | — | 3.810 | 2.375 | .675 | 6 | 9.18 | 12520 |
| **4032277** | **MEGA45D800LN863M10** | 8.000 | 9.392 | 2.500 | 9.550 | 4.000 | — | 6.500 | 2.375 | .675 | 9 | 19.86 | 9890 |
| **4105177** | **MEGA45D1000LN863C10** | 10.000 | 11.392 | 2.500 | 11.500 | 4.000 | 7.000 | 8.858 | 2.375 | .675 | 9 | 28.04 | 8850 |
| **4032278** | **MEGA45D1000LN863M10 *** | 10.000 | 11.392 | 2.500 | 11.500 | 4.000 | 7.000 | 8.858 | 2.375 | .675 | 11 | 29.05 | 8850 |
| **4105178** | **MEGA45D1200LN863C10** | 12.000 | 13.392 | 2.500 | 13.500 | 4.000 | 7.000 | 8.858 | 3.150 | .675 | 10 | 47.50 | 8080 |
| **4032279** | **MEGA45D1200LN863M10** | 12.000 | 13.392 | 2.500 | 13.500 | 4.000 | 7.000 | 8.858 | 3.150 | .675 | 13 | 48.82 | 8080 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

| D1 | insert screw | in. lbs. | shim | universal bit torque driver | drive bit |
|---|---|---|---|---|---|
| 5.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 8.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 10.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 12.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |

NOTE: Shim screw: MS1162.

## Left-handed shim

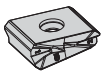
| catalog number |
|---|
| **SM-906LH** |

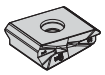
NOTE: Left hand inserts and shims available as standard line items. Left hand cutter bodies to be requested as tailor-made custom solutions. Please refer to the Innovations 2016 Catalog A-15-04498 (Page D60) for the Insert Selection Guide and Cutting Data Recommendation.

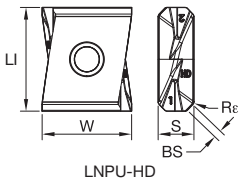
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..HD | KC725M | **.S..HD** | **KCPK30** | .S..HD2 | KCPM40 |
| P3–P4 | .S..HD | KCPK30 | **.S..HD2** | **KCPK30** | .S..HD2 | KCPM40 |
| P5–P6 | .S..HD | KC725M | **.S..HD2** | **KCPK30** | .S..HD2 | KCPM40 |
| M1–M2 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| M3 | .S..HD | KCPK30 | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| K1–K2 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD2 | KC520M |
| K3 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD2 | KC520M |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCSM40 |
| S3 | .S..HD | KC725M | **.S..HD2** | **KCPM40** | .S..HD2 | KCSM40 |
| S4 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

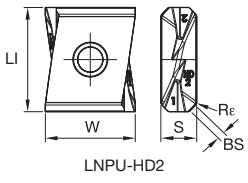
## Indexable Inserts


LNPU-HD


LNPU-HD2



LNPU-HD



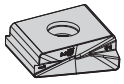
LNPU-HD2

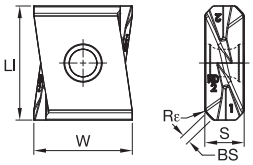
● first choice
○ alternate choice

| | | | | | | |
|---|---|---|---|---|---|---|
| P | | ● | | ● | ● | ○ |
| M | | | | | ○ | ● |
| K | ● | | ● | ○ | | |
| N | | | | | | |
| S | | | | | | ● |
| H | | | | | | |

### LNPU-HD

| catalog number | LI | BS | W | Rε | S | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU863ANSRHD** | 1.142 | .088 | .985 | .047 | .394 | .009 | 4 | – | ● | ● | ● | – | – |
| **LNPU863ANSRHD2** | 1.142 | .088 | .986 | .047 | .394 | .009 | 4 | – | – | – | ● | ● | ● |


LNPU-HD2



LNPU-HD2

### LNPU-HD2 • Left Hand

| catalog number | LI | BS | W | Rε | S | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU863ANSLHD** | 1.142 | .088 | .985 | .047 | .394 | .009 | 4 | – | – | – | ● | ● | – |
| **LNPU863ANSLHD2** | 1.142 | .088 | .986 | .047 | .394 | .009 | 4 | – | – | – | ● | ● | – |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .S..HD | .013 | **.033** | .053 | .009 | **.023** | .038 | .007 | **.018** | .028 | .006 | **.015** | .024 | .006 | **.014** | .022 | .S..HD |
| .S..HD2 | .013 | **.036** | .060 | .009 | **.026** | .043 | .007 | **.019** | .032 | .006 | **.017** | .028 | .006 | **.015** | .025 | .S..HD2 |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

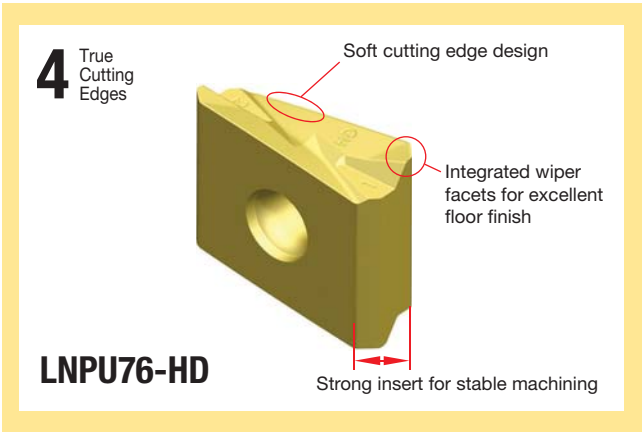
# MEGA 60 and 90

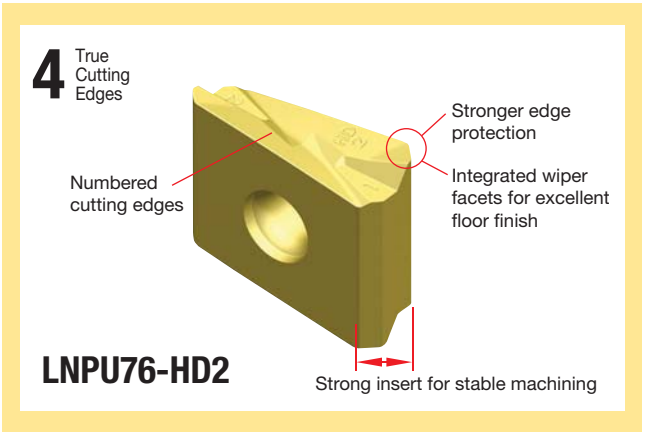
## Primary Application

The real performance booster in heavy-duty milling. With four true cutting edges per heavy-duty insert, you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA 60 and MEGA 90 for all steel and cast iron indexable milling needs.

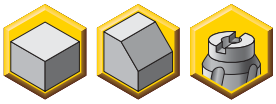
## Features and Benefits

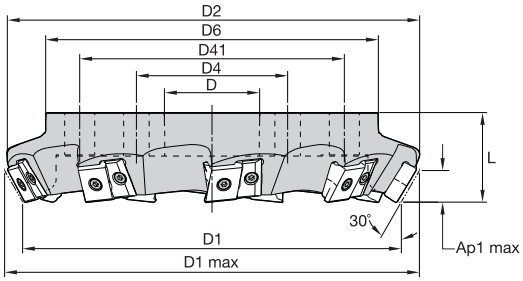
| Features | Benefits |
|---|---|
| • Four true cutting edges per heavy-duty MEGA 60 and 90 insert. | • Low cost per edge and high productivity. |
| • Soft cutting edge design. | • 30% lower cutting forces. |
| • Up to 30% increased Metal Removal Rates (MRR). | • Performance leader in steel and cast iron materials. |
| • Carbide pocket shims. | • Excellent cutter body protection. |
| • Cutting edge numbering system. | • Improved runout for better tool life and floor finish. |
| • HD2 geometry. | • Stronger edge protection to handle the toughest milling jobs, especially with scale and surfaces with varying thicknesses. |


4 True Cutting Edges
Soft cutting edge design
Integrated wiper facets for excellent floor finish
LNPU76-HD
Strong insert for stable machining


4 True Cutting Edges
Stronger edge protection
Numbered cutting edges
Integrated wiper facets for excellent floor finish
LNPU76-HD2
Strong insert for stable machining

- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.





## MEGA 60 • Shell Mills

| order number | catalog number | D1 | D1 max | D | D2 | D4 | D41 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4147496** | **MEGA60D500LN76M6** | 5.000 | 5.982 | 1.500 | 6.181 | — | — | 3.810 | 2.375 | .843 | 6 | 8.03 | 11040 |
| **4147497** | **MEGA60D600LN76M8** | 6.000 | 6.982 | 2.000 | 7.126 | — | — | 5.000 | 2.375 | .842 | 7 | 11.07 | 10080 |
| **4147499** | **MEGA60D800LN76M10** | 8.000 | 8.981 | 2.500 | 8.976 | 4.000 | — | 6.500 | 2.375 | .842 | 9 | 17.83 | 8720 |
| **4147523** | **MEGA60D1200LN76M10** * | 12.000 | 12.981 | 2.500 | 12.953 | 4.000 | 7.000 | 8.858 | 3.150 | .841 | 13 | 41.92 | 7120 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

| D1 | insert screw | in. lbs. | shim | universal bit torque driver | drive bit |
|---|---|---|---|---|---|
| 5.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 6.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 8.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 12.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |

NOTE: Shim screw: MS1162.

## Left-handed shim

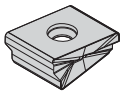
| catalog number |
|---|
| **SM-906LH** |

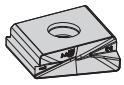
NOTE: Left hand inserts and shims available as standard line items. Left hand cutter bodies to be requested as tailor-made custom solutions. Please refer to the Innovations 2016 Catalog A-15-04498 (Page D60) for the Insert Selection Guide and Cutting Data Recommendation.

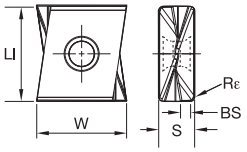
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..HD | KC725M | **.S..HD** | **KCPM40** | .S..HD2 | KCPM40 |
| P3–P4 | .S..HD | KCPK30 | **.S..HD2** | **KCPK30** | .S..HD2 | KCPM40 |
| P5–P6 | .S..HD | KC725M | **.S..HD2** | **KCPK30** | .S..HD2 | KCPM40 |
| M1–M2 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| M3 | .S..HD | KCPM40 | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| K1–K2 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD2 | KC520M |
| K3 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD2 | KC520M |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .S..HD | KC725M | **.S..HD** | **KC725M** | .S..HD2 | KCSM40 |
| S3 | .S..HD | KCPM40 | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| S4 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

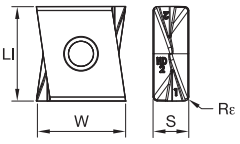
## Indexable Inserts


LNPU-HD


LNPU-HD2



LNPU-HD



LNPU-HD2

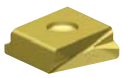
● first choice
○ alternate choice

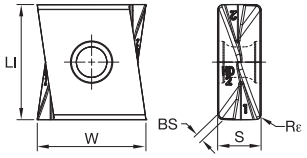
beyond

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● | ○ |
| M | | | | | | ○ | ● |
| K | | ● | | ● | ○ | | |
| N | | | | | | | |
| S | | | | | | | ● |
| H | | | | | | | |

### LNPU-HD/-HD2

| catalog number | LI | BS | W | Rε | S | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU763PNSRHD** | 1.043 | .091 | .985 | .047 | .394 | .009 | 4 | – | ● | ● | ● | ● | – |
| **LNPU763PNSRHD2** | 1.043 | .091 | .984 | .047 | .394 | .009 | 4 | – | – | – | ● | ● | ● |


LNPU-HD



LNPU-HD

### LNPU-HD2

| catalog number | LI | BS | W | Rε | S | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU763PNSLHD2** | 1.043 | .091 | .984 | .047 | .394 | .009 | 4 | ● | – | – | ● | ● | – |

## Recommended Starting Feeds

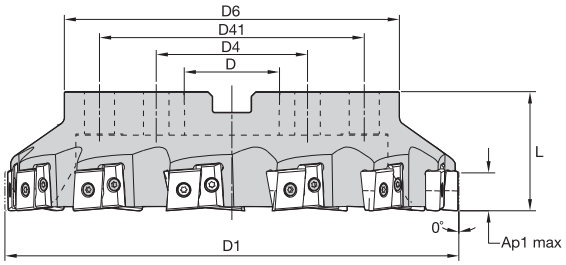
### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .S..HD | .011 | **.027** | .043 | .008 | **.019** | .031 | .006 | **.014** | .023 | .005 | **.013** | .020 | .005 | **.012** | .018 | .S..HD |
| .S..HD2 | .011 | **.027** | .048 | .008 | **.019** | .034 | .006 | **.014** | .025 | .005 | **.013** | .022 | .005 | **.012** | .020 | .S..HD2 |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

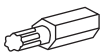
- Up to 30% higher Metal Removal Rate (MRR).
- Cutter body protection with carbide shims.



## MEGA 90 • Shell Mills

| order number | catalog number | D1 | D | D4 | D41 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4136381** | **MEGA90D500LN76M6** | 5.000 | 1.500 | — | — | 3.810 | 2.375 | 1.002 | 6 | 6.86 | 9990 |
| **4136382** | **MEGA90D600LN76M8** | 6.000 | 2.000 | — | — | 5.000 | 2.375 | 1.002 | 7 | 10.23 | 9120 |
| **4136385** | **MEGA90D1000LN76C10** | 10.000 | 2.500 | 4.000 | — | 6.500 | 2.375 | 1.002 | 9 | 22.48 | 7060 |
| **4136387** | **MEGA90D1200LN76C10** | 12.000 | 2.500 | 4.000 | 7.000 | 8.858 | 3.150 | 1.002 | 10 | 38.12 | 6440 |
| **4136388** | **MEGA90D1200LN76M10** | 12.000 | 2.500 | 4.000 | 7.000 | 8.858 | 3.150 | 1.002 | 13 | 38.21 | 6440 |

## Spare Parts

| D1 | insert screw | in. lbs. | shim | universal bit torque driver |  drive bit |
|---|---|---|---|---|---|
| 5.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 6.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 10.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |
| 12.000 | **MS1162** | 45 | **SM-906** | **DTQ3054** | **BTQT25** |

NOTE: Shim screw: MS1162.

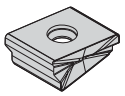
## Left-handed shim

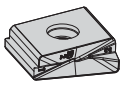
| catalog number |
|---|
| **SM-906LH** |

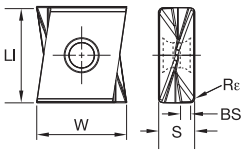
NOTE: Left hand inserts and shims available as standard line items. Left hand cutter bodies to be requested as tailor-made custom solutions. Please refer to the Innovations 2016 Catalog A-15-04498 (Page D60) for the Insert Selection Guide and Cutting Data Recommendation.

## Insert Selection Guide

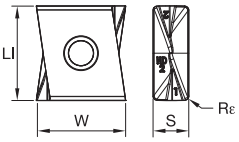
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..HD | KC725M | **.S..HD** | **KCPM40** | .S..HD2 | KCPM40 |
| P3–P4 | .S..HD | KCPK30 | **.S..HD2** | **KCPK30** | .S..HD2 | KCPM40 |
| P5–P6 | .S..HD | KC725M | **.S..HD2** | **KCPK30** | .S..HD2 | KCPM40 |
| M1–M2 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| M3 | .S..HD | KCPM40 | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| K1–K2 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD2 | KC520M |
| K3 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD2 | KC520M |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .S..HD | KC725M | **.S..HD** | **KC725M** | .S..HD2 | KCSM40 |
| S3 | .S..HD | KCPM40 | **.S..HD2** | **KCSM40** | .S..HD2 | KCPM40 |
| S4 | .S..HD | KC725M | **.S..HD2** | **KCSM40** | .S..HD2 | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |


LNPU-HD


LNPU-HD2



LNPU-HD



LNPU-HD2

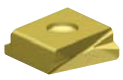
● first choice
○ alternate choice

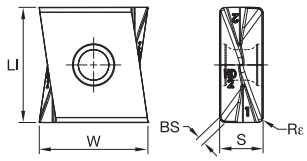
beyond

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● | ○ |
| M | | | | | | ○ | ● |
| K | | ● | | ● | ○ | | |
| N | | | | | | | |
| S | | | | | | | ● |
| H | | | | | | | |

## LNPU-HD/-HD2

| catalog number | LI | BS | W | Rε | S | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU763PNSRHD** | 1.043 | .091 | .985 | .047 | .394 | .009 | 4 | – | ● | ● | ● | ● | – |
| **LNPU763PNSRHD2** | 1.043 | .091 | .984 | .047 | .394 | .009 | 4 | – | – | – | ● | ● | ● |


LNPU-HD



LNPU-HD

## LNPU-HD2

| catalog number | LI | BS | W | Rε | S | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU763PNSLHD2** | 1.043 | .091 | .984 | .047 | .394 | .009 | 4 | ● | – | – | ● | ● | – |





## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .S..HD | .009 | **.023** | .037 | .007 | **.017** | .026 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..HD |
| .S..HD2 | .009 | **.023** | .041 | .007 | **.017** | .029 | .005 | **.013** | .022 | .004 | **.011** | .019 | .004 | **.010** | .018 | .S..HD2 |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# KBDM PCD Face Mills

## Indexable Milling

### Application

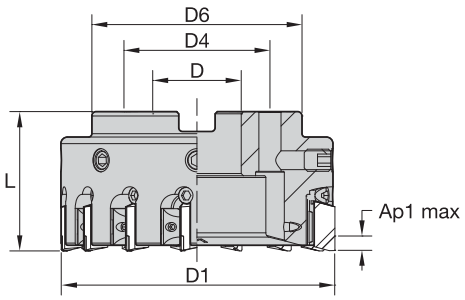
The new KBDM PCD milling platform is designed and engineered for aluminum face milling applications, targeting automotive requirements.

This proven design delivers consistent performance time and time again, and has done so for 20+ years. KBDM's new look, black anodized aluminum with yellow wedges, gives it a unique appearance. However, it's what is behind the cover that really matters. Performance is key, and KBDM does not disappoint.

## Features and Benefits

- Cutter bodies manufactured from hard anodized aluminum provide lighter weight and excellent wear and erosion resistance.
- High-density platform geared toward faster machining cycles to help lower overall costs.
- All pockets are adjustable. Very-user friendly for axial adjustment less than 0.0002" (0,005mm), with a total adjustment of 0.032" (0,8mm).
- Two grades, KD1400™ and KD1425™, provide options in maximizing efficiencies based upon application.
- Roughing, semi-finishing, and fine-finishing with one platform.
- Two corner radii — 0.031 and 0.093" (0,8 and 2,4mm).
- Mini-tip insert for finishing applications.
- All standard inserts have a 0.06" (1,5mm) wiper facet for better surface qualities.
- Full face wiper available as a standard item.

# Delivering Customer-Driven Performance for 20+ Years.



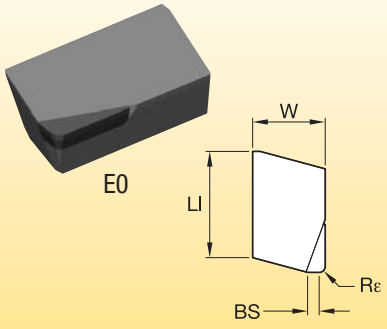
## Face Mills

| order number | catalog number | D1 | D | D4 | D6 | L | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **6044579** | **KBDM250SD06** | 2.500 | 1.000 | – | 2.441 | 2.000 | 6 | 6 | 1.00 | 20000 |
| **6044580** | **KBDM300SD08** | 3.000 | 1.000 | – | 2.190 | 2.000 | 8 | 8 | 1.40 | 20000 |
| **6044711** | **KBDM400SD12** | 4.000 | 1.250 | – | 2.875 | 2.000 | 12 | 12 | 2.50 | 17320 |
| **6044712** | **KBDM500SD16** | 5.000 | 1.500 | – | 3.812 | 2.375 | 16 | 16 | 4.40 | 15500 |
| **6044713** | **KBDM600SD18** | 6.000 | 1.500 | – | 3.812 | 2.375 | 18 | 18 | 7.00 | 14150 |
| **6044714** | **KBDM800SD24** | 8.000 | 2.500 | 4.000 | 5.000 | 2.375 | 24 | 24 | 1.40 | 12240 |

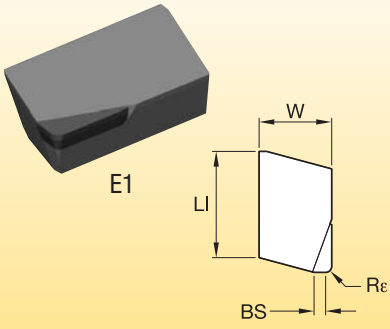
## Spare Parts

| D1 | screw | wedge | wedgelock screw | coolant lock screw | coolant shower plate |
|---|---|---|---|---|---|
| 2.500 | **LS103** | **HDWM5EUS** | **SWSM515** | **SALS25** | **–** |
| 3.000 | **LS103** | **HDWM5EUS** | **SWSM515** | **SALS30** | **–** |
| 4.000 | **LS103** | **HDWM5EUS** | **SWSM515** | **SALS40** | **–** |
| 5.000 | **LS103** | **HDWM5EUS** | **SWSM515** | **SALS50** | **–** |
| 6.000 | **LS103** | **HDWM5EUS** | **SWSM515** | **SALS6150** | **–** |
| 8.000 | **LS103** | **HDWM5EUS** | **SWSM515** | **–** | **SSP8** |

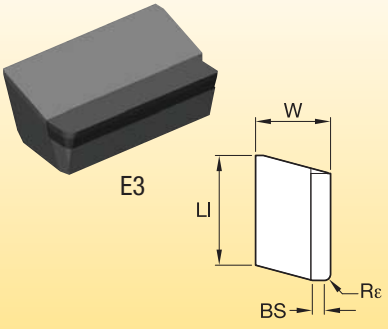
## Technical Information • Ap1 max for PCD Inserts




Ap1 max .100"




Ap1 max .250"

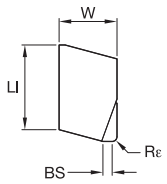



Ap1 max .500"

## Insert Selection Guide • KBDM • Inch

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | .KSDR..... | KD1400 | **.KSDR.....** | **KD1400** | .KSDR..... | KD1400 |
| N3 | .KSDR..... | KD1400 | **.KSDR.....** | **KD1425** | .KSDR..... | KD1425 |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

E0




E0

● first choice
○ alternate choice

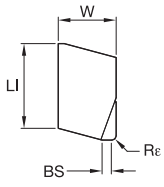
| | |
|---|---|
| P | |
| M | |
| K | |
| N | ● ● |
| S | |
| H | |

## PCD Inserts • KSDR Mini-Tip • E0

| catalog number | LI | W | BS | Rε | hm | KD1400 | KD1425 |
|---|---|---|---|---|---|---|---|
| **KSDR100031E0W0S** | .624 | .375 | — | .031 | .001 | ● | ● |
| **KSDR100031E0W4S** | .625 | .375 | .060 | .031 | .001 | ● | ● |

NOTE: For Mini-tip (E0), Ap1 max = .100".

E1



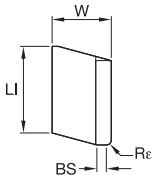

E1

## PCD Inserts • KSDR • E1

| catalog number | LI | W | BS | Rε | hm | KD1400 | KD1425 |
|---|---|---|---|---|---|---|---|
| **KSDR100031E1W4S** | .625 | .375 | .060 | .031 | .001 | ● | ● |
| **KSDR100093E1W4S** | .625 | .375 | .060 | .093 | .001 | ● | ● |

NOTE: For E1 inserts, Ap1 max = .250".

E3




E3

● first choice
○ alternate choice

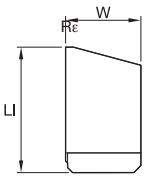
| | | | |
|---|---|---|---|
| P | | | |
| M | | | |
| K | | | |
| N | | ● | ● |
| S | | | |
| H | | | |

## PCD Inserts • KSDR • E3

| catalog number | LI | W | BS | Rε | hm | KD1400 | KD1425 |
|---|---|---|---|---|---|---|---|
| **KSDR100031E3W4S** | .625 | .375 | .060 | .031 | .001 | ● | ● |

NOTE: For Full Edge (E3), Ap1 max = .500".

KSDR




KSDR

## PCD Inserts • KSDR Wiper

| catalog number | LI | W | BS | Rε | hm | KD1400 | KD1425 |
|---|---|---|---|---|---|---|---|
| **KSDR102S** | .625 | .375 | .035 | – | .001 | ● | ● |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .KSDR….. | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .KSDR….. |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

Face Milling

## PCD Custom Solutions for Indexable Milling

- Diameters up to 21.65" (550mm).
- Integral shank options, ie, HSK.
- Left-hand rotation.
- Internal coolant capable.
- PCD lengths up to 0.50" (12,7mm).
- Specific edge preps and nose radii available.

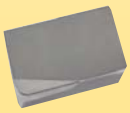
## Insert Setting and Fine Adjustment Procedure

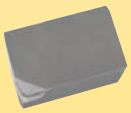
### Face Mills

- Apply a small amount of lubricant to the following areas:
  - — Pocket area where the wedge slides.
  - — Threads of the insert locking screw.
  - — Threads of the axial adjustment screw.
- Install cartridges applying light torque to the wedge assembly locking screw.
- Turn axial adjustment screw until the cartridge is .0004–.0006" (0,01–0,015mm) below the final set height.
- Tighten the wedge assembly locking screw to 31 In/lbs and (4 Nm) to (3,5 Nm).
  - — 170.170 — Torque Screwdriver mm #**1138787**.
  - — 170.181 — 1/4" Drive Bit — 4mm Hex mm #**1138857**.
- Repeat for all inserts/pockets before final axial setting.
- Final Setting: Turn the axial adjustment screw moving the PCD insert 0.0002" (0,005um) to the final set height. Repeat for all pockets.

### General

- Non-contact gages are preferred.
- Contact gages can be used with the following precautions:
  - — Indicator point must be flat and parallel to the base.
  - — Always approach the PCD insert from the relief angle under the PCD segment.
  - — Do NOT let the indicator drop on the PCD segment.
- Remove all worn PCD inserts.
- Clean the pockets of the cutter completely.





## KBDM Wiper Setup

- Set Wiper 0.0006–0.0008" (15–20 microns) higher than standard PCD inserts. The KSDR102S Wiper is designed to be used only with 0.031 corner radius standard inserts in the other pockets.
- At this setting, the wiper radius will cover 0.28" (7,1mm) advancement before another wiper would be needed.
- Wiper radius is 30.0" (762mm).
- Ideal setup is to use only 1 wiper to achieve best surface quality. Use when Wt is a requirement.

**Example: KBDM200SD24 Face Mill**
Feed per tooth: 0.008" (0,2mm)
# of inserts: 24
Advancement per revolution:
Metric: 0,2 x 24 = 4,8mm
Inch: 0.008 x 24 = 0.192"
4,8mm < 7,1mm wiper length

NOTE: Large diameter cutters 10.0" (250mm) and up would be candidates for more than 1 wiper. Due to more inserts in the cutter, the advancement per revolution might exceed the coverage of 1 wiper.

# The KSCM™ AluMill™ System

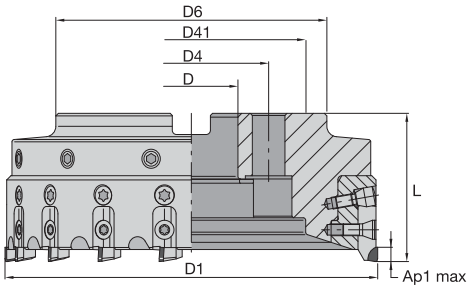
## Primary Application

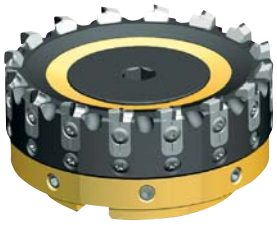
The KSCM AluMill face milling program is specifically engineered to deliver best-in-class performance in high-volume aluminum machining operations. Runs at higher speeds with no chatter while still easy to adjust. KD1420™ grade materials provide long tool life, and with the Kennametal Blue Box™ program for reconditioning worn cartridges, you can reduce inventory costs as well!

## Features and Benefits

- Anti-vibration cutter design.
- Best rigidity for high feed rates.
- Unique dovetail wedge clamping design.
- No radial movement of cartridges.
- Centrifugal force protection cartridge design.
- Integrated chip gash into cartridge.
- Quick setup and easy adjust concept.
- Flexible cartridge configuration.
- No bur cartridges for fine finishing.
- Blue Box™ service.

- PCD cartridge face mill for high production aluminum face milling.
- Rough and finish in one operation.
- Precision balanceable cutter bodies produce mirror-finish surfaces.



## KSCM AluMill • Shell Mills

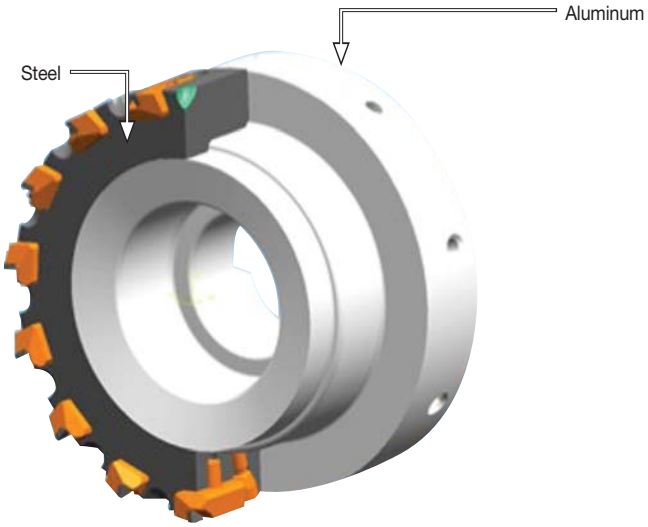
| order number | catalog number | D1 | D | D6 | L | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **2982056** | **KSCM125R16CAB40U** | 5.000 | 1.500 | 3.772 | 2.380 | 16 | 16 | 5.46 | 19100 |

NOTE: Ap1 max is dependent on the cartridge configuration; see the values listed under the cartridges.

## Spare Parts

| D1 | cartridge screw | drive bit | coolant lock screw | balancing screw |
|---|---|---|---|---|
| 5.000 | **193.465** | **170.279** | **420.042** | **193.462** |

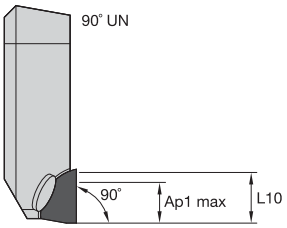
NOTE: All cutters are bi-metallic except the 3.00" (80mm) diameter.
Ap1 max is dependent on the cartridge configuration; see the values listed under the cartridges.
Please order KSCM cutters bodies and cartridges separately.



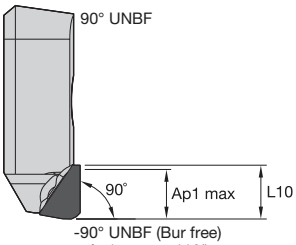
## Cartridge Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | KCSM… | KD1420 | **KCSM…** | **KD1420** | KCSM… | KD1420 |
| N3 | KCSM… | KD1420 | **KCSM…** | **KD1420** | KCSM… | KD1420 |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

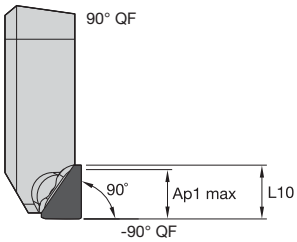
## Cartridges • KSCM AluMill



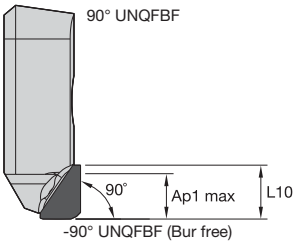
-90° UN
Ap1 max = .118"



-90° UNBF (Bur free)
Ap1 max = .118"



-90° QF
Ap1 max = .118"



-90° UNQFBF (Bur free)
Ap1 max = .118"

| cartridge combination | ratio | max ap | surface quality |
|---|---|---|---|
| UN | — | .118 | Rz 2–Rz 4 |
| UN + QF | 3:1 | .118 | Rz 1,5–Rz 2,5 |
| PT + UN | X:1 | .118 | Rz 3,2–Rz 17 |

● first choice
○ alternate choice

| | | KD1400 | KD1420 |
|---|---|---|---|
| P | | | |
| M | | | |
| K | | | |
| N | | ● | ● |
| S | | | |
| H | | | |

### Cartridges • KSCM AluMill • 90° -UN

| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMCA90UN** | 0 | .240 | .001 | – | ● |

### Cartridges • KSCM AluMill • 90° -UNBF

| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMA90UNBF** | — | .244 | — | ● | ● |
| **KSCMCA90UNBF** | 0 | .242 | .001 | – | ● |

NOTE: KSCMA90UNBF & KSCMA90QFBF should be the 1st choice solutions for KSCM PCD milling applications.
For setup instructions reference pages S117-S118.

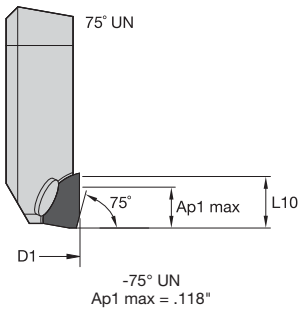
### Cartridges • KSCM AluMill • 90° -QF

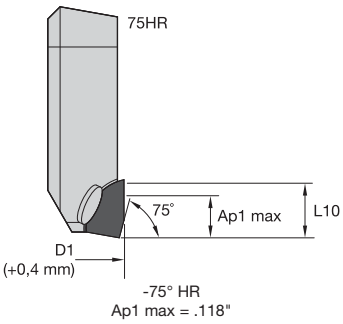
| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMCA90QF** | 0 | .244 | .001 | – | ● |

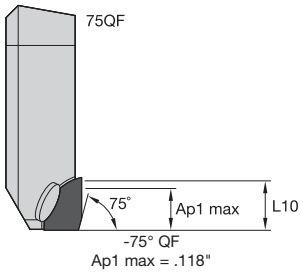
### Cartridges • KSCM AluMill • 90° -QFBF

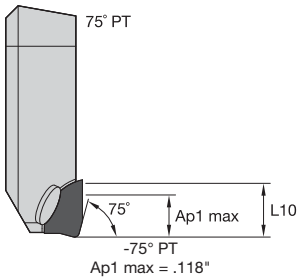
| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMA90QFBF** | — | .244 | — | ● | ● |
| **KSCMCA90QFBF** | 0 | .244 | .001 | – | ● |

NOTE: KSCMA: Blanks without PCD segment, if cutter is not fully loaded with cartridges.
For low horsepower machines and cutter configurations with less effective teeth.




● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | |
| M | | |
| K | | |
| N | ● | ● |
| S | | |
| H | | |

## Cartridges • KSCM AluMill • 75° -UN

| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMCA75UN** | 15 | .240 | .001 | – | ● |

## Cartridges • KSCM AluMill • 75° -HR

| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMCA75HR** | 15 | .213 | .001 | – | ● |

## Cartridges • KSCM AluMill • 75° -QF

| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMCA75QF** | 15 | .240 | .001 | – | ● |

## Cartridges • KSCM AluMill • 75° -PT

| catalog number | KRI ANSI | L10 | hm | KD1400 | KD1420 |
|---|---|---|---|---|---|
| **KSCMCA75PT** | 15 | .240 | .001 | – | ● |

NOTE: KSCMA: Blanks without PCD segment, if cutter is not fully loaded with cartridges.
For low horsepower machines and cutter configurations with less effective teeth.

| cartridge combination | ratio | max ap | surface quality |
|---|---|---|---|
| UN | – | .118 | Rz 2–Rz 4 |
| UN + QF | 3:1 | .118 | Rz 1,5–Rz 2,5 |
| PT + UN | X:1 | .118 | Rz 3,2–Rz 17 |



## Recommended Starting Feeds

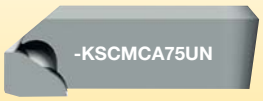
### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

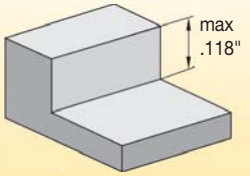
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| KCSM… | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | KCSM… |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Tool Configuration • Universal Cartridge

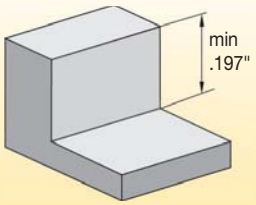



Face milling cutter fitted entirely with universal cartridges.




**Depth of Cut:**
max .118"

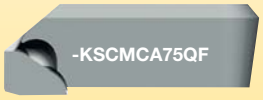
**Surface Quality:**
Rz2 - Rz4



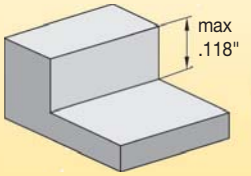

**Contouring:**
PCD cutting edge length = .197"

## Tool Configuration • Universal Cartridge

+ Finishing Cartridge

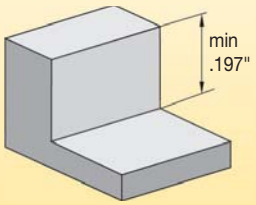



Fitting the face milling cutter with universal and finishing cartridges in a ratio of approximately 3:1.



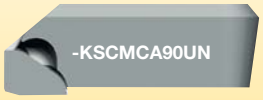

**Depth of Cut:**
max .118"

**Surface Quality:**
Rz1,5 - Rz2,5

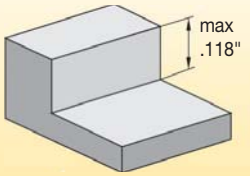



**Contouring:**
PCD cutting edge length = .197"

## Tool Configuration • Edge Cartridge

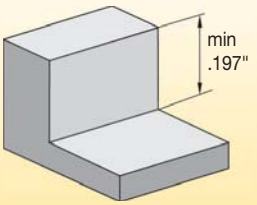



Fitting the face milling cutter entirely with edge cartridges.



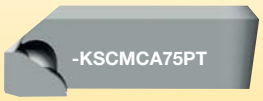

**Depth of Cut:**
max .118"

**Surface Quality:**
Rz2 - Rz4

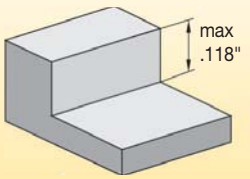



**Contouring:**
PCD cutting edge length = .197"

## Tool Configuration • Cartridge for Defined Surfaces

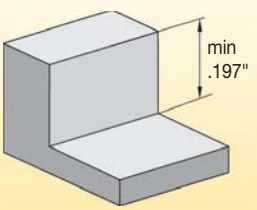



Fitting the face milling cutter entirely with cartridges for defined surfaces.




**Depth of Cut:**
max .118"

**Surface Quality:**
Rz3,2 - Rz17



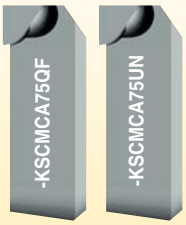

**Contouring:**
PCD cutting edge length = .197"

## Tool Configuration • Universal Cartridge, 75° Face Milling

1. Insert cartridges into the body.
2. Screw in the clamping screws (RH), and tighten to 88 in. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.

4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 µm.

## Tool Configuration • Universal Cartridge + Finishing Cartridge (Ratio Approx. 3:1), 75°




1. Insert universal cartridges at ratio of approximately 4:1 in the body. Make sure they are evenly distributed!
2. Screw in the clamping screws (RH), and tighten to 88 in. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.

4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 µm.

6. Insert finishing cartridges as described in Steps 1–5 but with an axial advance of .0003" + .0008". Max permitted runout error of 3 µm with finishing cartridges.

## Tool Configuration • Edge Cartridges, 90° Shoulder Milling

1. Insert cartridges into the body.
2. Screw in the clamping screws (RH), and tighten to 88 in. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs

4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 µm.

## Tool Configuration • Cartridge for Defined Surface, 75°

1. Insert cartridges into the body.
2. Screw in the clamping screws (RH), and tighten to 7 ft. lbs.
3. Screw in the adjusting screws (RH), and tighten to 26 in. lbs.

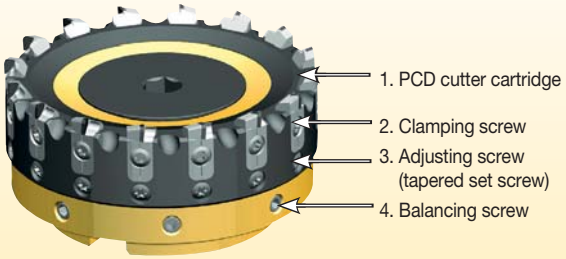
4. Determine which cartridge is in the highest axial position.
5. By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 µm.

NOTE: The process must be repeated when the cartridges are changed. To dismantle, remove the adjusting element (Part 3), clamping screw (Part 2), and cartridge (Part 1).

## Instruction for Mounting the Face Milling Cutter on the Appropriate Toolholder

### User Information:

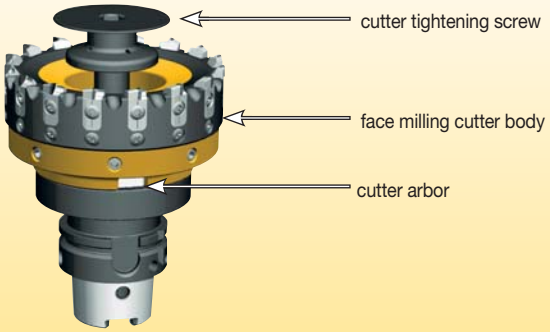
- Tools conform to EN ISO 15641.
- Absolute cleanliness must be observed when assembling the face milling cutter.
- An optimum cutting result will only be achieved by adjusting and balancing the complete tool system (face milling cutter + toolholder).
- Balancing is achieved with the aid of the balancing screws. Quality class G2.5 DIN-ISO 1940.
- The balancing screw must not protrude above the body.
- The balancing and adjustment screws have an adhesive coating according to DIN 267, Part 28. If, after repeated use, the coating is no longer adequate to secure the screws, the screws must be replaced.
- The maximum permitted operating speed (quoted on the tool) must not be exceeded.
- The maximum permitted operating speed is only permitted with clamping systems manufactured by Kennametal in accordance with DIN 69982 Form B with enlarged plane bearing surface. Reduce the operating speed if clamping systems with increased projection length or made by other manufacturers are used.
- Tools and fittings are to be serviced and repaired by Kennametal.
- Screws sealed with lacquer have been adjusted by the manufacturer, and must not be moved.




## Instructions for Fitting the Cutter Cartridge • Tool Construction

When mounting the face milling cutter (dimensions similar to DIN 8030 Form B), place the body of the face milling cutter on the arbor. Ensure that the contact faces are clean. Screw in the cutter fastening bolt (RH) and tighten with the appropriate torque.

**Tightening torque for the central cutter tightening screw:**
**M20** (adapter diameter 40): **184 ft. lbs.**
**M16** (adapter diameter 32): **110 ft. lbs.**
**M12** (adapter diameter 27): **59 ft. lbs.**

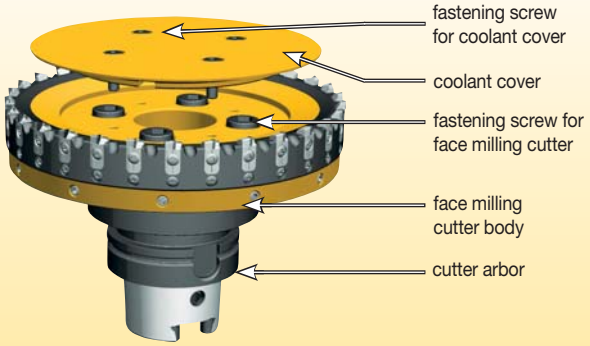



## Mounting the Face Milling Cutter (Dimensions Similar to DIN 8030 Form C)

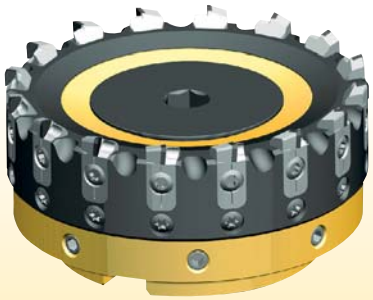
Place the body of the face milling cutter on the arbor. Ensure that the contact faces are clean. Screw in the fastening bolt (RH) and tighten with the appropriate torque. Put the aluminum coolant cover in place and fasten with the Torx fastening screws.

**Tightening torque for the face milling cutter fastening screws:**
**M20: 184 ft. lbs.**
**M16: 81 ft. lbs.**
**M12: 36 ft. lbs.**

**Tightening torque for the coolant cover fastening screws:**
**M8: 13 ft. lbs.**

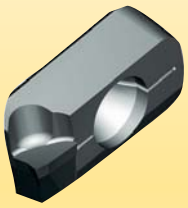


# KSCM AluMill
## Reconditioning Service



### New Supply

On request, the face mill will be delivered with cartridges already mounted and adjusted.



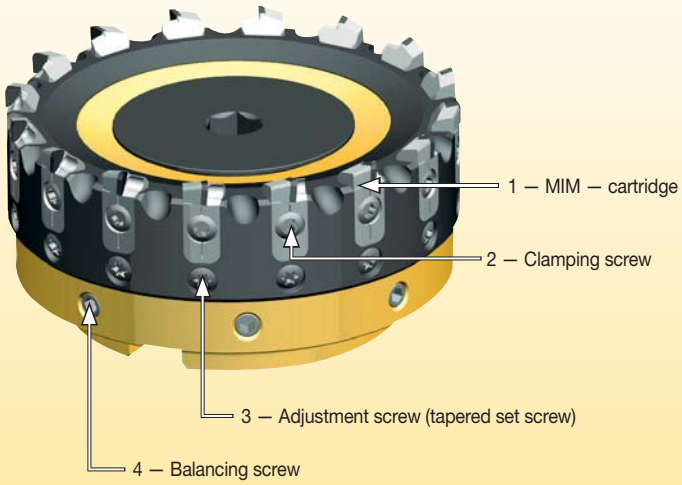
### Service Level • PCD Insert Reconditioning

**Reconditioning of PCD cartridges up to three times.**

• Tool diameter and length remain constant.

Face mill will be delivered with exchanged cartridges already mounted, adjusted, and balanced.

## Tool Design




## Information:

- KSCM tools conform to EN ISO 15641.
- Absolute cleanliness is needed when assembling the cutter.
- For optimum results, adjust and balance the complete tool system (face milling cutter + toolholder).
- Balancing is achieved with the aid of balancing screws. Quality class G2.5 DIN-ISO 1940.
- The balancing screw must not protrude above the body. The balancing and adjustment screws have an adhesive coating according to DIN 267, Part 28. After repeated use, the coating may no longer be adequate to secure the screws; the screws must be replaced.
- Do not exceed the maximum operating speed.
- Maximum operating speed is only permitted with clamping systems manufactured by Kennametal in accordance with DIN 69982 Form B with enlarged plane bearing surface. Reduce the operating speed if clamping systems with increased projection length or made by other manufacturers are used.
- Tools and fittings are to be serviced and repaired by Kennametal.
- Screws sealed with lacquer have been adjusted by the manufacturer, and must not be moved.
- A centrifugal force test was done.
- If the tools will be used for HSC, referred to in DIN EN ISO 15641, machines have to fulfill the special safety requirements.

## Assembling

**1** Lubricate small cove on the MIM cartridge with copper paste of Liqui Moly.

**2** Insert universal cartridges at approximate ratio 3:1 into the body. Make sure that they are distributed evenly!

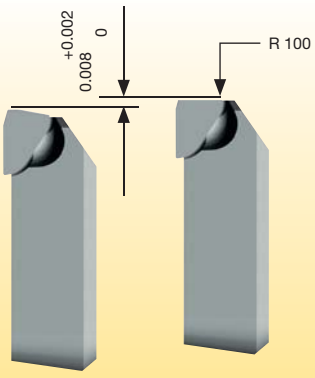
**3** Screw in the clamping screws (RH) and tighten to 8 Nm.

**4** Screw in the adjusting screws (RH) and tighten to 3 Nm.

**5** Determine which cartridge is in the highest axial position.

**6** By turning the adjusting screws to the right, adjust the remaining cartridges for even running. Max permitted runout error 3 µm.

**7** Insert finishing cartridges as described in steps 1–6 with an axial advance of 0,008 +0,002mm. Max permitted runout error of 3 µm with finishing cartridges.




NOTE:
- The process must be repeated when the cartridges are changed. To dismantle, remove the adjusting element (Part 3), clamping screw (Part 2), and cartridge (Part 1).
- For special requirements, e.g. surface quality, the configuration and the adjustment of the tool and inserts have to be done in relation with these requirements.
- If spare parts have to be ordered, reference the drawing.

# Leader in Advanced Face Milling Applications

# Dodeka™ Mini

**The Dodeka Mini series is the most comprehensive face milling booster on the market today and offers fast, accurate indexing — with only one screw!**

It is the first choice for long-reach face milling applications, or light fixtures with up to 40% shorter machining cycle time. With a standard offering of 15°, 45°, and 60° in combination with Beyond™ premium milling grades, expect up to 35% better tool life in light to heavy machining.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

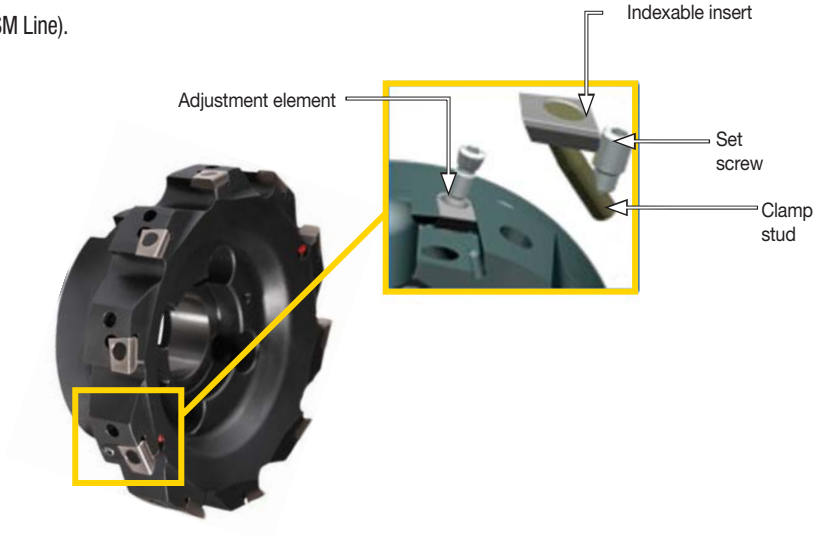
# Fix-Perfect™ 0° Aluminum

## Primary Application

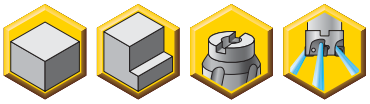
The Fix-Perfect 0° milling cutter is excellent for machining aluminum and non-ferrous materials. The 24° positive rake provides free cutting action while producing superior finishes and flatness.

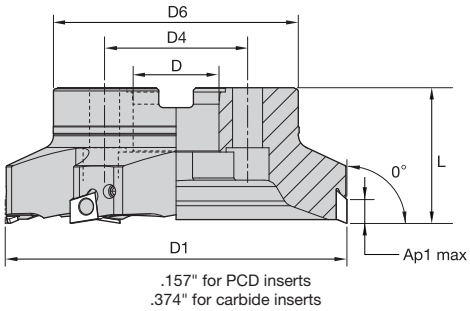
## Features and Benefits

- Achieve true 0º shoulder.
- Roughing and finishing in one tool.
- Full safety first insert clamping.
- Easy adjustable pocket seats for fine finishing (PM, HPM, HSM Line).
- Achievable floor surface quality: Ra = 0.5.
- Very soft cutting action.
- Axial depth of cut Ap1 max = 3.74".



- Excellent for milling aluminum and non-ferrous materials.
- Good choice for thin-wall or poorly fixtured workpieces.
- 24° positive rake enables free cutting action.
- Produces excellent finish and flatness.
- Maximum speed is 6,500 SFM.





.157" for PCD inserts
.374" for carbide inserts

## Fix-Perfect • Shell Mills • M Line • Fixed Pockets

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **2235052** | **50A03RP90BG15CUM** | 2.000 | .750 | 1.750 | 1.570 | .374 | 3 | .90 | 12530 |
| **2235053** | **63A03RP90BG15CUM** | 2.500 | .750 | 1.750 | 1.570 | .374 | 3 | 1.10 | 10030 |
| **2235054** | **80A03RP90BG15CUM** | 3.000 | 1.000 | 2.189 | 1.750 | .374 | 3 | 1.60 | 8350 |
| **2235055** | **100B04RP90BG15CUM** | 4.000 | 1.250 | 2.880 | 1.750 | .374 | 4 | 2.80 | 6270 |
| **2235056** | **125B05RP90BG15CUM** | 5.000 | 1.500 | 3.810 | 2.380 | .374 | 5 | 5.40 | 5010 |
| **2235057** | **160B06RP90BG15CUM** | 6.000 | 2.000 | 4.880 | 2.380 | .374 | 6 | 8.50 | 4180 |

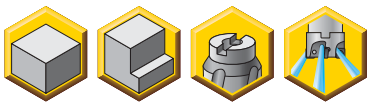
* 8-, 10-, and 12-inch diameter cutters are non-stock standards.

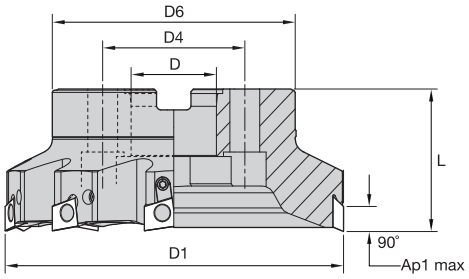
## Spare Parts

| D1 | clamp stud | set screw | hex wrench | in. lbs. | socket-head cap screw | coolant lock screw | coolant shower plate |
|---|---|---|---|---|---|---|---|
| 2.000 | **410.083** | **420.060** | **170.003** | 45 | **S446** | **420.101 SCREW** | **–** |
| 2.500 | **410.083** | **420.060** | **170.003** | 45 | **S445** | **420.101 SCREW** | **–** |
| 3.000 | **410.083** | **420.060** | **170.003** | 45 | **S458** | **420.121** | **–** |
| 4.000 | **410.083** | **420.060** | **170.003** | 45 | **–** | **420.161** | **–** |
| 5.000 | **410.083** | **420.060** | **170.003** | 45 | **–** | **420.201** | **470.240** |
| 6.000 | **410.083** | **420.060** | **170.003** | 45 | **–** | **420.241** | **470.241** |

NOTE: Please order spare parts separately.
Torque wrench (KTW45) and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.

- High-speed Machining.
- Produces excellent surface finish and flatness.
- Fixed and adjustable pockets.





## Fix-Perfect • Shell Mills • PM Line • Fixed and Adjustable Pockets

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **1803174** | **40A02RP90BG15CUPM** | 1.500 | .500 | 1.250 | 1.570 | .375 | 2 | 0 | .49 | 33418 |
| **1803175** | **50A03RP90BG15CUPM** | 2.000 | .750 | 1.750 | 1.570 | .375 | 3 | 0 | .84 | 25063 |
| **1803177** | **63A04RP90BG15C1WUPM** | 2.500 | .750 | 1.750 | 1.570 | .375 | 4 | 1 | 1.17 | 22750 |
| **1803178** | **80A05RP90BG15C1WUPM** | 3.000 | 1.000 | 2.032 | 1.750 | .375 | 5 | 1 | 1.85 | 16710 |
| **1805715** | **80A06RP90BG15C2WUPM** | 3.000 | 1.000 | 2.032 | 1.750 | .375 | 6 | 2 | 1.85 | 16710 |
| **1803179** | **100B06RP90BG15C2WUPM** | 4.000 | 1.250 | 2.724 | 1.750 | .375 | 6 | 2 | 3.22 | 12500 |
| **1805716** | **100B08RP90BG15C2WUPM** | 4.000 | 1.250 | 2.724 | 1.750 | .375 | 8 | 2 | 3.22 | 12500 |
| **1806465** | **125B08RP90BG15C2WUPM** | 5.000 | 1.500 | 3.810 | 2.375 | .375 | 8 | 2 | 5.95 | 10000 |
| **1806466** | **160B10RP90BG15C2WUPM** | 6.000 | 2.000 | 4.880 | 2.375 | .394 | 10 | 2 | 9.26 | 8500 |

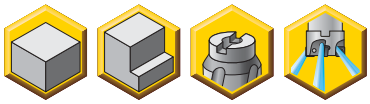
## Spare Parts

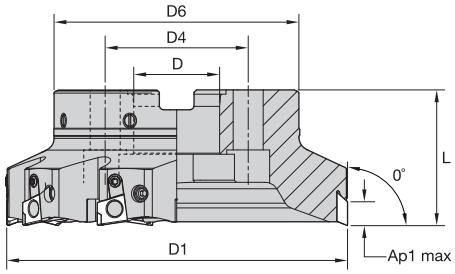


| D1 | Torx wrench | clamp stud | set screw | hex wrench | in. lbs. | socket-head cap screw | coolant lock screw | coolant shower plate |
|---|---|---|---|---|---|---|---|---|
| 1.500 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **S425** | **420.081** | **–** |
| 2.000 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **S446** | **420.101 SCREW** | **–** |
| 2.500 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **S445** | **420.101 SCREW** | **–** |
| 3.000 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **S458** | **420.121** | **–** |
| 4.000 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **–** | **420.161** | **–** |
| 5.000 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **–** | **420.201** | **470.240** |
| 6.000 | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **–** | **420.241** | **470.241** |

NOTE: Please order spare parts separately.
For all diameters: adjusting element screw 193.337.
If the adjusting element needs to be replaced, please return the cutter to the Kennametal Service Center.
Torque wrench (KTW45 and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.

- Produces excellent surface finish and flatness.
- High-speed machining.

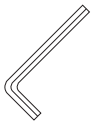




## Fix-Perfect • Shell Mills • HPM Line • All Pockets Adjustable

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | Z ADJ | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **1805720** | **63A04RP90BG15C4WUHPM** | 2.500 | .750 | 1.750 | 1.570 | .374 | 4 | 4 | 1.17 | 20051 |
| **1805745** | **80A05RP90BG15C5WUHPM** | 3.000 | 1.000 | 2.190 | 1.750 | .374 | 5 | 5 | 1.83 | 16710 |

## Spare Parts

| D1 | adjusting element screw | Torx wrench | clamp stud | set screw |  hex wrench | in. lbs. | socket-head cap screw | coolant lock screw |
|---|---|---|---|---|---|---|---|---|
| 2.500 | **193.326** | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **S445** | **420.101 SCREW** |
| 3.000 | **193.326** | **KT15** | **410.083** | **420.060** | **170.003** | 45 | **S458** | **420.121** |

NOTE: Please order spare parts separately.
For all diameters: adjusting element screw 193.326.
If the adjusting element needs to be replaced, please return the cutter to the Kennametal Service Center.
Cutters with 4" have an aluminum body.
Torque wrench (KTW45) and 3mm hex bit (69709922164) may be purchased separately to ensure proper torque setting.

## Insert Selection Guide

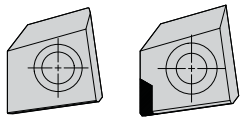
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | BGHX... | K110M | **BGHX...** | **KC510M** | BGHX... | KD1415 |
| N3 | BGHX... | K110M | **BGHX...** | **KD1410** | BGHX... | KD1410 |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

## Indexable Inserts for Fix-Perfect • BGHX15L5...

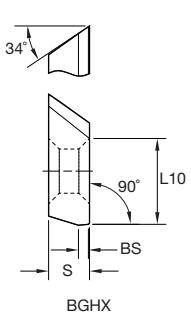
- Roughing Fix-Perfect inserts for aluminum and non-ferrous materials.
- 0.374" (9,5mm) max depth of cut.
- Two cutting edges.

● first choice
○ alternate choice

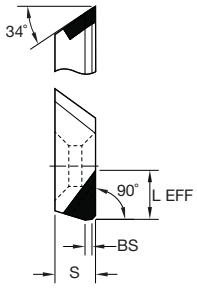
| | K110M | KC510M | KD1410 | KD1415 |
|---|---|---|---|---|
| P | | | | |
| M | | | | |
| K | | | | |
| N | ● | ● | ● | ● |
| S | | | | |
| H | | | | |


BGHX


BGHX



BGHX



BGHX

Face Milling

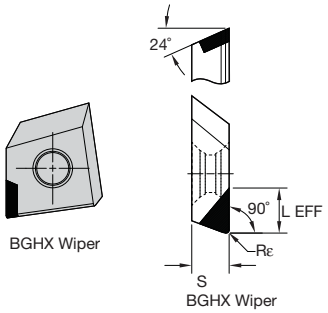
## BGHX • Roughing

| catalog number | L10 | S | BS | Rε | hm | cutting edges | K110M | KC510M | KD1410 | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|
| **BGHX15L5PCERGGT** | .205 | .197 | .035 | — | .001 | 1 | – | – | ● | ● |
| **BGHX15L5PCFRGG** | .413 | .197 | .048 | — | .001 | 2 | ● | ● | – | – |
| **BGHX15L5PCTRGG** | .413 | .197 | .048 | — | .001 | 2 | ● | ● | – | – |
| **BGHX15L5PCERGGTM** | — | .197 | .047 | — | .001 | 1 | – | – | ● | – |

- Roughing Fix-Perfect inserts for aluminum and non-ferrous materials.
- 0.374" (9,5mm) max depth of cut.
- Two cutting edges with corner radii.

● first choice
○ alternate choice

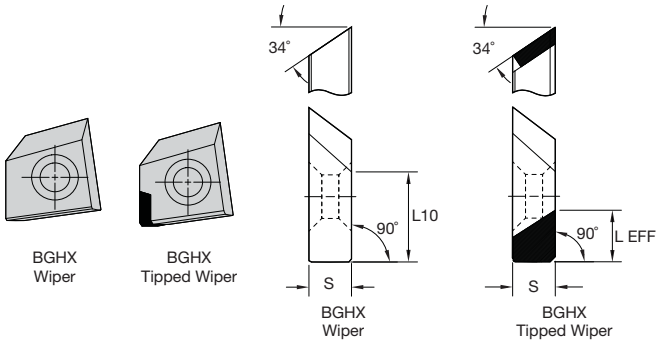
| | | | | | |
|---|---|---|---|---|---|
| P | | | | | |
| M | | | | | |
| K | | | | | |
| N | ● | ● | ● | ● | |
| S | | | | | |
| H | | | | | |




## BGHT • Roughing with Radius

| catalog number | L10 | S | BS | Rε | hm | cutting edges | K110M | KC510M | KD1410 | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|
| **BGHX15L504ERGET** | .205 | .197 | — | .016 | .001 | 1 | – | – | – | ● |
| **BGHX15L504PCFRGG** | .413 | .197 | .047 | .016 | .001 | 2 | ● | – | – | – |
| **BGHX15L508PCFRGG** | .413 | .197 | .047 | .031 | .001 | 2 | ● | ● | – | – |
| **BGHX15L515PCFRGG** | .413 | .197 | .047 | .059 | .001 | 2 | ● | ● | – | – |

- Roughing Fix-Perfect inserts for aluminum and non-ferrous materials.
- 0.374" (9,5mm) max depth of cut.
- Two cutting edges.




## BGHX-ET • Finishing

| catalog number | L10 | S | BS | Rε | hm | cutting edges | K110M | KC510M | KD1410 | KD1415 |
|---|---|---|---|---|---|---|---|---|---|---|
| **BGHX15L5PCSRLET** | .236 | .197 | .035 | — | .001 | 1 | – | – | ● | ● |
| **BGHX15L5PCTRHET** | .236 | .197 | .035 | — | .001 | 1 | – | – | ● | – |



## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

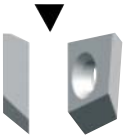
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| BGHX... | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | BGHX... |

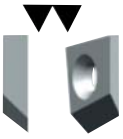
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

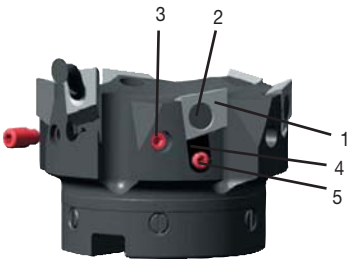
# Introduction to Fitting Cutting Bodies

Roughing indexable inserts
**BGHX15L5PC..GG.**

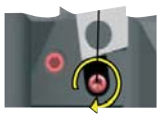
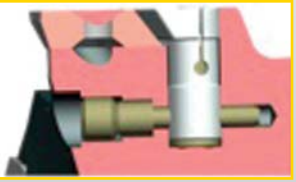
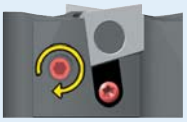


Finishing indexable inserts
**BGHX15L5PC..GG.1W**



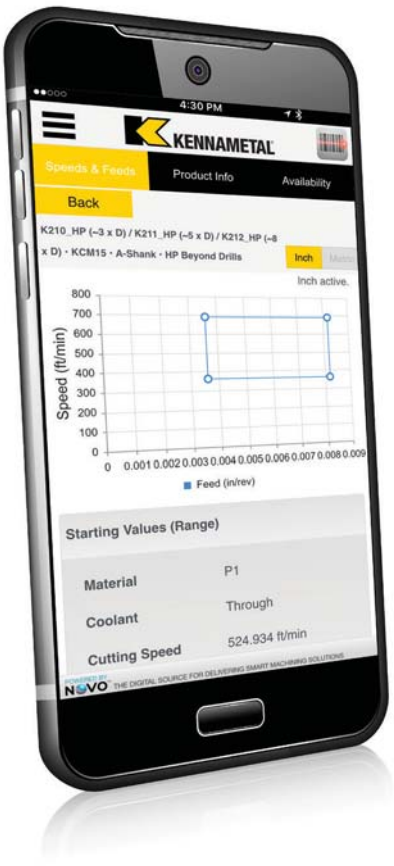



**Clean dust, grease, etc., from the insert seat, insert (1), and clamp stud (2).**

| | PM | HPM/HSM | PM/HPM/HSM |
|---|---|---|---|
| 1 | Loosen the adjusting element (4).<br> <br>Loosen the adjusting screw (5). | Loosen the adjusting element (4).<br> <br>Loosen the adjusting screw (5). | Loosen the adjusting element (4).<br> <br>Loosen the adjusting screw (5). |
| 2 | Insert the indexable inserts and tighten with the clamping screw (3) 44 in. lbs.<br> <br>ATTENTION: Ensure that the insert is correctly positioned in the insert seat. | Insert the indexable inserts and pre-tighten with the clamping screw (3) 13 in. lbs.<br> <br>ATTENTION: Ensure that the insert is correctly positioned in the insert seat. Determine which cutting body is the highest on the axis. | Insert the indexable inserts and pre-tighten with the clamping screw (3) 9 in. lbs.<br> <br>ATTENTION: Ensure that the insert is correctly positioned in the insert seat. Determine which cutting body is the highest on the axis. |
| 3 | Tension the adjusting element (4) by tightening the adjusting screw (5) to the specified torque of 4.5 in. -lbs.<br>  | Extract by .0008" the insert that is axially the highest by turning the adjusting screw (5).<br> <br>Adjust the remaining inserts to the desired runout with maximum travel of the inserts .008". | Adjust the finishing indexable insert(s) to the desired projection, preferably .0015" by turning the adjusting screw (5).<br> <br>ATTENTION: Ensure that the insert is correctly positioned in the insert seat. |
| 4 |  <br>**Adjustment element to be replaced by Kennametal Service Center only.** | Clamp the insert by tightening the clamping screw (3) to the specified torque of 44 in. lbs.<br> | Clamp the insert by tightening the clamping screw (3) to the specified torque of 44 in. lbs.<br>  |

# Mobile App

**The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.**




## FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

View product availability at global locations.

Get speed and feed information in inch and metric values for all metalcutting products.

View tech tips for helpful solutions to common machining questions.

Contact Customer Support directly from the app.

## MACHINING CALCULATORS

View data for milling and drilling applications.

Inch and metric values calculated.

## ORDERING

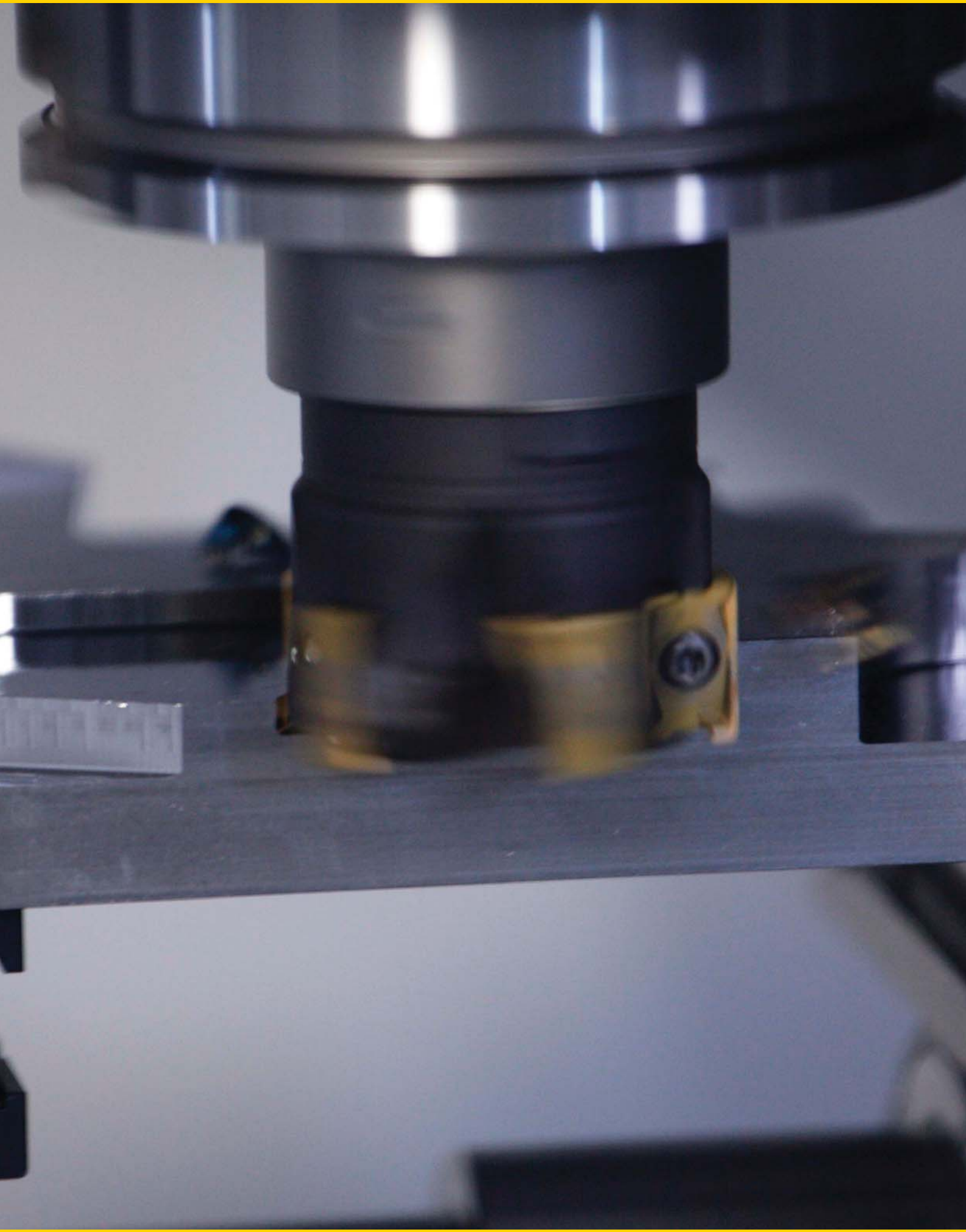
Login using your Konnect credentials to complete a purchase.

## WHERE TO FIND IT

Download the free app today from iTunes® or the Google Play™ store.

ANDROID APP ON Google play

Available on the App Store



# Indexable Milling • Shoulder Milling


**Mill 4 • Double-Sided Shoulder Milling ..... T2–T21**

Mill 4-11 ..... T2–T11

Mill 4-15 ..... T12–T21

**Mill 1 • Single-Sided Shoulder Milling ..... T22–T93**

Mill 1-7 ..... T22–T26

Mill 1-10 ..... T28–T47

Mill 1-14 ..... T48–T73

Mill 1-18 ..... T74–T86

Mill 1-25 ..... T88–T93

**Stellram 5720VZ16 Series • High-Speed Aluminum Cutting ..... T94–T104**

**KSSM • Square Shoulder Milling ..... T106–T117**

**KSSM-KSSP • Helical Square Shoulder Milling ..... T118–T124**

**Stellram 5230VS Series ..... T126–T136**

# Mill 4-11™

## One tool for all applications.

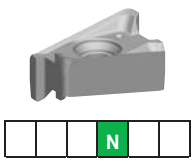
The Mill 4™ series is specially engineered to achieve excellent surface quality and higher metal removal rates in shoulder milling applications. Its unique design allows you to apply the tool in multiple passes (stepping down) with outstanding results.

From roughing to finishing operations, the Mill 4 series is applicable in a wide range of workpiece materials: steel, cast iron, stainless steel, non-ferrous materials, and high-temp alloys.

## Features and Benefits

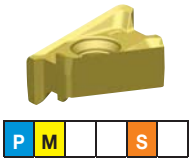
- Double-sided strong insert with 4 cutting edges.
- High positive geometry for lower cutting forces.
- Superior wall and surface finish capabilities.
- “Stepless” solution for multiple-pass operations.
- Comprehensive offering to cover all applications in all material groups.

**-ELEJ**




For non-ferrous materials.

**-EGE**

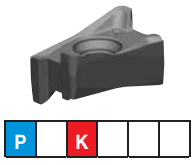



1st choice for stainless steel. Lower cutting forces.

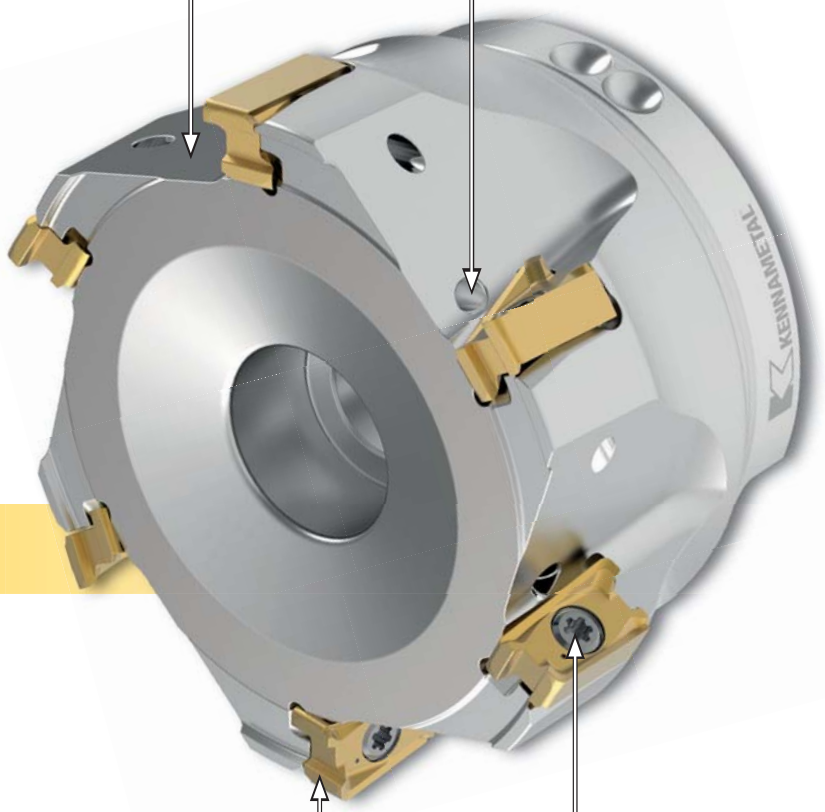
**-SGE**

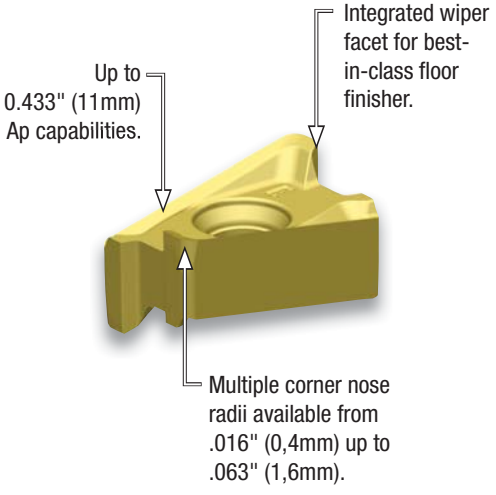
**First choice for Mill 4 platform,** especially when machining steels.

**-SGEM**

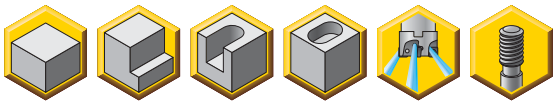


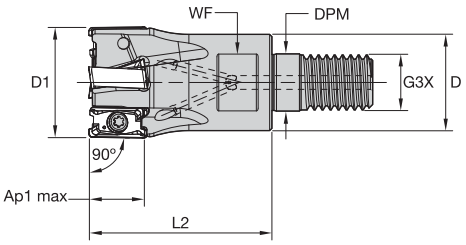

1st choice for cast iron. Strongest cutting edge.


Uneven pocket spacing.
Screw-on, end mills, and shell mill cutter with internal coolant.
KENNAMETAL
TP9 insert screw (M3) to provide higher reliability and safe processes.
Double-sided insert with 4 cutting edges.


Integrated wiper facet for best-in-class floor finisher.
Up to 0.433" (11mm) Ap capabilities.
Multiple corner nose radii available from .016" (0,4mm) up to .063" (1,6mm).

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities. Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.
- Screw-on cutters provided better rigidity and stability when used with small spindles: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.





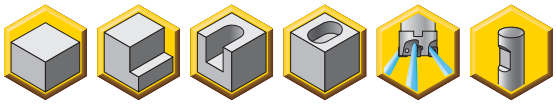
## Screw-On End Mills

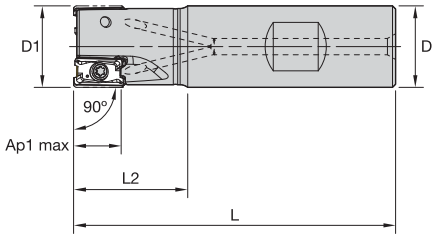
| order number | catalog number | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6139893** | **M4D075L1103M10L110** | .750 | .705 | .413 | M10 | 1.100 | 15 | .433 | 3 | .01 | 41700 |
| **6139894** | **M4D100L1104M12L125** | 1.000 | .827 | .492 | M12 | 1.250 | 17 | .433 | 4 | .19 | 33900 |
| **6139895** | **M4D125L1105M16L175** | 1.250 | 1.142 | .669 | M16 | 1.750 | 24 | .433 | 5 | .49 | 29200 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **MS2263** | 13.3 | **DT9IP** |
| 1.000 | **MS2263** | 13.3 | **DT9IP** |
| 1.250 | **MS2263** | 13.3 | **DT9IP** |

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities.
- Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.





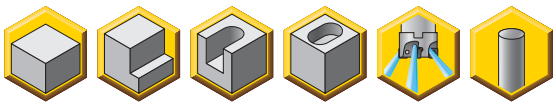
## Weldon End Mills

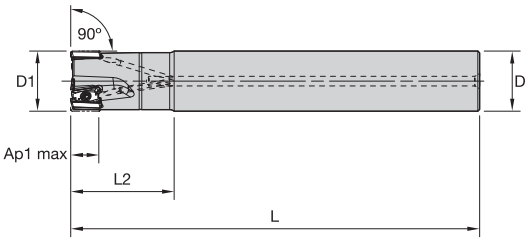
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **6139928** | **M4D062L1102W062L100** | .625 | .625 | 2.906 | 1.000 | .433 | 2 | .20 | 48000 |
| **6139929** | **M4D075L1102W075L110** | .750 | .750 | 3.130 | 1.100 | .433 | 2 | .32 | 41700 |
| **6139930** | **M4D075L1103W075L110** | .750 | .750 | 3.130 | 1.100 | .433 | 3 | .32 | 41700 |
| **6139896** | **M4D100L1103W075L175** | 1.000 | .750 | 3.780 | 1.750 | .433 | 3 | .45 | 33900 |
| **6140051** | **M4D100L1103W100L175** | 1.000 | 1.000 | 4.030 | 1.750 | .433 | 3 | .77 | 33900 |
| **6140052** | **M4D125L1104W125L225** | 1.250 | 1.250 | 4.530 | 2.250 | .433 | 4 | 1.37 | 29200 |
| **6139897** | **M4D150L1105W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .433 | 5 | 1.48 | 26200 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .625 | **MS2263** | 13.3 | **DT9IP** |
| .750 | **MS2263** | 13.3 | **DT9IP** |
| 1.000 | **MS2263** | 13.3 | **DT9IP** |
| 1.250 | **MS2263** | 13.3 | **DT9IP** |
| 1.500 | **MS2263** | 13.3 | **DT9IP** |

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities.
- Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.





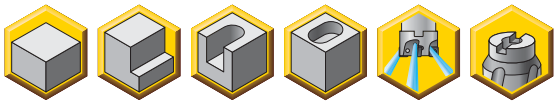
## Cylindrical End Mills

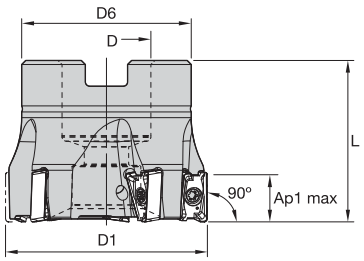
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **6140053** | **M4D062L1102C062L400** | .625 | .625 | 4.000 | 1.000 | .433 | 2 | .30 | 48000 |
| **6139898** | **M4D062L1102C062L600** | .625 | .625 | 6.000 | 1.000 | .433 | 2 | .47 | 48000 |
| **6140055** | **M4D075L1102C075L600** | .750 | .750 | 6.000 | 1.100 | .433 | 2 | .67 | 41700 |
| **6140054** | **M4D075L1103C075L400** | .750 | .750 | 4.000 | 1.100 | .433 | 3 | .43 | 41700 |
| **6139899** | **M4D075L1103C075L600** | .750 | .750 | 6.000 | 1.100 | .433 | 3 | .66 | 41700 |
| **6201903** | **M4D100L1104C075L450** | 1.000 | .750 | 4.500 | 1.750 | .433 | 4 | .53 | 33900 |
| **6140057** | **M4D100L1103C100L700** | 1.000 | 1.000 | 7.000 | 1.750 | .433 | 3 | 1.42 | 33900 |
| **6140056** | **M4D100L1104C100L450** | 1.000 | 1.000 | 4.500 | 1.750 | .433 | 4 | .87 | 33900 |
| **6139900** | **M4D100L1104C100L700** | 1.000 | 1.000 | 7.000 | 1.750 | .433 | 4 | 1.41 | 33900 |
| **6201904** | **M4D125L1105C100L500** | 1.250 | 1.000 | 5.000 | 2.250 | .433 | 5 | 1.05 | 29200 |
| **6139921** | **M4D125L1104C125L800** | 1.250 | 1.250 | 8.000 | 2.250 | .433 | 4 | 2.57 | 29200 |
| **6140058** | **M4D125L1105C125L500** | 1.250 | 1.250 | 5.000 | 2.250 | .433 | 5 | 1.55 | 29200 |

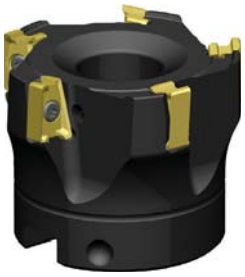
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .625 | **MS2263** | 13.3 | **DT9IP** |
| .750 | **MS2263** | 13.3 | **DT9IP** |
| 1.000 | **MS2263** | 13.3 | **DT9IP** |
| 1.250 | **MS2263** | 13.3 | **DT9IP** |

- One tool for all applications: from roughing to finishing.
- Superior wall and surface finish capabilities.
- Best choice for stepping down operations.
- Up to 0.433" (11mm) depth of cut.





## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **6140059** | **M4D150L1105S050L157** | 1.500 | .500 | 1.421 | 1.575 | .433 | 5 | .49 | 26200 |
| **6139922** | **M4D150L1106S050L157** | 1.500 | .500 | 1.421 | 1.575 | .433 | 6 | .49 | 26200 |
| **6140060** | **M4D200L1105S075L157** | 2.000 | .750 | 1.750 | 1.575 | .433 | 5 | .80 | 22100 |
| **6140061** | **M4D200L1107S075L157** | 2.000 | .750 | 1.750 | 1.575 | .433 | 7 | .81 | 22100 |
| **6140062** | **M4D250L1107S075L157** | 2.500 | .750 | 1.750 | 1.575 | .433 | 7 | 1.20 | 19500 |
| **6139923** | **M4D250L1107S100L157** | 2.500 | 1.000 | 2.190 | 1.575 | .433 | 7 | 1.28 | 19500 |
| **6140063** | **M4D300L1108S100L175** | 3.000 | 1.000 | 2.190 | 1.750 | .433 | 8 | 2.01 | 17600 |
| **6139924** | **M4D300L1108S125L175** | 3.000 | 1.250 | 2.665 | 1.750 | .433 | 8 | 2.13 | 17600 |

## Spare Parts

| D1 | D | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|---|
| 1.500 | .500 | **MS2263** | 13.3 | **DT9IP** | **S424** |
| 2.000 | .750 | **MS2263** | 13.3 | **DT9IP** | **S445** |
| 2.500 | .750 | **MS2263** | 13.3 | **DT9IP** | **S445** |
| 2.500 | 1.000 | **MS2263** | 13.3 | **DT9IP** | **S458** |
| 3.000 | 1.000 | **MS2263** | 13.3 | **DT9IP** | **S458** |
| 3.000 | 1.250 | **MS2263** | 13.3 | **DT9IP** | **S467** |

## Insert Selection Guide

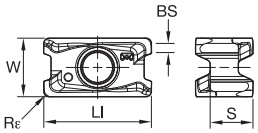
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GE | KCPM40 | **.S..GE** | **KCPM40** | .S..GEM | KCPM40 |
| P3–P4 | .E..GE | KCPM40 | **.S..GE** | **KCPM40** | .S..GEM | KCPM40 |
| P5–P6 | .E..GE | KC725M | **.S..GE** | **KC725M** | .S..GEM | KCPM40 |
| M1–M2 | .E..GE | KCSM40 | **.S..GE** | **KCSM40** | .S..GEM | KC522M |
| M3 | .E..GE | KCPM40 | **.S..GE** | **KCPM40** | .S..GEM | KCPM40 |
| K1–K2 | .S..GE | KC520M | **.S..GE** | **KCK15** | .S..GEM | KCK15 |
| K3 | .S..GE | KC520M | **.S..GE** | **KCK15** | .S..GEM | KC520M |
| N1–N2 | .E..LEJ | KC422M | **.E..LEJ** | **KC422M** | .E..LEJ | KC422M |
| N3 | .E..LEJ | KC422M | **.E..LEJ** | **KC422M** | .E..LEJ | KC422M |
| S1–S2 | .E..GE | KCSM40 | **.S..GE** | **KC725M** | .S..GE | KCSM40 |
| S3 | .E..GE | KCSM40 | **.S..GE** | **KCSM40** | .S..GE | KCSM40 |
| S4 | .E..GE | KCSM40 | **.S..GE** | **KCSM40** | .S..GE | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

## Indexable Inserts • Mill 4-11

● first choice
○ alternate choice

| | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ |
| M | | | ● | ● | | ○ | ● | ○ | ● |
| K | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | |
| S | | | ● | ● | | | ○ | ● | ● |
| H | | | | | | | | | |

LNGU11-ELEJ




LNGU11-ELEJ

## LNGU11-ELEJ • For Aluminum and Other Non-Ferrous Alloys

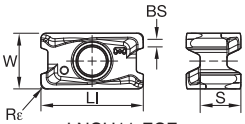
| catalog number | LI | S | W | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU431ERLEJ** | .479 | .190 | .260 | .054 | .016 | .002 | 4 | ● | – | – | – | – | – | – | – | – |
| **LNGU432ERLEJ** | .479 | .190 | .260 | .039 | .031 | .002 | 4 | ● | – | – | – | – | – | – | – | – |

- -EGE is the first choice for stainless steel and high-temp alloys.
- Use -EGE geometry for the highest finishing requirements in light machining for all materials.

● first choice
○ alternate choice

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ |
| M | | | ● | ● | | ○ | ● | ○ | ● |
| K | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | |
| S | | | ● | ● | | | ○ | ● | ● |
| H | | | | | | | | | |

LNGU11-EGE



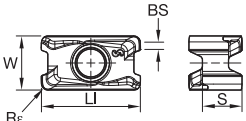

LNGU11-EGE

## LNGU11-EGE • Precision Ground • For Stainless Steel and High-Temp Alloys

| catalog number | LI | S | W | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU431ERGE** | .479 | .190 | .260 | .054 | .016 | .003 | 4 | – | – | ● | ● | – | – | ● | – | – |
| **LNGU432ERGE** | .479 | .190 | .260 | .039 | .031 | .003 | 4 | – | – | ● | ● | – | – | ● | ● | ● |
| **LNGU433ERGE** | .479 | .190 | .260 | .025 | .047 | .003 | 4 | – | – | ● | – | – | – | ● | – | ● |

- -SGE is the universal geometry for Mill 4-11. First choice when machining steel, as well as stainless steel, and high-temp alloys in heavy applications.
- Precision ground insert results in a great versatility for both roughing and finishing operations.

LNGU11-SGE




LNGU11-SGE

## LNGU11-SGE • Precision Ground • Universal Geometry • General Purpose for Roughing and Finishing Operations

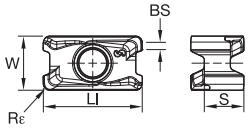
| catalog number | LI | S | W | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU431SRGE** | .479 | .190 | .260 | .054 | .016 | .004 | 4 | – | – | ● | – | – | – | ● | – | ● |
| **LNGU432SRGE** | .479 | .190 | .260 | .039 | .031 | .004 | 4 | – | – | ● | ● | ● | ● | ● | – | ● |

- -SGE is the universal geometry for Mill 4-11. First choice when machining steel, as well as stainless steel, and high-temp alloys in heavy applications.
- Precision-pressed insert is a perfect choice for roughing operations with a better cost-per-edge and great surface quality.

● first choice
○ alternate choice

| | | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ● | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | ○ | ● | ● |
| H | | | | | | | | | | |

LNPU11-SGE

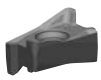


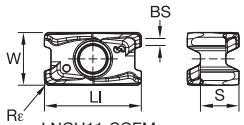
LNPU11-SGE

## LNPU11-SGE • Precision Pressed • General Purpose for Roughing and Semi-Finishing Operations

| catalog number | LI | S | W | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU432SRGE** | .476 | .190 | .260 | .036 | .031 | .004 | 4 | – | ● | ● | ● | ● | ● | ● | – | – |
| **LNPU433SRGE** | .476 | .190 | .260 | .021 | .047 | .004 | 4 | – | ● | ● | ● | ● | ● | ● | – | – |
| **LNPU434SRGE** | .476 | .190 | .260 | .001 | .063 | .004 | 4 | – | ● | ● | ● | – | ● | ● | – | – |

- -SGEM geometry is the first choice for cast iron machining in medium and heavy applications.
- -M stands for margins, which are used to reinforce the geometry.


LNGU11-SGEM



LNGU11-SGEM

## LNGU11-SGEM • Precision Ground • For Cast Iron and Heavy Applications

| catalog number | LI | S | W | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU432SRGEM** | .479 | .190 | .260 | .036 | .031 | .004 | 4 | – | ● | ● | – | ● | ● | ● | – | – |
| **LNGU433SRGEM** | .479 | .190 | .260 | .022 | .047 | .004 | 4 | – | ● | – | – | ● | ● | ● | – | – |
| **LNGU434SRGEM** | .479 | .190 | .260 | .004 | .063 | .004 | 4 | – | ● | – | – | ● | ● | ● | – | – |



## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .005 | **.014** | .023 | .004 | **.010** | .017 | .003 | **.008** | .012 | .002 | **.007** | .011 | .002 | **.006** | .010 | .E..LEJ |
| .E..GE | .009 | **.016** | .022 | .007 | **.012** | .016 | .005 | **.009** | .012 | .004 | **.008** | .010 | .004 | **.007** | .010 | .E..GE |
| .S..GE | .009 | **.018** | .025 | .007 | **.013** | .018 | .005 | **.010** | .014 | .004 | **.009** | .012 | .004 | **.008** | .011 | .S..GE |
| .S..GEM | .009 | **.018** | .028 | .007 | **.013** | .020 | .005 | **.010** | .015 | .004 | **.009** | .013 | .004 | **.008** | .012 | .S..GEM |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# Mill 4-11 Starter Kits

Order one of our starting kits and test the performance of our new Mill 4 platform. The kits are set up to serve the majority of shoulder milling applications, delivered with a cutter body as well as 20 inserts from a premium Kennametal grade.

Detailed order information can be found in the table below.

## Order one Mill 4 Kit and experience the next level of shoulder milling!

### Mill 4-11 Starter Kits • Inch

| order number | catalog number | cutter diameter/ flutes | cutter type | material group | application range | content | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | cutter | quantity | insert | grade | quantity |
| 6214774 | M4-11KITD062Z2W062SGEKCPM40 | 0.62z2 | Weldon | P | ∇/∇∇ | M4D062L1102W062L100 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214775 | M4-11KITD062Z2C062SGEKCPM40 | 0.62z2 | Cylindrical | P | ∇/∇∇ | M4D062L1102C062L400 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214776 | M4-11KITD075Z2W075SGEKCPM40 | 0.75z2 | Weldon | P | ∇/∇∇ | M4D075L1102W075L110 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214777 | M4-11KITD075Z3W075SGEKCPM40 | 0.75z3 | Weldon | P | ∇/∇∇ | M4D075L1103W075L110 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214778 | M4-11KITD075Z3C075SGEKCPM40 | 0.75z3 | Cylindrical | P | ∇/∇∇ | M4D075L1103C075L400 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214779 | M4-11KITD100Z3W100SGEKCPM40 | 1.00z3 | Weldon | P | ∇/∇∇ | M4D100L1103W100L175 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214780 | M4-11KITD100Z4C100SGEKCPM40 | 1.00z4 | Cylindrical | P | ∇/∇∇ | M4D100L1104C100L450 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214801 | M4-11KITD125Z4W125SGEKCPM40 | 1.25z4 | Weldon | P | ∇/∇∇ | M4D125L1104W125L225 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214802 | M4-11KITD125Z5C125SGEKCPM40 | 1.25z5 | Cylindrical | P | ∇/∇∇ | M4D125L1105C125L500 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214803 | M4-11KITD150Z5S050SGEKCPM40 | 1.50z5 | Shell Mill | P | ∇/∇∇ | M4D150L1105S050L157 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214804 | M4-11KITD200Z5S075SGEKCPM40 | 2.00z5 | Shell Mill | P | ∇/∇∇ | M4D200L1105S075L157 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214805 | M4-11KITD200Z7S075SGEKCPM40 | 2.00z7 | Shell Mill | P | ∇/∇∇ | M4D200L1107S075L157 | 1 | LNPU110408SRGE | KCPM40 | 20 |
| 6214806 | M4-11KITD062Z2W062SGEKC725M | 0.62z2 | Weldon | M+S | ∇∇/∇∇∇ | M4D062L1102W062L100 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214807 | M4-11KITD062Z2C062SGEKC725M | 0.62z2 | Cylindrical | M+S | ∇∇/∇∇∇ | M4D062L1102C062L400 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214808 | M4-11KITD075Z3W075SGEKC725M | 0.75z3 | Weldon | M+S | ∇∇/∇∇∇ | M4D075L1103W075L110 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214809 | M4-11KITD075Z3C075SGEKC725M | 0.75z3 | Cylindrical | M+S | ∇∇/∇∇∇ | M4D075L1103C075L400 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214810 | M4-11KITD100Z3W100SGEKC725M | 1.00z3 | Weldon | M+S | ∇∇/∇∇∇ | M4D100L1103W100L175 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214821 | M4-11KITD100Z4C100SGEKC725M | 1.00z4 | Cylindrical | M+S | ∇∇/∇∇∇ | M4D100L1104C100L450 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214822 | M4-11KITD125Z4W125SGEKC725M | 1.25z4 | Weldon | M+S | ∇∇/∇∇∇ | M4D125L1104W125L225 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214823 | M4-11KITD125Z5C125SGEKC725M | 1.25z5 | End Mill | M+S | ∇∇/∇∇∇ | M4D125L1105C125L500 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214824 | M4-11KITD150Z5S050SGEKC725M | 1.50z5 | Shell Mill | M+S | ∇∇/∇∇∇ | M4D150L1105S050L157 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214825 | M4-11KITD200Z5S075SGEKC725M | 2.00z5 | Shell Mill | M+S | ∇∇/∇∇∇ | M4D200L1105S075L157 | 1 | LNGU110408ERGE | KC725M | 20 |
| 6214826 | M4-11KITD200Z7S075SGEKC725M | 2.00z7 | Shell Mill | M+S | ∇∇/∇∇∇ | M4D200L1107S075L157 | 1 | LNGU110408ERGE | KC725M | 20 |

∇ Heavy/Roughing
∇∇ Medium
∇∇∇ Light machining/Finishing

# Mill 4-15™ • Double-Sided Shoulder Milling

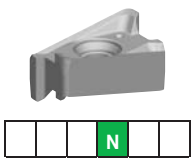
## Primary Application

The Mill 4-15 series is specially engineered to achieve excellent surface quality and higher material removal rates in shoulder milling applications. Its unique design enables multiple passes (stepping down) with outstanding results. The Mill 4™ platform is applicable in a wide range of workpiece materials: steel, cast iron, stainless steel, and titanium, from roughing to finishing operations.

## Features and Benefits

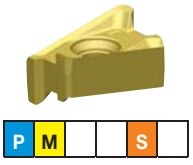
- Double-sided strong insert with 4 cutting edges.
- High positive geometry for lower cutting forces.
- Superior wall and surface finish capabilities.
- "Stepless" solution. No mismatch when machining walls in different steps.

**-EGEJ**




For non-ferrous materials.

**-EGE**

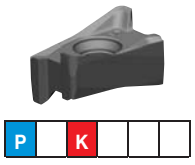



1st choice for stainless steel. Lower cutting forces.

**-SGE**

**First choice for Mill 4 platform,** especially when machining steels.

**-SGEM**

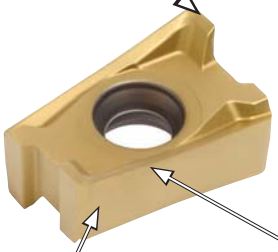



1st choice for cast iron. Strongest cutting edge.

Screw-on, end mill, and shell mill cutters with effective internal coolant supply.

State-of-the-art stepping down capabilities — "stepless" solution.

Multiple corner nose radii available.

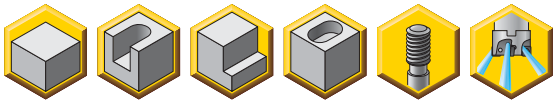


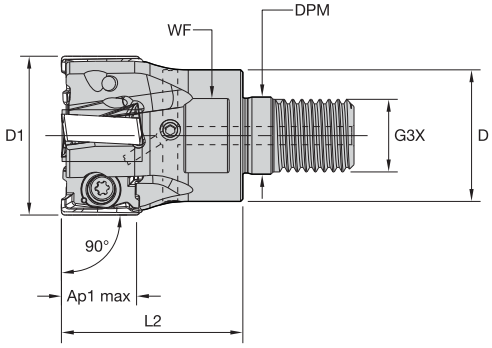
Up to .610" (15,5mm) depth-of-cut capabilities.

Innovative cutting geometry to provide superior wall and surface finish capabilities.

Integrated wiper facet for best-in-class floor finishing.

- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.





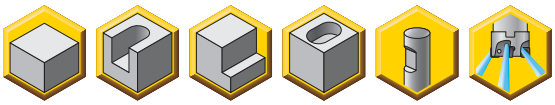
## Screw-On End Mills

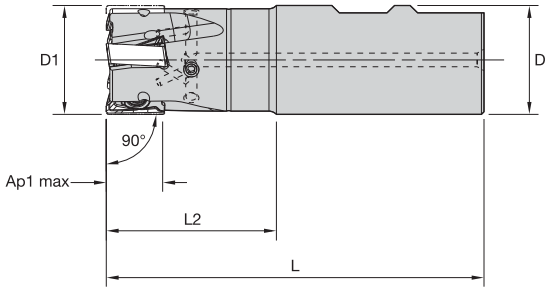
| order number | catalog number | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5568064** | **M4D100L1502M12L125** | 1.000 | .827 | .492 | M12 | 1.250 | 17 | .610 | 2 | .73 | 26300 |
| **5568065** | **M4D125L1503M16L175** | 1.250 | 1.142 | .669 | M16 | 1.750 | 24 | .610 | 3 | .44 | 22100 |
| **5568066** | **M4D150L1504M16L175** | 1.500 | 1.142 | .669 | M16 | 1.750 | 24 | .610 | 4 | .52 | 19500 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS-2071** | 31.0 | **DT15IP** |
| 1.250 | **MS-2071** | 31.0 | **DT15IP** |
| 1.500 | **MS-2071** | 31.0 | **DT15IP** |

- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.





## Weldon® End Mills

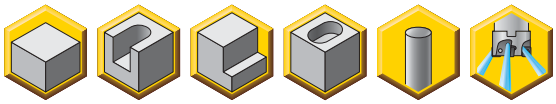
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **5568067** | **M4D100L1502W075L175** | 1.000 | .750 | 3.780 | 1.750 | .610 | 2 | .73 | 26300 |
| **5544366** | **M4D100L1502W100L175** | 1.000 | 1.000 | 4.030 | 1.750 | .610 | 2 | .73 | 26300 |
| **5544367** | **M4D125L1503W100L225** | 1.250 | 1.000 | 4.530 | 2.250 | .610 | 3 | .90 | 22100 |
| **5568068** | **M4D125L1503W125L225** | 1.250 | 1.250 | 4.530 | 2.250 | .610 | 3 | 1.30 | 22100 |
| **5568069** | **M4D150L1503W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .610 | 3 | 1.41 | 19500 |
| **5544368** | **M4D150L1504W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .610 | 4 | 1.41 | 19500 |

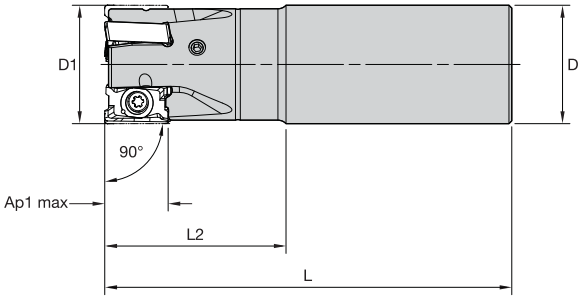
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS-2071** | 31 | **DT15IP** |
| 1.250 | **MS-2071** | 31 | **DT15IP** |
| 1.500 | **MS-2071** | 31 | **DT15IP** |

NOTE: Weldon type not recommended for finishing operations.

- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.





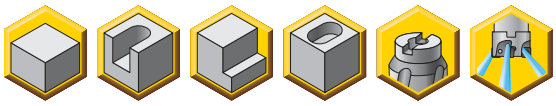
## Cylindrical End Mills

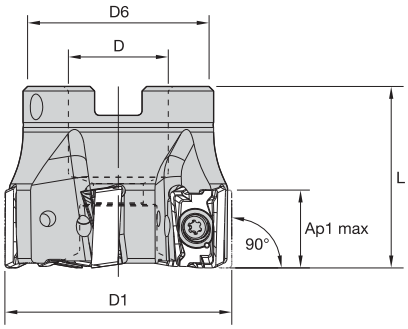
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **5544369** | **M4D100L1502C100L800** | 1.000 | 1.000 | 8.000 | 1.750 | .610 | 2 | 1.59 | 26300 |
| **5568080** | **M4D100L1502C100L1000** | 1.000 | 1.000 | 10.000 | 1.750 | .610 | 2 | 2.03 | 26300 |
| **5544400** | **M4D125L1503C125L800** | 1.250 | 1.250 | 8.000 | 2.250 | .610 | 3 | 2.50 | 22100 |
| **5568081** | **M4D125L1503C125L1000** | 1.250 | 1.250 | 10.000 | 2.250 | .610 | 3 | 3.18 | 22100 |
| **5544401** | **M4D150L1504C125L800** | 1.500 | 1.250 | 8.000 | 2.250 | .610 | 4 | 2.60 | 19500 |
| **5568082** | **M4D150L1504C125L1000** | 1.500 | 1.250 | 10.000 | 2.250 | .610 | 4 | 3.29 | 19500 |

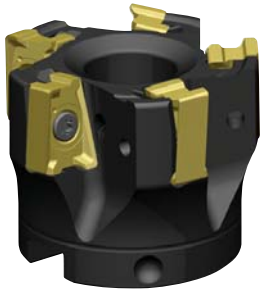
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS-2071** | 31.0 | **DT15IP** |
| 1.250 | **MS-2071** | 31.0 | **DT15IP** |
| 1.500 | **MS-2071** | 31.0 | **DT15IP** |

- Superior wall and surface finish capabilities.
- True 90° capabilities. Stepless solution when using multiple steps.
- Engineered to run up to .610" (15,5mm) depth of cut.
- Effective internal coolant feature, reaching the cutting edge precisely.





## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| 5544402 | M4D150L1505S050L157 | 1.500 | .500 | 1.420 | 1.575 | .610 | 5 | .43 | 19500 |
| 5702499 | M4D200L1504S075L175 | 2.000 | .750 | 1.750 | 1.575 | .610 | 4 | .78 | 16100 |
| 5544403 | M4D200L1505S075L157 | 2.000 | .750 | 1.750 | 1.575 | .610 | 5 | .73 | 16100 |
| 5544404 | M4D200L1506S075L157 | 2.000 | .750 | 1.750 | 1.575 | .610 | 6 | .71 | 16100 |
| 5568083 | M4D250L1505S075L157 | 2.500 | .750 | 1.750 | 1.575 | .610 | 5 | 1.09 | 14100 |
| 5544405 | M4D250L1506S075L157 | 2.500 | .750 | 1.750 | 1.575 | .610 | 6 | 1.05 | 14100 |
| 5568084 | M4D250L1507S100L175 | 2.500 | 1.000 | 2.190 | 1.750 | .610 | 7 | 1.31 | 14100 |
| 5702495 | M4D300L1505S100L175 | 3.000 | 1.000 | 2.190 | 1.750 | .610 | 5 | 1.86 | 12700 |
| 5544406 | M4D300L1507S100L175 | 3.000 | 1.000 | 2.190 | 1.750 | .610 | 7 | 1.82 | 12700 |
| 5568085 | M4D300L1509S100L175 | 3.000 | 1.000 | 2.190 | 1.750 | .610 | 9 | 1.85 | 12700 |
| 5544407 | M4D300L1508S125L200 | 3.000 | 1.250 | 2.665 | 2.000 | .610 | 8 | 2.22 | 12700 |
| 5702496 | M4D400L1506S150L200 | 4.000 | 1.500 | 3.380 | 2.000 | .610 | 6 | 3.33 | 10800 |
| 5568086 | M4D400L1508S150L200 | 4.000 | 1.500 | 3.380 | 2.000 | .610 | 8 | 3.31 | 10800 |
| 5544408 | M4D400L1511S150L200 | 4.000 | 1.500 | 3.380 | 2.000 | .610 | 11 | 3.25 | 10800 |
| 5702500 | M4D500L1507S150L238 | 5.000 | 1.500 | 3.907 | 2.380 | .610 | 7 | 6.91 | 9600 |
| 5613026 | M4D500L1509S150L238 | 5.000 | 1.500 | 3.907 | 2.380 | .610 | 9 | 6.84 | 9660 |
| 5613027 | M4D500L1512S150L238 | 5.000 | 1.500 | 3.907 | 2.380 | .610 | 12 | 6.98 | 9660 |
| 5702497 | M4D600L1508S200L238 | 6.000 | 2.000 | 4.880 | 2.380 | .610 | 8 | 12.20 | 8600 |
| 5613028 | M4D600L1510S200L238 | 6.000 | 2.000 | 4.880 | 2.380 | .610 | 10 | 9.55 | 8600 |
| 5702498 | M4D600L1512S200L238 | 6.000 | 2.000 | 4.880 | 2.380 | .610 | 12 | 12.09 | 8600 |

## Spare Parts

| D1 | D | insert screw | in. lbs. | Torx Plus driver | coolant lock screw | coolant lock screw assembly |
|---|---|---|---|---|---|---|
| 1.500 | .500 | MS-2071 | 31.0 | DT15IP | – | – |
| 2.000 | .750 | MS-2071 | 31.0 | DT15IP | – | – |
| 2.500 | .750 | MS-2071 | 31.0 | DT15IP | – | – |
| 2.500 | 1.000 | MS-2071 | 31.0 | DT15IP | – | – |
| 3.000 | 1.000 | MS-2071 | 31.0 | DT15IP | – | – |
| 3.000 | 1.250 | MS-2071 | 31.0 | DT15IP | – | – |
| 3.000 | 1.000 | MS-2071 | 31.0 | DT15IP | – | – |
| 4.000 | 1.500 | MS-2071 | 31.0 | DT15IP | 420.201 | S2165C |
| 5.000 | 1.500 | MS-2071 | 31.0 | DT15IP | 420.201 | S2165C |
| 6.000 | 2.000 | MS-2071 | 31.0 | DT15IP | 420.241 | S2192C |

NOTE: Coolant lock screw assembly must be ordered separately.

## Insert Selection Guide

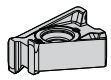
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GE | KCPM40 | **.S..GE** | **KCPM40** | .S..GEM | KCPM40 |
| P3–P4 | .E..GE | KCPM40 | **.S..GE** | **KCPK30** | .S..GEM | KCPK30 |
| P5–P6 | .E..GE | KC725M | **.S..GE** | **KC725M** | .S..GEM | KCPK30 |
| M1–M2 | .E..GE | KCSM40 | **.S..GE** | **KCSM40** | .S..GEM | KCPM40 |
| M3 | .E..GE | KCPM40 | **.S..GE** | **KCPM40** | .S..GEM | KCPM40 |
| K1–K2 | .S..GE | KC520M | **.S..GE** | **KCK15** | .S..GEM | KC520M |
| K3 | .S..GE | KC520M | **.S..GE** | **KCK15** | .S..GEM | KC520M |
| N1–N2 | .E..GEJ | KC422M | **.E..GEJ** | **KC422M** | .E..GEJ | KC422M |
| N3 | .E..GEJ | KC422M | **.E..GEJ** | **KC422M** | .E..GEJ | KC422M |
| S1–S2 | .E..GE | KC725M | **.S..GE** | **KC725M** | .S..GE | KC725M |
| S3 | .E..GE | KCSM40 | **.S..GE** | **KCSM40** | .S..GE | KCSM40 |
| S4 | .E..GE | KCSM40 | **.S..GE** | **KCSM40** | .S..GE | KCSM40 |
| H1 | – | – | – | – | – | – |

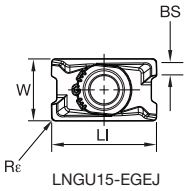
## Indexable Inserts • Mill 4-15™

- -EGEJ is the first choice for roughing and finishing of aluminum and other non-ferrous alloys.

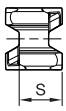
● first choice
○ alternate choice

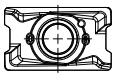
| | | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ● | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | ○ | ● | ● |
| H | | | | | | | | | | |


LNGU15-EGEJ



LNGU15-EGEJ

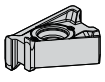


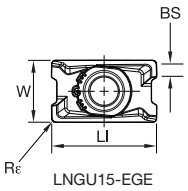


Back view

### LNGU15-EGEJ • For Aluminum and Other Non-Ferrous Alloys

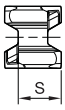
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU541ERGEJ** | .670 | .394 | .274 | .087 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **LNGU542ERGEJ** | .670 | .394 | .274 | .072 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – |

- -EGE is the first choice for stainless steel and high-temp alloys.
- Best choice for finishing operations in steels, stainless steels, and high-temp alloys.


LNGU15-EGE



LNGU15-EGE




### LNGU15-EGE • Precision Ground • For Stainless Steel and High-Temp Alloys

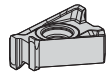
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU541ERGE** | .670 | .394 | .274 | .087 | .016 | .003 | 4 | – | – | ● | ● | – | – | ● | ● | – |
| **LNGU542ERGE** | .670 | .394 | .274 | .072 | .031 | .003 | 4 | – | – | ● | ● | – | – | ● | ● | ● |
| **LNGU543ERGE** | .670 | .394 | .274 | .057 | .047 | .003 | 4 | – | – | ● | ● | – | – | ● | ● | ● |
| **LNGU544ERGE** | .670 | .394 | .274 | .042 | .063 | .003 | 4 | – | – | – | ● | – | – | ● | ● | – |

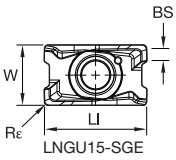
- -SGE is the universal geometry for Mill 4-15.
- First choice when machining steel.
- Suitable for stainless steel and high-temp alloys in medium-heavy applications.

beyond

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ● | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | | |
| S | | | | ● | ● | | | ○ | ● | ● |
| H | | | | | | | | | | |

● first choice
○ alternate choice


LNGU15-SGE

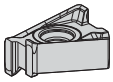


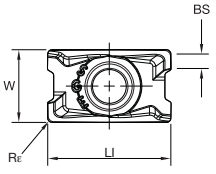
LNGU15-SGE

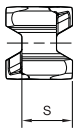
## LNGU15-SGE • Precision Ground • For Steel Machining, Finishing, and Light Roughing

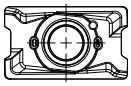
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU541SRGE** | .669 | .394 | .274 | .086 | .016 | .004 | 4 | – | ● | ● | ● | ● | ● | – | – | – |
| **LNGU542SRGE** | .670 | .394 | .274 | .071 | .031 | .004 | 4 | – | ● | ● | ● | ● | ● | – | – | ● |
| **LNGU543SRGE** | .670 | .394 | .274 | .056 | .047 | .004 | 4 | – | ● | ● | ● | ● | ● | – | – | ● |
| **LNGU544SRGE** | .670 | .394 | .274 | .042 | .063 | .004 | 4 | – | ● | ● | ● | ● | ● | – | – | – |

- -SGE is the first choice for machining steel, as well as stainless steel and high-temp alloys in heavy applications.


LNPU15-SGE



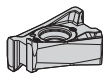


Back View

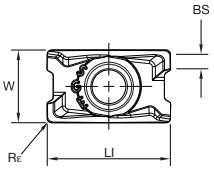
LNPU15-SGE

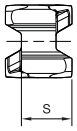
## LNPU15-SGE • Precision Pressed • For Steel Machining in Medium-Heavy Roughing

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNPU541SRGE** | .665 | .394 | .274 | .085 | .016 | .004 | 4 | – | ● | ● | ● | ● | ● | – | – | – |
| **LNPU542SRGE** | .665 | .394 | .274 | .070 | .031 | .004 | 4 | – | ● | ● | ● | ● | ● | ● | – | – |
| **LNPU543SRGE** | .665 | .394 | .274 | .058 | .047 | .004 | 4 | – | ● | ● | ● | – | ● | ● | – | – |
| **LNPU544SRGE** | .666 | .394 | .274 | .042 | .063 | .004 | 4 | – | ● | ● | ● | ● | ● | ● | – | – |
| **LNPU545SRGE** | .666 | .394 | .274 | .028 | .078 | .004 | 4 | – | – | ● | ● | ● | ● | ● | – | – |

- -SGEM geometry is the first choice for cast iron machining in medium and heavy applications


LNGU15-SGEM



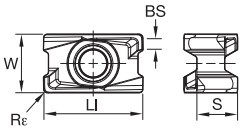

LNGU15-SGEM

## LNGU15-SGEM • For Cast Iron Machining

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNGU542SRGEM** | .670 | .394 | .274 | .067 | .031 | .004 | 4 | – | ● | – | – | ● | ● | ● | – | – |
| **LNGU543SRGEM** | .670 | .394 | .274 | .053 | .047 | .004 | 4 | – | ● | – | – | ● | – | ● | – | – |
| **LNGU544SRGEM** | .670 | .394 | .274 | .037 | .064 | .004 | 4 | – | ● | – | – | ● | ● | ● | – | – |
| **LNGU545SRGEM** | .670 | .394 | .274 | .013 | .078 | .004 | 4 | – | ● | – | – | ● | ● | ● | – | – |

- H stands for helical.
- Insert specially design to fit in helical cutters (porcupine).

LNGU15-SGEH



LNGU15-SGEH

● first choice
○ alternate choice

beyond

| | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ |
| M | | | ● | ● | | ○ | ● | ○ | ● |
| K | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | |
| S | | | ● | ● | | | ○ | ● | ● |
| H | | | | | | | | | |

## LNGU15-SGEH • For Mill 4-15 Helical Cutters (Porcupine Style)

| catalog number | LI | W | S | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **LNGU542SRGEH** | .670 | .394 | .274 | .071 | .031 | .004 | 4 |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40%-100% | | | |
| .E..GEJ | .005 | **.019** | .034 | .003 | **.014** | .024 | .003 | **.010** | .018 | .002 | **.009** | .016 | .002 | **.008** | .014 | .E..GEJ |
| .E..GE | .009 | **.020** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.009** | .016 | .004 | **.009** | .015 | .E..GE |
| .S..GE | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GE |
| .S..GEM | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GEM |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# Mill 4-15 Starter Kits

Order one of our starting kits and test the performance of our new Mill 4 platform. The kits are set up to serve the majority of shoulder milling applications and workpiece materials, delivered with a cutter body as well as 20 inserts from a premium Kennametal grade.

## Order one Mill 4 kit, and experience the next level of shoulder milling!

Detailed order information can be found in the table below:

### Mill 4-15 Inch Starter Kits

| material group | order number | catalog number | cutter kit | application range | content | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | cutter | qty | insert | grade | qty |
| P | 5972205 | M4KITD100Z02W100SGEKCPM40 | D1.00 x z2 | ∇∇ | M4D100L1502W100L175 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972206 | M4KITD125Z03W100SGEKCPM40 | D1.50 x z3 | ∇∇ | M4D125L1503W100L225 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972207 | M4KITD150Z04W125SGEKCPM40 | D1.50 x z4 | ∇∇ | M4D150L1504W125L225 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972208 | M4KITD150Z05S050SGEKCPM40 | D1.50 x z5 | ∇∇ | M4D150L1505S050L157 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972209 | M4KITD200Z05S075SGEKCPM40 | D2.00 x z5 | ∇∇ | M4D200L1505S075L157 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972210 | M4KITD200Z06S075SGEKCPM40 | D2.00 x z6 | ∇∇ | M4D200L1506S075L157 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972351 | M4KITD250Z06S075SGEKCPM40 | D2.50 x z6 | ∇∇ | M4D250L1506S075L157 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972352 | M4KITD300Z07S100SGEKCPM40 | D3.00 x z7 | ∇∇ | M4D300L1507S100L175 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| P | 5972353 | M4KITD400Z08S150SGEKCPM40 | D4.00 x z8 | ∇∇ | M4D400L1508S150L200 | 1 | LNPU15T608SRGE | KCPM40 | 20 |
| M + S | 5972354 | M4KITD100Z02C100EGEKC725M | D1.00 x z2 | ∇∇∇ | M4D100L1502C100L800 | 1 | LNGU15T608ERGE | KC725M | 20 |
| M + S | 5972355 | M4KITD125Z03C125EGEKC725M | D1.25 x z3 | ∇∇∇ | M4D125L1503C125L800 | 1 | LNGU15T608ERGE | KC725M | 20 |
| M + S | 5972356 | M4KITD150Z05S050EGEKC725M | D1.50 x z5 | ∇∇∇ | M4D150L1505S050L157 | 1 | LNGU15T608ERGE | KC725M | 20 |
| M + S | 5972357 | M4KITD200Z05S075EGEKC725M | D2.00 x z5 | ∇∇∇ | M4D200L1505S075L157 | 1 | LNGU15T608ERGE | KC725M | 20 |
| M + S | 5972358 | M4KITD200Z06S075EGEKC725M | D2.00 x z6 | ∇∇∇ | M4D200L1506S075L157 | 1 | LNGU15T608ERGE | KC725M | 20 |
| M + S | 5972359 | M4KITD250Z06S075EGEKC725M | D2.50 x z6 | ∇∇∇ | M4D250L1506S075L157 | 1 | LNGU15T608ERGE | KC725M | 20 |
| M + S | 5972360 | M4KITD300Z07S100EGEKC725M | D3.00 x z7 | ∇∇∇ | M4D300L1507S100L175 | 1 | LNGU15T608ERGE | KC725M | 20 |
| K | 5972371 | M4KITD100Z02W100SGEMKC520M | D1.00 x z2 | ∇ | M4D100L1502W100L175 | 1 | LNGU15T608SRGEM | KC520M | 20 |
| K | 5972372 | M4KITD125Z03W100SGEMKC520M | D1.25 x z3 | ∇ | M4D125L1503W100L225 | 1 | LNGU15T608SRGEM | KC520M | 20 |
| K | 5972373 | M4KITD150Z05S050SGEMKC520M | D1.50 x z5 | ∇ | M4D150L1505S050L157 | 1 | LNGU15T608SRGEM | KC520M | 20 |
| K | 5972374 | M4KITD200Z06S075SGEMKC520M | D2.00 x z6 | ∇ | M4D200L1506S075L157 | 1 | LNGU15T608SRGEM | KC520M | 20 |
| K | 5972375 | M4KITD250Z07S075SGEMKC520M | D2.50 x z7 | ∇ | M4D250L1507S100L175 | 1 | LNGU15T608SRGEM | KC520M | 20 |
| K | 5972376 | M4KITD300Z09S100SGEMKC520M | D3.00 x z9 | ∇ | M4D300L1509S100L175 | 1 | LNGU15T608SRGEM | KC520M | 20 |
| K | 5972377 | M4KITD400Z11S150SGEMKC520M | D4.00 x z11 | ∇ | M4D400L1511S150L200 | 1 | LNGU15T608SRGEM | KC520M | 20 |

∇ Heavy/Roughing
∇∇ Medium
∇∇∇ Light machining/Finishing

# Mill 1-7™

## Primary Application

Mill 1-7 is engineered for small-component machining and covers multiple applications, including ramping, slotting, and plunging. Mill 1-7 tools provide solutions for roughing and finishing operations in energy, aerospace, and general engineering, where small-diameter end mills are required.

## Features and Benefits

- Mill 1-7 inserts enable the use of higher density cutters, providing greater feed and higher metal removal rates.
- Super positive rake provides soft action and low cutting forces for smooth entry and exit from the component. Run at higher feed rates while using less power.
- Inserts are designed with elliptical cutting edges and are optimized for a straight 90° wall.
- Inserts are available in five grades: KC725M™, KCSM30™, KCPM40™, KCPK30™, and KC522M™.
- Ramping, slotting, and plunging capabilities in one platform.

# High-Performance Shoulder Mill

20º rake face angle and 13º clearance angle for soft cutting action and reduced cutting forces.

Internal coolant/air supply.

All pockets are machined into heat-treated material, which guarantees runout and pocket strength.

Elliptical edge generates 90º wall.

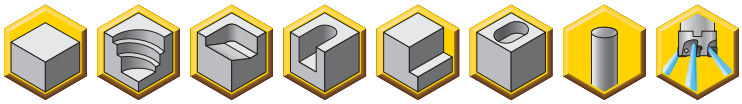
Chip gash designed for excellent chip evacuation.

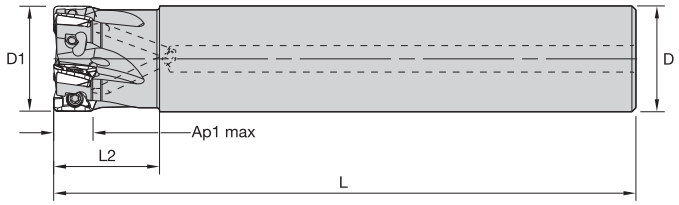
Margin along the main cutting edge and wiper facet for extra strength.

Insert screw: Torx 6.

Increase ramping capability up to 5.5º.

- Mill 90° walls.
- Aggressive ramping rates.
- High speed machining.
- Ramp, slot, plunge, face, and shoulder milling.





## Cylindrical End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **5190087** | **M1D050E0702C050L400** | .500 | .500 | 4.000 | .750 | .274 | 2 | 4.6° | .19 | 62680 |
| **5190088** | **M1D062E0703C062L500** | .620 | .625 | 5.000 | 1.000 | .275 | 3 | 3.0° | .37 | 56010 |
| **5190089** | **M1D075E0705C075L600** | .745 | .750 | 6.000 | 1.000 | .273 | 5 | 2.2° | .66 | 51100 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| .500 | **12148006000** | 4.4 | **FT6** |
| .620 | **12148006000** | 4.4 | **FT6** |
| .745 | **12148006000** | 4.4 | **FT6** |

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..GE | KC725M | **.S..GE** | **KCPK30** | .S..GE | KCPM40 |
| P3–P4 | .S..GE | KC725M | **.S..GE** | **KCPK30** | .S..GE | KCPM40 |
| P5–P6 | .S..GE | KC725M | **.S..GE** | **KCPK30** | .S..GE | KCPM40 |
| M1–M2 | .S..GE | KC522M | **.S..GE** | **KC725M** | .S..GE | KCPM40 |
| M3 | .S..GE | KC725M | **.S..GE** | **KCPK30** | .S..GE | KCPM40 |
| K1–K2 | .S..GE | KCPK30 | **.S..GE** | **KCPK30** | .S..GE | KCPK30 |
| K3 | .S..GE | KCPK30 | **.S..GE** | **KCPK30** | .S..GE | KCPK30 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .S..GE | KC522M | **.S..GE** | **KC725M** | .S..GE | KC725M |
| S3 | .S..GE | KC725M | **.S..GE** | **KC725M** | .S..GE | KCPM40 |
| S4 | .S..GE | KC522M | **.S..GE** | **KC725M** | .S..GE | KC725M |
| H1 | – | – | **–** | **–** | – | – |

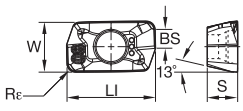
## Indexable Inserts

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .276" (7mm).

● first choice
○ alternate choice

| | KC522M | KC725M | KCPK30 | KCSM30 | KCPM40 |
|---|---|---|---|---|---|
| P | ○ | ● | ● | | ● |
| M | ● | ● | ○ | ○ | ○ |
| K | ○ | | ○ | | |
| N | | | | | |
| S | ● | ● | | ● | |
| H | ● | | | | |

EDPT-S.GE



EDPT-S.GE

## EDPT-S.GE

| catalog number | Ll | W | S | BS | Rε | hm | cutting edges | KC522M | KC725M | KCPK30 | KCSM30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP0708SGE** | .322 | .185 | .110 | .067 | .031 | .003 | 2 | ● | ● | ● | ● | ● |



## Recommended Starting Feeds

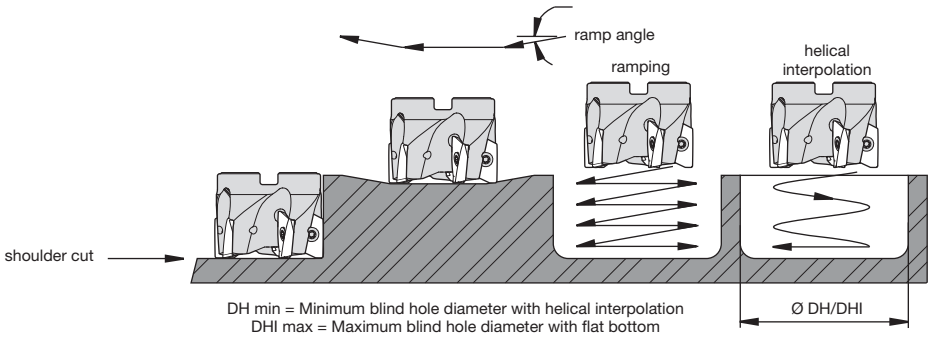
## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .S..GE | .009 | **.018** | .027 | .007 | **.013** | .019 | .005 | **.010** | .014 | .004 | **.009** | .013 | .004 | **.008** | .012 | .S..GE |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Application Examples




| cutting diameter | max ramp angle to non-cutting corner tangent | DH min (min hole diameter) | DHI min (min flat-bottomed hole diameter) | max diameter (no flat bottom) |
|---|---|---|---|---|
| .500 | 4.56° | .628 | .886 | 1.000 |
| .625 | 2.97° | .877 | 1.095 | 1.250 |
| .750 | 2.17° | 1.126 | 1.362 | 1.500 |

NOTE: Max ramp angle decreases as nose radius increases.

# Titanium and Stainless Steel Machining with New Milling Grade KCSM40™

**Achieving maximum metal removal rates with highly engineering solutions from Kennametal.**

- Ideal for roughing and semi-finishing operations.
- Available for the following milling series:
  - Mill 1™
  - Mill 4™
  - Dodeka™
  - MEGA™
  - KSOM™
  - NGE™
  - KSSM™
  - KSSM8+™
  - Rodeka™
  - 5230 Series
  - 7713 Series
  - 7792 Series
- This new carbide substrate provides toughness and fatigue resistance, minimizing the tendency for thermal cracking.
- The new coating provides high hot hardness and high abrasive resistance for unmatched tool life.
- KCSM40 milling grade is the first choice for high metal removal jobs in titanium structural aerospace components.
- Proven solution for various stainless steel applications, like machining automotive turbo chargers.

Visit kennametal.com or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

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# Mill 1-10™

## High-Performance Shoulder Milling Platform

### Primary Application

The multifunctional Mill 1-10 platform works with all tool materials in shoulder, ramp, slot, plunge, and helical milling with one insert style to improve productivity and reduce inventory and machining costs. The super positive cutting rake, soft cutting action, and low cutting forces enable higher feed rates and spindle protection. Innovative insert and cutter body designs offer improved ramping capabilities.

## Features and Benefits

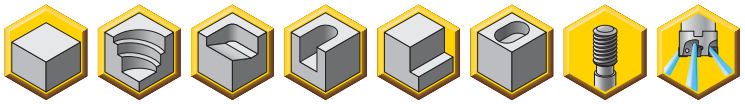
### Versatility

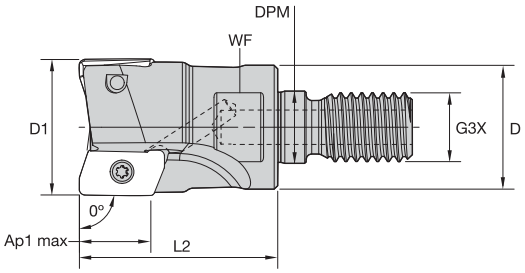
- Works with all tool materials.
- Capable of shoulder, ramp, plunge, and helical milling.
- Internal coolant and air supply.

### Advantages

- Optimized soft cutting edge.
- Elliptical edge generates 0° wall.
- Increased ramping capability due to state of the art insert and cutter body design.
- Innovative chip gash design for excellent chip evacuation and perfect cutter body stability.
- All pockets are machined into heat-treated materials, guaranteeing best-in-class runout and pocket strength.
- Inserts feature innovative margin along the main cutting edge, corner nose radius, and wiper facet for perfect edge stability.

- Mill 0° walls.
- Ramping capable for all Mill 1-10.
- Generates superior surface finish.
- High RPM capabilities.





## Screw-On End Mills

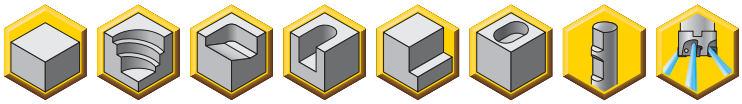
| order number | catalog number | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3742470** | **M1D062E1002CM08** | .625 | .512 | .335 | M8 | 1.000 | 10 | .396 | 2 | 9.5° | .05 | 53000 |
| **3742471** | **M1D075E1002CM10** | .750 | .709 | .413 | M10 | 1.100 | 15 | .398 | 2 | 6.5° | .09 | 45900 |
| **3742472** | **M1D075E1003CM10** | .750 | .709 | .413 | M10 | 1.100 | 15 | .398 | 3 | 6.5° | .10 | 45900 |
| **3742513** | **M1D100E1003CM12** | 1.000 | .827 | .492 | M12 | 1.250 | 17 | .395 | 3 | 4.0° | .19 | 39700 |
| **3742514** | **M1D100E1004CM12** | 1.000 | .827 | .492 | M12 | 1.250 | 17 | .395 | 4 | 4.0° | .18 | 39700 |
| **3742516** | **M1D125E1005CM16** | 1.250 | 1.142 | .669 | M16 | 1.500 | 22 | .392 | 5 | 2.5° | .38 | 35500 |
| **3742517** | **M1D150E1006CM16** | 1.500 | 1.142 | .669 | M16 | 1.500 | 22 | .390 | 6 | 2.0° | .46 | 32400 |

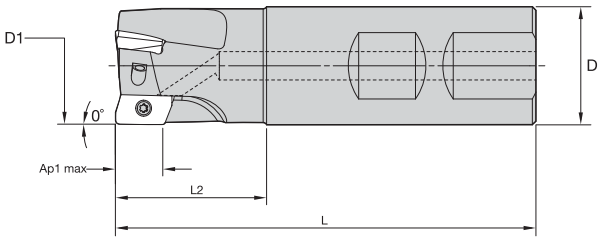
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench |
|---|---|---|---|
| .625 | **MS2205** | 9.0 | **F7IP** |
| .750 | **MS2205** | 9.0 | **F7IP** |
| 1.000 | **MS2205** | 9.0 | **F7IP** |
| 1.250 | **MS2205** | 9.0 | **F7IP** |
| 1.500 | **MS2205** | 9.0 | **F7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.





## Weldon® End Mills

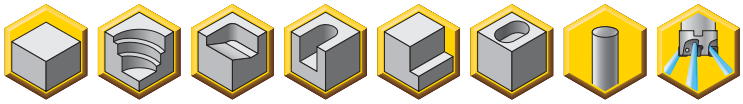
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **3742552** | **M1D062E1002W075L100** | .625 | .750 | 3.030 | 1.000 | .396 | 2 | 9.5° | .28 | 50300 |
| **3742553** | **M1D075E1002W075L110** | .750 | .750 | 3.130 | 1.100 | .398 | 2 | 6.5° | .30 | 45900 |
| **3742554** | **M1D075E1003W075L110** | .750 | .750 | 3.130 | 1.100 | .398 | 3 | 6.5° | .30 | 45900 |
| **3897781** | **M1D100E1003W075L125** | 1.000 | .750 | 3.280 | 1.250 | .395 | 3 | 4.0° | .40 | 39700 |
| **3897782** | **M1D100E1004W075L125** | 1.000 | .750 | 3.280 | 1.250 | .395 | 4 | 4.0° | .40 | 39700 |
| **3742555** | **M1D100E1003W100L125** | 1.000 | 1.000 | 3.530 | 1.250 | .395 | 3 | 4.0° | .65 | 39700 |
| **3742556** | **M1D100E1004W100L125** | 1.000 | 1.000 | 3.530 | 1.250 | .395 | 4 | 4.0° | .64 | 39700 |
| **3742557** | **M1D125E1004W125L160** | 1.250 | 1.250 | 3.880 | 1.600 | .392 | 4 | 2.5° | 1.12 | 35500 |
| **3742558** | **M1D125E1005W125L160** | 1.250 | 1.250 | 3.880 | 1.600 | .392 | 5 | 2.5° | 1.11 | 35500 |

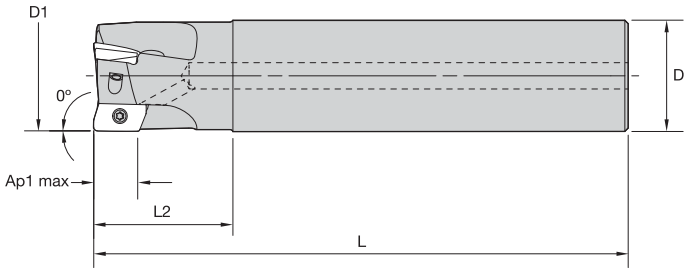
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .625 | **MS2205** | 9.0 | **DT7IP** |
| .750 | **MS2205** | 9.0 | **DT7IP** |
| 1.000 | **MS2205** | 9.0 | **DT7IP** |
| 1.250 | **MS2205** | 9.0 | **DT7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.





## Cylindrical End Mills

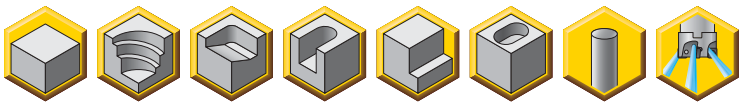
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| 3742518 | M1D050E1001C062L350 | .500 | .625 | 3.500 | .800 | .404 | 1 | 11.5° | .25 | 56500 |
| 3742536 | M1D062E1002C062L670 | .625 | .625 | 6.700 | .999 | .396 | 2 | 9.5° | .49 | 50300 |
| 3742519 | M1D062E1002C075L400 | .625 | .750 | 4.000 | 1.000 | .396 | 2 | 9.5° | .40 | 50300 |
| 3742520 | M1D075E1002C075L450 | .750 | .750 | 4.500 | 1.100 | .398 | 2 | 6.5° | .46 | 45900 |
| 3742538 | M1D075E1002C075L670 | .750 | .750 | 6.700 | 1.250 | .398 | 2 | 6.5° | .70 | 45900 |
| 3742521 | M1D075E1003C075L450 | .750 | .750 | 4.500 | 1.100 | .398 | 3 | 6.5° | .46 | 45900 |
| 3742540 | M1D075E1003C075L670 | .750 | .750 | 6.700 | 1.250 | .398 | 3 | 6.5° | .71 | 45900 |
| 3742542 | M1D088E1003C075L670 | .875 | .750 | 6.700 | 1.250 | .396 | 3 | 5.0° | .74 | 42600 |
| 3897779 | M1D100E1003C075L480 | 1.000 | .750 | 4.800 | 1.250 | .395 | 3 | 4.0° | .58 | 39700 |
| 3897780 | M1D100E1004C075L480 | 1.000 | .750 | 4.800 | 1.250 | .395 | 4 | 4.0° | .58 | 39700 |
| 3742522 | M1D100E1003C100L480 | 1.000 | 1.000 | 4.800 | 1.250 | .395 | 3 | 4.0° | .92 | 39700 |
| 3742543 | M1D100E1003C100L800 | 1.000 | 1.000 | 8.000 | 1.600 | .395 | 3 | 4.0° | 1.59 | 39700 |
| 3742533 | M1D100E1004C100L480 | 1.000 | 1.000 | 4.800 | 1.250 | .395 | 4 | 4.0° | .92 | 39700 |
| 3742545 | M1D100E1004C100L800 | 1.000 | 1.000 | 8.000 | 1.600 | .395 | 4 | 4.0° | 1.59 | 39700 |
| 3742547 | M1D110E1004C100L800 | 1.100 | 1.000 | 8.000 | 1.600 | .394 | 4 | 3.3° | 1.64 | 38000 |
| 3742534 | M1D125E1004C125L520 | 1.250 | 1.250 | 5.200 | 1.600 | .392 | 4 | 2.5° | 1.57 | 35500 |
| 3742548 | M1D125E1004C125L800 | 1.250 | 1.250 | 8.000 | 1.900 | .392 | 4 | 2.5° | 2.48 | 35500 |
| 3742535 | M1D125E1005C125L520 | 1.250 | 1.250 | 5.200 | 1.600 | .392 | 5 | 2.5° | 1.57 | 35500 |
| 3742550 | M1D125E1005C125L800 | 1.250 | 1.250 | 8.000 | 1.900 | .392 | 5 | 2.5° | 2.48 | 35500 |

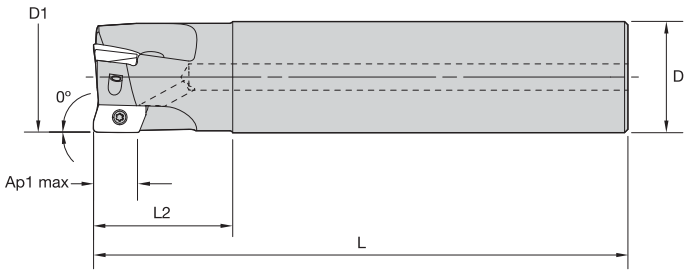
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .500 | MS2205 | 9.0 | DT7IP |
| .625 | MS2205 | 9.0 | DT7IP |
| .750 | MS2205 | 9.0 | DT7IP |
| .875 | MS2205 | 9.0 | DT7IP |
| 1.000 | MS2205 | 9.0 | DT7IP |
| 1.100 | MS2205 | 9.0 | DT7IP |
| 1.250 | MS2205 | 9.0 | DT7IP |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.





## Cylindrical End Mills • Long Length

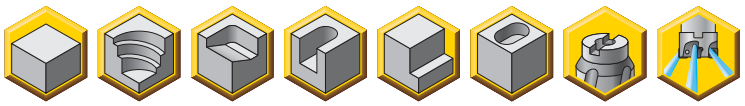
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **3742537** | **M1D062E1002C062L670R** | .625 | .625 | 6.688 | .987 | .384 | 2 | 8.0° | .49 | 50300 |
| **3742541** | **M1D075E1003C075L670R** | .750 | .750 | 6.689 | 1.239 | .387 | 3 | 5.3° | .71 | 45900 |
| **3742544** | **M1D100E1003C100L800R** | 1.000 | 1.000 | 7.989 | 1.589 | .385 | 3 | 3.0° | 1.59 | 39700 |
| **3742546** | **M1D100E1004C100L800R** | 1.000 | 1.000 | 7.989 | 1.589 | .384 | 4 | 3.0° | 1.59 | 39700 |
| **3742551** | **M1D125E1005C125L800R** | 1.250 | 1.250 | 7.989 | 1.889 | .382 | 5 | 2.0° | 2.48 | 35500 |

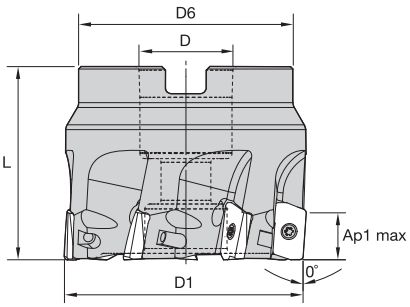
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .625 | **MS2205** | 9.0 | **DT7IP** |
| .750 | **MS2205** | 9.0 | **DT7IP** |
| 1.000 | **MS2205** | 9.0 | **DT7IP** |
| 1.250 | **MS2205** | 9.0 | **DT7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079".

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.
- High RPM capabilities.





## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **3745039** | **M1D150E1004S075L157** | 1.500 | .750 | 1.420 | 1.575 | .391 | 4 | 2.0° | .46 | 32400 |
| **3745040** | **M1D150E1006S075L157** | 1.500 | .750 | 1.420 | 1.575 | .391 | 6 | 2.0° | .49 | 32400 |
| **3745041** | **M1D200E1005S075L157** | 2.000 | .750 | 1.750 | 1.575 | .389 | 5 | 1.5° | .92 | 28100 |
| **3745042** | **M1D200E1008S075L157** | 2.000 | .750 | 1.750 | 1.575 | .389 | 8 | 1.5° | .89 | 28100 |
| **3745043** | **M1D250E1006S075L157** | 2.500 | .750 | 1.750 | 1.575 | .389 | 6 | 1.0° | 1.29 | 25100 |
| **3745045** | **M1D250E1009S075L157** | 2.500 | .750 | 1.750 | 1.575 | .389 | 9 | 1.0° | 1.26 | 25100 |
| **3745047** | **M1D300E1008S100L175** | 3.000 | 1.000 | 2.190 | 1.750 | .389 | 8 | .8° | 2.08 | 22900 |
| **3745048** | **M1D300E1010S100L175** | 3.000 | 1.000 | 2.190 | 1.750 | .389 | 10 | .8° | 2.07 | 22900 |
| **3745049** | **M1D400E1008S150L200** | 4.000 | 1.500 | 3.380 | 2.000 | .389 | 8 | .5° | 3.82 | 19800 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | **MS2205** | 9.0 | **DT7IP** | **S445** |
| 2.000 | **MS2205** | 9.0 | **DT7IP** | **S445** |
| 2.500 | **MS2205** | 9.0 | **DT7IP** | **S445** |
| 3.000 | **MS2205** | 9.0 | **DT7IP** | **S458** |
| 4.000 | **MS2205** | 9.0 | **DT7IP** | **–** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPM40 | **.S..GD** | **KCPM40** | .E..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .E..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .E..HD | KC725M |
| M1–M2 | .E..LD | KCSM40 | **.S..GD** | **KC725M** | .E..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCPM40** | .E..HD | KCSM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .E..HD | KCK15 |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .E..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.E..LDJ** | **KC422M** | .E..LD | KC510M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .E..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GE** | **KCSM40** | .E..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GE** | **KCSM40** | .E..HD | KCSM40 |
| H1 | .E..LD | KC510M | – | – | – | KC510M |

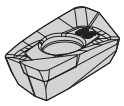
## Indexable Inserts

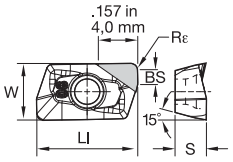
- Roughing and finishing of aluminum and non-ferrous alloys.
- Suitable for wet and dry machining.
- High precision.
- PCD inserts for long tool life.
- Ap1 max = 0.393" (10mm).

● first choice
○ alternate choice

beyond

| | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ○ | ● | | ● | ● | | ○ | |
| M | | | | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | | | ● | ● | ○ | | ● | ○ | | | | |
| N | ● | ● | ● | ○ | | | | | | | | | ● |
| S | | | | | | ● | ● | | | | ● | ● | |
| H | | | | | | | | | | | | | |


EDCT-PCD



EDCT-PCD

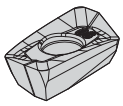
## EDCT-PCD

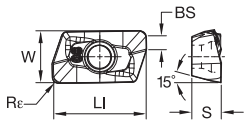
| catalog number | LI | W | S | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **EC1004FR-PCD** | .474 | .266 | .148 | .083 | .016 | .001 | 1 |
| **EC1008FR-PCD** | .474 | .265 | .148 | .067 | .031 | .001 | 1 |

- Periphery ground and polished rake face.
- Roughing and finishing of aluminum alloys.
- Perfect floor surface finish.
- Ap1 max = 0.393" (10mm).

● first choice
○ alternate choice

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ○ | ● | | ● | ● | | ○ | |
| M | | | | | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | | | | ● | ● | ○ | | ● | ○ | | | | |
| N | | ● | ● | ● | ○ | | | | | | | | | ● |
| S | | | | | | | ● | ● | | | | ● | ● | |
| H | | | | | | | | | | | | | | |


EDCT-F.LDJ

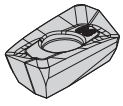


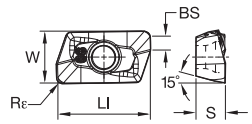
EDCT-F.LDJ

## EDCT-F.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EC1002FLDJ | .474 | .266 | .148 | .090 | .008 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |
| EC1004FLDJ | .474 | .266 | .148 | .078 | .016 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |
| EC1008FLDJ | .474 | .265 | .148 | .067 | .031 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |
| EC1012FLDJ | .475 | .265 | .148 | .051 | .047 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |
| EC1016FLDJ | .475 | .265 | .148 | .036 | .062 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |
| EC1020FLDJ | .475 | .265 | .148 | .019 | .079 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |
| EC1031FLDJ | .453 | .264 | .148 | — | .122 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – | – |

- Periphery ground and polished rake face.
- Roughing and finishing of aluminum alloys.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).


EDCT-E.LDJ



EDCT-E.LDJ

## EDCT-E.LDJ

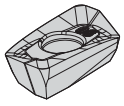
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EC1004ELDJ | .474 | .266 | .148 | .078 | .016 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – | – |
| EC1008ELDJ | .474 | .265 | .148 | .067 | .031 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – | – |
| EC1016ELDJ | .475 | .265 | .148 | .036 | .062 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – | – |
| EC1020ELDJ | .475 | .265 | .148 | .019 | .079 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – | – |
| EC1024ELDJ | .475 | .265 | .148 | .004 | .094 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – | – |

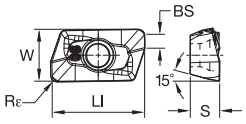
- Finishing and high-precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = .393" (10mm).

● first choice
○ alternate choice

beyond

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ○ | ● | | ● | ● | | ○ | | | |
| M | | | | | | | ● | ● | | ○ | ○ | ○ | ● | | | |
| K | | | | | ● | ● | ○ | | ● | ○ | | | | | | |
| N | ● | ● | ● | ○ | | | | | | | | | | ● | | |
| S | | | | | | | ● | ● | | | | ● | ● | | | |
| H | | | | | | | | | | | | | | | | |


EDCT-LD

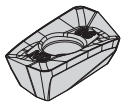


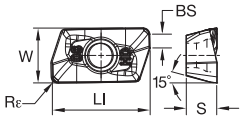
EDCT-LD

## EDCT-LD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1002ELD** | .474 | .266 | .148 | .090 | .008 | .002 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – | – |
| **EC1004ELD** | .474 | .266 | .148 | .078 | .016 | .002 | 2 | – | – | – | – | ● | ● | ● | – | ● | – | – | – | – |
| **EC1008ELD** | .474 | .266 | .148 | .067 | .031 | .002 | 2 | – | – | – | ● | ● | ● | ● | ● | ● | ● | – | ● | – |
| **EC1012ELD** | .475 | .265 | .148 | .051 | .047 | .002 | 2 | – | – | – | – | – | ● | ● | – | – | – | – | ● | – |
| **EC1016ELD** | .475 | .265 | .148 | .036 | .062 | .002 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | ● | – |
| **EC1020ELD** | .475 | .265 | .148 | .019 | .079 | .002 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – | – |
| **EC1024ELD** | .475 | .265 | .148 | .004 | .094 | .002 | 2 | – | – | – | – | – | ● | ● | – | – | – | – | ● | – |
| **EC1031ELD** | .453 | .264 | .148 | — | .122 | .002 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | ● | – |

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .393" (10mm)


EDPT-E.HD



EDPT-E.HD

## EDPT-E.HD

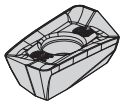
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1004EHD** | .474 | .266 | .148 | .082 | .016 | .003 | 2 | – | – | – | – | ● | ● | ● | ● | ● | ● | – | – | – |
| **EP1008EHD** | .474 | .265 | .148 | .067 | .031 | .003 | 2 | – | – | – | – | ● | ● | ● | ● | ● | ● | – | ● | – |
| **EP1010EHD** | .474 | .265 | .148 | .059 | .039 | .003 | 2 | – | – | – | – | – | ● | ● | ● | ● | – | – | – | – |
| **EP1012EHD** | .475 | .265 | .148 | .051 | .047 | .003 | 2 | – | – | – | – | ● | ● | ● | – | ● | ● | – | ● | – |
| **EP1016EHD** | .475 | .265 | .148 | .036 | .062 | .003 | 2 | – | – | – | – | – | ● | ● | – | ● | ● | ● | ● | – |
| **EP1020EHD** | .475 | .265 | .148 | .019 | .079 | .003 | 2 | – | – | – | – | – | – | ● | – | ● | ● | – | ● | – |
| **EP1024EHD** | .475 | .265 | .148 | .004 | .094 | .003 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | ● | – |
| **EP1031EHD** | .453 | .264 | .148 | — | .122 | .003 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | ● | – |

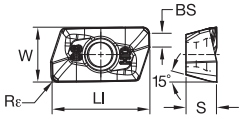
- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .393" (10mm).

● first choice
○ alternate choice

beyond

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ○ | ● | | ● | ● | | ○ | | | |
| M | | | | | | ● | ● | | ○ | ○ | ○ | ● | | | |
| K | | | | ● | ● | ○ | | ● | ○ | | | | | | |
| N | ● | ● | ● | ○ | | | | | | | | | | | ● |
| S | | | | | | ● | ● | | | | ● | ● | | | |
| H | | | | | | | | | | | | | | | |


EDPT-S.GE

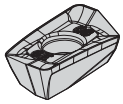


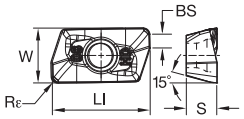
EDPT-S.GE

## EDPT-S.GE

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1004SGE** | .474 | .266 | .148 | .082 | .016 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | ● | – | – | – |
| **EP1008SGE** | .474 | .265 | .148 | .067 | .031 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | ● | – | ● | – |
| **EP1012SGE** | .475 | .265 | .148 | .051 | .047 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | ● | – |
| **EP1016SGE** | .475 | .265 | .148 | .036 | .062 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | ● | – |
| **EP1031SGE** | .453 | .264 | .148 | — | .122 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | ● | – |

- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.393" (10mm).


EDPT-S.GD



EDPT-S.GD

## EDPT-S.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KD1410 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1004SGD** | .474 | .266 | .148 | .082 | .016 | .005 | 2 | – | – | – | – | – | – | ● | ● | ● | – | – | – | – |
| **EP1008SGD** | .474 | .265 | .148 | .067 | .031 | .005 | 2 | – | – | – | – | ● | – | ● | ● | ● | ● | – | – | – |
| **EP1012SGD** | .475 | .265 | .148 | .051 | .047 | .005 | 2 | – | – | – | – | ● | – | ● | ● | ● | – | – | – | – |
| **EP1016SGD** | .475 | .265 | .148 | .036 | .062 | .005 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – | – |





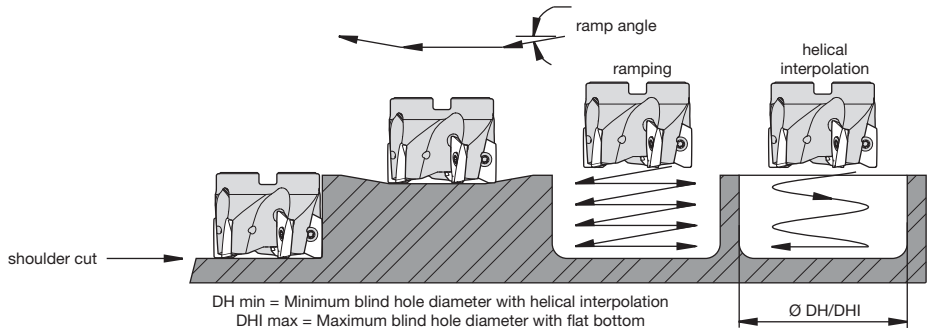
## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .F..LDJ |
| .F..-PCD | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .F..-PCD |
| .E..LDJ | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .E..LDJ |
| .E..LD | .005 | **.014** | .023 | .004 | **.010** | .016 | .003 | **.008** | .012 | .002 | **.007** | .011 | .002 | **.006** | .010 | .E..LD |
| .S..GE | .009 | **.018** | .028 | .007 | **.013** | .020 | .005 | **.010** | .015 | .004 | **.009** | .013 | .004 | **.008** | .012 | .S..GE |
| .S..GD | .009 | **.019** | .028 | .007 | **.013** | .020 | .005 | **.010** | .015 | .004 | **.009** | .013 | .004 | **.008** | .012 | .S..GD |
| .E..HD | .009 | **.020** | .032 | .007 | **.014** | .023 | .005 | **.011** | .017 | .004 | **.009** | .015 | .004 | **.009** | .014 | .E..HD |

**NOTE: Use "Light Machining" values as starting feed rate.**
**Please see pages X22–X37 for recommended starting speeds.**

## Application Examples




| insert style | cutting diameter | max ramp angle to non-cutting corner tangent | max ramp angle to steel body interference | DH min (min hole diameter) | DHI min (min flat-bottomed hole diameter) | max diameter (no flat bottom) |
|---|---|---|---|---|---|---|
| Mill-1, 10mm | .500 | not recommended | not recommended | not recommended | not recommended | not recommended |
| Mill-1, 10mm | .625 | 9.9° | 12.5° | .758 | 1.121 | 1.250 |
| Mill-1, 10mm | .750 | 6.8° | 9.7° | .998 | 1.367 | 1.500 |
| Mill-1, 10mm | .875 | 5.1° | 6.8° | 1.248 | 1.617 | 1.750 |
| Mill-1, 10mm | 1.000 | 4.1° | 5.1° | 1.498 | 1.867 | 2.000 |
| Mill-1, 10mm | 1.100 | 3.5° | 4.3° | 1.698 | 2.067 | 2.200 |
| Mill-1, 10mm | 1.250 | 2.9° | 3.4° | 1.999 | 2.367 | 2.500 |
| Mill-1, 10mm | 1.500 | 2.2° | 2.4° | 2.499 | 2.867 | 3.000 |
| Mill-1, 10mm | 2.000 | 1.2° | 1.6° | 3.509 | 3.876 | 4.000 |
| Mill-1, 10mm | 2.500 | 1.2° | 1.2° | 4.509 | 4.876 | 5.000 |
| Mill-1, 10mm | 3.000 | 0.9° | 1.0° | 5.509 | 5.876 | 6.000 |
| Mill-1, 10mm | 4.000 | 0.7° | 0.7° | 7.509 | 7.876 | 8.000 |

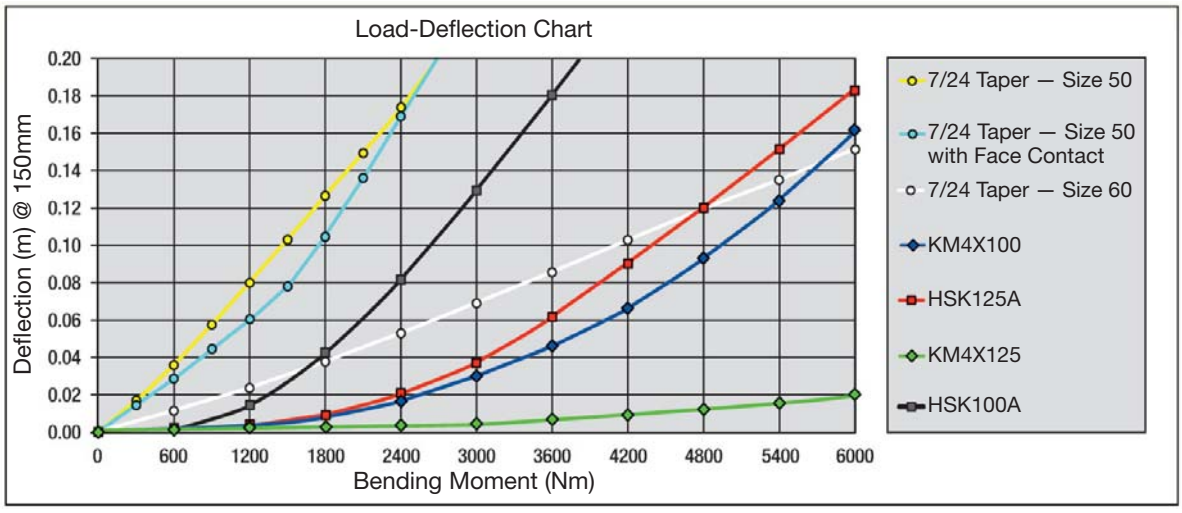
NOTE: Max ramp angle decreases as nose radius increases.

# KM4X™

## The Latest Innovation in Spindle Interface Technology!

Dramatically increase your metal removal rates when machining high-temperature alloys!

- Run jobs at significantly faster feeds and speeds than what is achievable with other spindle interfaces.
- Unique use of clamping force and interference level increases clamping capability 2 to 3 times.
- Achieve lower cost of ownership, increased throughput, and superior results.

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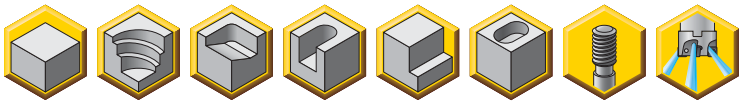
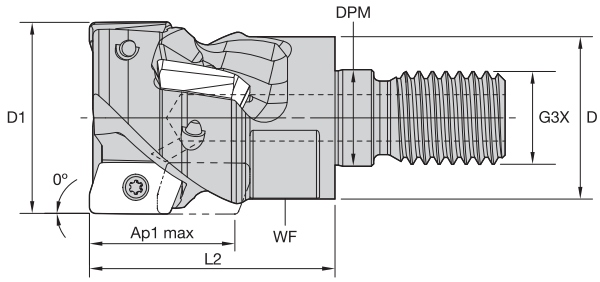
KENNAMETAL®

kennametal.com

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.





## Screw-On Helical Mills

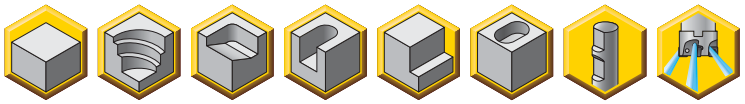
| order number | catalog number | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | Z U | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3746106** | **M1HR125ED10M16Z2L160C4** | 1.250 | 1.142 | .669 | M16 | 1.614 | 24 | .735 | 4 | 2 | 2.5° | .43 | 29400 |
| **3746107** | **M1HR125ED10M16Z3L160C6** | 1.250 | 1.142 | .669 | M16 | 1.614 | 24 | .735 | 6 | 3 | 2.5° | .40 | 29400 |

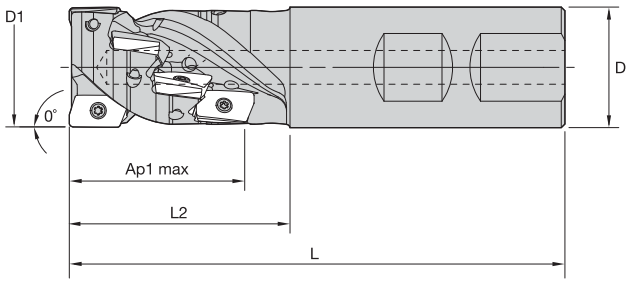
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus wrench |
|---|---|---|---|
| 1.250 | **MS2205** | 9.0 | **F7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.





## Weldon® Helical Mills

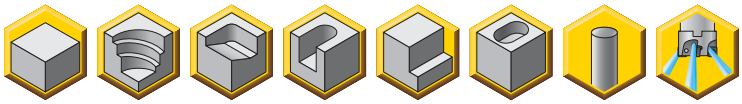
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | Z U | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3746093** | **M1HR075ED10W075Z2L140C6** | .750 | .750 | 3.422 | 1.392 | 1.093 | 6 | 2 | 6.5° | .30 | 38000 |
| **3746097** | **M1HR100ED10W100Z2L180C8** | 1.000 | 1.000 | 4.071 | 1.790 | 1.432 | 8 | 2 | 4.0° | .64 | 32900 |
| **3746098** | **M1HR125ED10W125Z2L210C10** | 1.250 | 1.250 | 4.371 | 2.090 | 1.764 | 10 | 2 | 2.5° | 1.16 | 29400 |
| **3746099** | **M1HR125ED10W125Z3L210C15** | 1.250 | 1.250 | 4.371 | 2.090 | 1.764 | 15 | 3 | 2.5° | 1.08 | 29400 |

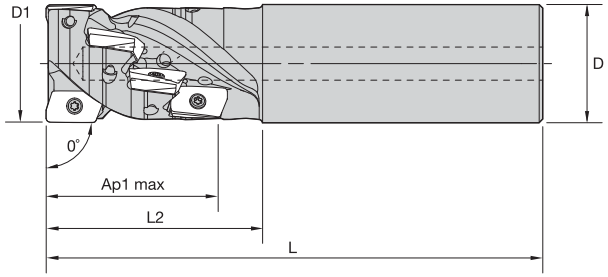
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **MS2205** | 9.0 | **DT7IP** |
| 1.000 | **MS2205** | 9.0 | **DT7IP** |
| 1.250 | **MS2205** | 9.0 | **DT7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.





## Cylindrical Helical Mills

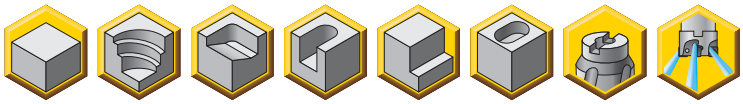
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | Z U | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3746100** | **M1HR075ED10C075Z2L110C4** | .750 | .750 | 4.406 | 1.053 | .745 | 4 | 2 | 6.5° | .47 | 38000 |
| **3746101** | **M1HR100ED10C100Z2L110C4** | 1.000 | 1.000 | 4.800 | 1.053 | .740 | 4 | 2 | 4.0° | .89 | 32900 |

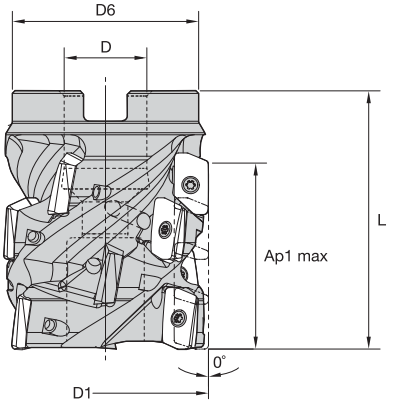
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **MS2205** | 9.0 | **DT7IP** |
| 1.000 | **MS2205** | 9.0 | **DT7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping rates.
- Generates superior surface finish.





## Helical Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | Z U | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3746108** | **M1HR150ED10S075Z3L200C12** | 1.500 | .750 | 1.421 | 2.000 | 1.417 | 12 | 3 | 2.0° | .56 | 26900 |
| **3746109** | **M1HR150ED10S075Z5L200C20** | 1.500 | .750 | 1.420 | 2.000 | 1.417 | 20 | 5 | 2.0° | .51 | 26900 |
| **3746110** | **M1HR200ED10S075Z3L240C15** | 2.000 | .750 | 1.750 | 2.400 | 1.745 | 15 | 3 | 1.5° | 1.47 | 23300 |
| **3746111** | **M1HR200ED10S075Z5L240C25** | 2.000 | .750 | 1.750 | 2.400 | 1.745 | 25 | 5 | 1.5° | 1.31 | 23300 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.500 | **MS2205** | 9.0 | **DT7IP** |
| 2.000 | **MS2205** | 9.0 | **DT7IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Insert Selection Guide

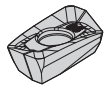
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPM40 | **.S..GD** | **KCPM40** | .E..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .E..HD | KCPK30 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .E..HD | KC725M |
| M1–M2 | .E..LD | KCSM40 | **.S..GD** | **KC725M** | .E..HD | KCSM40 |
| M3 | .E..LD | KCSM40 | **.S..GD** | **KCPM40** | .E..HD | KCSM40 |
| K1–K2 | .E..LD | KCK15 | **.S..GD** | **KCK15** | .E..HD | KCK15 |
| K3 | .E..LD | KC520M | **.S..GD** | **KC520M** | .E..HD | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.E..LDJ** | **KC422M** | .E..LD | KC510M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .E..HD | KC725M |
| S3 | .E..LD | KCSM40 | **.S..GE** | **KCSM40** | .E..HD | KCSM40 |
| S4 | .E..LD | KCSM40 | **.S..GE** | **KCSM40** | .E..HD | KCSM40 |
| H1 | .E..LD | KC510M | – | – | – | – |

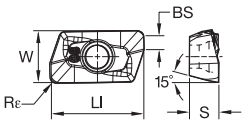
## Indexable Inserts

- Periphery ground and polished rake face.
- Roughing and finishing of aluminum alloys.
- Perfect floor surface finish.
- Ap1 max = 0.393" (10mm).

● first choice
○ alternate choice

| | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ○ | ● | | ● | ● | | ○ |
| M | | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ● | ○ | | ● | ○ | | | |
| N | ● | ● | ● | ○ | | | | | | | | |
| S | | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | |


EDCT-F.LDJ



EDCT-F.LDJ

## EDCT-F.LDJ

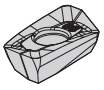
| catalog number | Ll | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1002FLDJ** | .474 | .266 | .148 | .090 | .008 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1004FLDJ** | .474 | .266 | .148 | .078 | .016 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1008FLDJ** | .474 | .265 | .148 | .067 | .031 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1012FLDJ** | .475 | .265 | .148 | .051 | .047 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1016FLDJ** | .475 | .265 | .148 | .036 | .062 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1020FLDJ** | .475 | .265 | .148 | .019 | .079 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1031FLDJ** | .453 | .264 | .148 | — | .122 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – | – |

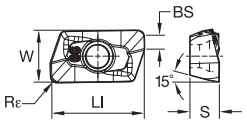
- Perfect floor surface finish.
- Ap1 max = 0.393" (10mm).

beyond

● first choice
○ alternate choice

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ○ | ● | | ● | ● | | ○ |
| M | | | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | | ● | ● | ○ | | ● | ○ | | | |
| N | ● | ● | ● | ○ | | | | | | | | | |
| S | | | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | | |


EDCT-E.LDJ

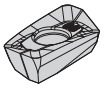


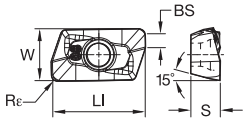
EDCT-E.LDJ

## EDCT-E.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1004ELDJ** | .474 | .266 | .148 | .078 | .016 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1008ELDJ** | .474 | .265 | .148 | .067 | .031 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1016ELDJ** | .475 | .265 | .148 | .036 | .062 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1020ELDJ** | .475 | .265 | .148 | .019 | .079 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1024ELDJ** | .475 | .265 | .148 | .004 | .094 | .001 | 2 | – | – | ● | – | – | – | – | – | – | – | – | – |

- Finishing and high precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = 0.393" (10mm).


EDCT-LD

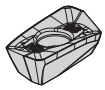


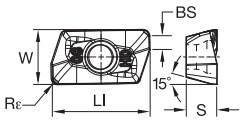
EDCT-LD

## EDCT-LD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1002ELD** | .474 | .266 | .148 | .090 | .008 | .002 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – |
| **EC1004ELD** | .474 | .266 | .148 | .078 | .016 | .002 | 2 | – | – | – | – | ● | ● | ● | – | ● | – | – | – |
| **EC1008ELD** | .474 | .266 | .148 | .067 | .031 | .002 | 2 | – | – | – | ● | ● | ● | ● | ● | ● | – | – | – |
| **EC1012ELD** | .475 | .265 | .148 | .051 | .047 | .002 | 2 | – | – | – | – | – | ● | ● | – | – | – | – | – |
| **EC1016ELD** | .475 | .265 | .148 | .036 | .062 | .002 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |
| **EC1020ELD** | .475 | .265 | .148 | .019 | .079 | .002 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – |
| **EC1024ELD** | .475 | .265 | .148 | .004 | .094 | .002 | 2 | – | – | – | – | – | ● | ● | – | – | – | – | – |
| **EC1031ELD** | .453 | .264 | .148 | — | .122 | .002 | 2 | – | – | – | – | – | – | – | – | ● | – | – | – |

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.393" (10mm).


EDPT-E.HD



EDPT-E.HD

● first choice
○ alternate choice

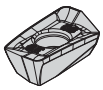
beyond

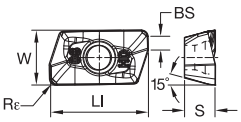
| | | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ○ | ● | | ● | ● | | ○ |
| M | | | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | | ● | ● | ○ | | ● | ○ | | | |
| N | | ● | ● | ● | ○ | | | | | | | | |
| S | | | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | | |

## EDPT-E.HD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1004EHD** | .474 | .266 | .148 | .082 | .016 | .003 | 2 | – | – | – | – | ● | ● | ● | ● | ● | – | – | – |
| **EP1008EHD** | .474 | .265 | .148 | .067 | .031 | .003 | 2 | – | – | – | – | ● | ● | ● | ● | ● | – | – | – |
| **EP1010EHD** | .474 | .265 | .148 | .059 | .039 | .003 | 2 | – | – | – | – | – | ● | ● | ● | ● | – | – | – |
| **EP1012EHD** | .475 | .265 | .148 | .051 | .047 | .003 | 2 | – | – | – | – | ● | ● | ● | – | ● | – | – | – |
| **EP1016EHD** | .475 | .265 | .148 | .036 | .062 | .003 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1020EHD** | .475 | .265 | .148 | .019 | .079 | .003 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – |
| **EP1024EHD** | .475 | .265 | .148 | .004 | .094 | .003 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – |
| **EP1031EHD** | .453 | .264 | .148 | — | .122 | .003 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.393" (10mm).


EDPT-S.GE



EDPT-S.GE

## EDPT-S.GE

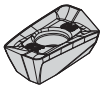
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1004SGE** | .474 | .266 | .148 | .082 | .016 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1008SGE** | .474 | .265 | .148 | .067 | .031 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1012SGE** | .475 | .265 | .148 | .051 | .047 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1016SGE** | .475 | .265 | .148 | .036 | .062 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1031SGE** | .453 | .264 | .148 | — | .122 | .005 | 2 | – | – | – | – | – | ● | ● | – | ● | – | – | – |

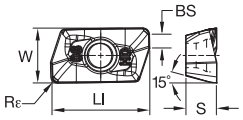
- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.393" (10mm).

● first choice
○ alternate choice

beyond

| | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ○ | ● | | ● | ● | | ○ |
| M | | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ● | ○ | | ● | ○ | | | |
| N | ● | ● | ● | ○ | | | | | | | | |
| S | | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | |


EDPT-S.GD



EDPT-S.GD

## EDPT-S.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | K313 | KC410M | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1004SGD** | .474 | .266 | .148 | .082 | .016 | .005 | 2 | – | – | – | – | – | – | ● | ● | ● | – | – | – |
| **EP1008SGD** | .474 | .265 | .148 | .067 | .031 | .005 | 2 | – | – | – | – | ● | – | ● | ● | ● | – | – | – |
| **EP1012SGD** | .475 | .265 | .148 | .051 | .047 | .005 | 2 | – | – | – | – | ● | – | ● | ● | ● | – | – | – |
| **EP1016SGD** | .475 | .265 | .148 | .036 | .062 | .005 | 2 | – | – | – | – | – | – | ● | – | ● | – | – | – |



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .F..LDJ |
| .F..-PCD | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .F..-PCD |
| .E..LDJ | .005 | **.014** | .023 | .003 | **.010** | .017 | .003 | **.008** | .013 | .002 | **.007** | .011 | .002 | **.006** | .010 | .E..LDJ |
| .E..LD | .005 | **.014** | .023 | .004 | **.010** | .016 | .003 | **.008** | .012 | .002 | **.007** | .011 | .002 | **.006** | .010 | .E..LD |
| .S..GE | .009 | **.018** | .028 | .007 | **.013** | .020 | .005 | **.010** | .015 | .004 | **.009** | .013 | .004 | **.008** | .012 | .S..GE |
| .S..GD | .009 | **.019** | .028 | .007 | **.013** | .020 | .005 | **.010** | .015 | .004 | **.009** | .013 | .004 | **.008** | .012 | .S..GD |
| .E..HD | .009 | **.020** | .032 | .007 | **.014** | .023 | .005 | **.011** | .017 | .004 | **.009** | .015 | .004 | **.009** | .014 | .E..HD |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# Mill 1-14™

## Primary Application

The Mill 1-14 series is a versatile, functional cutter system for a range of cutting tasks. Mill 1-14 cutters can be used for profiling, slotting, ramping, helical interpolation, circular interpolation, and other milling applications. It's a single tool with multi-functional benefits. Mill 1-14 inserts are specially designed to add cutting versatility. Innovative micro-geometry features contribute greatly to enhanced performance, various rake angles, negative T-land, and small hone. Results include significantly reduced cycle times and lower cutting forces. Test results in producing 0° walls have proven excellent with the GD2 geometry.

## Features and Benefits

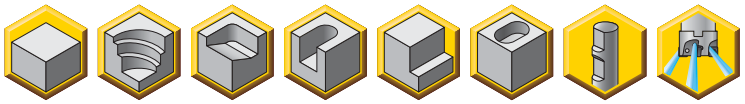
### Features

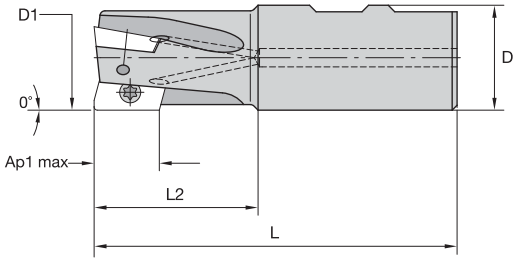
- Insert geometries and grades for most workpiece materials.
- Insert radii from .016" (0,15mm) up to .157" (4mm).
- Axial depth of cut up to .551" (14mm).
- Beyond™ grade technology.

### Benefits

- Easy cutting action, even on entry and exiting the workpiece.
- Polished geometry for aluminum machining.
- Slotting, profiling, ramping, helical interpolation, and plunging.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Weldon® End Mills

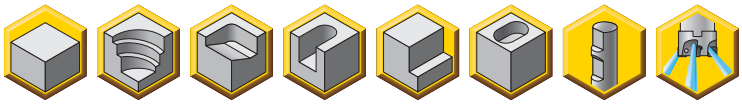
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2624243** | **M1D062E1401W075L150** | .625 | .750 | 3.530 | 1.500 | .580 | 1 | 25.0° | .31 | 8000 |
| **2623856** | **M1D075E1402W075L175** | .750 | .750 | 3.780 | 1.750 | .580 | 2 | 18.0° | .35 | 49600 |
| **2624245** | **M1D088E1402W100L175** | .875 | 1.000 | 4.030 | 1.750 | .580 | 2 | 13.2° | .66 | 43500 |
| **2624189** | **M1D097E1403W100L175** | .970 | 1.000 | 4.030 | 1.750 | .580 | 3 | 10.9° | .69 | 40100 |
| **2623857** | **M1D100E1402W100L175** | 1.000 | 1.000 | 4.030 | 1.750 | .580 | 2 | 10.4° | .71 | 39200 |
| **2479508** | **M1D100E1403W100L175** | 1.000 | 1.000 | 4.030 | 1.750 | .580 | 3 | 10.2° | .71 | 39200 |
| **2479506** | **M1D125E1404W125L225** | 1.250 | 1.250 | 4.530 | 2.250 | .570 | 4 | 7.2° | 1.25 | 33400 |

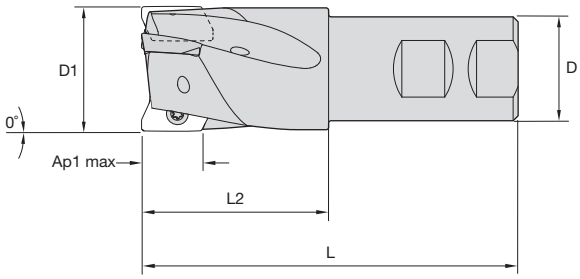
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .625 | **MS2167** | 20.0 | **DT9IP** |
| .750 | **MS2167** | 20.0 | **DT9IP** |
| .875 | **MS2166** | 20.0 | **DT9IP** |
| .970 | **MS2166** | 20.0 | **DT9IP** |
| 1.000 | **MS2166** | 20.0 | **DT9IP** |
| 1.250 | **MS2166** | 20.0 | **DT9IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Weldon® End Mills • Reduced Shank

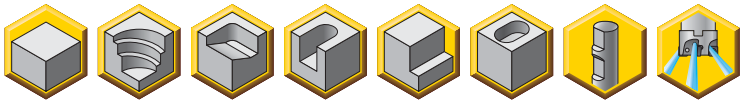
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2479507** | **M1D100E1403W075L175** | 1.000 | .750 | 3.780 | 1.750 | .575 | 3 | 10.4° | .46 | 39200 |
| **2624199** | **M1D100E1403W100L175R** | 1.000 | 1.000 | 4.010 | 1.730 | .580 | 3 | 10.4° | .70 | 39200 |
| **2623858** | **M1D125E1403W100L225** | 1.250 | 1.000 | 4.530 | 2.250 | .571 | 3 | 7.2° | .94 | 33400 |
| **2479512** | **M1D125E1404W100L225** | 1.250 | 1.000 | 4.530 | 2.250 | .571 | 4 | 7.2° | .97 | 33400 |
| **2624201** | **M1D125E1404W125L225R** | 1.250 | 1.250 | 4.510 | 2.230 | .570 | 4 | 7.2° | 1.25 | 33400 |
| **2624194** | **M1D150E1404W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .567 | 4 | 5.5° | 1.49 | 29600 |
| **2623859** | **M1D150E1405W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .567 | 5 | 5.5° | 1.53 | 29600 |
| **2624271** | **M1D150E1405W125L225R** | 1.500 | 1.250 | 4.510 | 2.230 | .555 | 5 | 5.5° | 1.53 | 29600 |

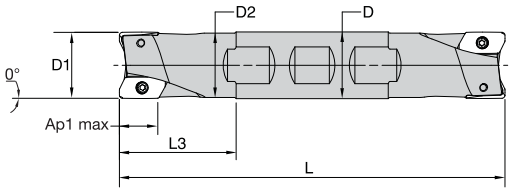
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079".

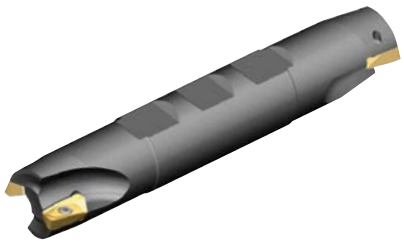
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2166** | 20 | **DT9IP** |
| 1.250 | **MS2166** | 20 | **DT9IP** |
| 1.500 | **MS2166** | 20 | **DT9IP** |

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Weldon® End Mills • Double Ended

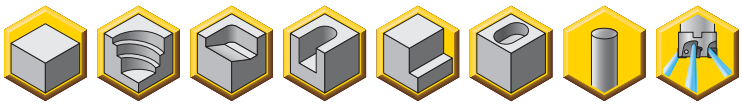
| order number | catalog number | D1 | D | D2 | L | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2624188** | **M1D075E1402W075L175DE** | .750 | .750 | .681 | 5.530 | 1.750 | .551 | 2 | 18.0° | .53 | 49600 |
| **2624191** | **M1D100E1403W100L175DE** | 1.000 | 1.000 | .950 | 5.780 | 1.750 | .580 | 3 | 10.2° | 1.00 | 39200 |

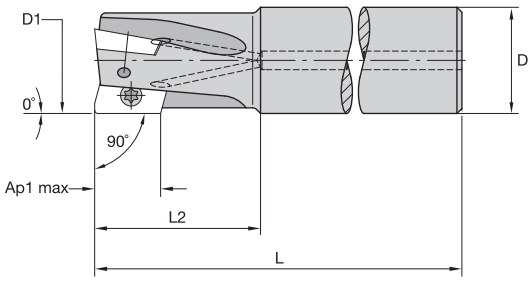
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **MS2167** | 20 | **DT9IP** |
| 1.000 | **MS2166** | 20 | **DT9IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Aggressive ramping angles.
- Generates superior surface finish.
- Mill 0° walls.
- High RPM capabilities.





## Cylindrical End Mills

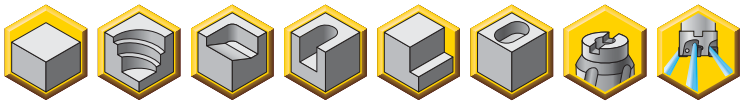
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2624187** | **M1D075E1402C075L650** | .750 | .750 | 6.500 | 1.750 | .570 | 2 | 18.5° | .65 | 49600 |
| **2624197** | **M1D075E1402C075L800** | .750 | .750 | 8.000 | 1.750 | .570 | 2 | 18.5° | .82 | 49600 |
| **2624198** | **M1D100E1402C100L1000** | 1.000 | 1.000 | 10.000 | 1.750 | .570 | 2 | 10.2° | 1.91 | 39200 |
| **2624190** | **M1D100E1403C100L750** | 1.000 | 1.000 | 7.500 | 1.750 | .570 | 3 | 10.2° | 1.44 | 39200 |
| **2624200** | **M1D125E1403C125L1000** | 1.250 | 1.250 | 10.000 | 2.250 | .570 | 3 | 6.9° | 3.09 | 33400 |
| **2624192** | **M1D125E1404C125L800** | 1.250 | 1.250 | 8.000 | 2.250 | .570 | 4 | 6.9° | 2.44 | 33400 |
| **5903140** | **M1D150E1403C125L1000** | 1.500 | 1.250 | 10.000 | 2.250 | .560 | 3 | 5.2° | 3.08 | 29600 |
| **2624202** | **M1D150E1404C125L1000** | 1.500 | 1.250 | 10.000 | 2.250 | .560 | 4 | 5.2° | 3.31 | 29600 |
| **2624250** | **M1D150E1405C125L800** | 1.500 | 1.250 | 8.000 | 2.250 | .560 | 5 | 5.2° | 2.65 | 29600 |

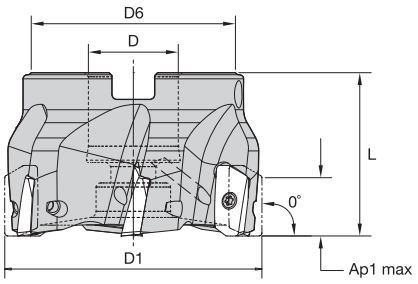
## Spare Parts

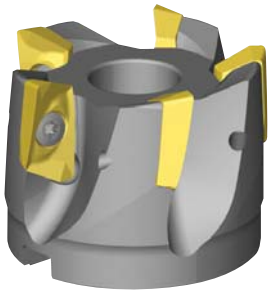
| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **MS2167** | 20 | **DT9IP** |
| 1.000 | **MS2166** | 20 | **DT9IP** |
| 1.250 | **MS2166** | 20 | **DT9IP** |
| 1.500 | **MS2166** | 20 | **DT9IP** |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Shell Mills

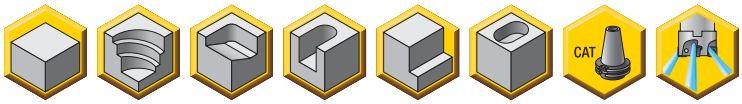
| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| 2479509 | M1D125E1404S050L157 | 1.250 | .500 | 1.204 | 1.575 | .570 | 4 | 6.9° | .28 | 33400 |
| 2624255 | M1D150E1405S075L157 | 1.500 | .750 | 1.414 | 1.575 | .560 | 5 | 5.2° | .39 | 29600 |
| 5898598 | M1D200E1403S075L157 | 2.000 | .750 | 1.750 | 1.575 | .560 | 3 | 3.4° | .67 | 24700 |
| 2624270 | M1D200E1405S075L157 | 2.000 | .750 | 1.750 | 1.575 | .560 | 5 | 3.4° | .72 | 24700 |
| 2479510 | M1D200E1406S075L157 | 2.000 | .750 | 1.750 | 1.575 | .560 | 6 | 3.4° | .70 | 24700 |
| 2624274 | M1D250E1405S075L157 | 2.500 | .750 | 1.750 | 1.575 | .560 | 5 | 2.5° | 1.04 | 21700 |
| 2624254 | M1D250E1407S075L157 | 2.500 | .750 | 1.750 | 1.575 | .560 | 7 | 2.5° | 1.04 | 21700 |
| 5898597 | M1D300E1404S100L175 | 3.000 | 1.000 | 2.188 | 1.750 | .560 | 4 | 2.0° | 1.56 | 19600 |
| 2624277 | M1D300E1406S100L175 | 3.000 | 1.000 | 2.188 | 1.750 | .560 | 6 | 2.0° | 1.79 | 19600 |
| 2624275 | M1D300E1408S100L175 | 3.000 | 1.000 | 2.188 | 1.750 | .560 | 8 | 2.0° | 1.78 | 19600 |
| 2624279 | M1D400E1408S150L200 | 4.000 | 1.500 | 3.625 | 2.000 | .560 | 8 | 1.5° | 3.97 | 16700 |
| 2624278 | M1D400E1410S150L200 | 4.000 | 1.500 | 3.625 | 2.000 | .560 | 10 | 1.5° | 3.99 | 16700 |

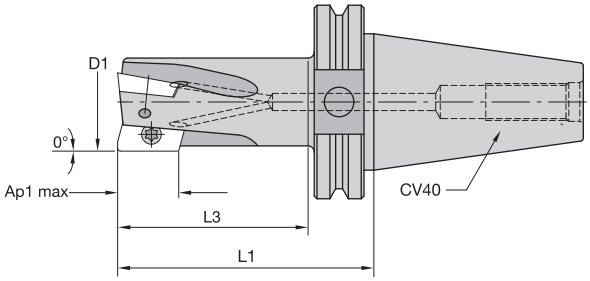
## Spare Parts

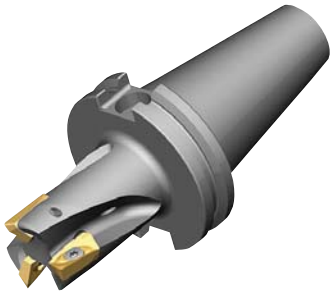
| D1 | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw with coolant groove | coolant screw assembly |
|---|---|---|---|---|---|
| 1.250 | MS2166 | 20 | DT9IP | S422CG | – |
| 1.500 | MS2166 | 20 | DT9IP | S445CG | – |
| 2.000 | MS2166 | 20 | DT9IP | S445CG | – |
| 2.500 | MS2166 | 20 | DT9IP | S445CG | – |
| 3.000 | MS2166 | 20 | DT9IP | S2044CG | – |
| 4.000 | MS2166 | 20 | DT9IP | – | S2165C |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



## End Mills • Steep Taper CV40

| order number | catalog number | CSMS system size | D1 | L1 | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2624246** | **M1D100E1403CV40L300** | CV40 | 1.000 | 3.000 | 1.500 | .570 | 3 | 10.2° | 2.40 | 39200 |
| **2624248** | **M1D125E1404CV40L300** | CV40 | 1.250 | 3.000 | 1.500 | .570 | 4 | 6.9° | 2.56 | 33400 |
| **2624253** | **M1D150E1405CV40L300** | CV40 | 1.500 | 3.000 | 1.625 | .560 | 5 | 5.2° | 2.72 | 29600 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2166** | 20 | **DT9IP** |
| 1.250 | **MS2166** | 20 | **DT9IP** |
| 1.500 | **MS2166** | 20 | **DT9IP** |

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GD | KCPM40 | **.S..GD2** | **KCPM40** | .E..HD2 | KCPM40 |
| P3–P4 | .S..GE | KCPK30 | **.S..GD2** | **KCPK30** | .E..HD2 | KCPK30 |
| P5–P6 | .S..GE | KC725M | **.S..GD2** | **KC725M** | .E..HD2 | KC725M |
| M1–M2 | .E..LD | KC522M | **.S..GD2** | **KC725M** | .E..HD2 | KC522M |
| M3 | .E..GD | KCSM40 | **.S..GD2** | **KCPM40** | .E..HD2 | KCPM40 |
| K1–K2 | .S..GD2 | KC520M | **.E..HD2** | **KC520M** | .E..HD2 | KCK15 |
| K3 | .S..GE | KCPM20 | **.S..GD2** | **KC520M** | .E..HD2 | KC520M |
| N1–N2 | .F..LDJ | KC410M | **.E..LDJ** | **KC422M** | .E..LDJ | KC422M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..GD | KC725M | **.S..GD2** | **KCSM30** | .E..HD2 | KCSM30 |
| S3 | .E..GD | KCSM40 | **.S..GD2** | **KCSM30** | .E..HD2 | KCSM30 |
| S4 | .S..GE | KCSM40 | **.S..GD2** | **KCSM30** | .E..HD2 | KCSM30 |
| H1 | – | – | **–** | **–** | – | – |

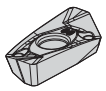
## Indexable Inserts

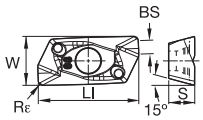
- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).

● first choice
○ alternate choice

beyond

| | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | ● | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |


EDCT-F.LDJ



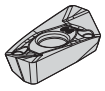
EDCT-F.LDJ

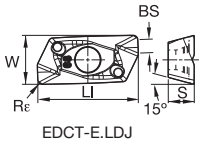
## EDCT-F.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1402FLDJ** | .687 | .334 | .177 | .124 | .008 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1404FLDJ** | .687 | .334 | .177 | .116 | .016 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1408FLDJ** | .688 | .334 | .177 | .101 | .031 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1412FLDJ** | .688 | .333 | .177 | .085 | .047 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1416FLDJ** | .688 | .333 | .177 | .070 | .062 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1431FLDJ** | .689 | .331 | .177 | .010 | .122 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1440FLDJ** | .651 | .329 | .177 | — | .157 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |

- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).

● first choice
○ alternate choice


EDCT-E.LDJ

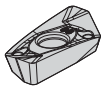


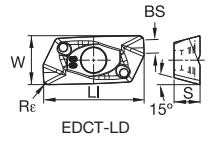
EDCT-E.LDJ

## EDCT-E.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1404ELDJ** | .687 | .334 | .177 | .116 | .016 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – |
| **EC1408ELDJ** | .688 | .334 | .177 | .101 | .031 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – |
| **EC1424ELDJ** | .689 | .332 | .177 | .039 | .094 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – |

- Finishing and high-precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).


EDCT-LD

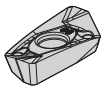


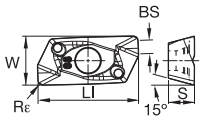
EDCT-LD

## EDCT-LD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1404ELD** | .687 | .334 | .177 | .116 | .016 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1408ELD** | .688 | .334 | .177 | .101 | .031 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1412ELD** | .688 | .333 | .177 | .085 | .047 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1416ELD** | .688 | .333 | .177 | .070 | .062 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1431ELD** | .689 | .331 | .177 | .010 | .122 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |

- Light machining and finish applications.
- Medium hone for increased edge protection.
- Periphery ground for high-precision machining.
- Ap1 max = .551" (14mm).


EDCT-E.GD



EDCT-E.GD

● first choice
○ alternate choice

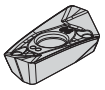
beyond

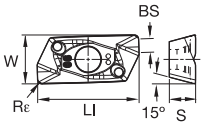
| | | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | | |
| N | | ● | ● | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |

## EDCT-E.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1404EGD** | .687 | .334 | .177 | .116 | .016 | .002 | 2 | – | – | – | – | ● | – | – | ● | – | – |
| **EC1408EGD** | .688 | .334 | .177 | .101 | .031 | .002 | 2 | – | – | – | – | ● | – | – | ● | – | ● |
| **EC1412EGD** | .688 | .333 | .177 | .085 | .047 | .002 | 2 | – | – | – | – | ● | – | – | – | – | ● |
| **EC1416EGD** | .688 | .333 | .177 | .070 | .062 | .002 | 2 | – | – | – | – | ● | – | – | – | – | ● |
| **EC1431EGD** | .689 | .331 | .177 | .010 | .122 | .002 | 2 | – | – | – | – | ● | – | – | – | – | ● |

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .551" (14mm).


EDPT-E.HD



EDPT-E.HD

## EDPT-E.HD

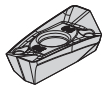
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1404EHD** | .687 | .330 | .177 | .116 | .016 | .003 | 2 | – | – | ● | ● | ● | ● | ● | ● | – | – |
| **EP1408EHD** | .688 | .330 | .177 | .101 | .031 | .003 | 2 | – | – | ● | ● | ● | ● | ● | ● | – | ● |
| **EP1412EHD** | .688 | .329 | .177 | .085 | .047 | .003 | 2 | – | – | ● | ● | ● | ● | ● | ● | – | ● |
| **EP1416EHD** | .688 | .329 | .177 | .070 | .062 | .003 | 2 | – | – | – | ● | ● | ● | ● | ● | ● | ● |
| **EP1420EHD** | .688 | .329 | .177 | .054 | .079 | .003 | 2 | – | – | – | ● | ● | – | ● | – | – | ● |
| **EP1424EHD** | .689 | .328 | .177 | .039 | .094 | .003 | 2 | – | – | – | ● | ● | – | ● | ● | – | ● |
| **EP1431EHD** | .689 | .327 | .177 | .010 | .122 | .003 | 2 | – | – | – | ● | ● | – | ● | – | ● | ● |
| **EP1440EHD** | .651 | .325 | .177 | — | .157 | .003 | 2 | – | – | – | ● | ● | – | ● | – | ● | ● |

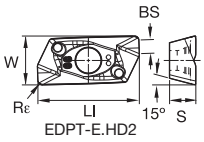
- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).

● first choice
○ alternate choice

beyond

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | | |
| N | ● | ● | | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |


EDPT-E.HD2

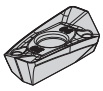


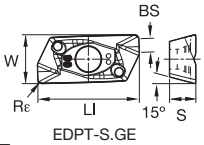
EDPT-E.HD2

## EDPT-E.HD2

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1408EHD2** | .688 | .330 | .177 | .101 | .031 | .003 | 2 | – | – | – | ● | ● | ● | ● | ● | – | – |

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .551" (14mm).


EDPT-S.GE

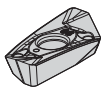


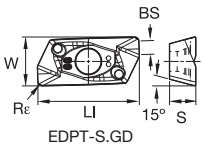
EDPT-S.GE

## EDPT-S.GE

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1404SGE** | .686 | .323 | .175 | .110 | .016 | .005 | 2 | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1408SGE** | .686 | .322 | .175 | .094 | .031 | .005 | 2 | – | – | – | ● | ● | – | ● | ● | – | ● |
| **EP1412SGE** | .687 | .320 | .175 | .078 | .047 | .005 | 2 | – | – | – | ● | ● | – | ● | – | – | ● |
| **EP1416SGE** | .687 | .320 | .175 | .062 | .062 | .005 | 2 | – | – | – | ● | ● | – | ● | – | – | ● |
| **EP1431SGE** | .687 | .318 | .175 | .005 | .122 | .005 | 2 | – | – | – | – | ● | – | ● | – | – | ● |

- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .551" (14mm).


EDPT-S.GD



EDPT-S.GD

## EDPT-S.GD

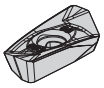
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1408SGD** | .688 | .330 | .177 | .101 | .031 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | ● |
| **EP1412SGD** | .688 | .329 | .177 | .085 | .047 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | ● |
| **EP1416SGD** | .688 | .329 | .177 | .070 | .062 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | ● |

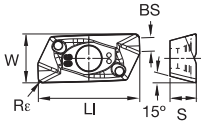
- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .551" (14mm).

● first choice
○ alternate choice

beyond

| | | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | | |
| N | | ● | ● | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |


EDPT-S.GD2



EDPT-S.GD2

## EDPT-S.GD2

| catalog number | Ll | W | S | BS | Rε | hm | cutting edges |
|---|---|---|---|---|---|---|---|
| **EP1408SGD2** | .688 | .330 | .177 | .103 | .031 | .004 | 2 |

## Recommended Starting Feeds

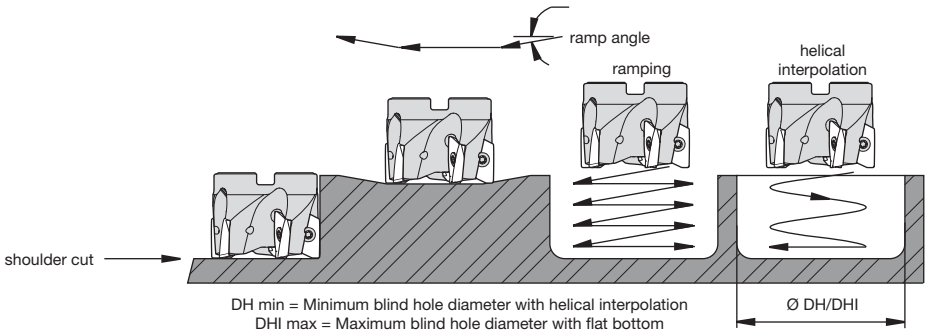
## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.013** | .023 | .003 | **.009** | .017 | .003 | **.007** | .013 | .002 | **.006** | .011 | .002 | **.006** | .010 | .F..LDJ |
| .E..LDJ | .005 | **.017** | .028 | .003 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .E..LDJ |
| .E..LD | .005 | **.016** | .028 | .004 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .E..LD |
| .E..GD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..GD |
| .S..GE | .009 | **.020** | .032 | .007 | **.014** | .023 | .005 | **.011** | .017 | .004 | **.009** | .015 | .004 | **.009** | .014 | .S..GE |
| .S..GD | .009 | **.020** | .032 | .007 | **.014** | .023 | .005 | **.011** | .017 | .004 | **.009** | .015 | .004 | **.009** | .014 | .S..GD |
| .S..GD2 | .009 | **.020** | .032 | .007 | **.014** | .023 | .005 | **.011** | .017 | .004 | **.009** | .015 | .004 | **.009** | .014 | .S..GD2 |
| .E..HD | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .E..HD |
| .E..HD2 | .008 | **.023** | .037 | .006 | **.017** | .027 | .004 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .E..HD2 |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Application Examples




| insert style | cutting diameter | max ramp angle | DH min (min hole diameter) | DHI min (min flat-bottomed hole diameter) | max diameter (no flat bottom) |
|---|---|---|---|---|---|
| Mill-1, 14mm | .625 | 25° | .625 | 1.065 | 1.25 |
| Mill-1, 14mm | .750 | 18° | .869 | 1.130 | 1.50 |
| Mill-1, 14mm | .875 | 13° | 1.113 | 1.562 | 1.75 |
| Mill-1, 14mm | .970 | 11° | 1.300 | 1.752 | 1.94 |
| Mill-1, 14mm | 1.000 | 10° | 1.360 | 1.812 | 2.00 |
| Mill-1, 14mm | 1.250 | 7° | 1.862 | 2.312 | 2.50 |
| Mill-1, 14mm | 1.500 | 6° | 2.361 | 2.812 | 3.00 |
| Mill-1, 14mm | 1.250 | 7° | 1.873 | 2.322 | 2.50 |
| Mill-1, 14mm | 1.500 | 5° | 2.370 | 2.822 | 3.00 |
| Mill-1, 14mm | 2.000 | 4° | 3.368 | 3.822 | 4.00 |
| Mill-1, 14mm | 2.500 | 3° | 4.367 | 4.822 | 5.00 |
| Mill-1, 14mm | 3.000 | 2° | 5.366 | 5.822 | 6.00 |
| Mill-1, 14mm | 4.000 | 2° | 7.366 | 7.822 | 8.00 |

NOTE: Max ramp angle decreases as nose radius increases.

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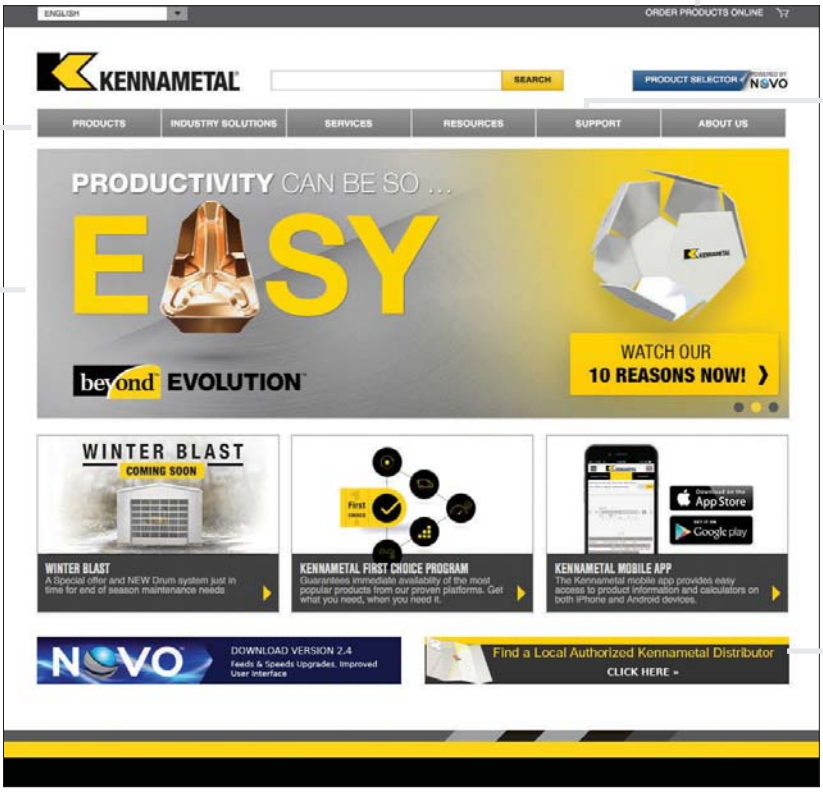


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# Mill 1-14™
## Helical Cutters

### Primary Application

Mill 1-14 helical cutters will increase axial depth of cut. Designed with axial support pins for added stability, the Mill 1-14 helical cutters feature essential Load-Optimized Insert Spacing™ (LOIS) technology. LOIS dramatically minimizes unwanted vibrations and fluctuations in power requirements, resulting in a much smoother-sounding cut. Up to nine different coolant nozzle diameters enable tailoring to suit each machine tool, providing remarkably consistent, focused coolant flow.

## Features and Benefits

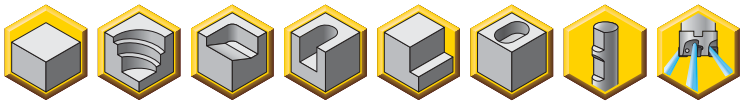
### Functions

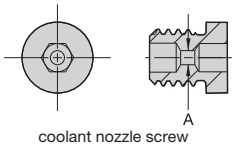
- Improves axial depth of cut better than standard end mills due to the positioning of inserts in helical configuration.
- Up to nine different coolant nozzle diameters tailored to suit each machine tool.
- One tool that offers features common to end mills, but rarely seen on a helical cutter:
  Helical ramping from solid, slotting, contouring, ramping, and plunging.

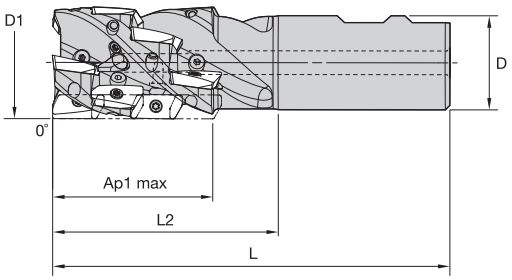
### Benefits

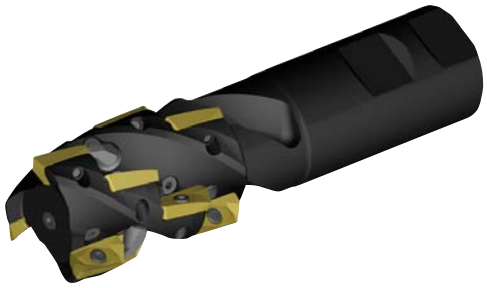
- Increases depth of cut.
- Consistent, focused coolant flow.
- Built for performance, accuracy, and versatility.

- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 0° walls.
- Axial support pins.
- Unique coolant nozzles.





## Helical Weldon® End Mills • Slot and Profile

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | Z U | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3732889 | M1HR125E14W125Z2L200C4 | 1.250 | 1.250 | 4.280 | 2.000 | 1.100 | 4 | 2 | 6.9° | 1.10 | 31100 |
| 3732890 | M1HR150E14W125Z3L200C6 | 1.500 | 1.250 | 4.280 | 2.000 | 1.090 | 6 | 3 | 5.2° | 1.18 | 28400 |
| 3732891 | M1HR150E14W125Z3L250C9 | 1.500 | 1.250 | 4.780 | 2.500 | 1.612 | 9 | 3 | 5.2° | 1.31 | 28400 |
| 3732892 | M1HR150E14W125Z3L300C12 | 1.500 | 1.250 | 5.280 | 3.000 | 2.130 | 12 | 3 | 5.2° | 1.39 | 28400 |
| 3732935 | M1HR200E14W150Z3L300C12 | 2.000 | 1.500 | 5.690 | 3.001 | 2.104 | 12 | 3 | 3.4° | 2.63 | 24600 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver | pin | coolant nozzle screw |
|---|---|---|---|---|---|
| 1.250 | MS2148 | 20 | DT9IP | ASPM07001802 | MS2191C20 |
| 1.500 | MS2148 | 20 | DT9IP | ASPM07001802 | MS2191C20 |
| 2.000 | MS2148 | 20 | DT9IP | ASPM07001802 | MS2191C20 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Optional Coolant Nozzle Screws

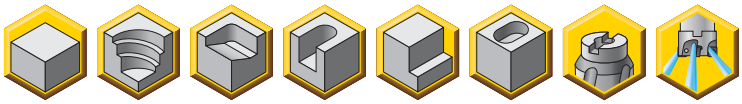
| order number | catalog number | A |
|---|---|---|
| 3400611 | MS2191C00 | — |
| 3400612 | MS2191C06 | .024 |
| 3400613 | MS2191C08 | .032 |
| 3400616 | MS2191C12 | .047 |
| 3400617 | MS2191C14 | .055 |
| 3400618 | MS2191C16 | .063 |
| 3400619 | MS2191C18 | .071 |
| 3400620 | MS2191C20 | .079 |

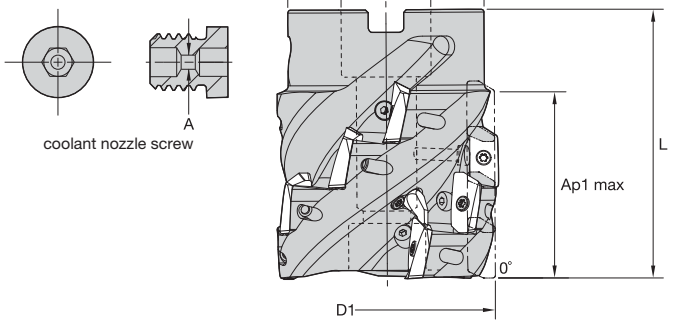
## Coolant Nozzle Key

| order number | T-handle hex wrench | drive size |
|---|---|---|
| 1993552 | THW2M | 2 MM |

NOTE: Check the spare parts table for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 this is a .047" hole.
All coolant nozzles are interchangeable with the original that is supplied with the cutter. This gives flexibility for coolant flow.

- Aggressive ramping rates.
- Generates superior surface finish.
- Mill 0° walls.
- Axial support pins.
- Unique coolant nozzles.





## Helical Shell Mills • Slot and Profile

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | Z U | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3732933** | **M1HR200E14S075Z3L200C6** | 2.000 | .750 | 1.750 | 2.000 | 1.070 | 6 | 3 | 3.4 | .98 | 24600 |
| **3732934** | **M1HR200E14S075Z3L250C9** | 2.000 | .750 | 1.750 | 2.500 | 1.591 | 9 | 3 | 3.4 | 1.27 | 24600 |
| **3732937** | **M1HR250E14S100Z3L250C9** | 2.500 | 1.000 | 2.188 | 2.500 | 1.570 | 9 | 3 | 2.5 | 2.12 | 22000 |
| **3732938** | **M1HR250E14S100Z4L250C12** | 2.500 | 1.000 | 2.188 | 2.500 | 1.570 | 12 | 4 | 2.5 | 2.05 | 22000 |
| **3732939** | **M1HR250E14S100Z3L300C12** | 2.500 | 1.000 | 2.188 | 3.000 | 2.080 | 12 | 3 | 2.5 | 2.61 | 22000 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

| order number | D1 | L | insert screw | in. lbs. | Torx Plus driver | pin | socket-head cap screw | coolant nozzle screw |
|---|---|---|---|---|---|---|---|---|
| **3732933** | 2.000 | 2.000 | **MS2148** | 20 | **DT9IP** | **ASPM07001802** | **S447** | **MS2191C20** |
| **3732934** | 2.000 | 2.500 | **MS2148** | 20 | **DT9IP** | **ASPM07001802** | **S449** | **MS2191C16** |
| **3732937** | 2.500 | 2.500 | **MS2148** | 20 | **DT9IP** | **ASPM07001802** | **S462** | **MS2191C20** |
| **3732938** | 2.500 | 2.500 | **MS2148** | 20 | **DT9IP** | **ASPM07001802** | **S462** | **MS2191C16** |
| **3732939** | 2.500 | 3.000 | **MS2148** | 20 | **DT9IP** | **ASPM07001802** | **S464** | **MS2191C16** |

## Optional Coolant Nozzle Screws

| order number | catalog number | A |
|---|---|---|
| 3400611 | MS2191C00 | – |
| 3400612 | MS2191C06 | .024 |
| 3400613 | MS2191C08 | .032 |
| 3400616 | MS2191C12 | .047 |
| 3400617 | MS2191C14 | .055 |
| 3400618 | MS2191C16 | .063 |
| 3400619 | MS2191C18 | .071 |
| 3400620 | MS2191C20 | .079 |

## Coolant Nozzle Key

| order number | catalog number | drive size |
|---|---|---|
| 1993552 | THW2M | 2 MM |

NOTE: Check the spare parts column for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 this is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter. This gives flexibility with coolant flow.

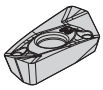
## Insert Selection Guide

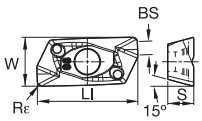
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GD | KCPM40 | **.S..GD2** | **KCPM40** | .E..HD2 | KCPM40 |
| P3–P4 | .E..GD | KCPM40 | **.S..GD2** | **KCPK30** | .E..HD2 | KCPK30 |
| P5–P6 | .E..GD | KC725M | **.S..GD2** | **KC725M** | .E..HD2 | KC725M |
| M1–M2 | .E..LD | KC522M | **.E..GD** | **KCSM40** | .E..HD2 | KC522M |
| M3 | .E..GD | KCSM40 | **.S..GD2** | **KCPM40** | .E..HD2 | KCPM40 |
| K1–K2 | .S..GD2 | KC520M | **.E..HD2** | **KC520M** | .E..HD2 | KCK15 |
| K3 | .S..GD2 | KC520M | **.E..HD2** | **KC520M** | .E..HD2 | KCK15 |
| N1–N2 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .E..LDJ | KC422M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..GD | KC725M | **.S..GD2** | **KC725M** | .E..HD2 | KC725M |
| S3 | .E..GD | KCSM40 | **.S..GD2** | **KC725M** | .E..HD2 | KC725M |
| S4 | .E..GD | KCSM40 | **.S..GD2** | **KC725M** | .E..HD2 | KC522M |
| H1 | – | – | – | – | – | – |

## Indexable Inserts

- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).

● first choice
○ alternate choice


EDCT-F.LDJ



EDCT-F.LDJ

## EDCT-F.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1402FLDJ** | .687 | .334 | .177 | .124 | .008 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1404FLDJ** | .687 | .334 | .177 | .116 | .016 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1408FLDJ** | .688 | .334 | .177 | .101 | .031 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1412FLDJ** | .688 | .333 | .177 | .085 | .047 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1416FLDJ** | .688 | .333 | .177 | .070 | .062 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1431FLDJ** | .689 | .331 | .177 | .010 | .122 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |
| **EC1440FLDJ** | .651 | .329 | .177 | – | .157 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – |

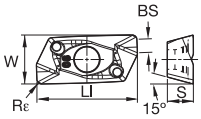
- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).

beyond

● first choice
○ alternate choice

| | | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | | |
| N | | ● | ● | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |

EDCT-E.LDJ

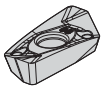


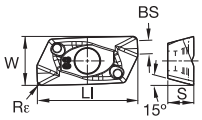
EDCT-E.LDJ

## EDCT-E.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1404ELDJ** | .687 | .334 | .177 | .116 | .016 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – |
| **EC1408ELDJ** | .688 | .334 | .177 | .101 | .031 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – |
| **EC1424ELDJ** | .689 | .332 | .177 | .039 | .094 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – |

- Finishing and high precision applications.
- Light machining.
- 15° positive rake angle.
- Perfect floor surface finish.
- Ap1 max = 0.551" (14mm).


EDCT-LD



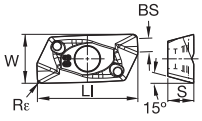
EDCT-LD

## EDCT-LD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1404ELD** | .687 | .334 | .177 | .116 | .016 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1408ELD** | .688 | .334 | .177 | .101 | .031 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1412ELD** | .688 | .333 | .177 | .085 | .047 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1416ELD** | .688 | .333 | .177 | .070 | .062 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **EC1431ELD** | .689 | .331 | .177 | .010 | .122 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – |

- Light machining and finish applications.
- Medium hone for increased edge protection.
- Periphery ground for high precision machining.
- Ap1 max = 0.551" (14mm).

EDCT-E.GD



EDCT-E.GD

● first choice
○ alternate choice

beyond

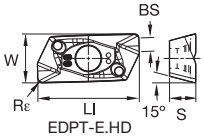
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | ● | ○ | | | |
| N | ● | ● | | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |

## EDCT-E.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1404EGD** | .687 | .334 | .177 | .116 | .016 | .002 | 2 | – | – | – | – | ● | – | – | ● | – | – |
| **EC1408EGD** | .688 | .334 | .177 | .101 | .031 | .002 | 2 | – | – | – | – | ● | – | – | ● | – | ● |
| **EC1412EGD** | .688 | .333 | .177 | .085 | .047 | .002 | 2 | – | – | – | – | ● | – | – | – | – | ● |
| **EC1416EGD** | .688 | .333 | .177 | .070 | .062 | .002 | 2 | – | – | – | – | ● | – | – | – | – | ● |
| **EC1431EGD** | .689 | .331 | .177 | .010 | .122 | .002 | 2 | – | – | – | – | ● | – | – | – | – | ● |

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).

EDPT-E.HD



EDPT-E.HD

## EDPT-E.HD

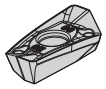
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1404EHD** | .687 | .330 | .177 | .116 | .016 | .003 | 2 | – | – | ● | ● | ● | ● | ● | ● | – | – |
| **EP1408EHD** | .688 | .330 | .177 | .101 | .031 | .003 | 2 | – | – | ● | ● | ● | ● | ● | ● | – | ● |
| **EP1412EHD** | .688 | .329 | .177 | .085 | .047 | .003 | 2 | – | – | ● | ● | ● | ● | ● | ● | – | ● |
| **EP1416EHD** | .688 | .329 | .177 | .070 | .062 | .003 | 2 | – | – | – | ● | ● | ● | ● | ● | ● | ● |
| **EP1420EHD** | .688 | .329 | .177 | .054 | .079 | .003 | 2 | – | – | – | ● | ● | – | ● | – | – | ● |
| **EP1424EHD** | .689 | .328 | .177 | .039 | .094 | .003 | 2 | – | – | – | ● | ● | – | ● | ● | – | ● |
| **EP1431EHD** | .689 | .327 | .177 | .010 | .122 | .003 | 2 | – | – | – | ● | ● | – | ● | – | ● | ● |
| **EP1440EHD** | .651 | .325 | .177 | — | .157 | .003 | 2 | – | – | – | ● | ● | – | ● | – | ● | ● |

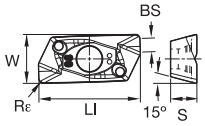
- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).

beyond

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | ● | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |

● first choice
○ alternate choice


EDPT-E.HD2

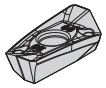


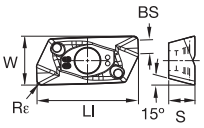
EDPT-E.HD2

## EDPT-E.HD2

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1408EHD2** | .688 | .330 | .177 | .101 | .031 | .003 | 2 | – | – | – | ● | ● | ● | ● | ● | – | – |

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).


EDPT-S.GE



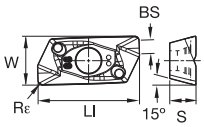
EDPT-S.GE

## EDPT-S.GE

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1404SGE** | .686 | .323 | .175 | .110 | .016 | .005 | 2 | – | – | – | ● | ● | – | ● | – | – | – |
| **EP1408SGE** | .686 | .322 | .175 | .094 | .031 | .005 | 2 | – | – | – | ● | ● | – | ● | ● | – | ● |
| **EP1412SGE** | .687 | .320 | .175 | .078 | .047 | .005 | 2 | – | – | – | ● | ● | – | ● | – | – | ● |
| **EP1416SGE** | .687 | .320 | .175 | .062 | .062 | .005 | 2 | – | – | – | ● | ● | – | ● | – | – | ● |
| **EP1431SGE** | .687 | .318 | .175 | .005 | .122 | .005 | 2 | – | – | – | – | ● | – | ● | – | – | ● |

- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).

EDPT-S.GD

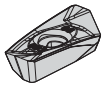


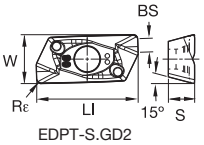
EDPT-S.GD

## EDPT-S.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1408SGD** | .688 | .330 | .177 | .101 | .031 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | ● |
| **EP1412SGD** | .688 | .329 | .177 | .085 | .047 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | ● |
| **EP1416SGD** | .688 | .329 | .177 | .070 | .062 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | ● |

- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = 0.551" (14mm).


EDPT-S.GD2



EDPT-S.GD2

## EDPT-S.GD2

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1408SGD2** | .688 | .330 | .177 | .103 | .031 | .004 | 2 | – | – | ● | – | ● | – | ● | ● | – | – |

● first choice
○ alternate choice

| | beyond | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | ● | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |



## Recommended Starting Feeds

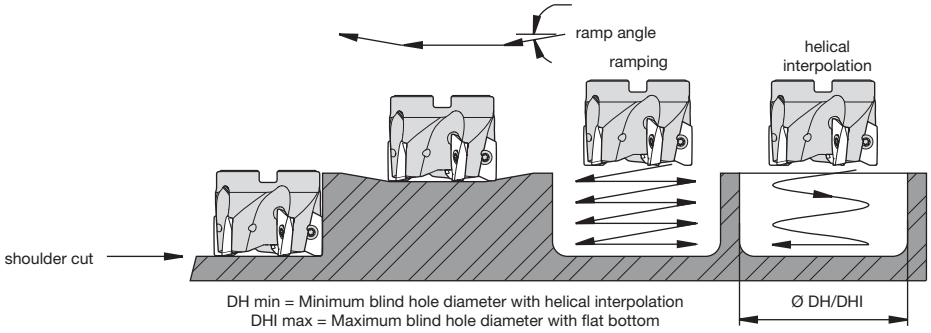
### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.019** | .033 | .003 | **.013** | .023 | .003 | **.010** | .018 | .002 | **.009** | .015 | .002 | **.008** | .014 | .F..LDJ |
| .E..LDJ | .005 | **.019** | .033 | .003 | **.014** | .024 | .003 | **.010** | .018 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LDJ |
| .E..LD | .005 | **.018** | .032 | .004 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LD |
| .E..GD | .007 | **.020** | .035 | .005 | **.015** | .025 | .004 | **.011** | .019 | .003 | **.010** | .016 | .003 | **.009** | .015 | .E..GD |
| .S..GE | .009 | **.020** | .035 | .007 | **.014** | .025 | .005 | **.011** | .019 | .004 | **.009** | .017 | .004 | **.009** | .015 | .S..GE |
| .S..GD | .009 | **.020** | .035 | .007 | **.014** | .025 | .005 | **.011** | .019 | .004 | **.009** | .016 | .004 | **.009** | .015 | .S..GD |
| .S..GD2 | .009 | **.020** | .035 | .007 | **.014** | .025 | .005 | **.011** | .019 | .004 | **.009** | .016 | .004 | **.009** | .015 | .S..GD2 |
| .E..HD | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .E..HD |
| .E..HD2 | .008 | **.023** | .037 | .006 | **.017** | .027 | .004 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .E..HD2 |

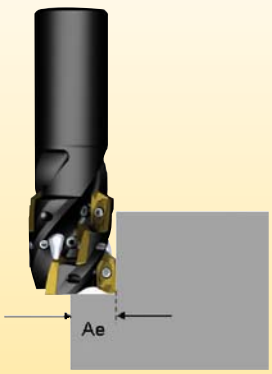
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Application Examples



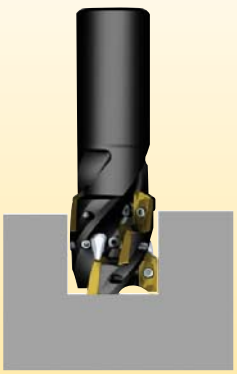

| insert style | cutting diameter | max ramp angle | DH min (min hole diameter) | DHI min (min flat-bottomed hole diameter) | max diameter (no flat bottom) |
|---|---|---|---|---|---|
| Mill 1-14 | 1.25 | 5.4° | 1.862 | 2.312 | 2.5 |
| Mill 1-14 | 1.50 | 4.0° | 2.370 | 2.822 | 3 |
| Mill 1-14 | 2.00 | 2.6° | 3.368 | 3.822 | 4 |
| Mill 1-14 | 2.50 | 1.9° | 4.367 | 4.822 | 5 |

## Best Machining Practices



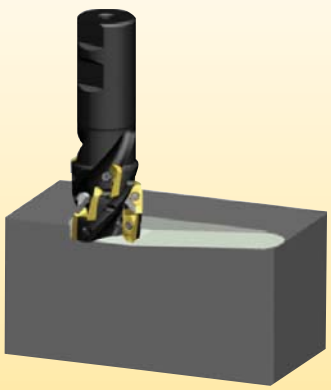

**Contouring/Profiling**

Ae = up to 50% of cutter Ø. This can be used with or without coolant/air blast, depending on materials being machined.



**Slotting**

Full width cutting or profiling over 50% of the cutter Ø. It is suggested to use coolant or air blast to evacuate chips. If necessary, reduce coolant nozzle hole size, which adds more pressure, and the chip is forced out of the chip gash.

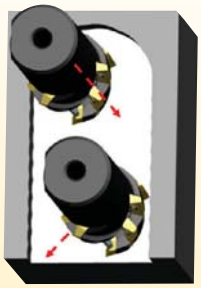


**Ramping**

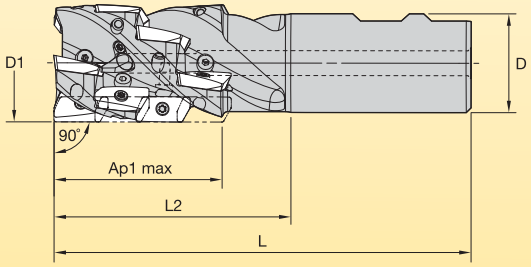
Only machine to the depth of the first insert. Observe the ramping angles given in the catalog.

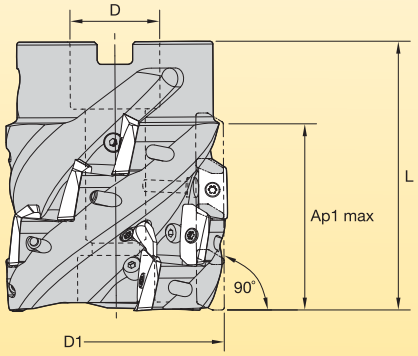
## Slotting by Plunging

Slot with the alternate side method, alternating the cuts from side to side. This will enable the cutter to move away from the material prior to moving back up in the Z-axis. The cutter will not be in contact with the workpiece. Follow the direction of the arrows. Move 3 axes simultaneously into the center of the slot. Maximum step over 0.315" (8,0mm).



With multiple Z-axis passes, when the final depth is achieved, move straight back up in the Z-axis, then repeat at the next step over.




| | catalog number | order number | D1 | ZU[1] | Z | Mtg. [2] | D | L2 | L | Ap1 max | max Ra[3] | max CR[4] | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inch Cutters | M1HR125E14W125Z2L200C4 | 3732889 | 1.25 | 2 | 4 | W | 1.25 | 2.00 | 4.28 | 1.09 | 5.4° | 0.094 | 31100 |
| | M1HR150E14W125Z3L200C6 | 3732890 | 1.50 | 3 | 6 | W | 1.25 | 2.00 | 4.28 | 1.09 | 4.0° | 0.094 | 28400 |
| | M1HR150E14W125Z3L250C9 | 3732891 | 1.50 | 3 | 9 | W | 1.25 | 2.50 | 4.78 | 1.61 | 4.0° | 0.094 | 28400 |
| | M1HR150E14W125Z3L300C12 | 3732892 | 1.50 | 3 | 12 | W | 1.25 | 3.00 | 5.28 | 2.13 | 4.0° | 0.094 | 28400 |
| | M1HR200E14S075Z3L200C6 | 3732933 | 2.00 | 3 | 6 | S | 0.75 | — | 2.00 | 1.07 | 2.6° | 0.094 | 24600 |
| | M1HR200E14S075Z3L250C9 | 3732934 | 2.00 | 3 | 9 | S | 0.75 | — | 2.50 | 1.59 | 2.6° | 0.094 | 24600 |
| | M1HR200E14W150Z3L300C12 | 3732935 | 2.00 | 3 | 12 | W | 1.50 | 3.00 | 5.69 | 2.10 | 2.6° | 0.094 | 24600 |
| | M1HR250E14S100Z3L200C6 | 3732936 | 2.50 | 3 | 6 | S | 1.00 | — | 2.00 | 1.06 | 1.9° | 0.094 | 22000 |
| | M1HR250E14S100Z3L250C9 | 3732937 | 2.50 | 3 | 9 | S | 1.00 | — | 2.50 | 1.57 | 1.9° | 0.062 | 22000 |
| | M1HR250E14S100Z4L250C12 | 3732938 | 2.50 | 4 | 12 | S | 1.00 | — | 2.50 | 1.57 | 1.9° | 0.062 | 22000 |
| | M1HR250E14S100Z3L300C12 | 3732939 | 2.50 | 3 | 12 | S | 1.00 | — | 3.00 | 2.07 | 1.9° | 0.062 | 22000 |
| | [5] M1HR250E14S100Z5L300C20 | 3786638 | 2.50 | 5 | 20 | S | 1.00 | — | 3.00 | 2.07 | 1.9° | 0.062 | 22000 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Metric Cutters | M1H32J2R50B32S90ED14C4 | 3742932 | 32 | 2 | 4 | W | 32 | 50 | 111 | 27,8 | 5,4° | 2,4 | 31100 |
| | M1H40J3R50B32S90ED14C6 | 3743033 | 40 | 3 | 6 | W | 32 | 50 | 111 | 27,6 | 3,8° | 2,4 | 28400 |
| | M1H40J3R65B32S90ED14C9 | 3743034 | 40 | 3 | 9 | W | 32 | 65 | 126 | 40,8 | 3,8° | 2,4 | 28400 |
| | M1H40J4R80B32S90ED14C12 | 5085631 | 40 | 4 | 12 | W | 32 | 80 | 141 | 40,8 | 3,8° | 2,5 | 28400 |
| | M1H40J3R80B32S90ED14C12 | 3743035 | 40 | 3 | 12 | W | 32 | 80 | 141 | 54,0 | 3,8° | 2,4 | 28400 |
| | M1H50T3R50A22S90ED14C6 | 3743036 | 50 | 3 | 6 | S | 22 | — | 50 | 27,3 | 2,7° | 2,4 | 24600 |
| | M1H50T3R65A22S90ED14C9 | 3743037 | 50 | 3 | 9 | S | 22 | — | 65 | 40,4 | 2,7° | 2,4 | 24600 |
| | M1H50J3R80B40S90ED14C12 | 3743038 | 63 | 3 | 12 | W | 40 | 80 | 151 | 53,5 | 1,9° | 2,4 | 24600 |
| | M1H63T3R50A27S90ED14C6 | 3743039 | 63 | 3 | 6 | S | 27 | — | 50 | 27,0 | 1,9° | 1,6 | 22000 |
| | M1H63T3R65A27S90ED14C9 | 3743040 | 63 | 3 | 9 | S | 27 | — | 65 | 39,9 | 1,9° | 1,6 | 22000 |
| | M1H63T4R65A27S90ED14C12 | 3743041 | 63 | 4 | 12 | S | 27 | — | 65 | 39,9 | 1,9° | 1,6 | 22000 |
| | M1H63T3R75A27S90ED14C12 | 3743042 | 63 | 3 | 12 | S | 27 | — | 75 | 52,8 | 1,9° | 1,6 | 22000 |
| | [5] M1H63T5R75A27S90ED14C20 | 3831819 | 63 | 5 | 20 | S | 27 | — | 75 | 52,8 | 1,9° | 1,6 | 22000 |

[1] Number of effective flutes.
[2] Mounting style: W = Weldon®; S = Shell Mill.
[3] Max ramp angle when radial depth of cut exceeds 0.31" (8mm)
[4] Max insert corner radius allowed in first row without cutter body modification.
[5] Recommended for profiling applications only.

## Profile, Slot, and Ramp

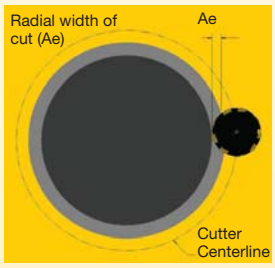
When taking a cut that equals up to 50% of the cutter diameter, you can operate without coolant, unless your material is coolant-dependent. When using more than 50% of the cutter diameter, there is a need to have coolant through the nozzles, or an air blast through the nozzles. This will assist with chip evacuation. Please use the feed table when taking a small percentage of the cutter diameter. This will improve the volume of material removed. To achieve a superior surface finish on the base, adjust the feed to suit the finish required.

When using this cutter for plunging, the maximum suggested step over is .130" (3,30mm). Always try to move the cutter and insert away from the material when retracting in the Z-axis. This can be done when employing the alternate cut method (zig zag method). Use a 3-axis move to get all axes moving at the same time, suggest .010" (0,25mm).

When machining a conventional slot, you have to move straight up in the Z-axis.

## Circular and Helical Interpolation

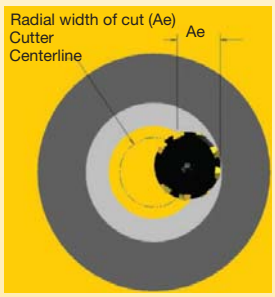
### External




When profiling around the external part of a component, it is important to increase the feed rate. This will maintain the chip thickness value.
The programmed feed rate needs to be calculated at the cutter centerline.

For external profiling, adjust the feed rate for feed at the cutter centerline.
Increase the feed rate for external profiling.

### Internal




When machining inside a component profile, the area of contact is larger.
The feed rate needs to be at the centerline, and the feed rate needs to be slower.

For internal profiling, adjust the feed rate for feed at the cutter centerline.
This will effectively reduce the feed rate as the distance traveled is less than the peripheral distance.

## Cutting Data

Reference pages X23–X27 for speed tables. Reference platform pages for feed data. Each insert has an average chip thickness value that will enable you to determine the feed per tooth.

Please remember when using less than 50% of the cutter diameter, the feed rate will need to be increased. Failure to do so will result in premature insert failure.

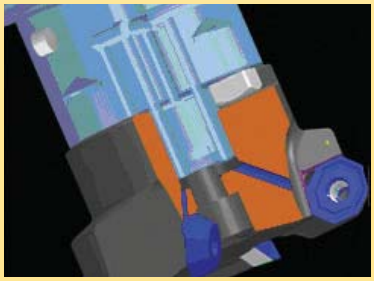
Running too slowly will reduce tool life.

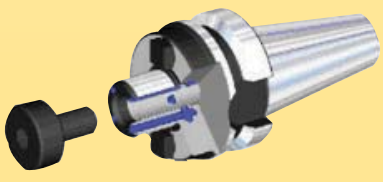
## Spare Parts

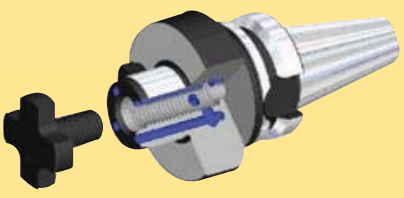
Please make sure all the spare parts in the cutters are fully tightened prior to using the product.

Shell mill cutters no longer have coolant grooved bolts. We now have adapters that will enable the coolant to be fed through the adapter pilot diameter.

## True Through Coolant Shell Mill Adapters







# Mill 1-18™

## Primary Application

The Mill 1-18 series is a versatile, functional cutter system for a range of cutting tasks. Mill 1-18 cutters can be used for profiling, slotting, ramping, helical interpolation, plunging, and other milling applications. It's a single tool with multi-functional benefits. Mill 1-18 inserts are specially designed to add cutting versatility, especially for larger axial depths of cut. Results include significantly reduced cycle times and lower cutting forces.

## Features and Benefits

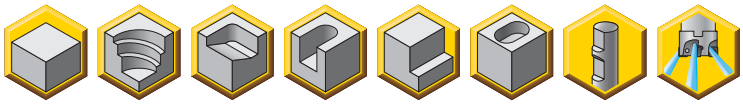
### Features

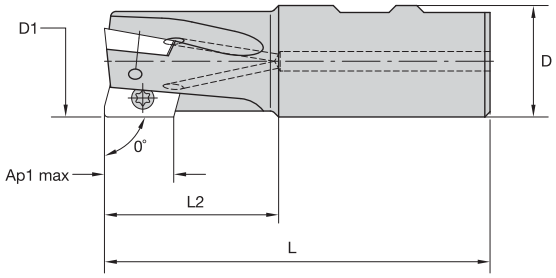
- Inserts for larger axial depth of cut.
- Inserts radii up to .250" (6,35mm).
- Axial depth of cut up to .708" (18mm).
- Cutter diameters up to 8" (160mm).
- Beyond™ grade technology.

### Benefits

- Slotting, profiling, ramping, helical interpolation, and plunging.
- Angled screw for insert retention.
- Insert geometries and grades for most workpiece materials.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Weldon® End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2267545** | **M1D097E1802W100L175** | .970 | 1.000 | 4.030 | 1.750 | .710 | 2 | 17.7° | .66 | 37710 |
| **2267546** | **M1D100E1802W100L175** | 1.000 | 1.000 | 4.030 | 1.750 | .710 | 2 | 16.7° | .68 | 37000 |
| **2267550** | **M1D100E1802W100L175R** | 1.000 | 1.000 | 3.968 | 1.688 | .640 | 2 | 13.4° | .67 | 37000 |
| **2267547** | **M1D100E1802W100L375** | 1.000 | 1.000 | 6.030 | 3.750 | .710 | 2 | 16.7° | 1.00 | 37000 |
| **2267552** | **M1D100E1802W100L375R** | 1.000 | 1.000 | 5.968 | 3.688 | .640 | 2 | 13.4° | .99 | 37000 |
| **2267623** | **M1D125E1803W125L225** | 1.250 | 1.250 | 4.530 | 2.250 | .710 | 3 | 10.9° | 1.17 | 32300 |
| **2267624** | **M1D125E1803W125L225R** | 1.250 | 1.250 | 4.469 | 2.188 | .650 | 3 | 7.5° | 1.16 | 32300 |
| **2267625** | **M1D125E1803W125L425** | 1.250 | 1.250 | 6.530 | 4.250 | .710 | 3 | 10.9° | 1.71 | 32300 |
| **2267626** | **M1D125E1803W125L425R** | 1.250 | 1.250 | 6.468 | 4.188 | .650 | 3 | 7.5° | 1.71 | 32300 |

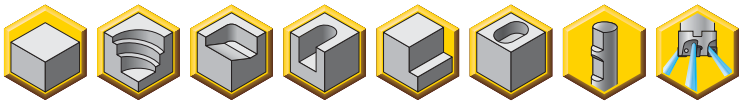
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"R" in catalog number designates factory-relieved tool for insert radii greater than .079". For example: M1D100E1802W100L375**R**.

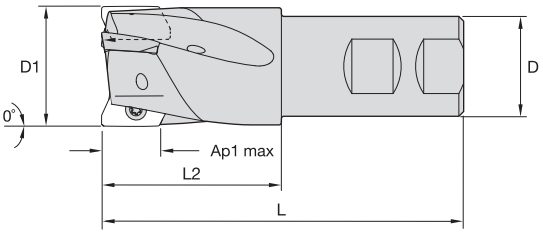
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .970 | **MS2126** | 35 | **DT15IP** |
| 1.000 | **MS2126** | 35 | **DT15IP** |
| 1.250 | **MS2126** | 35 | **DT15IP** |

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Weldon® End Mills • Reduced Shank

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2452372** | **M1D100E1802W075L175** | 1.000 | .750 | 3.780 | 1.750 | .710 | 2 | 14.0° | .43 | 37000 |
| **2452414** | **M1D125E1802W100L225** | 1.250 | 1.000 | 4.530 | 2.250 | .710 | 2 | 10.9° | .95 | 32300 |
| **2635710** | **M1D125E1803W100L225** | 1.250 | 1.000 | 4.530 | 2.250 | .710 | 3 | 10.9° | .89 | 32300 |
| **2267627** | **M1D150E1803W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .710 | 3 | 8.2° | 1.43 | 29020 |
| **2267651** | **M1D150E1803W125L425** | 1.500 | 1.250 | 6.530 | 4.250 | .710 | 3 | 8.2° | 2.26 | 29020 |
| **2267631** | **M1D150E1803W125L425R** | 1.500 | 1.250 | 6.468 | 4.188 | .640 | 3 | 5.2° | 2.25 | 29020 |
| **2267629** | **M1D150E1804W125L225** | 1.500 | 1.250 | 4.530 | 2.250 | .710 | 4 | 8.2° | 1.38 | 29020 |
| **2267628** | **M1D150E1804W125L225R** | 1.500 | 1.250 | 4.468 | 2.188 | .640 | 4 | 5.2° | 1.38 | 29020 |
| **2267621** | **M1D200E1805W125L225** | 2.000 | 1.250 | 4.530 | 2.250 | .700 | 5 | 5.5° | 2.00 | 24670 |

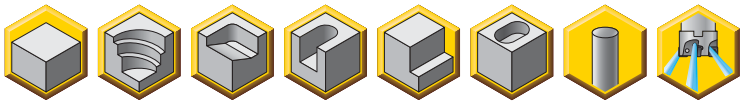
NOTE: "Standard milling cutters will accept insert nose radii up to .079" without modification.
R" in catalog number designates factory-relieved tool for insert radii greater than .079". For example: M1D100E1802W100L375**R**.

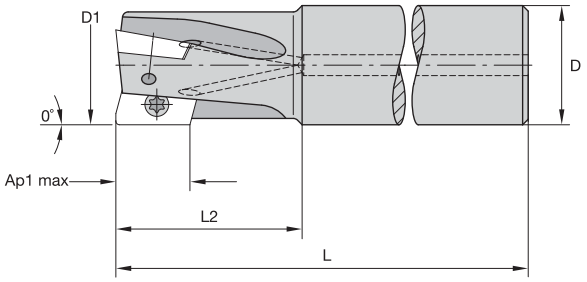
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2126** | 35 | **DT15IP** |
| 1.250 | **MS2126** | 35 | **DT15IP** |
| 1.500 | **MS2126** | 35 | **DT15IP** |
| 2.000 | **MS2126** | 35 | **DT15IP** |

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Cylindrical End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2267534** | **M1D100E1802C100L800** | 1.000 | 1.000 | 8.000 | 3.750 | .710 | 2 | 16.7° | 1.41 | 37000 |
| **2267535** | **M1D100E1802C100L1000** | 1.000 | 1.000 | 10.000 | 3.750 | .710 | 2 | 16.7° | 1.82 | 37000 |
| **2267536** | **M1D125E1802C125L800** | 1.250 | 1.250 | 8.000 | 4.250 | .710 | 2 | 10.9° | 2.27 | 32300 |
| **2267537** | **M1D125E1802C125L1000** | 1.250 | 1.250 | 10.000 | 4.250 | .710 | 2 | 10.9° | 2.94 | 32300 |
| **2267538** | **M1D150E1803C125L800** | 1.500 | 1.250 | 8.000 | 4.250 | .710 | 3 | 8.2° | 2.75 | 29020 |
| **2267539** | **M1D150E1803C125L1000** | 1.500 | 1.250 | 10.000 | 4.250 | .710 | 3 | 8.2° | 3.42 | 29020 |
| **5194531** | **M1D150E1803C125L1000AL** | 1.500 | 1.250 | 10.000 | 2.000 | .710 | 3 | 8.2° | 3.11 | 29020 |

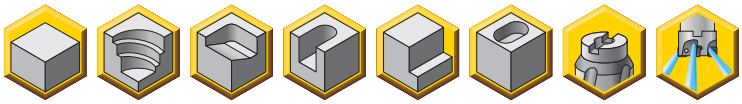
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
Cylindrical shank with no through coolant.
Cutters designated with the -AL suffix have relieved flutes for aggressive aluminum machining.

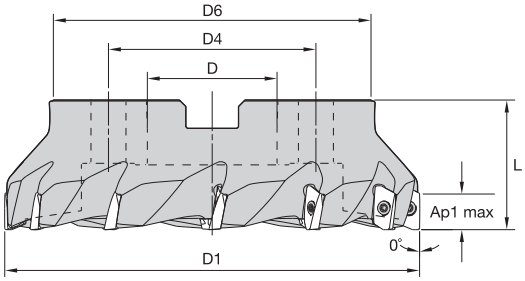
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2126** | 35 | **DT15IP** |
| 1.250 | **MS2126** | 35 | **DT15IP** |
| 1.500 | **MS2126** | 35 | **DT15IP** |

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.





## Shell Mills

| order number | catalog number | D1 | D | D4 | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2267542** | **M1D200E1803S075L157** | 2.000 | .750 | — | 1.688 | 1.575 | .700 | 3 | 5.2° | .71 | 24670 |
| **5067568** | **M1D200E1803S075L157AL** | 2.000 | .750 | — | 1.688 | 1.575 | .700 | 3 | 5.2° | .60 | 24670 |
| **2267650** | **M1D200E1805S075L157** | 2.000 | .750 | — | 1.688 | 1.575 | .700 | 5 | 5.2° | .69 | 24670 |
| **5067567** | **M1D250E1804S075L157AL** | 2.500 | .750 | — | 1.750 | 1.575 | .690 | 4 | 3.8° | .83 | 21820 |
| **2267632** | **M1D250E1806S075L157** | 2.500 | .750 | — | 1.750 | 1.575 | .690 | 6 | 3.8° | 1.00 | 21820 |
| **5135356** | **M1D300E1804S100L175AL** | 3.000 | 1.000 | — | 2.188 | 1.750 | .690 | 4 | 3.0° | 1.44 | 19780 |
| **2267616** | **M1D300E1805S100L175** | 3.000 | 1.000 | — | 2.188 | 1.750 | .690 | 5 | 3.0° | 1.72 | 19780 |
| **2267643** | **M1D300E1807S100L175** | 3.000 | 1.000 | — | 2.188 | 1.750 | .690 | 7 | 3.0° | 1.75 | 19780 |
| **2267617** | **M1D400E1806S150L200** | 4.000 | 1.500 | — | 3.625 | 2.000 | .690 | 6 | 2.1° | 3.80 | 16970 |
| **2267644** | **M1D400E1808S150L200** | 4.000 | 1.500 | — | 3.625 | 2.000 | .690 | 8 | 2.1° | 3.83 | 16970 |
| **2267645** | **M1D500E1809S150L200** | 5.000 | 1.500 | — | 3.750 | 2.000 | .690 | 9 | 1.6° | 5.75 | 15100 |
| **2267646** | **M1D600E1808S150L200** | 6.000 | 1.500 | — | 3.750 | 2.000 | .690 | 8 | 1.3° | 7.46 | 13740 |
| **2267618** | **M1D600E1808S200L200** | 6.000 | 2.000 | — | 4.875 | 2.000 | .690 | 8 | 1.3° | 8.77 | 13740 |
| **2267620** | **M1D800E1812S250L250** | 8.000 | 2.500 | 4.000 | 6.125 | 2.500 | .690 | 12 | 1.0° | 15.35 | 11850 |

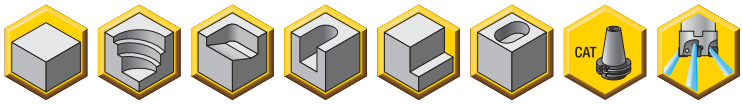
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
"Speed screw" differential lock-up system is identified by the "SS" in the catalog number. For example: M1D200E1803**SS**075L157.
Cutters designated with the -AL suffix have relieved flutes for aggressive aluminum machining.

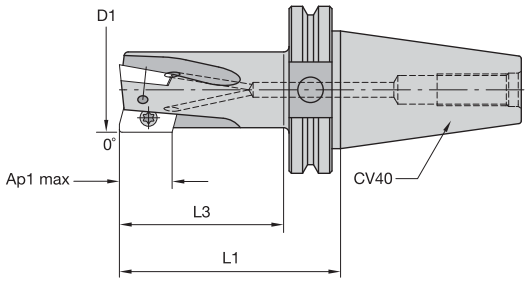
## Spare Parts

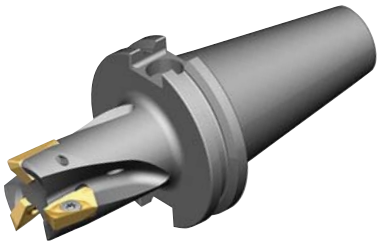
| order number | D1 | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw with coolant groove | coolant screw assembly | coolant screw assembly |
|---|---|---|---|---|---|---|---|
| **2267542** | 2.000 | **MS2126** | 35 | **DT15IP** | **S445CG** | — | — |
| **5067568** | 2.000 | **MS2126** | 35 | **DT15IP** | **S445CG** | — | — |
| **2267650** | 2.000 | **MS2126** | 35 | **DT15IP** | **S445CG** | — | — |
| **5067567** | 2.500 | **MS2126** | 35 | **DT15IP** | **S445CG** | — | — |
| **2267632** | 2.500 | **MS2126** | 35 | **DT15IP** | **S445CG** | — | — |
| **5135356** | 3.000 | **MS2126** | 35 | **DT15IP** | **S2044CG** | — | — |
| **2267616** | 3.000 | **MS2126** | 35 | **DT15IP** | **S2044CG** | — | — |
| **2267643** | 3.000 | **MS2126** | 35 | **DT15IP** | **S2044CG** | — | — |
| **2267617** | 4.000 | **MS2126** | 35 | **DT15IP** | — | — | **S2165C** |
| **2267644** | 4.000 | **MS2126** | 35 | **DT15IP** | — | — | **S2165C** |
| **2267645** | 5.000 | **MS2126** | 35 | **DT15IP** | — | — | **S2165C** |
| **2267646** | 6.000 | **MS2126** | 35 | **DT15IP** | — | — | **S2165C** |
| **2267618** | 6.000 | **MS2126** | 35 | **DT15IP** | — | **KLS20C** | — |
| **2267620** | 8.000 | **MS2126** | 35 | **DT15IP** | — | — | — |

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



## End Mills • Steep Taper CV40

| order number | catalog number | CSMS system size | D1 | L1 | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2267549** | **M1D100E1802CV40L250** | CV40 | 1.000 | 2.500 | 1.625 | .710 | 2 | 16.7° | 1.98 | 37000 |
| **2541967** | **M1D100E1802CV40L450** | CV40 | 1.000 | 4.500 | 2.625 | .710 | 2 | 16.7° | 2.72 | 37000 |
| **2267551** | **M1D125E1803CV40L288** | CV40 | 1.250 | 2.875 | 2.000 | .710 | 3 | 10.9° | 2.20 | 32300 |
| **2541970** | **M1D125E1803CV40L488** | CV40 | 1.250 | 4.875 | 3.000 | .710 | 3 | 10.9° | 3.03 | 32300 |
| **2267548** | **M1D150E1804CV40L288** | CV40 | 1.500 | 2.875 | 2.000 | .710 | 4 | 8.2° | 2.36 | 29020 |
| **2541972** | **M1D150E1804CV40L488** | CV40 | 1.500 | 4.875 | 3.000 | .710 | 4 | 8.2° | 3.41 | 29020 |

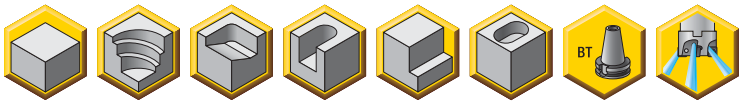
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

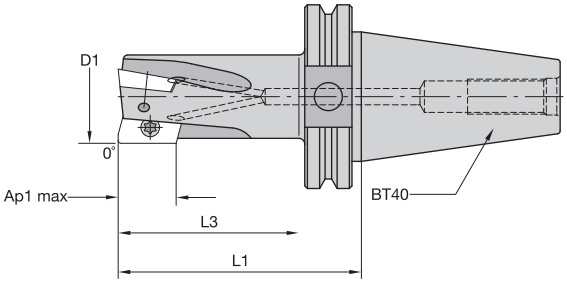
## Spare Parts

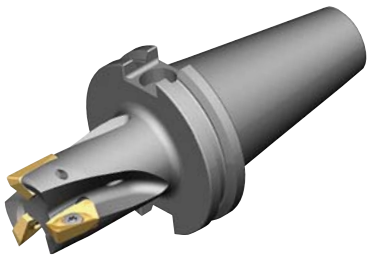
| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2126** | 35 | **DT15IP** |
| 1.250 | **MS2126** | 35 | **DT15IP** |
| 1.500 | **MS2126** | 35 | **DT15IP** |

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

- Mill 0° walls.
- Aggressive ramping angles.
- Generates superior surface finish.
- High RPM capabilities.



## End Mills • Steep Taper BT40

| order number | catalog number | CSMS system size | D1 | L1 | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2541969** | **M1D100E1802BT40L450** | BT40 | 1.000 | 4.500 | 2.625 | .710 | 2 | 16.7° | 2.83 | 37000 |
| **2541984** | **M1D150E1804BT40L488** | BT40 | 1.500 | 4.875 | 3.000 | .710 | 4 | 8.2° | 3.50 | 29020 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2126** | 35.0 | **DT15IP** |
| 1.500 | **MS2126** | 35.0 | **DT15IP** |

NOTE: Additional insert screws may be ordered in packages of five pieces from catalog number MS2126PKG.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GD | KCPM40 | **.S..GD** | **KCPM40** | .E..HD | KCPM40 |
| P3–P4 | .E..GD | KCPK30 | **.S..GD** | **KCPK30** | .E..HD | KCPK30 |
| P5–P6 | .E..GD | KC725M | **.S..GD** | **KC725M** | .E..HD | KC725M |
| M1–M2 | .E..GD | KCSM40 | **.S..GD** | **KCSM40** | .E..HD | KCSM40 |
| M3 | .E..GD | KCPM40 | **.S..GD** | **KCPM40** | .E..HD | KCPM40 |
| K1–K2 | .E..GD | KC520M | **.E..GD** | **KC520M** | .S..GD | KCK15 |
| K3 | .E..GD | KC520M | **.S..GD** | **KCK15** | .E..HD | KCPK30 |
| N1–N2 | .F..LDJ | KC410M | **.E..LDJ** | **KC422M** | .E..LDJ | KC422M |
| N3 | .F..LDJ | KC410M | **.F..LDJ** | **KC410M** | .F..LDJ | KC410M |
| S1–S2 | .E..GD | KC725M | **.S..GD** | **KC725M** | .E..HD | KC725M |
| S3 | .E..GD | KCSM40 | **.S..GD** | **KCSM40** | .E..HD | KCSM40 |
| S4 | .E..GD | KCSM40 | **.S..GD** | **KCSM40** | .E..HD | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

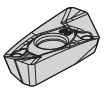
## Indexable Inserts

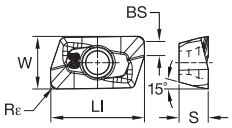
- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.708" (18mm).

● first choice
○ alternate choice

beyond

| | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ● | | ● | ● | | ○ |
| M | | | | ● | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | | ● | ○ | | | |
| N | ● | ● | | | | | | | | | |
| S | | | | ● | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |


EDCT-F.LDJ



EDCT-F.LDJ

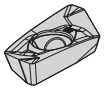
## EDCT-F.LDJ

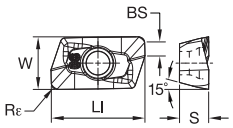
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1804FJ** | .856 | .432 | .217 | .121 | .016 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1808FJ** | .857 | .432 | .217 | .106 | .031 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1812FJ** | .857 | .432 | .217 | .090 | .047 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1816FJ** | .858 | .431 | .217 | .075 | .062 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1820FJ** | .858 | .431 | .217 | .059 | .079 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1824FJ** | .858 | .430 | .217 | .044 | .095 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1832FJ** | .858 | .430 | .217 | .013 | .125 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1840FJ** | .818 | .428 | .217 | — | .157 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1848FJ** | .795 | .426 | .217 | — | .188 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1850FJ** | .785 | .426 | .217 | — | .197 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |
| **EC1864FJ** | .737 | .422 | .217 | — | .250 | .001 | 2 | ● | – | – | – | – | – | – | – | – | – | – |

- Roughing and finishing of aluminum alloys.
- Periphery ground and polished rake face.
- Perfect floor surface finish.
- Ap1 max = 0.708" (18mm).

● first choice
○ alternate choice

| | | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | | ● | ○ | | | |
| N | | ● | ● | | | | | | | | | |
| S | | | | | ● | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | |


EC-E.LDJ

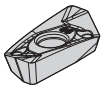


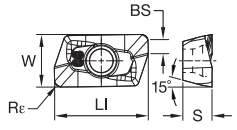
EC-E.LDJ

## EDCT-E.LDJ

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1808EJ** | .857 | .432 | .217 | .106 | .031 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1812EJ** | .857 | .432 | .217 | .090 | .047 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1816EJ** | .858 | .431 | .217 | .075 | .062 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1824EJ** | .858 | .430 | .217 | .044 | .094 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1832EJ** | .858 | .430 | .217 | .013 | .125 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – |
| **EC1864EJ** | .737 | .422 | .217 | — | .250 | .001 | 2 | – | ● | – | – | – | – | – | – | – | – | – |

- Finishing and high-precision applications.
- Light machining.
- 15° Positive rake angle.
- Perfect floor surface finish.
- Ap1 max = 0.708" (18mm).


EDCT-LD

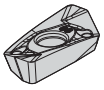


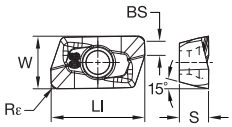
EDCT-LD

## EDCT-LD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1808E2** | .857 | .432 | .217 | .106 | .031 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – | – |
| **EC1816E** | .858 | .431 | .217 | .075 | .062 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – | – |
| **EC1832E** | .858 | .430 | .217 | .013 | .125 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – | – |
| **EC1840E** | .818 | .428 | .217 | — | .157 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – | – |
| **EC1848E** | .795 | .426 | .217 | — | .188 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – | – |
| **EC1864E** | .737 | .422 | .217 | — | .250 | .002 | 2 | – | – | – | ● | – | – | – | – | – | – | – |

- Light machining and finish applications.
- Periphery ground for high-precision machining.
- Medium hone for increased edge protection.
- Ap1 max = 0.708" (18mm).


EDCT-EGD



EDCT-EGD

beyond

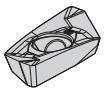
● first choice
○ alternate choice

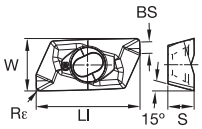
| | | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | | ● | ○ | | | |
| N | | ● | ● | | | | | | | | | |
| S | | | | | ● | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | |

## EDCT-E.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EC1804E** | .856 | .432 | .217 | .121 | .016 | .004 | 2 | – | – | – | – | – | ● | – | – | ● | – | – |
| **EC1808E** | .857 | .432 | .217 | .106 | .031 | .004 | 2 | – | – | – | – | – | ● | – | – | ● | – | – |
| **EC1812E** | .857 | .432 | .217 | .090 | .047 | .004 | 2 | – | – | – | – | – | ● | – | – | ● | – | – |

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .708" (18mm).


EDPT-E.GD

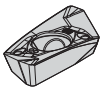


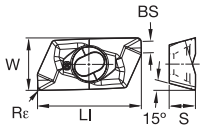
EDPT-E.GD

## EDPT-E.GD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1808E** | .857 | .432 | .217 | .106 | .031 | .004 | 2 | – | – | ● | – | – | ● | – | ● | ● | – | ● |
| **EP1812E** | .857 | .433 | .217 | .090 | .047 | .004 | 2 | – | – | – | – | – | ● | – | – | ● | – | – |
| **EP1816E** | .858 | .431 | .217 | .075 | .062 | .004 | 2 | – | – | – | ● | – | ● | – | ● | ● | – | ● |
| **EP1824E** | .858 | .430 | .217 | .044 | .095 | .004 | 2 | – | – | – | – | – | ● | – | – | – | – | – |
| **EP1832E** | .858 | .430 | .217 | .013 | .125 | .004 | 2 | – | – | ● | ● | – | ● | – | ● | – | – | ● |
| **EP1848E** | .795 | .426 | .217 | — | .189 | .004 | 2 | – | – | – | – | – | ● | – | – | – | – | ● |
| **EP1864E** | .740 | .422 | .217 | — | .250 | .004 | 2 | – | – | – | ● | – | ● | – | ● | – | – | ● |

- Medium roughing and semi-finishing.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .708" (18mm).


EDPT-E.HD



EDPT-E.HD

● first choice
○ alternate choice

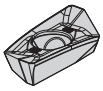
beyond

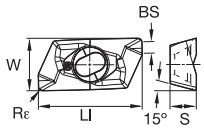
| | | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | ○ | | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | ● | | ○ | ○ | ○ | ● |
| K | | | | ● | ○ | | | ● | ○ | | | |
| N | | ● | ● | | | | | | | | | |
| S | | | | | ● | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | | |

## EDPT-E.HD

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1808EHD** | .857 | .429 | .217 | .106 | .031 | .003 | 2 | – | – | – | – | – | ● | – | ● | ● | – | ● |
| **EP1812EHD** | .857 | .428 | .217 | .090 | .047 | .003 | 2 | – | – | – | – | – | ● | – | ● | – | – | ● |
| **EP1816EHD** | .857 | .428 | .217 | .075 | .062 | .003 | 2 | – | – | – | – | – | ● | – | ● | ● | – | ● |
| **EP1832EHD** | .858 | .426 | .217 | .012 | .125 | .003 | 2 | – | – | – | – | – | ● | – | ● | ● | – | ● |
| **EP1840EHD** | .823 | .424 | .217 | — | .157 | .003 | 2 | – | – | – | – | – | ● | – | – | – | – | ● |
| **EP1848EHD** | .794 | .423 | .217 | — | .188 | .003 | 2 | – | – | – | – | – | ● | – | ● | – | – | ● |
| **EP1864EHD** | .740 | .420 | .217 | — | .250 | .003 | 2 | – | – | – | – | – | ● | – | ● | – | – | – |

- Medium roughing and semi-finishing.
- Solution for austenitic stainless steel and super alloys.
- Medium feed rates.
- PSTS — Precision Pressed and Sintered to Size.
- Ap1 max = .708" (18mm).


EDPT-S.GE



EDPT-S.GE

## EDP T-S.GE

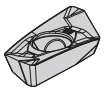
| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1808SGE** | .855 | .421 | .214 | .095 | .031 | .005 | 2 | – | – | – | ● | – | ● | – | ● | – | – | ● |
| **EP1812SGE** | .856 | .420 | .214 | .079 | .047 | .005 | 2 | – | – | – | ● | – | – | – | ● | – | – | ● |
| **EP1816SGE** | .856 | .420 | .214 | .063 | .062 | .005 | 2 | – | – | – | – | – | – | – | ● | – | – | ● |
| **EP1832SGE** | .856 | .418 | .214 | .003 | .125 | .005 | 2 | – | – | – | – | – | – | – | ● | – | – | ● |

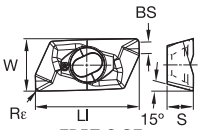
- Heavy roughing applications.
- High feed rates.
- All material groups.
- PSTS – Precision Pressed and Sintered to Size.
- Ap1 max = .708" (18mm).

● first choice
○ alternate choice

beyond

| | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | | ● | | ● | ● | | ○ |
| M | | | | ● | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | | ● | ○ | | | |
| N | ● | ● | | | | | | | | | |
| S | | | | ● | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |


EDPT-S.GE



EDPT-S.GE

## EDPT-S.GE

| catalog number | LI | W | S | BS | Rε | hm | cutting edges | KC410M | KC422M | KC520M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP1808S** | .857 | .429 | .217 | .106 | .031 | .006 | 2 | – | – | – | – | – | ● | ● | ● | ● | – | ● |
| **EP1812S** | .857 | .429 | .217 | .090 | .047 | .006 | 2 | – | – | – | – | – | ● | ● | ● | ● | – | ● |
| **EP1816S** | .858 | .428 | .217 | .075 | .062 | .006 | 2 | – | – | – | – | – | ● | – | ● | ● | – | ● |
| **EP1832S** | .858 | .426 | .217 | .013 | .125 | .006 | 2 | – | – | – | – | – | ● | – | ● | – | – | ● |
| **EP1848S** | .795 | .423 | .216 | — | .189 | .005 | 2 | – | – | – | – | – | – | – | – | – | – | ● |
| **EP1864S** | .739 | .419 | .217 | — | .250 | .005 | 2 | – | – | – | – | – | ● | – | – | – | – | ● |



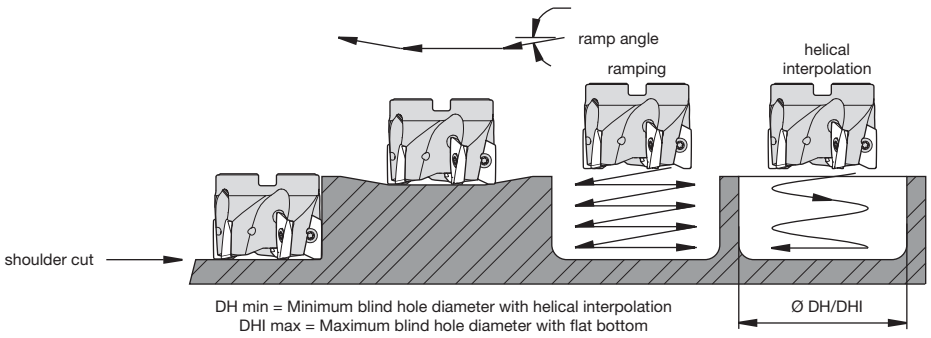
## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.019** | .033 | .003 | **.013** | .023 | .003 | **.010** | .018 | .002 | **.009** | .015 | .002 | **.008** | .014 | .F..LDJ |
| .E..LDJ | .005 | **.018** | .032 | .003 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LDJ |
| .E..LD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .E..GD | .009 | **.020** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GD |
| .S..GE | .009 | **.020** | .035 | .007 | **.014** | .025 | .005 | **.011** | .019 | .004 | **.009** | .017 | .004 | **.009** | .015 | .S..GE |
| .S..GD | .009 | **.020** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.009** | .016 | .004 | **.009** | .015 | .S..GD |
| .E..HD | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .E..HD |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Application Examples




| insert style | cutting diameter | max ramp angle | DH min (min hole diameter) | DHI min (min flat-bottomed hole diameter) | max diameter (no flat bottom) |
|---|---|---|---|---|---|
| Mill 1–18 | .970 | 18° | 1.124 | 1.776 | 1.94 |
| Mill 1–18 | 1.000 | 17° | 1.182 | 1.836 | 2.00 |
| Mill 1–18 | 1.250 | 11° | 1.686 | 2.336 | 2.50 |
| Mill 1–18 | 1.500 | 8° | 2.182 | 2.836 | 3.00 |
| Mill 1–18 | 2.000 | 5° | 3.180 | 3.836 | 4.00 |
| Mill 1–18 | 1.500 | 8° | 2.180 | 2.836 | 3.00 |
| Mill 1–18 | 2.000 | 5° | 3.176 | 3.862 | 4.00 |
| Mill 1–18 | 2.500 | 4° | 4.174 | 4.862 | 5.00 |
| Mill 1–18 | 3.000 | 3° | 5.174 | 5.862 | 6.00 |
| Mill 1–18 | 4.000 | 2° | 7.174 | 7.862 | 8.00 |
| Mill 1–18 | 5.000 | 2° | 9.172 | 9.862 | 10.00 |
| Mill 1–18 | 6.000 | 1° | 11.172 | 11.862 | 12.00 |
| Mill 1–18 | 8.000 | 1° | 15.172 | 15.862 | 16.00 |

# Flange Mount Adapters

## For HARVI™ Ultra Helical Cutters

HARVI ultra helical cutters can be used with our flange mount adapters to create a powerful combination on nearly all spindle connections on the market.

Our flange mount adapters enable the same cutting tool to be easily adapted to different machine spindle connections.

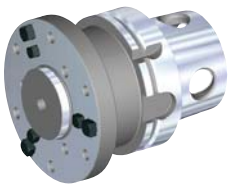
## The Portfolio Features:

CV

DV

BT

HSK


KM4X™

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# Mill 1-25™

## Primary Application

Also known as Mill1 Max, the Mill 1-25 cutter is made specifically for aluminum machining, but can also be used when machining cast iron. High-feed capabilities enable routing applications with an axial depth of cut of up to .98" (25mm).

## Features and Benefits

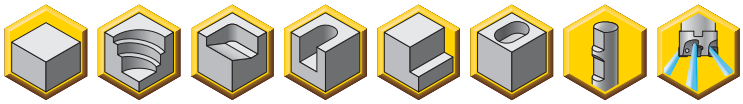
### Functions

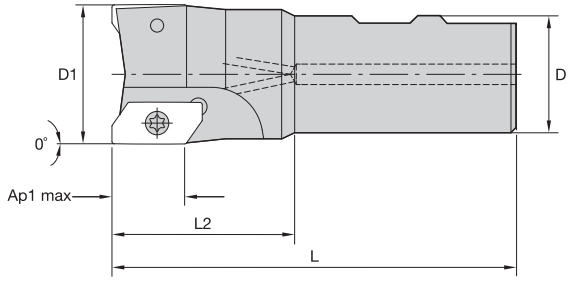
- Strong, thick inserts over .200" (5,2mm) thick.
- Axial depth of cut up to .98" (25mm).
- Cylindrical, monoblock/HSK63A, CV50, and shell mills.

### Benefits

- Made for machining aluminum, but also used for machining cast iron.
- High-feed capability for routing applications.
- Balanced-by-design — if running over 10,000 RPM, balance the cutter assembly.

- For aluminum machining.
- High-speed capability.
- Insert screws should be changed when inserts are changed.





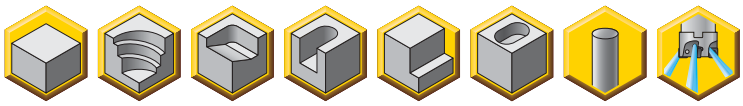
## Weldon® End Mills

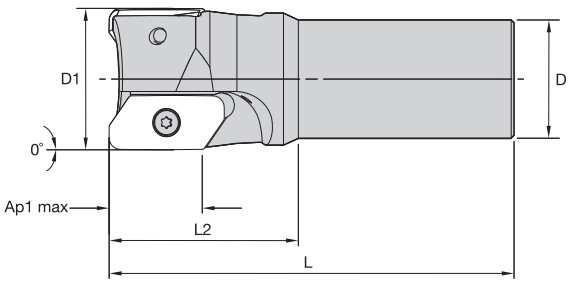
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2530317** | **M1D150K2502W125L200** | 1.500 | 1.250 | 4.280 | 2.000 | .980 | 2 | 16.5° | 1.21 | 25200 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.5000 | **MS1374** | 35.0 | **DT15** |





## Cylindrical End Mills

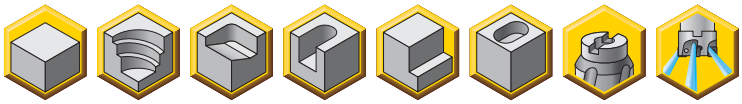
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2530318** | **M1D150K2502C125L200** | 1.500 | 1.250 | 4.280 | 2.000 | .980 | 2 | 16.5° | 1.23 | 25200 |
| **2530320** | **M1D150K2502C125L400** | 1.500 | 1.250 | 6.280 | 4.000 | .980 | 2 | 16.5° | 2.07 | 25200 |
| **2530322** | **M1D200K2503C125L200** | 2.000 | 1.250 | 4.155 | 2.000 | .976 | 3 | 10.0° | 1.54 | 20300 |

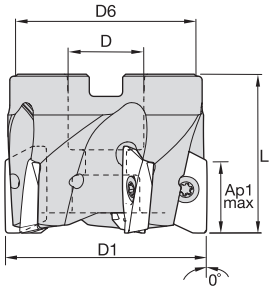
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

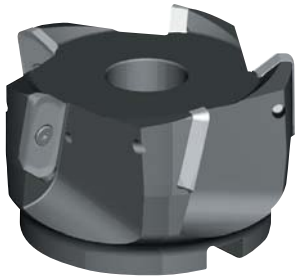
## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.500 | **MS1374** | 35.0 | **DT15** |
| 2.000 | **MS1374** | 35.0 | **DT15** |

- For aluminum machining.
- High-speed capability.
- Insert screws should be changed when inserts are changed.
- Ap1 Max 0.985" (25mm).





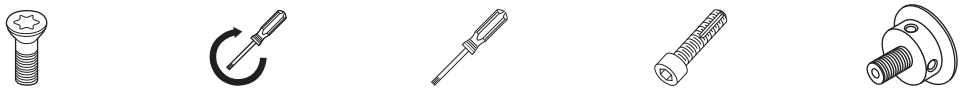



## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2581445** | **M1D200K2502S075L200** | 2.000 | .750 | 1.750 | 2.000 | .980 | 2 | 10.0° | .87 | 20300 |
| **2581447** | **M1D250K2503S100L225** | 2.500 | 1.000 | 2.190 | 2.250 | .970 | 3 | 7.0° | 1.49 | 17500 |
| **2496869** | **M1D300K2503S100L225** | 3.000 | 1.000 | 2.190 | 2.250 | .970 | 3 | 5.0° | 2.33 | 15600 |
| **2581449** | **M1D400K2504S125L225** | 4.000 | 1.250 | 2.880 | 2.250 | .970 | 4 | 3.5° | 3.05 | 13100 |

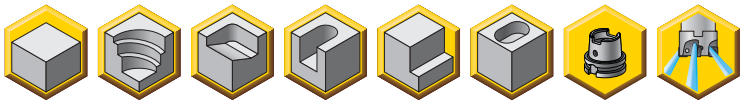
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

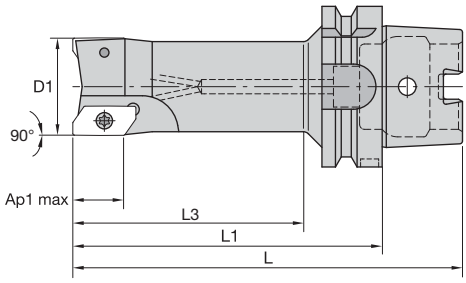
## Spare Parts



| D1 | insert screw | in. lbs. | Torx driver | socket-head cap screw with coolant groove | coolant lock screw assembly |
|---|---|---|---|---|---|
| 2.000 | **MS1374** | 35.0 | **DT15** | **S445CG** | **—** |
| 2.500 | **MS1374** | 35.0 | **DT15** | **S459CG** | **—** |
| 3.000 | **MS1374** | 35.0 | **DT15** | **S458CG** | **—** |
| 4.000 | **MS1374** | 35.0 | **DT15** | **—** | **S2164C** |

- Roughing and finishing of aluminum alloys
- Aggressive ramping angles.
- All integral shank tools are balanced to G2.5 at 10,000 RPM.
- High-speed capability.
- Ap1 Max 0.985" (25mm).
- Replace insert screws when inserts are changed.





## Monoblocks • HSK63A

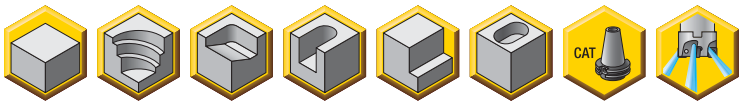
| order number | catalog number | shank taper | D1 | L | L1 | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2530357** | **M1D150K2502HSK63L477** | HSK63A | 1.500 | 6.028 | 4.772 | 3.500 | .984 | 2 | 16.5° | 2.60 | 25200 |

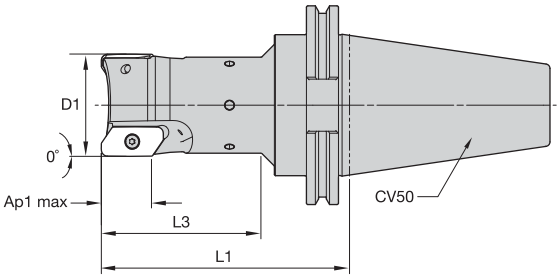
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver | balancing screw |
|---|---|---|---|---|
| 1.500 | **MS1374** | 35.0 | **DT15** | **KUAM27** |

- For aluminum machining.
- High-speed capability.
- All integral shank tools are balanced to G2.5 at 10,000 RPM.
- Insert screws should be changed when inserts are changed.



## Monoblocks • CV50

| order number | catalog number | taper shank | D1 | L1 | L3 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2530374** | **M1D200K2503CV50L700** | CV50 | 2.000 | 7.000 | 5.375 | .976 | 3 | 10.0° | 10.62 | 20300 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver | balancing screw |
|---|---|---|---|---|
| 2.000 | **MS1374** | 35.0 | **DT15** | **KUAM27** |

## Insert Selection Guide

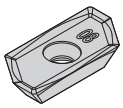
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | .E..LDJ | KC410M | **.E..LDJ** | **KC410M** | .E..LDJ | KC410M |
| N3 | .E..LDJ | KC410M | **.E..LDJ** | **KC410M** | .E..LDJ | KC410M |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

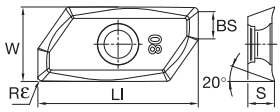
## Indexable Inserts • KE..25L5..

- Roughing and finishing of aluminum alloys.
- Periphery ground for accuracy and consistency.
- Radiused cutting edge minimizes lap lines.
- Wiper facet with large radius for better floor surface finish.
- Ap1 max 0.985" (25mm).

● first choice
○ alternate choice

P
M
K
N ●
S
H


KEGT-LDJ



KEGT-LDJ

## KEGT-LDJ

| catalog number | LI | S | W | BS | Rε | hm | cutting edges | KC410M |
|---|---|---|---|---|---|---|---|---|
| **KG2508ELDJ** | 1.236 | .205 | .575 | .210 | .031 | .001 | 2 | ● |
| **KG2512ELDJ** | 1.239 | .205 | .575 | .195 | .047 | .001 | 2 | ● |
| **KG2516ELDJ** | 1.239 | .205 | .575 | .179 | .063 | .001 | 2 | ● |
| **KG2520ELDJ** | 1.239 | .205 | .575 | .164 | .079 | .001 | 2 | ● |
| **KG2531ELDJ** | 1.239 | .205 | .575 | .120 | .122 | .001 | 2 | ● |
| **KG2540ELDJ** | 1.239 | .205 | .575 | .085 | .157 | .001 | 2 | ● |
| **KG2550ELDJ** | 1.239 | .205 | .575 | .045 | .197 | .001 | 2 | ● |
| **KG2564ELDJ** | 1.181 | .205 | .575 | — | .252 | .001 | 2 | ● |



## Recommended Starting Feeds

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJ | .005 | **.023** | .042 | .003 | **.017** | .030 | .003 | **.013** | .023 | .002 | **.011** | .020 | .002 | **.010** | .018 | .E..LDJ |
| .E..LDJ2 | .005 | **.023** | .042 | .003 | **.017** | .030 | .003 | **.013** | .023 | .002 | **.011** | .020 | .002 | **.010** | .018 | .E..LDJ2 |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# Stellram® 5720VZ16 Series

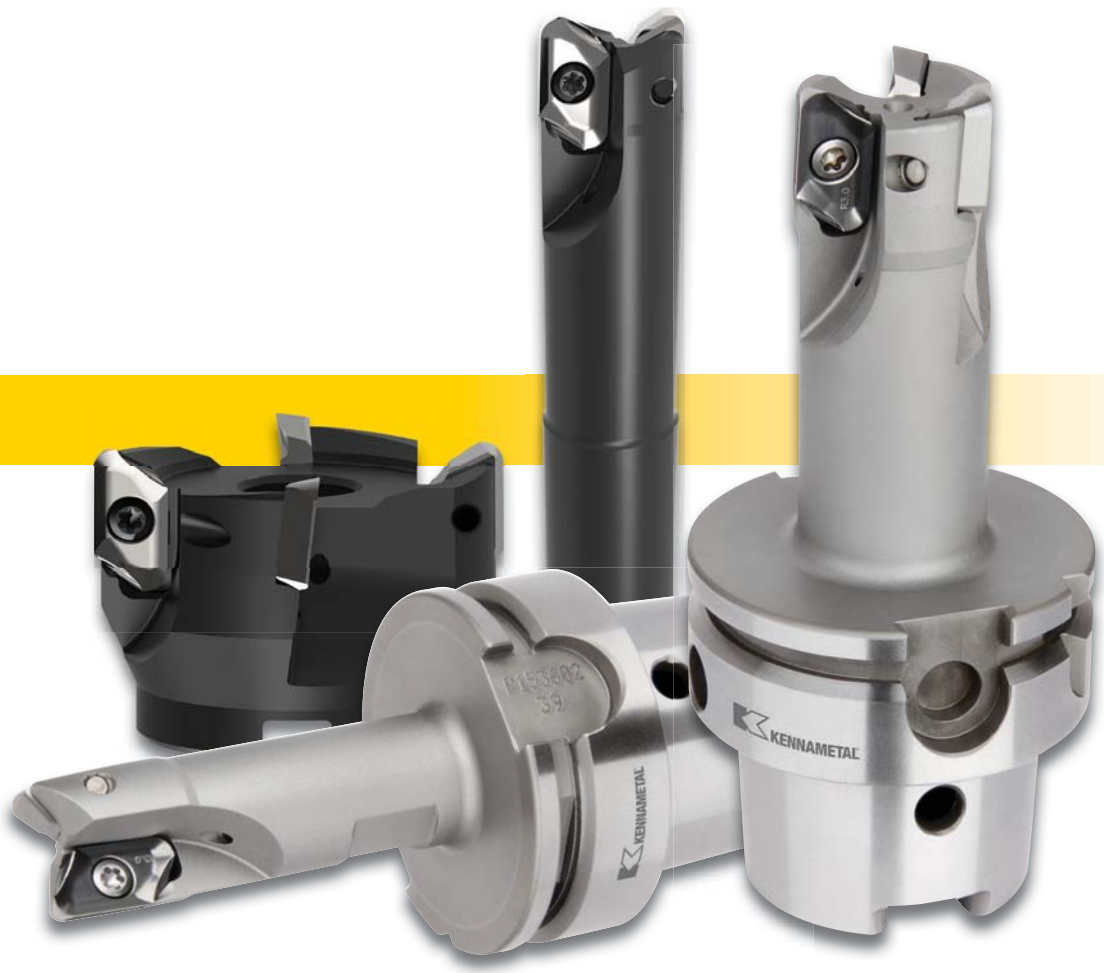
Taking extreme high-speed aluminum machining to the highest level.

## Features and Benefits

- Specially designed for machining pockets and profiles on aluminum and aluminum alloys.
- The 5720VZ16 series is designed, manufactured, and tested in accordance with EN ISO 15641:2001 to ensure maximum stability in high-speed applications.
- The internal coolant enables better chip evacuation and higher feed rates.
- The pockets are reinforced to enable for heavy feeding and safe ramping during machining. These features increase tool life and productivity.
- Excellent tools for thin-walled machining due to very low cutting pressure.
- Twelve different insert radii are available, each with the same cutting depth capacity of .630" (16mm).
- Cylindrical shank and HSK63A integral shanks are designed and balanced to G6.3 at 30,000 RPM for diameters up to 50mm. Diameter larger than 50mm are balanced to G6.3 at 24,000 RPM.

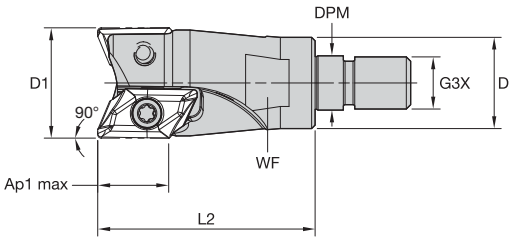
***Metric monoblock cutters with HSK63A are available as standard in diameters 25, 32, 40, and 50mm.***

# The Stellram® 5720VZ16 cutters are our latest design for high metal removal in aluminum applications.




Maximum ap = .630"
Diameter Range = 1–3"

- High-speed profiling and pocketing aluminum alloy components in the aerospace industry.
- Maximum stability in high-speed applications.
- Through-tool coolant allows better chip evacuation and higher feed rates.



## Screw-On End Mills

| order number | catalog number | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5672512** | **A5720VZ16SA1.00Z02R2** | 1.000 | .827 | .492 | M12 | 1.969 | 18 | .630 | 2 | 14.7° | .23 | 50000 |
| **5672719** | **A5720VZ16SA1.25Z02R2** | 1.250 | 1.142 | .669 | M16 | 1.969 | 24 | .630 | 2 | 11.5° | .45 | 41500 |
| **5672521** | **A5720VZ16SA1.25Z3R2** | 1.250 | 1.142 | .669 | M16 | 1.967 | 24 | .630 | 3 | 11.5° | .39 | 41500 |

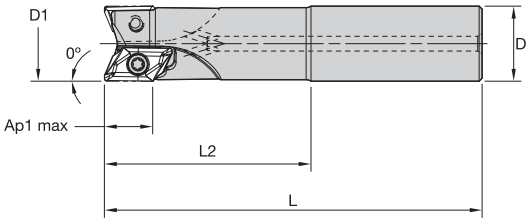
NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.000 | **DP5009A** | 54.0 | **TP20** |
| 1.250 | **DP5009A** | 54.0 | **TP20** |

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.

- High-speed profiling and pocketing aluminum alloy components in the aerospace industry.
- Maximum stability in high-speed applications.
- Through-tool coolant allows better chip evacuation and higher feed rates.



## Cylindrical End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **5672718** | **C5720VZ16CA1.0Z02R2.7** | 1.000 | 1.000 | 5.030 | 2.750 | .630 | 2 | 14.7° | .87 | 50000 |
| **5673549** | **C5720VZ16CA1.25Z2R3.0** | 1.250 | 1.250 | 5.280 | 2.997 | .630 | 2 | 11.5° | 1.49 | 41500 |
| **5672885** | **C5720VZ16CA1.25Z3R3.0** | 1.250 | 1.250 | 5.280 | 3.000 | .630 | 3 | 11.5° | 1.46 | 41500 |

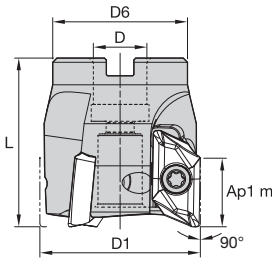
NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

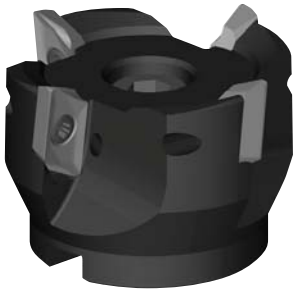
## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.000 | **DP5009A** | 54.0 | **TP20** |
| 1.250 | **DP5009A** | 54.0 | **TP20** |

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.

- High-speed profiling and pocketing aluminum alloy components in the aerospace industry.
- Maximum stability in high-speed applications.
- Through-tool coolant allows better chip evacuation and higher feed rates.



## Shell Mills • Coarse and Medium Pitch

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **5681118** | **C5720VZ16-A1.50Z03R** | 1.500 | .500 | 1.260 | 1.575 | .630 | 3 | 8.1° | .34 | 36500 |
| **5672871** | **C5720VZ16-A2.00Z04R** | 2.000 | .750 | 1.772 | 1.574 | .630 | 4 | 7.8° | .55 | 30000 |
| **5673799** | **C5720VZ16-A2.00Z03R** | 2.000 | .750 | 1.772 | 1.575 | .630 | 3 | 7.8° | .65 | 30000 |
| **5673175** | **C5720VZ16-A2.50Z04R** | 2.500 | 1.000 | 1.969 | 1.969 | .630 | 4 | 5.8° | 1.26 | 26000 |
| **5672872** | **C5720VZ16-A2.50Z05R** | 2.500 | 1.000 | 1.969 | 1.971 | .630 | 5 | 5.8° | 1.32 | 26000 |
| **5673338** | **C5720VZ16-A3.00Z04R** | 3.000 | 1.000 | 1.969 | 1.969 | .630 | 4 | 4.6° | 1.91 | 23000 |
| **5673745** | **C5720VZ16-A3.00Z05R** | 3.000 | 1.000 | 1.969 | 1.969 | .630 | 5 | 4.6° | 1.68 | 23000 |

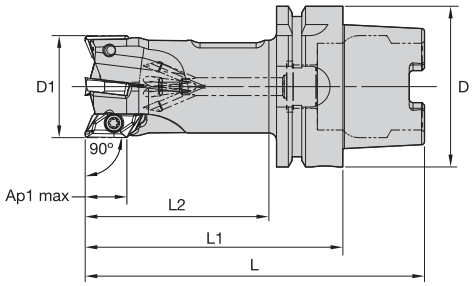
NOTE: It is important to change the screw each time the insert is changed to ensure the highest security. A dynamometric key and the right torque value are important, also.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | **DP5009A** | 54.0 | **TP20** | **#1/4-28X3/4SHCSA** |
| 2.000 | **DP5009A** | 54.0 | **TP20** | **#3/8-24X1SHCSA** |
| 2.500 | **DP5009A** | 54.0 | **TP20** | **#1/2-20X1-1/4SHCSA** |
| 3.000 | **DP5009A** | 54.0 | **TP20** | **#1/2-20X1-1/4SHCSA** |

NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.

- Providing solutions for the aerospace and aluminum industries' requirements for high-power and high-speed spindles.
- Specifically reinforced for highest metal removal rates for depths of cut ≤16mm.
- Locking system ensures operation safety and accuracy.
- Thin-walled machining for airframe components.



## Monoblocks • HSK63A

| order number | catalog number | D1 | D | L | L1 | L2 | Ap1 max | Z | max ramp angle | kg | max RPM* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **6087904** | **5720VZ16HA025Z2R75** | 25 | 63 | 133 | 101 | 75 | 16 | 2 | 14.5° | 0,81 | 51000 |
| **5672766** | **5720VZ16HA032Z3R75** | 32 | 63 | 133 | 101 | 75 | 16 | 3 | 11.4° | 0,92 | 41500 |
| **5673629** | **5720VZ16HA040Z4R75** | 40 | 63 | 133 | 101 | 75 | 16 | 4 | 7.8° | 1,09 | 35000 |
| **6160117** | **5720VZ16HA050Z4R75** | 50 | 63 | 133 | 101 | 75 | 16 | 4 | 7.9° | 1,41 | 30000 |

*Max RPM as per ISO 15641
NOTE: It is important to change the screw each time the insert is changed to ensure the highest security.
A dynamometric key and the right torque value are important, also.

## Spare Parts

| insert screw | Nm | driver |
|---|---|---|
| **DP5009A** | 6,0 | **TP20** |

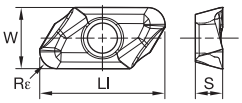
NOTE: Adjustable torque wrench (order number 6197561) and Torx Plus 20 bit (order number 6205891) may be purchased separately in order to ensure proper torque setting.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | .F..721 | GH1 | **.F..721** | **GH1** | .F..721 | GH1 |
| N3 | .F..721 | GH1 | **.F..721** | **GH1** | .F..721 | GH1 |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

## Milling Inserts

ZDET-721



ZDET-721

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | |
| M | | |
| K | | ○ |
| N | | ● |
| S | | |
| H | | |

### ZDET-721 • Sharp edge preparation for finishing applications

| catalog number | LI | W | S | Resultant WorkPiece Radius In | hm | cutting edges | GH1 |
|---|---|---|---|---|---|---|---|
| **ZDET16M5PDFR721** | .902 | .443 | .197 | .010 | .001 | 2 | ● |
| **ZDET16M508FR721** | .906 | .443 | .197 | .032 | .001 | 2 | ● |
| **ZDET16M512FR721** | .906 | .443 | .197 | .047 | .001 | 2 | ● |
| **ZDET16M516FR721** | .906 | .443 | .197 | .063 | .001 | 2 | ● |
| **ZDET16M520FR721** | .906 | .443 | .197 | .079 | .001 | 2 | ● |
| **ZDET16M525FR721** | .906 | .443 | .197 | .098 | .001 | 2 | ● |
| **ZDET16M530FR721** | .906 | .443 | .197 | .118 | .001 | 2 | ● |
| **ZDET16M532FR721** | .906 | .443 | .197 | .126 | .001 | 2 | ● |
| **ZDET16M540FR721** | .906 | .443 | .197 | .157 | .001 | 2 | ● |
| **ZDET16M550FR721** | .906 | .443 | .197 | .197 | .001 | 2 | ● |
| **ZDET16M560FR721** | .906 | .443 | .197 | .236 | .001 | 2 | ● |
| **ZDET16M504FR721** | .906 | .443 | .197 | .020 | .001 | 2 | ● |

### ZDET-ER721 • Honed edge preparation for roughing applications. Apply under unstable conditions.

| catalog number | LI | W | S | Resultant WorkPiece Radius In | hm | cutting edges | GH1 |
|---|---|---|---|---|---|---|---|
| **ZDET16M525ER721** | .906 | .443 | .197 | .098 | .001 | 2 | ● |
| **ZDET16M530ER721** | .906 | .443 | .197 | .118 | .001 | 2 | ● |
| **ZDET16M540ER721** | .906 | .443 | .197 | .157 | .001 | 2 | ● |

NOTE: Inserts will be delivered with two screws. Because of heavy force to the screw, it is important to change the screw when changing the insert.

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..721 | .001 | **.013** | .016 | .001 | **.010** | .012 | .001 | **.008** | .011 | .001 | **.008** | .010 | .F..721 |
| .E..721 | .003 | **.013** | .016 | .002 | **.010** | .012 | .002 | **.008** | .011 | .002 | **.008** | .010 | .E..721 |

**NOTE: Use "Light Machining" values as starting feed rate.**
**Please see pages X22–X37 for recommended starting speeds.**

## 5720VZ16 Ramp Angle

| cutter diameter | Insert ZDET16M5...FR-721 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Facet 0.047 | 0.062 | 0.079 | 0.098 | 0.118 | 0.125 | 0.157 | 0.216 | 0.236 |
| 1.000 | 14.8 | 16.9 | 9.2 | 9.4 | 18.5 | 18.5 | 8.8 | 10.9 | 7.0 |
| 1.250 | 11.5 | 12.1 | 12.1 | 12.4 | 12.7 | 12.7 | 13.4 | 14.0 | 13.6 |
| 1.500 | 8.1 | 8.5 | 8.5 | 8.7 | 8.8 | 8.8 | 9.1 | 9.5 | 9.8 |
| 2.000 | 7.8 | 7.1 | 7.2 | 7.7 | 7.4 | 7.4 | 8.8 | 8.8 | 9.0 |
| 2.500 | 5.8 | 5.3 | 5.4 | 5.7 | 5.5 | 5.5 | 6.9 | 6.5 | 6.6 |
| 3.000 | 4.6 | 4.3 | 4.3 | 4.6 | 4.4 | 4.4 | 5.4 | 5.1 | 5.2 |

## 5720VZ16 Possible Maximum ap Slotting

| Possible Max ap Slotting | | |
|---|---|---|
| diameter | number of inserts | ap max |
| 1.000 | 2 | 0.300 |
| 1.250 | 2 | 0.435 |
| 1.250 | 3 | 0.240 |
| 1.500 | 3 | 0.350 |
| 2.000 | 3 | 0.435 |
| 2.000 | 4 | 0.350 |
| 2.500 | 4 | 0.435 |
| 2.500 | 5 | 0.350 |
| 3.000 | 4 | 0.435 |
| 3.000 | 5 | 0.435 |

NOTE: Ap max depends on connection with cutter diameter, rigidity of the cutter, rigidity of the machine, and size of the flute.

## 5720VZ16 Possible Metal Removal

| Possible Metal Removal<br>Calculated with 24,000 RPM | | |
|---|---|---|
| cutter diameter | ZU | MRR $in^3$/min |
| 1.00 | 2 | 97 |
| 1.25 | 2 | 197 |
| 1.25 | 3 | 182.7 |
| 1.50 | 3 | 316 |
| 2.00 | 3 | 483 |
| 2.00 | 4 | 527 |
| 2.50 | 4 | 811 |
| 2.50 | 5 | 830 |
| 3.00 | 4 | 1030 |
| 3.00 | 5 | 1288 |

NOTE: The chart above shows total metal removal capacity (based on 24,000 RPM) by cutter diameter and number of teeth.
The maximum RPM is engraved on the cutter bodies.

## Machinability by Materials • Aluminum

| Alloy Group | Alloy Designation | Chemical Composition Limits (WT%) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu | Si | Fe | Mn | Mg | Zn | Cr | Ti | Pb | Bi | Al | Others |
| Al | 1050 | 0.05 | 0.25 | 0.40 | 0.50 | 0.05 | 0.05 | – | – | – | – | 99.50min | – |
| | 1100 | 0.05–0.20 | Si+Fe 1.00 max | – | 0.05 | – | 0.10 | – | – | – | – | 99.00min | – |
| AlCu | 2011 | 5.00–6.00 | 0.40 | 0.70 | – | – | 0.30 | – | – | 0.20 | 0.60 | remaining | – |
| | 2014 | 3.90–5.00 | 0.50–1.20 | 0.70 | 0.40–1.20 | 0.20–0.80 | 0.25 | 0.10 | 0.15 | – | – | remaining | – |
| | 2017 | 3.50–4.50 | 0.20–0.80 | 0.70 | 0.40–1.00 | 0.40–0.80 | 0.25 | 0.10 | 0.15 | – | – | remaining | – |
| | 2024 | 3.80–4.90 | 0.50 | 0.50 | 0.30–0.90 | 1.20–1.80 | 0.25 | 0.10 | 0.15 | – | – | remaining | – |
| | 2218 | 3.50–4.50 | 0.90 | 1 | 0.20 | 1.20–1.80 | 0.25 | 0.10 | – | – | – | remaining | Ni1.7–2.3 |
| | 2224 | 3.80–4.40 | 0.12 | 0.15 | 0.30–0.90 | 1.20–1.80 | 0.25 | 0.10 | 0.15 | – | – | remaining | – |
| AlMn | 3003 | 0.05–0.20 | 0.60 | 0.70 | 1.00–1.50 | – | 0.10 | – | – | – | – | remaining | – |
| AlSi | 4032 | 0.50–1.30 | 11.00–13.50 | 1 | – | 0.80–1.30 | 0.25 | 0.10 | – | – | – | remaining | Ni0.5–1.3 |
| AlMg | 5052 | 0.10 | 0.25 | 0.40 | 0.10 | 2.20–2.80 | 0.10 | 0.15–0.35 | – | – | – | remaining | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | H34 |
| | 5056 | 0.10 | 0.30 | 0.40 | 0.05–0.20 | 4.50–5.60 | 0.10 | 0.05–0.20 | – | – | – | remaining | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | H32 |
| | 5083 | 0.10 | 0.40 | 0.40 | 0.40–1.00 | 4.00–4.90 | 0.25 | 0.05–0.25 | 0.15 | – | – | remaining | – |
| | 5086 | 0.10 | 0.40 | 0.50 | 0.20–0.70 | 3.50–4.50 | 0.25 | 0.05–0.25 | 0.15 | – | – | remaining | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | H116 |
| AlMgSi | 6061 | 0.15–0.40 | 0.40–0.80 | 0.70 | 0.15 | 0.80–1.20 | 0.25 | 0.04–0.35 | 0.15 | – | – | remaining | – |
| | 6063 | 0.10 | 0.20–0.60 | 0.35 | 0.10 | 0.45–0.90 | 0.10 | 0.10 | 0.10 | – | – | remaining | – |
| | 6070 | 0.15–0.40 | 1.00–1.70 | 0.50 | 0.40–1.00 | 0.50–1.20 | 0.25 | 0.10 | 0.15 | – | – | remaining | – |
| | 6151 | 0.35 | 0.60–1.20 | 1 | 0.20 | 0.45–0.80 | 0.25 | 0.15–0.35 | 0.15 | – | – | remaining | – |
| | 6262 | 0.15–0.40 | 0.40–0.80 | 0.70 | 0.15 | 0.80–1.20 | 0.25 | 0.04–0.14 | 0.15 | 0.40 | 0.70 | remaining | – |
| | 6351 | 0.10 | 0.70–1.30 | 0.50 | 0.40–0.80 | 0.40–0.80 | 0.20 | – | 0.20 | – | – | remaining | – |
| | 6463 | 0.20 | 0.20–0.60 | 0.15 | 0.05 | 0.45–0.90 | 0.05 | – | – | – | – | remaining | – |
| AlZn | 7001 | 1.60–2.60 | 0.35 | 0.40 | 0.20 | 2.60–3.40 | 6.80–8.00 | 0.18–0.35 | 0.20 | – | – | remaining | – |
| | 7003 | 0.20 | 0.30 | 0.35 | 0.30 | 0.50–1.00 | 5.00–6.50 | 0.20 | 0.20 | – | – | remaining | Zr0.05–0.25 |
| | 7050 | 2.00–2.60 | 0.12 | 0.15 | 0.10 | 1.90–2.60 | 5.70–6.70 | 0.04 | 0.06 | – | – | remaining | Zr0.08–0.15 |
| | 7075 | 1.20–2.00 | 0.40 | 0.50 | 0.30 | 2.10–2.90 | 5.10–6.10 | 0.18–0.28 | 0.20 | – | – | remaining | – |
| | 7178 | 1.60–2.40 | 0.40 | 0.50 | 0.30 | 2.40–3.10 | 6.30–7.30 | 0.18–0.35 | 0.20 | – | – | remaining | – |
| | 7475 | 1.20–1.90 | 0.10 | 0.12 | 0.06 | 1.90–2.60 | 5.20–6.20 | 0.18–0.25 | 0.06 | – | – | remaining | – |

*(continued)*

**Machinability**

A Excellent
B Good-to-Excellent
C Good
D Not Good

Vc = π x D x n/1000 m/min = mm x RPM

D: Tool diameter, N: RPM, Vc: Cutting speed, π = 3.1416

Choose a cutting speed in the range of values, compatible with the cutter max rotation capacity (engraved on the body) and your spindle stability.

*(Machinability by Materials • Aluminum — continued)*

| | Typical Tremper | Rm (Mpa) | Machinability Chip Formation | Machinability | Typical Applications | vc SFM min–max | fz IPT max |
|---|---|---|---|---|---|---|---|
| | H14 | 105 | D | A | • Chemical equipment.<br>• Sheet metal work.<br>• Coiled tube. | 2625–9840 | 0.008 |
| | H14 | 90 | D | A | | | |
| | T3 | 310 | A | A | • Screw machine products.<br>• Tuck frame.<br>• Aircraft structure.<br>• Jet engine impellers.<br>• Aircraft engine<br>• Cylinder heads. | 1315–8200 | 0.010 |
| | T6 | 430 | B | A | | | |
| | T4 | 390 | B | A | | | |
| | T4 | 465 | B | A | | | |
| | T72 | 331 | B | B | | | |
| | – | – | A | A | | | |
| | H14 | 140 | D | B | • Cooking utensils.<br>• Chemical equipment. | 656–8200 | 0.008 |
| | T6 | 379 | B | D | • Pistons. | 656–3280 | 0.007 |
| | H14 | 260 | C | A | • Architectural.<br>• Cable sheeting.<br>• Welded pressure vessels.<br>• Hydraulic tubes.<br>• Transportation equipment. | 1315–9840 | 0.010 |
| | – | – | – | – | | | |
| | H12 | 300 | C | A | | | |
| | – | – | – | – | | | |
| | H112 | 335 | C | A | | | |
| | H32 | 300 | C | A | | | |
| | – | – | – | – | | | |
| | T6 | 300 | C | B | • Heavy-duty structure.<br>• Furniture.<br>• Architectural.<br>• Heavy-duty welded structure.<br>• Pipeline.<br>• Heat sink. | 1315–8200 | 0.008 |
| | T5 | 200 | C | B | | | |
| | T6 | 379 | C | C | | | |
| | T6 | – | C | C | | | |
| | T9 | 400 | B | B | | | |
| | T6 | 310 | D | C | | | |
| | T6 | 241 | C | B | | | |
| | O | – | B | A | • High-strength structure.<br>• Aircraft structure. | 1315–9840 | 0.010 |
| | T5 | 400 | B | A | | | |
| | T73 | 530 | B | A | | | |
| | T6 | 570 | B | A | | | |
| | T6 | 600 | B | A | | | |
| | T61 | 565 | B | A | | | |

## Recommendations for High Speed Machining at 8,000 RPM or above

- Check spindle condition:
  - Runout
  - Clamping of the attachment in traction
  - Marking and cleanliness
- Check that the tool is suitable for the required use.
- Inserts must be locked positively in the pocket and secured using the torx screw provided. The screw must be torqued to the correct value as indicated in the charts on the product pages.
- Because of heavy force to the screw, it is important to change the screw when changing the insert.
- Check the balancing of the assembled tool: cutter body, inserts, and attachment.
- Before start up, note the maximum RPM engraved on the tool. The maximum RPM is linked to a precise balancing value.
- Ensure that the field of application of the tool shown in our technical documents and technological parameters is observed:

| | |
|---|---|
| $A_e$ (mm) | width of cut, lateral engagement (radial) |
| $a_p$ (mm) | Axial depth of cut |
| $f_z$ (mm/tooth) | Feed per tooth |
| n (RPM) | revolutions per minute |

## Kennametal cannot accept responsibility for misuse of this product due to:

- Non-observance of the above instructions
- Machine without casing
- Incorrect clamping of workpieces
- No safety device on the machine
- Any misuse or incorrect clamping

**The optimum rotation must be determined by condition of the spindle.**
**The spindle must be rigid to run at these higher RPMs.**

**Under no circumstances must any attempt be made to repair this tool.**
**The only permitted maintenance is the indexing or replacement of the inserts.**

**When assembling the cutter to a Shrink Fit holder, the maximum protrusion cannot exceed 10% of the reach of tool.**

## Balancing:

- Cylindrical shank and HSK63A integral shanks are designed and balanced to G6.3 at 30,000 RPM for diameters up to 50mm. Diameter larger than 50mm are balanced to G6.3 at 24,000 RPM.
- Cylindrical shank tools mounted in a Shrink Fit holder or any other chuck mill holder + inserts + screws must be re-inspected for balance as an assembly by the end-user when at or exceeding 8,000 RPM. End-user must balance the assembly at a G6.3 at 30,000 RPM maximum.
- Shell mill and modular head cutters are not balanced. These tools must be re-inspected for balance as an assembly, cutter + inserts + screws, by the end-user for high speed machining at 8,000 RPM or above. End-user must balance the assembly at a G6.3 value minimum.
- Balancing requires removing some material by drilling or milling operations. To avoid making modular heads weaker, limit these operations by avoiding high RPM. It is not recommended to remove material by drilling operation.
- For each new modular head added to the same extension, re-balance the assembly. For each new shell mill installed on the same toolholder, re-balance the assembly.

Tighten the modular head to the extension; with lubricant, apply the torque value of:

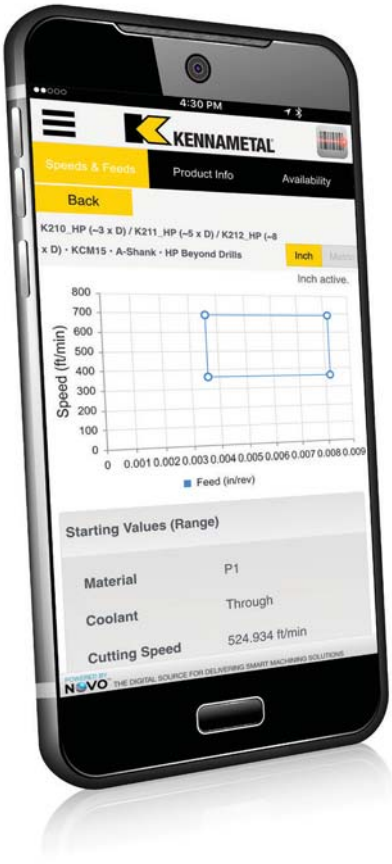
| Thread sizes (mm) | Torque Values Ft. Lbs. |
|---|---|
| M6 | 7.37 |
| M8 | 22.12 |
| M10 | 36.87 |
| M12 | 59.00 |
| M16 | 81.13 |

Tighten the bolt between the shell mill and toolholder; with lubricant, apply the torque value of:

| Thread sizes (inch) | Cutter Bore Size (inch) | Torque Values Ft. Lbs. |
|---|---|---|
| 0.250 | 0.500 | 7.37 |
| 0.375 | 0.750 | 22.12 |
| 0.500 | 1.000 | 36.87 |
| 0.625 | 1.250 | 59.00 |
| 0.750 | 1.500 | 81.13 |

# Mobile App

**The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.**




## FEATURES

Scan a Kennametal tool package barcode or search a product catalog number to access complete product information.

Product information includes tool image, dimensions, grades, and product highlights.

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# KSSM™ Platform

## Primary Application

The Kennametal KSSM platform is a versatile solution providing three insert sizes that cover a wide range of applications: face milling, shoulder milling, slotting, profiling, and Z-axis (plunge milling).

## Features and Benefits

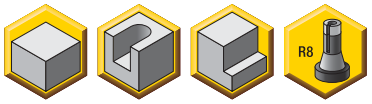
### KSSM IC 10 Inserts

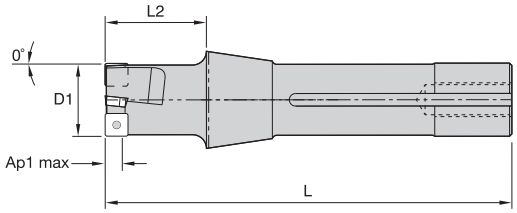
- Four cutting edges.
- Excellent surface finishes.
- Low power requirements.

### KSSM IC 12 Inserts

- Four cutting edges.
- Excellent surface finishes.
- Low power requirements.
- Increased depth of cut.

- Mill 90° walls.
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges per insert.



## Bridgeport Shank

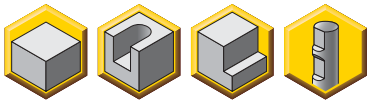
| order number | catalog number | D1 | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|
| **1229112** | **KISBR150SP10T30F** | 1.500 | 5.180 | 1.250 | .259 | 4 | 1.20 | 30300 |
| **1229113** | **KISBR200SP10T30F** | 2.000 | 5.180 | 1.250 | .259 | 5 | 1.50 | 26300 |

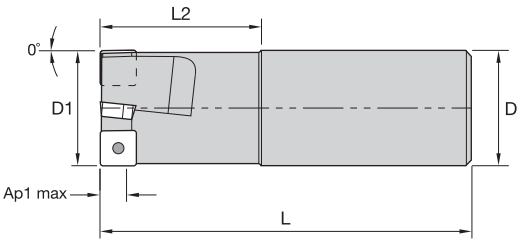
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.500 | **MS2148** | 10.0 | **DT9IP** |
| 2.000 | **MS2148** | 10.0 | **DT9IP** |

- Mill 90° walls.
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges per insert.





## Weldon® End Mills

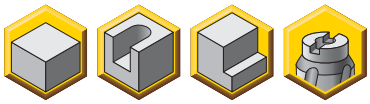
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **1229091** | **KISR075SP10T30F** | .750 | .750 | 3.500 | 1.470 | .259 | 1 | .40 | 42900 |
| **1229092** | **KISR100SP10T30F** | 1.000 | 1.000 | 3.500 | 1.220 | .259 | 2 | .60 | 37100 |
| **1229095** | **KISR125SP10T30F** | 1.250 | 1.250 | 4.030 | 1.750 | .259 | 3 | 1.10 | 33200 |
| **1229096** | **KISR150SP10T30F** | 1.500 | 1.500 | 4.030 | 1.340 | .259 | 4 | 1.63 | 30300 |

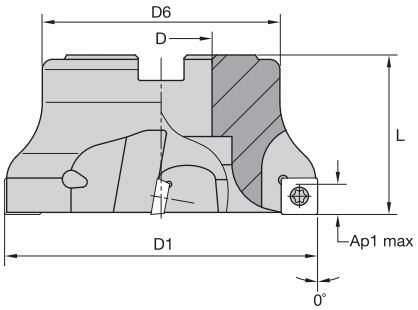
NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

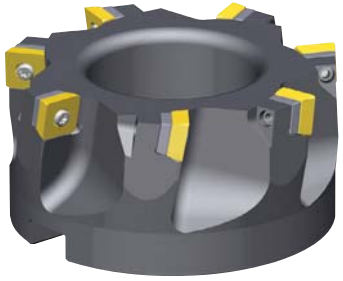
## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **MS2148** | 10.0 | **DT9IP** |
| 1.000 | **MS2148** | 10.0 | **DT9IP** |
| 1.250 | **MS2148** | 10.0 | **DT9IP** |
| 1.500 | **MS2148** | 10.0 | **DT9IP** |

- Mill 90° walls.
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges per insert.





## End Mills • Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|
| **1229047** | **KSSR150SP10T30F2** | 1.500 | .500 | 1.355 | 1.250 | .259 | 4 | .30 | 30300 |
| **1229078** | **KSSR200SP10T30F3** | 2.000 | .750 | 1.625 | 1.750 | .259 | 5 | .60 | 26300 |
| **1229079** | **KSSR250SP10T30F4** | 2.500 | 1.000 | 2.065 | 1.750 | .259 | 6 | .90 | 23500 |
| **1229080** | **KSSR300SP10T30F4** | 3.000 | 1.000 | 2.065 | 1.750 | .259 | 8 | 1.30 | 21450 |
| **1229081** | **KSSR400SP10T30F5** | 4.000 | 1.250 | 2.755 | 2.000 | .259 | 10 | 2.50 | 18600 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.

## Spare Parts

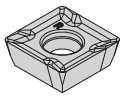
| D1 | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | **MS2148** | 10.0 | **DT9IP** | **S422** |
| 2.000 | **MS2148** | 10.0 | **DT9IP** | **S445** |
| 2.500 | **MS2148** | 10.0 | **DT9IP** | **–** |
| 3.000 | **MS2148** | 10.0 | **DT9IP** | **–** |
| 4.000 | **MS2148** | 10.0 | **DT9IP** | **–** |

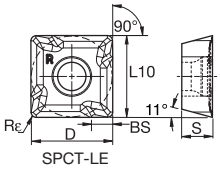
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPK30 |
| P3–P4 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPK30** | .S..GB2 | KCPK30 |
| P5–P6 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M1–M2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KC725M |
| K1–K2 | .E..LD2 | KC520M | **.E..GB2** | **KCK15** | .S..GB2 | KCK15 |
| K3 | .E..LD2 | KC520M | **.E..GB2** | **KC520M** | .S..GB2 | KC520M |
| N1–N2 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LD | KC510M |
| N3 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| S1–S2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| S3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KC725M |
| S4 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| H1 | .F..LD | KC510M | – | – | – | – |

## Indexable Inserts • SP.T10T3

- Aluminum workpiece materials.
- Precision ground.
- 20° rake face.
- Four cutting edges.


SPCT-LE



SPCT-LE

● first choice
○ alternate choice

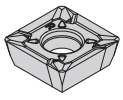
beyond

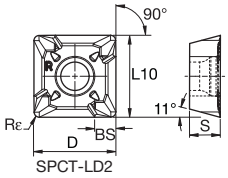
| | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | | |
| K | | ● | ○ | | ● | ○ | | | | ● | ● |
| N | ● | | ○ | | | | | | | | |
| S | | | ● | ● | | | | ● | ● | | |
| H | | | ○ | | | | | | | | |

## SPCT-LE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPCT31251PPFL8LE** | .394 | .156 | .394 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – | – |
| **SPCT31251PPFR8LE** | .394 | .156 | .394 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – | – |
| **SPCT3125PPFL8LE** | .394 | .156 | .394 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – | – |
| **SPCT3125PPFR8LE** | .394 | .156 | .394 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – | – |
| **SPCT31253PPFR8LE** | .394 | .156 | .394 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – | – |
| **SPCT31255FNLE** | .394 | .156 | .394 | — | .078 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – | – |

- Light and finish machining.
- Precision ground.
- 75° rake face.
- Four cutting edges.


SPCT-LD2



SPCT-LD2

● first choice
○ alternate choice

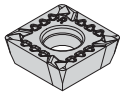
beyond

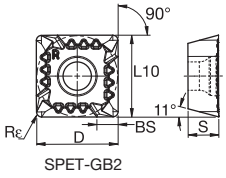
| | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | | |
| K | | ● | ○ | | ● | ○ | | | | ● | ● |
| N | ● | | ○ | | | | | | | | |
| S | | | ● | ● | | | | ● | ● | | |
| H | | | ○ | | | | | | | | |

## SPCT-LD2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPCT31251PPEL8LD2** | .394 | .156 | .394 | .106 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – | – |
| **SPCT31251PPER8LD2** | .394 | .156 | .394 | .106 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – | – |
| **SPCT3125PPEL8LD2** | .394 | .156 | .394 | .106 | .031 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – | – |
| **SPCT3125PPER8LD2** | .394 | .156 | .394 | .106 | .031 | .002 | 4 | – | ● | – | ● | – | – | ● | – | – | – | – |
| **SPCT31253PPEL8LD2** | .394 | .156 | .394 | .106 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – | – |
| **SPCT31253PPER8LD2** | .394 | .156 | .394 | .106 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – | – |
| **SPCT31254ENLD2** | .394 | .156 | .394 | — | .063 | .002 | 4 | – | – | – | ● | – | – | – | ● | – | – | – |
| **SPCT31255ENLD2** | .394 | .156 | .394 | — | .078 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SPET-GB2

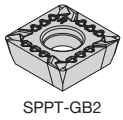


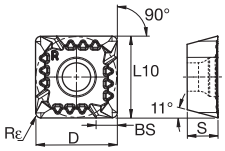
SPET-GB2

## SPET-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPET31251PPEL8GB2** | .394 | .156 | .394 | .106 | .016 | .003 | 4 | – | – | – | ● | ● | ● | – | – | – | – | – |
| **SPET31251PPER8GB2** | .394 | .156 | .394 | .106 | .016 | .003 | 4 | – | – | – | ● | ● | ● | – | – | – | – | – |
| **SPET3125PPEL8GB2** | .394 | .156 | .394 | .106 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | – | – | – | – | – |
| **SPET3125PPER8GB2** | .394 | .156 | .394 | .106 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – | – |
| **SPET3125PPSL8GB2** | .394 | .156 | .394 | .106 | .031 | .005 | 4 | – | – | – | ● | – | ● | – | – | – | – | – |
| **SPET3125PPSR8GB2** | .394 | .156 | .394 | .106 | .031 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – | – | – |

- Medium machining.
- PSTS — Precision Pressed and Sintered to Size.
- 5° rake face.
- Four cutting edges.


SPPT-GB2



SPPT-GB2

● first choice
○ alternate choice

beyond

| | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | | |
| K | | ● | ○ | | ● | ○ | | | | ● | ● |
| N | ● | | ○ | | | | | | | | |
| S | | | ● | ● | | | | ● | ● | | |
| H | | | ○ | | | | | | | | |

## SPPT-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KTPK20 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPPT3125PPER8GB2** | .394 | .156 | .394 | .106 | .031 | .003 | 4 | – | – | – | – | ● | ● | – | – | – | – | – |
| **SPPT3125PPSR8GB2** | .394 | .156 | .394 | .106 | .031 | .005 | 4 | – | – | – | – | ● | ● | – | – | – | ● | – |

## Recommended Starting Feeds

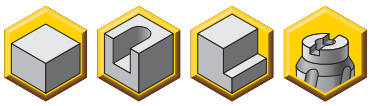
### Recommended Starting Feeds [IPT]

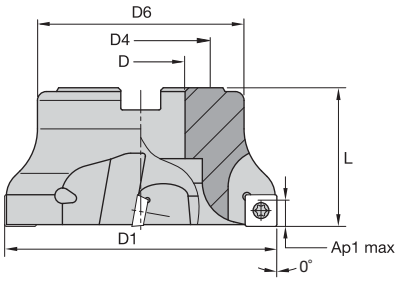
| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

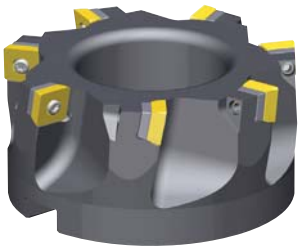
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LE | .005 | **.017** | .028 | .003 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .F..LE |
| .F..LD | .005 | **.017** | .028 | .003 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .F..LD |
| .E..LD2 | .005 | **.018** | .032 | .004 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LD2 |
| .E..LD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .E..GB2 | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB2 |
| .S..GB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB |
| .S..GB2 | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB2 |
| .S..GN | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Mill 0° walls.
- Excellent surface finishes.
- Low power requirements.
- 4 cutting edges per insert.





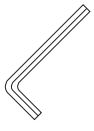



## End Mills • Shell Mills

| order number | catalog number | D1 | D | D4 | D6 | L | Ap1 max | Z | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| 1024970 | KSSISR200SD430C3 | 2.000 | .750 | — | 1.625 | 1.750 | .361 | 3 | .79 | 20450 |
| 1024994 | KSSISR200SD430F3 | 2.000 | .750 | — | 1.625 | 1.750 | .361 | 5 | .77 | 20450 |
| 1024972 | KSSISR200SD430M3 | 2.000 | .750 | — | 1.625 | 1.750 | .361 | 4 | .75 | 20450 |
| 1025000 | KSSISR250SD430F4 | 2.500 | 1.000 | — | 2.065 | 1.750 | .361 | 6 | 1.23 | 18290 |
| 1024998 | KSSISR250SD430M4 | 2.500 | 1.000 | — | 2.065 | 1.750 | .361 | 5 | 1.20 | 18290 |
| 1024930 | KSSISR300SD430C4 | 3.000 | 1.000 | — | 2.065 | 1.750 | .361 | 4 | 1.42 | 16700 |
| 1024932 | KSSISR300SD430F4 | 3.000 | 1.000 | — | 2.065 | 1.750 | .361 | 7 | 1.38 | 16700 |
| 1024931 | KSSISR300SD430M4 | 3.000 | 1.000 | — | 2.065 | 1.750 | .361 | 6 | 1.38 | 16700 |
| 1025025 | KSSISR400SD430C5 | 4.000 | 1.250 | — | 2.755 | 2.000 | .361 | 5 | 3.05 | 14460 |
| 1025033 | KSSISR400SD430F5 | 4.000 | 1.250 | — | 2.755 | 2.000 | .361 | 8 | 3.01 | 14460 |
| 1025029 | KSSISR400SD430M5 | 4.000 | 1.250 | — | 2.755 | 2.000 | .361 | 7 | 3.03 | 14460 |
| 1025027 | KSSISR400SD430C6 | 4.000 | 1.500 | — | 3.685 | 2.000 | .361 | 5 | 3.58 | 14460 |
| 1025065 | KSSISR400SD430F6 | 4.000 | 1.500 | — | 3.685 | 2.000 | .361 | 8 | 3.62 | 14460 |
| 1025031 | KSSISR400SD430M6 | 4.000 | 1.500 | — | 3.685 | 2.000 | .361 | 7 | 3.57 | 14460 |
| 1024933 | KSSISR500SD430C6 | 5.000 | 1.500 | — | 3.685 | 2.380 | .361 | 6 | 5.82 | 12940 |
| 1024965 | KSSISR500SD430F6 | 5.000 | 1.500 | — | 3.685 | 2.380 | .361 | 10 | 5.96 | 12940 |
| 1024964 | KSSISR500SD430M6 | 5.000 | 1.500 | — | 3.685 | 2.380 | .361 | 8 | 5.91 | 12940 |
| 1024966 | KSSISR600SD430C6 | 6.000 | 1.500 | — | 3.685 | 2.380 | .361 | 8 | 8.52 | 11800 |
| 1024968 | KSSISR600SD430F6 | 6.000 | 1.500 | — | 3.685 | 2.380 | .361 | 12 | 8.60 | 11800 |
| 1024967 | KSSISR600SD430M6 | 6.000 | 1.500 | — | 3.685 | 2.380 | .361 | 10 | 8.58 | 11800 |
| 1025071 | KSSISR600SD430C8 | 6.000 | 2.000 | — | 4.875 | 2.380 | .361 | 8 | 7.37 | 11800 |
| 1025094 | KSSISR600SD430M8 | 6.000 | 2.000 | — | 4.875 | 2.380 | .361 | 10 | 7.44 | 11800 |
| 1025102 | KSSISR800SD430C10 | 8.000 | 2.500 | 4.000 | 6.125 | 2.380 | .361 | 10 | 15.40 | 10230 |
| 1025136 | KSSISR800SD430F10 | 8.000 | 2.500 | 4.000 | 6.125 | 2.380 | .361 | 14 | 15.30 | 10230 |
| 1025134 | KSSISR800SD430M10 | 8.000 | 2.500 | 4.000 | 6.125 | 2.380 | .361 | 12 | 15.40 | 10230 |
| 1025140 | KSSISR1000SD430M10 | 10.000 | 2.500 | 4.000 | 8.125 | 2.380 | .361 | 16 | 25.90 | 9150 |

NOTE: Standard milling cutters will accept insert nose radii up to .079" without modification.
2" cutter does not have shims.
2", 2.5", and 3" fine-pitch cutters do not have shims.

## Spare Parts

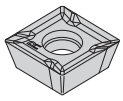
| D1 | insert screw | in. lbs. | Torx Plus driver | shim | shim screw | in. lbs. |  hex driver | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|
| 2.000 | MS2078 | 35.0 | DT15IP | — | — | 40.0 | — | S445 |
| 2.500 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | S458 |
| 3.000 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | — |
| 4.000 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | — |
| 5.000 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | — |
| 6.000 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | — |
| 8.000 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | — |
| 10.000 | MS2078 | 35.0 | DT15IP | SM449 | SRS3 | 40.0 | DH35M | — |

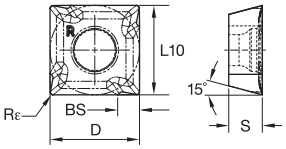
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1 - P2 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| P3 - P4 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPK30** | .S..GB2 | KCPK30 |
| P5 - P6 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M1 - M2 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| M3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| K1 - K2 | .E..LD2 | KC520M | **.E..GB2** | **KCK15** | .S..GB2 | KCK15 |
| K3 | .E..LD2 | KC520M | **.E..GB2** | **KC520M** | .S..GB2 | KC520M |
| N1 - N2 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| N3 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| S1 - S2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| S3 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| S4 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

## Indexable Inserts • SD.T1204

- Aluminum workpiece materials.
- Precision ground.
- 20° rake face.
- Four cutting edges.


SDCT-LE



SDCT-LE

● first choice
○ alternate choice

beyond

| | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | ● | ○ | | ● | ○ | | | | ● |
| N | ● | | ○ | | | | | | | |
| S | | | ● | ● | | | | ● | ● | |
| H | | | ○ | | | | | | | |

## SDCT-LE

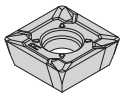
| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDFL8LE** | .500 | .188 | .500 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT431PDFR8LE** | .500 | .188 | .500 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT43PDFL8LE** | .500 | .188 | .500 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT43PDFR8LE** | .500 | .188 | .500 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT433PDFL8LE** | .500 | .188 | .500 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT433PDFR8LE** | .500 | .188 | .500 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT434FNLE** | .500 | .188 | .500 | — | .063 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT435FNLE** | .500 | .188 | .500 | — | .078 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT436FNLE** | .500 | .188 | .500 | — | .094 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT438FNLE** | .500 | .188 | .500 | — | .125 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |

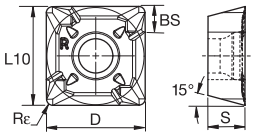
- Light and finish machining.
- Precision ground.
- 15° rake face.
- Four cutting edges.

beyond

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ | |
| M | | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | | ● |
| N | ● | | | ○ | | | | | | | |
| S | | | | ● | ● | | | | ● | ● | |
| H | | | | ○ | | | | | | | |

● first choice
○ alternate choice


SDCT-LD2

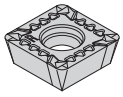


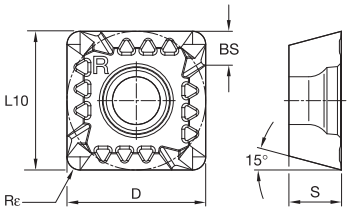
SDCT-LD2

## SDCT-LD2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDEL8LD2** | .500 | .188 | .500 | .106 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT431PDER8LD2** | .500 | .188 | .500 | .115 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT43PDEL8LD2** | .500 | .188 | .500 | .130 | .031 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT43PDER8LD2** | .500 | .188 | .500 | .130 | .031 | .002 | 4 | – | ● | – | ● | – | – | ● | – | ● | – |
| **SDCT433PDEL8LD2** | .500 | .188 | .500 | .120 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT433PDER8LD2** | .500 | .188 | .500 | .120 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDCT434ENLD2** | .500 | .188 | .500 | – | .063 | .002 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDCT435ENLD2** | .500 | .188 | .500 | – | .078 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT436ENLD2** | .500 | .188 | .500 | – | .094 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT438ENLD2** | .500 | .188 | .500 | – | .125 | .002 | 4 | – | – | ● | ● | – | – | – | ● | ● | – |
| **SDCT4316ENLD2** | .500 | .188 | .500 | – | .250 | .002 | 2 | – | – | – | ● | – | – | – | – | ● | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SDET-GB2

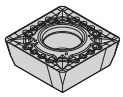


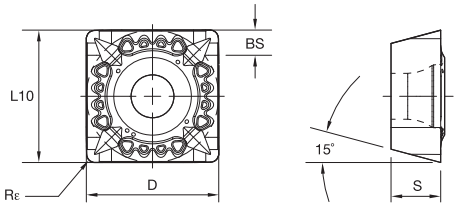
SDET-GB2

## SDET-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET43PDEL8GB2** | .500 | .188 | .500 | .130 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | – | – | – | – |
| **SDET43PDER8GB2** | .500 | .188 | .500 | .130 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | ● | – |
| **SDET43PDSL8GB2** | .500 | .188 | .500 | .130 | .031 | .005 | 4 | – | – | – | ● | – | ● | – | – | – | – |
| **SDET43PDSR8GB2** | .500 | .188 | .500 | .130 | .031 | .005 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – |
| **SDET433PDEL8GB2** | .500 | .188 | .500 | .120 | .047 | .003 | 4 | – | ● | – | ● | ● | – | – | – | – | – |
| **SDET433PDER8GB2** | .500 | .188 | .500 | .120 | .047 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – |
| **SDET434SNGB2** | .500 | .188 | .500 | – | .063 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – | – |
| **SDET435SNGB2** | .500 | .188 | .500 | – | .078 | .005 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – |
| **SDET436SNGB2** | .500 | .188 | .500 | – | .094 | .005 | 4 | – | – | – | ● | ● | ● | – | – | – | – |
| **SDET438SNGB2** | .500 | .188 | .500 | – | .125 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – | – |
| **SDET438XENGB2** | .500 | .188 | .500 | – | .125 | .003 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **SDET4316SNGB2** | .500 | .188 | .500 | – | .250 | .005 | 2 | – | – | – | – | – | ● | – | – | – | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SDET-GB



SDET-GB

● first choice
○ alternate choice

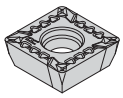
beyond

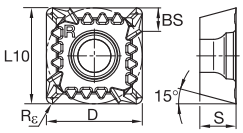
| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ | | | |
| M | | | | ● | ● | | ○ | ○ | ○ | ● | | | |
| K | | | ● | ○ | | ● | ○ | | | | ● | | |
| N | | ● | | ○ | | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● | | | |
| H | | | | ○ | | | | | | | | | |

## SDET-GB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET43PDER8GB** | .500 | .188 | .500 | .101 | .031 | .003 | 4 | – | ● | – | – | – | – | – | – | ● | – |
| **SDET43PDSR8GB** | .500 | .188 | .500 | .101 | .031 | .006 | 4 | – | – | – | ● | – | ● | ● | ● | ● | – |
| **SDET433PDER8GB** | .500 | .188 | .500 | .086 | .047 | .003 | 4 | – | – | – | ● | – | – | ● | – | ● | – |
| **SDET433PDSR8GB** | .500 | .188 | .500 | .085 | .047 | .006 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET434ENGB** | .500 | .188 | .500 | — | .062 | .003 | 4 | – | – | – | – | – | – | – | – | ● | – |
| **SDET434SNGB** | .500 | .188 | .500 | — | .062 | .006 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET436ENGB** | .500 | .188 | .500 | — | .094 | .003 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET436SNGB** | .500 | .188 | .500 | — | .094 | .006 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET438ENGB** | .500 | .188 | .500 | — | .125 | .003 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET438SNGB** | .500 | .188 | .500 | — | .125 | .006 | 4 | – | – | – | – | – | – | – | – | ● | – |
| **SDET4312ENGB** | .500 | .188 | .500 | — | .188 | .003 | 2 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET4312SNGB** | .500 | .188 | .500 | — | .188 | .006 | 2 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET4316ENGB** | .500 | .188 | .500 | — | .250 | .003 | 2 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET4316SNGB** | .500 | .188 | .500 | — | .250 | .006 | 2 | – | – | – | ● | – | ● | – | ● | ● | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SDPT-GB2

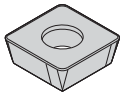


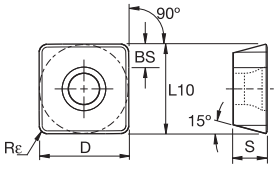
SDPT-GB2

## SDPT-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDPT43PDER8GB2** | .500 | .188 | .500 | .106 | .031 | .003 | 4 | – | – | – | ● | ● | ● | ● | – | ● | – |
| **SDPT43PDSR8GB2** | .500 | .188 | .500 | .106 | .031 | .005 | 4 | – | – | – | ● | ● | ● | ● | – | ● | – |

- Heavy machining.
- Precision ground.
- 0° rake face flat top.
- Four cutting edges.


SDCW-GN



SDCW-GN

● first choice
○ alternate choice

beyond

| | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | ● | ○ | | ● | ○ | | | | ● |
| N | ● | | ○ | | | | | | | |
| S | | | ● | ● | | | | ● | ● | |
| H | | | ○ | | | | | | | |

## SDCW-GN

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCW43EDSR8GN** | .500 | .188 | .500 | .132 | .031 | .006 | 4 | – | – | – | – | – | – | – | – | – | ● |
| **SDCW43PDSR8GN** | .500 | .188 | .500 | .099 | .031 | .006 | 4 | – | – | – | – | – | – | – | – | – | ● |
| **SDCW433PDSR8GN** | .500 | .188 | .500 | .120 | .047 | .006 | 4 | – | – | – | – | – | – | – | – | – | ● |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LE | .005 | **.017** | .030 | .003 | **.012** | .021 | .003 | **.009** | .016 | .002 | **.008** | .014 | .002 | **.007** | .013 | .F..LE |
| .E..LD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .E..LD2 | .005 | **.018** | .032 | .004 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LD2 |
| .E..GB | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB |
| .E..GB2 | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB2 |
| .S..GB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB |
| .S..GB2 | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB2 |
| .S..GN | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# KSSM-KSSP Helical

## Primary Application

KSSM-KSSP helical cutters were originally developed and proven for the aerospace industry, but are now available for all industries. The proprietary variable rake design minimizes vibration and chatter.

## Features and Benefits

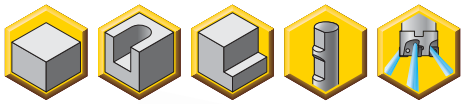
### Features

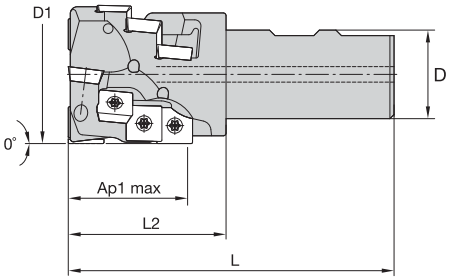
- Patented HARVI™ technology.
- Progressive helical rakes.
- Unique coolant supply.

### Benefits

- Increased tool life in titanium.
- Increased metal removal rates.
- Lower power consumption.
- Ensures chip evacuation, even on exotic materials.

- Patented HARVI™ technology.
- Progressive helical rakes.
- Increased metal removal rates (MRR).
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges.





## Weldon® End Mills

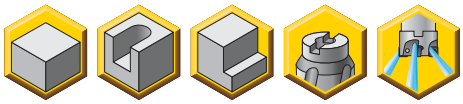
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | Z U | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2528269** | **KSSP200R3SD43W125L169** | 2.000 | 1.250 | 4.530 | 2.250 | 1.691 | 12 | 3 | 1.73 | 16300 |

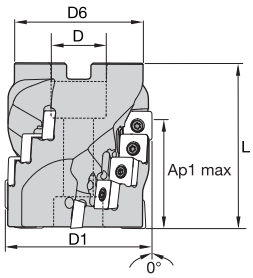
NOTE: Maximum nose radii of lead insert is .094" for a 2" diameter cutter.
All subsequent inserts up the flute should have a maximum nose radius of .031" to avoid lap lines.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| 2.000 | **MS1273** | 35.0 | **TT15** |

- Patented HARVI™ technology.
- Progressive helical rakes.
- Increased Metal Removal Rates (MRR).
- Excellent surface finishes.
- Low power requirements.
- Four cutting edges.





## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | Z U | lbs | max RPM |
|---|---|---|---|---|---|---|---|---|---|---|
| **2601012** | **KSSP200R3SD43L125** | 2.000 | .750 | 1.750 | 1.875 | 1.275 | 9 | 3.0 | .87 | 16300 |
| **2400680** | **KSSP200R3SD43L168** | 2.000 | .750 | 1.750 | 2.250 | 1.691 | 12 | 3.0 | 1.02 | 16300 |
| **3045090** | **KSSP200R3SD43L200HC** | 2.000 | .750 | 1.913 | 3.000 | 2.072 | 15 | 3.0 | 1.42 | 16300 |
| **2400681** | **KSSP250R3SD43L200** | 2.500 | 1.000 | 2.190 | 2.750 | 2.005 | 15 | 3.0 | 2.34 | 14550 |
| **2400682** | **KSSP300R4SD43L240** | 3.000 | 1.250 | 2.750 | 3.250 | 2.427 | 24 | 4.0 | 4.07 | 13300 |
| **2977923** | **KSSP300R5SD43L400HC** | 3.000 | 1.250 | 2.900 | 5.000 | 4.114 | 55 | 5.0 | 5.95 | 13300 |

NOTE: ZU = Effective number of flutes.
Maximum nose radii of lead insert is .094" for 2" diameter cutters and .125" for 2.50" diameter cutters and above.
All subsequent inserts up the flutes should have a maximum nose radius of .031" to avoid lap lines.

## Spare Parts

| order number | D1 | insert screw | in. lbs. | Torx Plus wrench | Torx wrench |
|---|---|---|---|---|---|
| **2601012** | 2.000 | **MS1273** | 35.0 | **–** | **TT15** |
| **2400680** | 2.000 | **MS1273** | 35.0 | **–** | **TT15** |
| **3045090** | 2.000 | **MS2085** | 35.0 | **TTP15** | **–** |
| **2400681** | 2.500 | **MS1273** | 35.0 | **–** | **TT15** |
| **2400682** | 3.000 | **MS1273** | 35.0 | **–** | **TT15** |
| **2977923** | 3.000 | **MS2085** | 35.0 | **TTP15** | **–** |

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| P3–P4 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPK30** | .S..GB2 | KCPK30 |
| P5–P6 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M1–M2 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| M3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| K1–K2 | .E..LD2 | KC520M | **.E..GB2** | **KCK15** | .S..GB2 | KCK15 |
| K3 | .E..LD2 | KC520M | **.E..GB2** | **KC520M** | .S..GB2 | KC520M |
| N1–N2 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| N3 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| S1–S2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| S3 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| S4 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

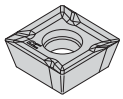


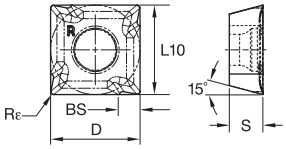
- Aluminum workpiece materials.
- Precision ground.
- 20° rake face.
- Four cutting edges.

beyond

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ | |
| M | | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | | ● |
| N | | ● | | ○ | | | | | | | |
| S | | | | ● | ● | | | | ● | ● | |
| H | | | | ○ | | | | | | | |

● first choice
○ alternate choice


SDCT-LE

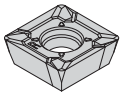


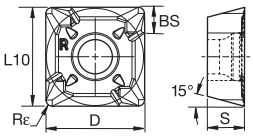
SDCT-LE

## SDCT-LE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDFL8LE** | .500 | .188 | .500 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT431PDFR8LE** | .500 | .188 | .500 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT43PDFL8LE** | .500 | .188 | .500 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT43PDFR8LE** | .500 | .188 | .500 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT433PDFL8LE** | .500 | .188 | .500 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT433PDFR8LE** | .500 | .188 | .500 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT434FNLE** | .500 | .188 | .500 | — | .063 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT435FNLE** | .500 | .188 | .500 | — | .078 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT436FNLE** | .500 | .188 | .500 | — | .094 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |
| **SDCT438FNLE** | .500 | .188 | .500 | — | .125 | .001 | 4 | ● | – | – | – | – | – | – | – | – | – |

- Light and finish machining.
- Precision ground.
- 15° rake face.
- Four cutting edges.


SDCT-LD2



SDCT-LD2

● first choice
○ alternate choice

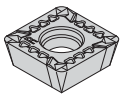
beyond

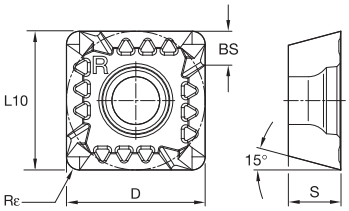
| | | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ | |
| M | | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | | ● | ○ | | ● | ○ | | | | ● |
| N | | ● | | ○ | | | | | | | |
| S | | | | ● | ● | | | | ● | ● | |
| H | | | | ○ | | | | | | | |

## SDCT-LD2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDEL8LD2** | .500 | .188 | .500 | .106 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT431PDER8LD2** | .500 | .188 | .500 | .115 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT43PDEL8LD2** | .500 | .188 | .500 | .130 | .031 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT43PDER8LD2** | .500 | .188 | .500 | .130 | .031 | .002 | 4 | – | ● | – | ● | – | – | ● | – | ● | – |
| **SDCT433PDEL8LD2** | .500 | .188 | .500 | .120 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT433PDER8LD2** | .500 | .188 | .500 | .120 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDCT434ENLD2** | .500 | .188 | .500 | – | .063 | .002 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDCT435ENLD2** | .500 | .188 | .500 | – | .078 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT436ENLD2** | .500 | .188 | .500 | – | .094 | .002 | 4 | – | – | – | ● | – | – | – | – | – | – |
| **SDCT438ENLD2** | .500 | .188 | .500 | – | .125 | .002 | 4 | – | – | ● | ● | – | – | – | ● | ● | – |
| **SDCT4316ENLD2** | .500 | .188 | .500 | – | .250 | .002 | 2 | – | – | – | ● | – | – | – | – | ● | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SDET-GB2

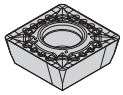


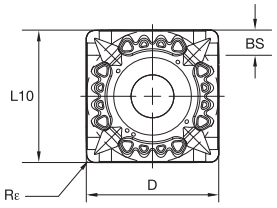
SDET-GB2

## SDET-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET43PDEL8GB2** | .500 | .188 | .500 | .130 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | – | – | – | – |
| **SDET43PDER8GB2** | .500 | .188 | .500 | .130 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | ● | – |
| **SDET43PDSL8GB2** | .500 | .188 | .500 | .130 | .031 | .005 | 4 | – | – | – | ● | – | ● | – | – | – | – |
| **SDET43PDSR8GB2** | .500 | .188 | .500 | .130 | .031 | .005 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – |
| **SDET433PDEL8GB2** | .500 | .188 | .500 | .120 | .047 | .003 | 4 | – | ● | – | ● | ● | – | – | – | – | – |
| **SDET433PDER8GB2** | .500 | .188 | .500 | .120 | .047 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – |
| **SDET434SNGB2** | .500 | .188 | .500 | – | .063 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – | – |
| **SDET435SNGB2** | .500 | .188 | .500 | – | .078 | .005 | 4 | – | ● | – | ● | ● | ● | ● | – | – | – |
| **SDET436SNGB2** | .500 | .188 | .500 | – | .094 | .005 | 4 | – | – | – | ● | ● | ● | – | – | – | – |
| **SDET438SNGB2** | .500 | .188 | .500 | – | .125 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – | – |
| **SDET438XENGB2** | .500 | .188 | .500 | – | .125 | .003 | 2 | – | – | – | ● | – | – | – | – | – | – |
| **SDET4316SNGB2** | .500 | .188 | .500 | – | .250 | .005 | 2 | – | – | – | – | – | ● | – | – | – | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SDET-GB



SDET-GB

● first choice
○ alternate choice

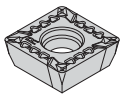
beyond

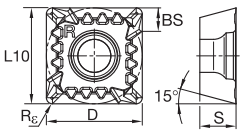
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | | |
| K | | ● | ○ | | ● | ○ | | | | ● | |
| N | ● | | ○ | | | | | | | | |
| S | | | ● | ● | | | | ● | ● | | |
| H | | | ○ | | | | | | | | |

## SDET-GB

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET43PDER8GB** | .500 | .188 | .500 | .101 | .031 | .003 | 4 | – | ● | – | – | – | – | – | – | ● | – |
| **SDET43PDSR8GB** | .500 | .188 | .500 | .101 | .031 | .006 | 4 | – | – | – | ● | – | ● | ● | ● | ● | – |
| **SDET433PDER8GB** | .500 | .188 | .500 | .086 | .047 | .003 | 4 | – | – | – | ● | – | – | ● | – | ● | – |
| **SDET433PDSR8GB** | .500 | .188 | .500 | .085 | .047 | .006 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET434ENGB** | .500 | .188 | .500 | – | .062 | .003 | 4 | – | – | – | – | – | – | – | – | ● | – |
| **SDET434SNGB** | .500 | .188 | .500 | – | .062 | .006 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET436ENGB** | .500 | .188 | .500 | – | .094 | .003 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET436SNGB** | .500 | .188 | .500 | – | .094 | .006 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET438ENGB** | .500 | .188 | .500 | – | .125 | .003 | 4 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET438SNGB** | .500 | .188 | .500 | – | .125 | .006 | 4 | – | – | – | – | – | – | – | – | ● | – |
| **SDET4312ENGB** | .500 | .188 | .500 | – | .188 | .003 | 2 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET4312SNGB** | .500 | .188 | .500 | – | .188 | .006 | 2 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET4316ENGB** | .500 | .188 | .500 | – | .250 | .003 | 2 | – | – | – | ● | – | – | – | – | ● | – |
| **SDET4316SNGB** | .500 | .188 | .500 | – | .250 | .006 | 2 | – | – | – | ● | – | ● | – | ● | ● | – |

- Medium machining.
- Precision ground.
- 5° rake face.
- Four cutting edges.


SDPT-GB2

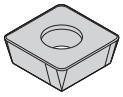


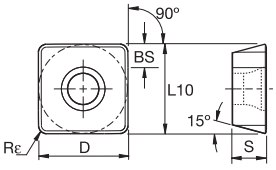
SDPT-GB2

## SDPT-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDPT43PDER8GB2** | .500 | .188 | .500 | .106 | .031 | .003 | 4 | – | – | – | ● | ● | ● | ● | – | ● | – |
| **SDPT43PDSR8GB2** | .500 | .188 | .500 | .106 | .031 | .005 | 4 | – | – | – | ● | ● | ● | ● | – | ● | – |

- Heavy machining.
- Precision ground.
- 0° rake face flat top.
- Four cutting edges.


SDCW-GN



SDCW-GN

● first choice
○ alternate choice

beyond

| | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ | |
| M | | | ● | ● | | ○ | ○ | ○ | ● | |
| K | | ● | ○ | | ● | ○ | | | | ● |
| N | ● | | ○ | | | | | | | |
| S | | | ● | ● | | | | ● | ● | |
| H | | | ○ | | | | | | | |

## SDCW-GN

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 | KY3500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCW43EDSR8GN** | .500 | .188 | .500 | .132 | .031 | .006 | 4 | – | – | – | – | – | – | – | – | – | ● |
| **SDCW43PDSR8GN** | .500 | .188 | .500 | .099 | .031 | .006 | 4 | – | – | – | – | – | – | – | – | – | ● |
| **SDCW433PDSR8GN** | .500 | .188 | .500 | .120 | .047 | .006 | 4 | – | – | – | – | – | – | – | – | – | ● |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LE | .005 | **.017** | .030 | .003 | **.012** | .021 | .003 | **.009** | .016 | .002 | **.008** | .014 | .002 | **.007** | .013 | .F..LE |
| .E..LD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .E..LD2 | .005 | **.018** | .032 | .004 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LD2 |
| .E..GB | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB |
| .E..GB2 | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB2 |
| .S..GB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB |
| .S..GB2 | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB2 |
| .S..GN | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# NOVO KNOWS CAD/CAM

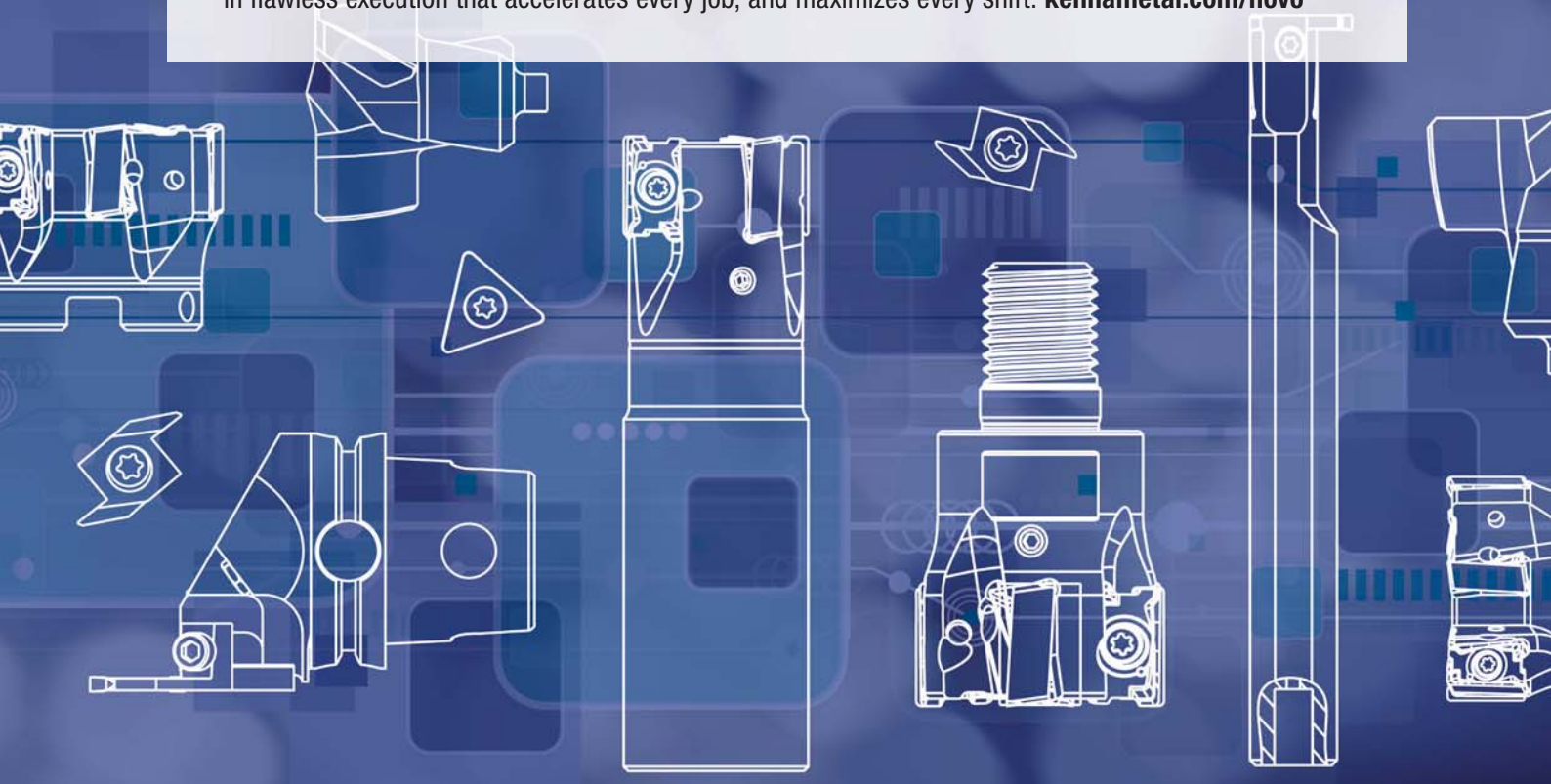
With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**



# 5230VS • High Performance Long-Edge Milling Cutters

The Stellram® **5230VS09** and **5230VS12** cutter series is perfectly suited for profiling and full slotting.

Designed for high material removal rates in titanium and high-temperature alloys. Several applications have achieved metal removal rates of up to two times greater than the previous operating cutting parameters.

The advanced chevron design ensures that one cutting point is always in contact with the material during entrance and exit. This provides optimum harmonic stability resulting in maximum tool life and a 30% improvement in surface finish. A generous flute capacity, coupled with each cutting edge having its own coolant jet, ensures excellent chip evacuation. This works to enhance surface finish and increases metal removal rates for a higher level of productivity.

The advanced 5230VS series is ideal for rough machining of steel, alloyed steel, stainless steel, and particularly for titanium and high-temperature alloys.

## Features and Benefits

- Insert positioning provides smooth, progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provides constant chip evacuation and temperature stability in the cutting zone.
- The advanced chevron design improves stability and lowers power consumption, increasing tool life up to two times greater than comparable cutter in today's market.
- Proven versatility in wide application area in titanium and high-temperature alloys increasing productivity.

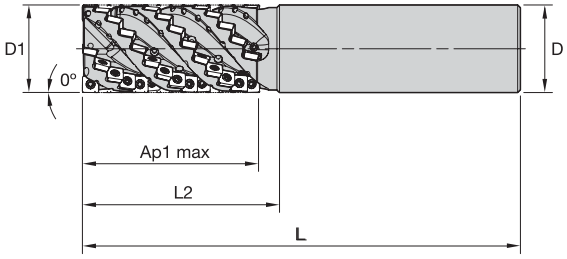
### 5230VS

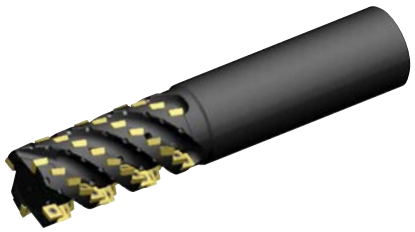
**5230VS09:**
($a_p$ max is determined by selection of cutter diameter)
Diameter range and maximum $a_p$= 2.000" diameter with $a_p$ 2.010", 3.150" or 4.000"

**5230VS12:**

($a_p$ max is determined by selection of cutter diameter)
Diameter range and maximum $a_p$= 2.500" diameter with $a_p$ 2.244" or 3.700"
3.000" diameter with $a_p$ 2.560" or 4.433"
4.000" diameter with $a_p$ 3.000" or 5.236"

- High material removal rates in titanium and high-temperature alloys.
- Chevron design improves stability and lowers power consumption.
- Insert positioning provides smooth, progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provide constant chip evacuation and temperature stability in the cutting zone.



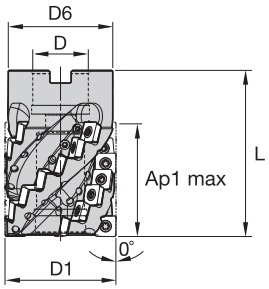
## Cylindrical End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | Z U |
|---|---|---|---|---|---|---|---|---|
| 5673041 | C5230VS09CA2.0Z04R4.0 | 2.000 | 2.000 | 10.000 | 4.500 | 4.000 | 56 | 4 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver | coolant control screw | Torx driver |
|---|---|---|---|---|---|
| 2.000 | F3508T | 18.6 | T15 | F3006T | T9 |

- High material removal rates in titanium and high-temperature alloys.
- Chevron design improves stability and lowers power consumption.
- Insert positioning provides smooth progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provide constant chip evacuation and temperature stability in the cutting zone.



## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Ap2 max | Z | Z U |
|---|---|---|---|---|---|---|---|---|---|
| **5673176** | **C5230VS09-A2.0Z4R2.0** | 2.000 | 1.000 | 1.882 | 2.990 | 2.010 | 1.750 | 28 | 4 |
| **5673530** | **C5230VS09-A2.0Z04R3.1** | 2.000 | 1.000 | 1.882 | 4.173 | 3.150 | — | 44 | 4 |

NOTE: Ap2 max is the max Ap for slotting.

## Spare Parts

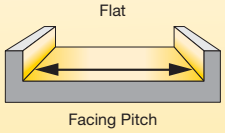
| order number | D1 | insert screw | in. lbs. | Torx driver | coolant control screw | Torx driver | steel coolant plug | nord lock washer | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| **5673530** | 2.000 | **F3508T** | 18.6 | **T15** | **F3006T** | **T9** | **SB3621** | **NLW-0.375** | **#1/2-20X1-1/4SHCSA** |
| **5673176** | 2.000 | **F3508T** | 18.6 | **T15** | **F3006T** | **T9** | **SB3413** | **NLW-0.375** | **#1/2-20X1-1/4SHCSA** |

NOTE: Tighten mounting bolt to 59–74 ft. lbs.
Tighten steel coolant plug to 25 ft. lbs.



## 5230VS09 Technical Information (Inch)

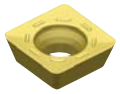
| Product | | Dimension | | | | | |
|---|---|---|---|---|---|---|---|
| EDP | **Item Description** | Facing Pitch | Ramping Angle° | Helical Hole min. – max. | | $a_p$ max Helical/Linear | Max RPM |
| 033073 | **C5230VS09-CA2.0Z4R4.0** | 2.000 | - | – | – | – | 32,500 |
| 031430 | **C5230VS09-A2.0Z4R2.0** | 2.000 | – | – | – | – | 32,500 |
| 031581 | **C5230VS09-A2.0Z4R3.1** | 2.000 | – | – | – | – | 32,500 |

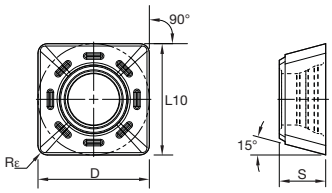


## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——— | ———► | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..422 | SP6519 | **.E..423** | **SP6519** | .E..41 | SP6519 |
| P3–P4 | .E..423 | SP6519 | **.E..41** | **MP91M** | ...TN | MP91M |
| P5–P6 | .E..423 | SP6519 | **.E..41** | **SP6519** | ...TN | SP6519 |
| M1–M2 | .E..422 | KCSM40 | **.E..423** | **KCSM40** | .E..41 | KCSM40 |
| M3 | .E..423 | KCSM40 | **.E..41** | **KCSM40** | ...TN | KCSM40 |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | .E..422 | X500 | **.E..423** | **X500** | .E..41 | X500 |
| S3 | .E..422 | KCSM40 | **.E..423** | **KCSM40** | .E..41 | KCSM40 |
| S4 | .E..423 | X500 | **.E..41** | **X500** | ...TN | X500 |
| H1 | – | – | – | – | – | – |




SDHT09-422



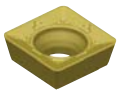
SDHT09-422

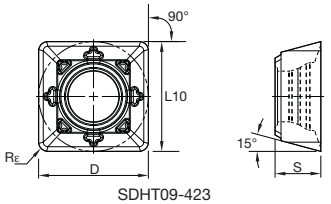
● first choice
○ alternate choice

| | | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|
| P | | ○ | ● | ○ | ○ |
| M | | ● | | ● | ● |
| K | | | ● | ○ | |
| N | | | | | |
| S | | ● | | ● | ● |
| H | | | ○ | | |

## SDHT09-422

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDHT09T308EN422** | .375 | .375 | .156 | .031 | .001 | 4 | ● | – | ● | ● |
| **SDHT09T3AEEN422** | .375 | .375 | .156 | — | .002 | 4 | – | – | ● | – |


SDHT09-423

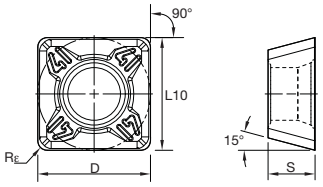


SDHT09-423

## SDHT09-423

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDHT09T308EN423** | .375 | .375 | .156 | .031 | .002 | 4 | ● | – | ● | ● |

SDMT09-41



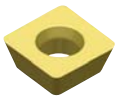
SDMT09-41

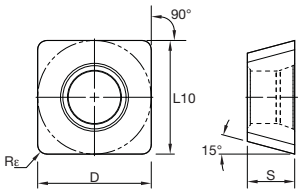
● first choice
○ alternate choice

| | | | | | |
|---|---|---|---|---|---|
| P | ○ | ● | ○ | ○ | |
| M | ● | | ● | ● | |
| K | | ● | ○ | | |
| N | | | | | |
| S | ● | | ● | ● | |
| H | | ○ | | | |

## SDMT09-41

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDMT09T308EN41** | .375 | .375 | .156 | .032 | .002 | 4 | ● | ● | ● | ● |


SDMW09-TN



SDMW09-TN

## SDMW09-TN

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDMW09T308TN** | .375 | .375 | .156 | .031 | .004 | 4 | ● | – | – | – |

## Recommended Starting Feeds

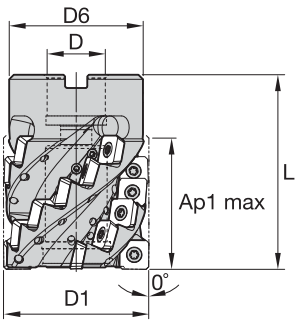
### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..422 | .005 | **.019** | .030 | .003 | **.014** | .022 | .003 | **.010** | .016 | .002 | **.009** | .014 | .002 | **.008** | .013 | .E..422 |
| .E..423 | .005 | **.019** | .030 | .004 | **.013** | .021 | .003 | **.010** | .016 | .002 | **.009** | .014 | .002 | **.008** | .013 | .E..423 |
| .E..41 | .007 | **.021** | .033 | .005 | **.015** | .023 | .004 | **.011** | .018 | .003 | **.010** | .015 | .003 | **.009** | .014 | .E..41 |
| ...TN | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | ...TN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- High material removal rates in titanium and high-temperature alloys.
- Chevron design improves stability and lowers power consumption.
- Insert positioning provides smooth progressive penetration and cutting action for extended tool life.
- Individual coolant jets to each insert provide constant chip evacuation and temperature stability in the cutting zone.



## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Ap2 max | Z | Z U |
|---|---|---|---|---|---|---|---|---|---|
| 5673797 | C5230VS12-A2.5Z4R2.24 | 2.500 | 1.000 | 2.303 | 3.347 | 2.244 | 2.000 | 24 | 4 |
| 5672481 | C5230VS12-A2.5Z4R3.70 | 2.500 | 1.000 | 2.283 | 4.882 | 3.701 | — | 40 | 4 |
| 5673747 | C5230VS12-A3.0Z5R2.56 | 3.000 | 1.250 | 2.764 | 3.740 | 2.559 | 2.360 | 35 | 5 |
| 5673617 | C5230VS12-A3.0Z5R4.33 | 3.000 | 1.250 | 2.764 | 5.630 | 4.331 | — | 60 | 5 |

NOTE: Ap2 max is the max Ap for slotting.

## Spare Parts

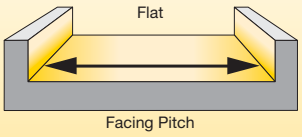
| D1 | Z | insert screw | in. lbs. | Torx driver | coolant control screw | Torx driver | steel coolant plug | nord lock washer | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| 2.500 | 24 | F4011T | 27.4 | T20 | F3006T | T9 | — | NLW-0.375 | #1/2-20X1-1/4SHCSA |
| 2.500 | 40 | F4011T | 27.4 | T20 | F3006T | T9 | SB3230 | NLW-0.375 | #1/2-20X1-1/4SHCSA |
| 3.000 | 35 | F4011T | 27.4 | T20 | F3006T | T9 | — | NLW12SP | #5/8-18X1-1/2SHCSA |
| 3.000 | 60 | F4011T | 27.4 | T20 | F3006T | T9 | SB3232 | NLW12SP | #5/8-18X1-1/2SHCSA |

NOTE: Tighten mounting bolt on 2.5" cutters to 59–74 ft. lbs, 3" cutters to 81–110 ft. lbs, and 4" cutters to 89–132 ft. lbs.
Tighten steel coolant plug to 25 ft. lbs for 2.5" cutters and 45 ft. lbs for 3" and 4" cutters.



## 5230VS12 Technical Information (inch)

| Product | | Dimension | | | | | |
|---|---|---|---|---|---|---|---|
| EDP | Item Description | Facing Pitch | Ramping Angle° | Helical Hole min.–max. | | $a_p$ max Helical/Linear | Max RPM |
| 031234 | C5230VS12-A2.5Z4R2.24 | 2.500 | – | – | – | – | 21,000 |
| 031133 | C5230VS12-A2.5Z4R3.70 | 2.500 | – | – | – | – | 21,000 |
| 031606 | C5230VS12-A3.0Z5R2.56 | 3.000 | – | – | – | – | 18,500 |
| 031607 | C5230VS12-A3.0Z5R4.33 | 3.000 | – | – | – | – | 18,500 |
| 031237 | C5230VS12-A4.0Z6R5.23 | 4.000 | – | – | – | – | 16,000 |

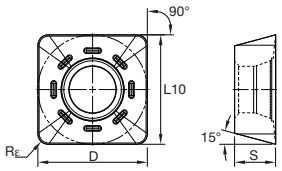


## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..422 | SP6519 | **.E..41** | **SP6519** | .E..423 | SP6519 |
| P3–P4 | .E..41 | MP91M | **.E..423** | **SP6519** | ...TN | SP6519 |
| P5–P6 | .E..41 | SP6519 | **.E..423** | **SP6519** | ...TN | SP6519 |
| M1–M2 | .E..422 | KCSM40 | **.E..41** | **KCSM40** | .E..423 | KCSM40 |
| M3 | .E..41 | KCSM40 | **.E..423** | **KCSM40** | ...TN | KCSM40 |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | .E..422 | KCSM40 | **.E..41** | **KCSM40** | .E..423 | KCSM40 |
| S3 | .E..41 | KCSM40 | **.E..423** | **KCSM40** | ...TN | KCSM40 |
| S4 | .E..41 | X500 | **.E..423** | **X500** | ...TN | X500 |
| H1 | – | – | – | – | – | – |

## Milling Inserts

SDHT12-422




SDHT12-422

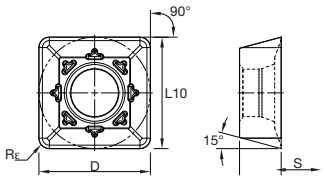
● first choice
○ alternate choice

| | | | | | | |
|---|---|---|---|---|---|---|
| P | | ○ | ● | ○ | ○ | |
| M | | ● | | ● | ● | |
| K | | | ● | ○ | | |
| N | | | | | | |
| S | | ● | | ● | ● | |
| H | | | ○ | | | |

### SDHT12-422

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDHT120412EN422** | .500 | .500 | .187 | .047 | .002 | 4 | ● | – | ● | ● |

SDHT12-423

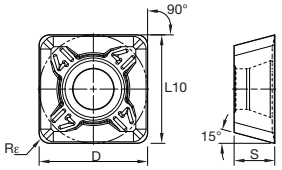



SDHT12-423

### SDHT12-423

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDHT120412EN423** | .500 | .500 | .187 | .047 | .002 | 4 | ● | – | ● | ● |

SDMT12-41



SDMT12-41

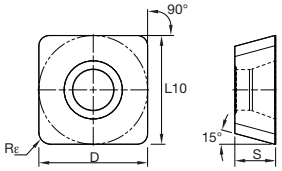
● first choice
○ alternate choice

| | | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|
| P | | ○ | ● | ○ | ○ |
| M | | ● | | ● | ● |
| K | | | ● | ○ | |
| N | | | | | |
| S | | ● | | ● | ● |
| H | | | ○ | | |

## SDMT12-41

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDMT120412EN41** | .500 | .500 | .187 | .047 | .002 | 4 | ● | ● | ● | ● |

SDMW12-TN



SDMW12-TN

## SDMW12-TN

| catalog number | D | L10 | S | Rε | hm | cutting edges | KCSM40 | MP91M | SP6519 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| **SDMW120412TN** | .500 | .500 | .187 | .047 | .002 | 4 | ● | – | ● | – |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..422 | .007 | **.021** | .035 | .005 | **.015** | .025 | .004 | **.011** | .019 | .003 | **.010** | .016 | .003 | **.009** | .015 | .E..422 |
| .E..41 | .007 | **.021** | .035 | .005 | **.015** | .025 | .004 | **.011** | .019 | .003 | **.010** | .016 | .003 | **.009** | .015 | .E..41 |
| .E..423 | .008 | **.023** | .037 | .006 | **.017** | .027 | .004 | **.013** | .020 | .004 | **.011** | .017 | .003 | **.010** | .016 | .E..423 |
| ...TN | .008 | **.023** | .037 | .006 | **.017** | .027 | .004 | **.013** | .020 | .004 | **.011** | .017 | .003 | **.010** | .016 | ...TN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Calculation of the average chip thickness in relation with the $a_e$ (Radial Engagement) if $a_e$ is less than 50% of diameter.

**Formula: Program Feed Rate ($f_z$)**

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

$h_m$ = Average chip thickness
$a_e$ = Radial engagement
$f_z$ = Feed per tooth
d = Cutter diameter

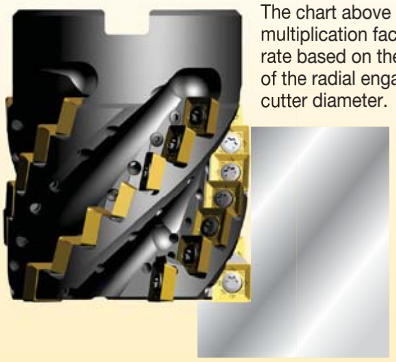
**Formula: Average Chip Thickness ($h_m$)**

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$

## $h_m$ Correction Coefficient Chart

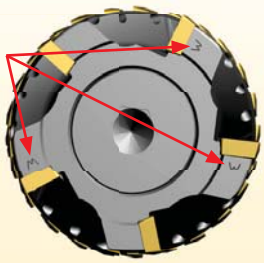
| Cutter Ø 2.000" | | | Cutter Ø 2.500" | | | Cutter Ø 3.000" | | | Cutter Ø 4.000" | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ae% | ae (Inch) | Coefficient Factor | ae% | ae (Inch) | Coefficient Factor | ae% | ae (Inch) | Coefficient Factor | ae% | ae (Inch) | Coefficient Factor |
| 5 | 0.100 | 2.294 | 5 | 0.125 | 2.329 | 5 | 0.150 | 2.294 | 5 | 0.200 | 2.294 |
| 10 | 0.200 | 1.667 | 10 | 0.250 | 1.667 | 10 | 0.300 | 1.667 | 10 | 0.400 | 1.667 |
| 15 | 0.300 | 1.400 | 15 | 0.375 | 1.425 | 15 | 0.450 | 1.407 | 15 | 0.600 | 1.407 |
| 20 | 0.400 | 1.250 | 20 | 0.500 | 1.250 | 20 | 0.600 | 1.250 | 20 | 0.800 | 1.250 |
| 25 | 0.500 | 1.155 | 25 | 0.625 | 1.160 | 25 | 0.750 | 1.155 | 25 | 1.000 | 1.155 |
| 35 | 0.700 | 1.048 | 35 | 0.875 | 1.056 | 35 | 1.050 | 1.048 | 35 | 1.400 | 1.056 |
| 50–100 | 1.000–2.000 | 1.000 | 50–100 | 1.250–2.500 | 1.000 | 50–100 | 1.500–3.000 | 1.000 | 50–100 | 2.000–4.000 | 1.000 |

Example: A 3.000" diameter cutter using a 0.300" radial engagement (ae) = 10% of the cutter diameter. At 10%, your coefficient is 1.667 (see above table); therefore you must multiply your feed rate by 1.667 for correcting the feed for profiling.

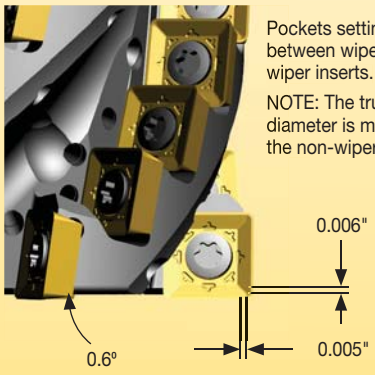


The chart above shows the multiplication factor for the feed rate based on the percentage of the radial engagement of the cutter diameter.

Wiper pockets are identified with a **W** engraved on the face of the body.



The 5230VS cutter series is designed with wiper pockets which provide a much better face surface finish. The non-wiper pockets generate the 90° corner. The same inserts can be utilized in all pockets.




Pockets setting difference between wiper and non-wiper inserts.

NOTE: The true cutter diameter is measured at the non-wiper pockets.

Non-wiper pocket positions are set back and square to axis to give a true 90° approach.

Wiper pocket positions are in front and angled to allow facing.

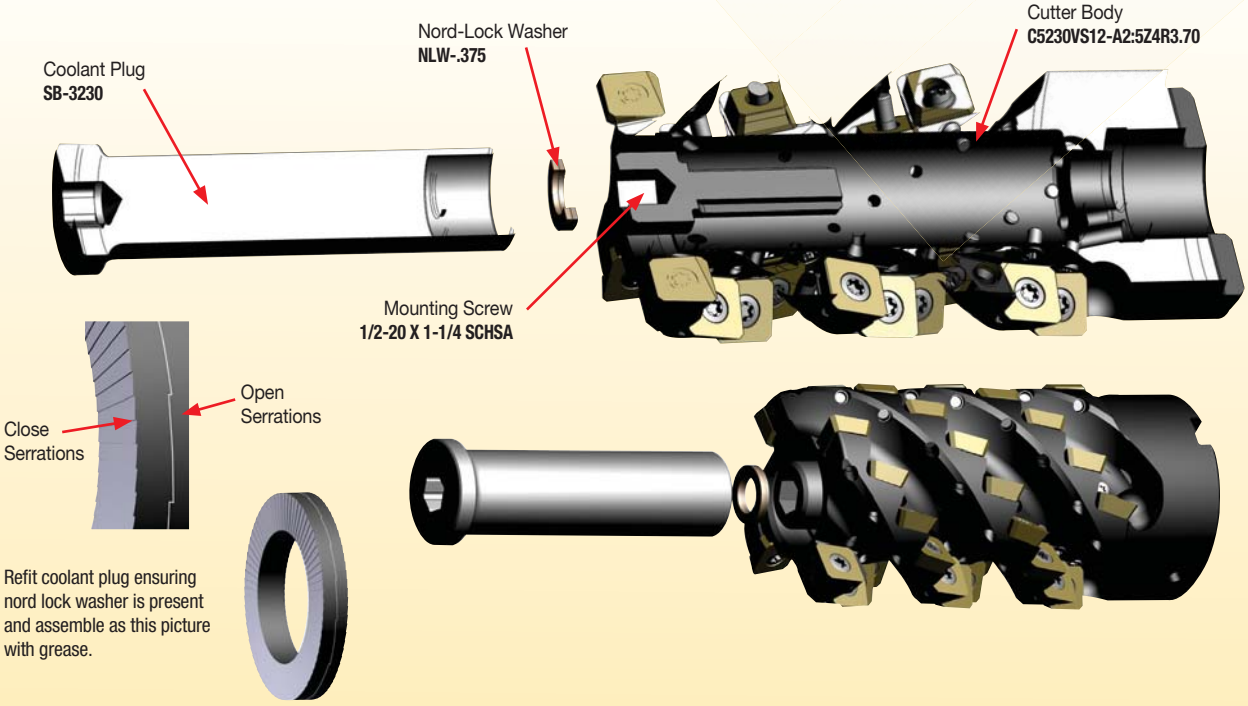
| Cutter diameter (inch) | Number of Wiper Inserts |
|---|---|
| 2.000 | 2 |
| 2.500 | 2 |
| 3.000 | 3 |
| 4.000 | 3 |

## 5230VS09 and 5230VS12 Fitting Instructions for Shell Mill Cutters

**NOTE:** All Shell Mill 5230VS09 and 5230VS12 chevron porcupine cutters are supplied assembled with mounting bolt, nord-lock washer, and steel coolant plug.

Please follow the instructions below to disassemble the cutter, attach the cutter to a shell mill adapter, and reassemble coolant plug. It is very important to use the proper torque when reassembling the cutter with the mounting bolt, nord-lock washer, and coolant plug.

## Example of cutter: C5230VS12-A2.5Z4R3.70 assembly




Refit coolant plug ensuring nord lock washer is present and assemble as this picture with grease.

1. Remove coolant plug. *(NOTE: Ensure the nord-lock washer is retained to the bottom of the coolant plug.)*
2. Fit the cutter body to the shell mill adapter and secure using the mounting bolt supplied with the cutter.
   NOTE: The mounting bolt must be properly torqued to the specific torque setting shown in Detail 1 on page T136.
3. Refit coolant plug ensuring nord-lock washer is present and in the proper location on the bottom of the coolant plug. A small amount of grease can be used to hold the nord-lock washer in place.
4. Tighten coolant plug with specific torque setting shown in Detail 2 on page T136.
5. NOTE: If axial depth of cut ($a_p$) is less then maximum $a_p$ of cutter, then **F3006T** coolant control screws supplied separately can be used to block coolant holes forcing more coolant to the front of the cutter. If these screws are used, please secure with loctite or similar product.

## Torque values for mounting bolts

Excessive condition is when long reach extensions are required or when cutting parameters are elevated to extreme parameters.

| 5230VS09 | Detail 1 | | | Detail 2 | |
|---|---|---|---|---|---|
| Cutter | Mounting Bolt Description | Torque Values in ft lbs. for Mounting Bolt | | Coolant Plug Description | Coolant Plug Tightening ft lbs. |
| | | Normal Condition | Excessive Condition | | |
| C5230VS09-A2.0Z4R2.0 | 1/2-20 x 1-1/4 SHCSA | 59 | 74 | SB-3413 | 25 |
| C5230VS09-A2.0Z4R3.1 | | | | SB-3621 | |

| 5230VS12 | Detail 1 | | | Detail 2 | |
|---|---|---|---|---|---|
| Cutter | Mounting Bolt Description | Torque Values in ft lbs. for Mounting Bolt | | Coolant Plug Description | Coolant Plug Tightening ft lbs. |
| | | Normal Condition | Excessive Condition | | |
| C5230VS12-A2.5Z4R2.24 | 1/2-20 x 1-1/4 SHCSA | 59 | 74 | SB-3229 | 25 |
| C5230VS12-A2.5Z4R3.70 | | | | SB-3230 | |
| C5230VS12-A3.0Z5R2.56 | 5/8-18 x 1-1/2 SHCSA | 81.1 | 110.6 | SB-3231 | 45 |
| C5230VS12-A3.0Z5R4.33 | | | | SB-3232 | |
| C5230VS12-A4.0Z6R3.00 | 3/4-16 x 1-3/4 SHCSA | 88.5 | 132.76 | SB-3233 | 45 |
| C5230VS12-A4.0Z6R5.23 | | | | SB-3234 | |

| Mounting Bolt Hex Keys |
|---|
| |
| M12 = Hex Key Size 10 |
| M16 = Hex Key Size 14 |
| M20 = Hex Key Size 17 |

# Carbide Recycling

## Help preserve and protect our planet!

**It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.**

**By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.**

By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit **kennametal.com/carbiderecycling**.

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# Indexable Milling • Slot Milling


KTMS • T-Slot Platform ..... U2–U5

KVNS • Very-Narrow Slotting Platform ..... U6–U10

SN • Popular Square Inserted Cutter ..... U12–U15

LN • Adjustable Width Cutter System ..... U16–U22

KSSM10 • Neutral, Right-, and Left-Hand Cutters, 10mm IC ..... U24–U31

KSSM12 • Neutral, Right-, and Left-Hand Cutters, 12mm IC ..... U32–U41

# KTMS™ Slotting Cutter

## Primary Application

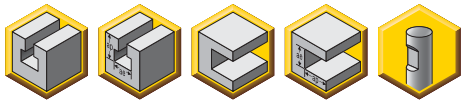
KTMS slotting cutters produce “T” slots in machine beds as well as small radial depths of cut for machining shallow radial slots. There is always a need to prepare the slot before using this type of cutter — preparation is the key to success. See the technical information for information about the pre-machining on page U5.

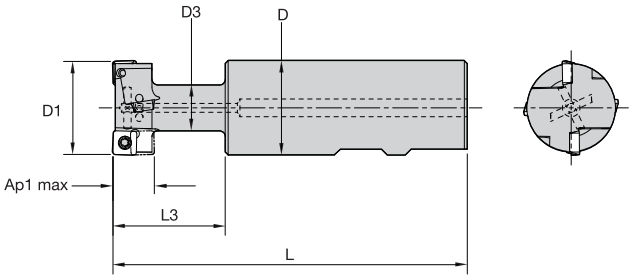
Please note that all of these cutters have metric diameters, speeds, and feeds.

## Features and Benefits

- Only available in metric dimensions.
- Slot widths from 9–22mm.
- Three different insert sizes.
- Preparing the component before slotting is the key to success.
- Prepare workpiece with a slot.
- Honed insert edges.
- Feed rates between 0,10–0,15mm; lower feed rates will induce vibration.
- Use air flow to evacuate chips.
- Always start the cutting process with a new cutting edge.

- Prepare workpiece with a slot.
- Honed insert edges.
- Feed rates between 0,10–0,15mm; lower feed rates will induce vibration.
- Use air flow to evacuate chips.
- Always start the cutting process with a new cutting edge.






## KTMS • T-Slot Cutter with Through Coolant • Metric

| order number | catalog number | D1 | D | D3 | L | L3 | Ap1 max | Z | Z U | insert 1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3577119** | **KTMS21S25SD06H** | 21 | 25 | 11 | 109 | 29 | 9,0 | 2 | 1 | SDMT060304EGG | 0,35 |
| **3577121** | **KTMS25S25SD06H** | 25 | 25 | 13 | 112 | 32 | 11,0 | 4 | 2 | SDMT060304EGG | 0,36 |
| **3577133** | **KTMS32S32SD08H** | 32 | 32 | 16 | 120 | 38 | 14,0 | 4 | 2 | SDMT080308EGG | 0,60 |
| **3577135** | **KTMS40S32SD12H** | 40 | 32 | 21 | 130 | 50 | 18,0 | 4 | 2 | SDMT120408EGG | 0,66 |
| **3577137** | **KTMS50S32SD12H** | 50 | 32 | 27 | 140 | 60 | 22,0 | 4 | 2 | SDMT120408EGG | 0,85 |

## Spare Parts

| D1 | insert screw | Nm | Torx driver |
|---|---|---|---|
| 21 | **MS2206** | 1,2 | **DT8** |
| 25 | **MS2206** | 1,2 | **DT8** |
| 32 | **MS2207** | 2,0 | **DT10** |
| 40 | **MS2208** | 3,5 | **DT15** |
| 50 | **MS2208** | 3,5 | **DT15** |

## Insert Selection Guide

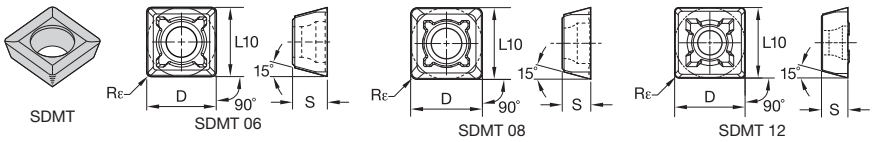
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | ..EGG | KC735M | **..EGG** | **KC735M** | ..EGG | KC735M |
| P3–P4 | ..EGG | KC735M | **..EGG** | **KC735M** | ..EGG | KC735M |
| P5–P6 | ..EGG | KC735M | **..EGG** | **KC735M** | ..EGG | KC735M |
| M1–M2 | – | – | **–** | **–** | – | – |
| M3 | – | – | **–** | **–** | – | – |
| K1–K2 | ..EGG | KC505M | **..EGG** | **KC505M** | ..EGG | KC505M |
| K3 | ..EGG | KC505M | **..EGG** | **KC505M** | ..EGG | KC505M |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | – | – | **–** | **–** | – | – |
| H1 | **–** | **–** | – | – | – | – |

## Indexable Insert • T-Slot Cutters SDMT • EGG

- Honed insert edges.
- Four cutting edges.

● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | | ● | ● |
| M | | | |
| K | ● | | |
| N | | | |
| S | | | |
| H | | | |




## SDMT-EGG

| catalog number | D | S | L10 | Rε | hm | cutting edges | KC505M | KC730M | KC735M |
|---|---|---|---|---|---|---|---|---|---|
| **SDMT060304EGG** | 6,35 | 3,18 | 6,35 | 0,4 | 0,06 | 4 | – | ● | ● |
| **SDMT080308EGG** | 8,00 | 3,18 | 8,00 | 0,8 | 0,06 | 4 | ● | ● | ● |
| **SDMT120408EGG** | 12,70 | 4,76 | 12,70 | 0,8 | 0,06 | 4 | ● | ● | ● |

## Recommended Starting Feeds

## Recommended Starting Feeds [mm]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .06..EGG | 0.20 | **0.46** | 0.70 | 0.14 | **0.33** | 0.50 | 0.11 | **0.25** | 0.38 | 0.09 | **0.22** | 0.33 | 0.08 | **0.20** | 0.30 | .06..EGG |
| .08..EGG | 0.20 | **0.53** | 0.82 | 0.14 | **0.38** | 0.59 | 0.11 | **0.29** | 0.44 | 0.09 | **0.25** | 0.39 | 0.08 | **0.23** | 0.35 | .08..EGG |
| .12..EGG | 0.20 | **0.59** | 0.92 | 0.14 | **0.43** | 0.66 | 0.11 | **0.32** | 0.50 | 0.09 | **0.28** | 0.43 | 0.08 | **0.25** | 0.40 | .12..EGG |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

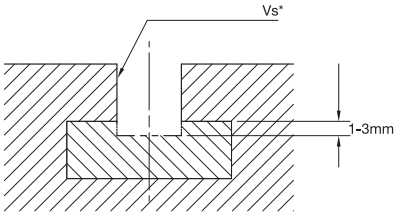


Fig. 1

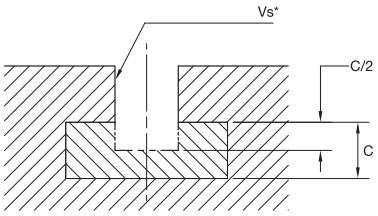


Fig. 2

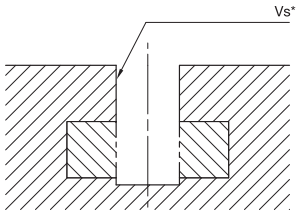
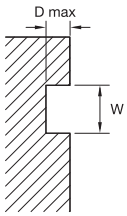


Fig. 3



Side Slotting

## Steel

- Machining a vertical slot, depth to be kept at a minimum as shown in Figure 1.
- If the depth is greater than Figure 1, chip evacuation problems could occur.
- Vibrations could occur when the T-slot cutter diameter increases; use Figure 1 as the starting point.
- If chattering is a concern, adopt the Figure 2 solution.

## Cast Iron

- Fewer problems with chip evacuation, and reduced cutting forces enable deeper vertical slots as shown in Figures 2 and 3.
- Air blast is recommended to disperse the chips; this can be used for steel and cast iron.

## Cutting Data Table • Slotting

| | material type | catalog number | cutting conditions vc (m/min) | feed per tooth (mm) | Vs* |
|---|---|---|---|---|---|
| P | carbon steel/ alloy steel | KTMS21S25SD06H | 120 | 0,10 | Figure 1 |
| | | KTMS25S25SD06H | 120 | 0,10 | Figure 1 |
| | | KTMS32S32SD08H | 100 | 0,10 | Figure 1 |
| | | KTMS40S32SD12H | 80 | 0,15 | Figure 2 |
| | | KTMS50S32SD12H | not recommended due to frequent chattering | | |
| K | cast iron | KTMS21S25SD06H | 120 | 0,12 | Figure 1, 2, 3 |
| | | KTMS25S25SD06H | 120 | 0,12 | Figure 1, 2, 3 |
| | | KTMS32S32SD08H | 120 | 0,12 | Figure 1, 2, 3 |
| | | KTMS40S32SD12H | 120 | 0,15 | Figure 2,3 |
| | | KTMS50S32SD12H | 120 | 0,15 | Figure 3 |

* Vs = Vertical Slot Preparation for T-slot.

## Side Slot Machining

| side slot dimension / catalog number | (unit: mm) W -0.1 / -0. (mm) | D max (mm) |
|---|---|---|
| KTMS21S25SD06H | 9 | 4,4 |
| KTMS25S25SD06H | 11 | 5,4 |
| KTMS32S32SD08H | 14 | 6,9 |
| KTMS40S32SD12H | 18 | 8,9 |
| KTMS50S32SD12H | 22 | 10,9 |

NOTE: KTMS T-slot is available to side slot as per drawing.

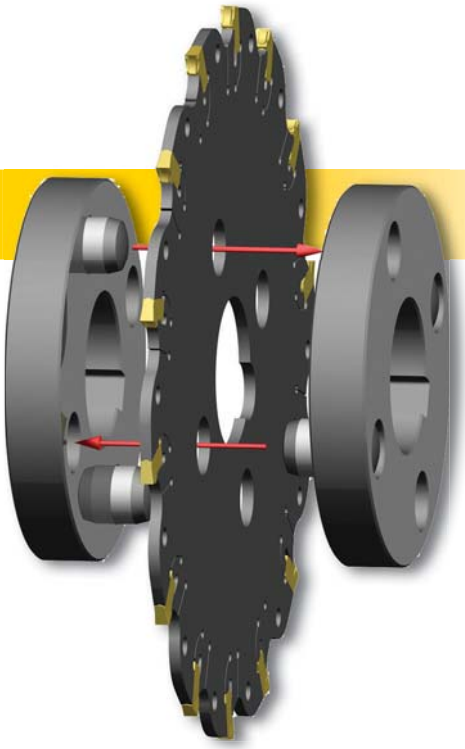
## Cutting Data Table • Side Machining

| | material type | catalog number | cutting conditions vc (m/min) | n (RPM) | feed per tooth (mm) |
|---|---|---|---|---|---|
| P | carbon steel/ alloy steel | KTMS21S25SD06H | 120 | 1820 | 0,10 |
| | | KTMS25S25SD06H | 120 | 1530 | 0,10 |
| | | KTMS32S32SD08H | 120 | 1190 | 0,10 |
| | | KTMS40S32SD12H | 120 | 960 | 0,10 |
| | | KTMS50S32SD12H | 120 | 760 | 0,10 |
| K | cast iron | KTMS21S25SD06H | 150 | 2270 | 0,12 |
| | | KTMS25S25SD06H | 150 | 1910 | 0,12 |
| | | KTMS32S32SD08H | 150 | 1490 | 0,12 |
| | | KTMS40S32SD12H | 150 | 1190 | 0,15 |
| | | KTMS50S32SD12H | 150 | 960 | 0,15 |

# KVNS™ Slotting Cutter

## Primary Application

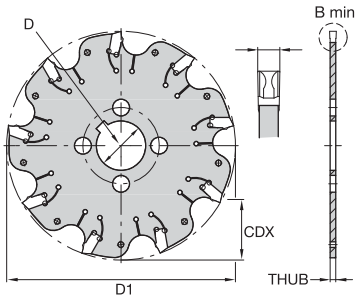
The KVNS slotting cutter enables diameters from 2.50–10" and insert widths from .063–.245". It is a perfect solution for small groove widths, grades, and geometries and suits most materials. Drive rings and support rings are available; use these items to get the maximum support for the cutter body.

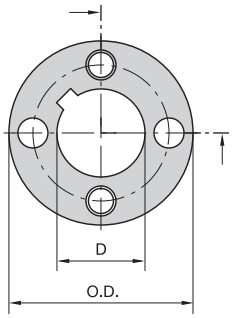


## Features and Benefits

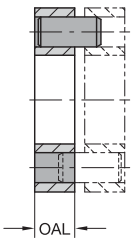
- Slot widths from .063–.245".
- Grades and geometries to suit most workpiece materials.
- Self-clamping inserts.
- Positive chipforming inserts are standard.
- Self-clamping insert seat with fixed stop.
- Excellent for all flat-bottom slotting and cut-off operations.
- Two drive hubs required for each cutter body, except when using two drive supports.
- Drive rings and support rings available, must be ordered separately (in pairs).

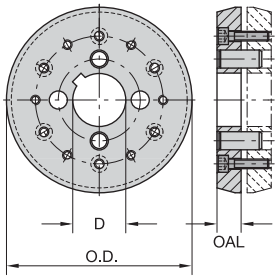
- .063–.245" slot width range.
- Positive chipforming inserts are standard.
- Self-clamping insert seat with fixed stop.
- Excellent for all flat-bottom slotting and cut-off operations.
- Two drive rings required for each cutter body, except when using two drive supports (must be ordered separately, in pairs).




Drive Ring




Support Ring

## KVNS • Cutting Width .063"

| order number | catalog number | D1 | D | B min | CDX | THUB | Z | max RPM | insert 1 | drive ring | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247698** | **KVNS02063OD** | 2.500 | .625 | .063 | .625 | .051 | 5 | 5100 | OD_1063__ | **1247652** | <2.00 |
| **1247710** | **KVNS03063OD** | 3.000 | .625 | .063 | .875 | .051 | 7 | 4000 | OD_1063__ | **1247675** | <2.00 |
| **1247725** | **KVNS04063OD** | 4.000 | 1.000 | .063 | 1.063 | .051 | 9 | 3200 | OD_1063__ | **1247660** | <2.00 |
| **1247738** | **KVNS05063OD** | 5.000 | 1.250 | .063 | 1.375 | .051 | 11 | 2600 | OD_1063__ | **1247663** | <2.00 |

## KVNS • Cutting Width .087"

| order number | catalog number | D1 | D | B min | CDX | THUB | Z | max RPM | insert 1 | drive ring | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247712** | **KVNS03087OD** | 3.000 | .625 | .089 | .875 | .071 | 7 | 4000 | OD_2087__ | 1247675 | <2.00 |
| **1247727** | **KVNS04087OD** | 4.000 | 1.000 | .089 | 1.063 | .071 | 9 | 3200 | OD_2087__ | 1247660 | <2.00 |
| **1247740** | **KVNS05087OD** | 5.000 | 1.250 | .089 | 1.375 | .071 | 11 | 2600 | OD_2087__ | 1247663 | <2.00 |
| **1247753** | **KVNS06087OD** * | 6.000 | 1.250 | .089 | 1.438 | .071 | 14 | 2000 | OD_2087__ | 1247666 | <2.00 |

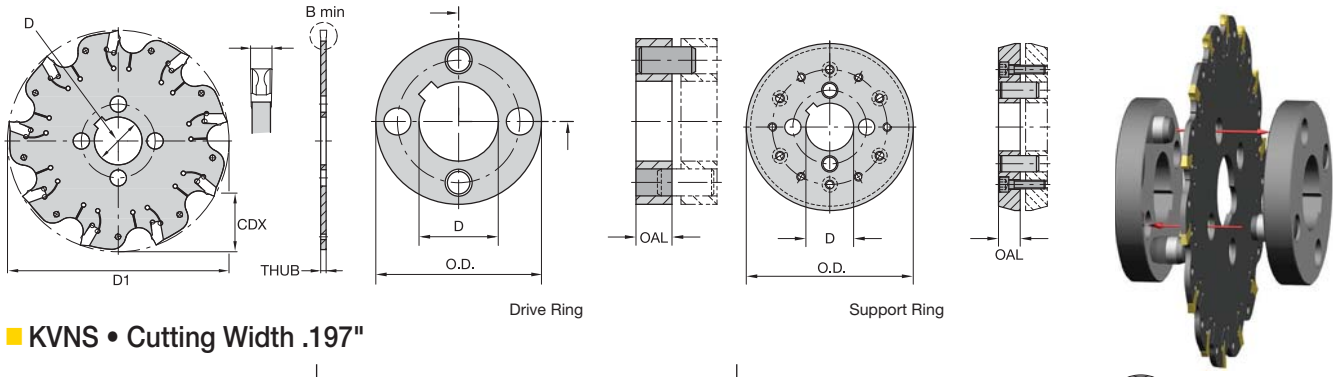
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## KVNS • Cutting Width .118"

| order number | catalog number | D1 | D | B min | CDX | THUB | Z | max RPM | insert 1 | drive ring | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247704** | **KVNS02118OD** | 2.500 | .625 | .126 | .625 | .095 | 4 | 5100 | OD_3125_ | **1247650** | <2.00 |
| **1247716** | **KVNS03118OD** | 3.000 | .625 | .126 | .875 | .095 | 6 | 4000 | OD_3125_ | **1247675** | <2.00 |
| **1247730** | **KVNS04118OD** | 4.000 | 1.000 | .126 | 1.063 | .095 | 9 | 3200 | OD_3125_ | **1247660** | <2.00 |
| **1247742** | **KVNS05118OD** | 5.000 | 1.250 | .126 | 1.375 | .095 | 11 | 2600 | OD_3125_ | **1247663** | <2.00 |
| **1247757** | **KVNS06118OD** | 6.000 | 1.250 | .126 | 1.438 | .095 | 14 | 2000 | OD_3125_ | **1247666** | <2.00 |
| **1247768** | **KVNS08118OD** | 8.000 | 2.000 | .126 | 2.250 | .095 | 19 | 1600 | OD_3125_ | **1247668** | <2.00 |
| **1247778** | **KVNS10118OD** | 10.000 | 2.000 | .126 | 3.250 | .095 | 24 | 1300 | OD_3125_ | **1247668** | <2.00 |

## KVNS • Cutting Width .158"

| order number | catalog number | D1 | D | B min | CDX | THUB | Z | max RPM | insert 1 | drive ring | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247718** | **KVNS03158OD** | 3.000 | .625 | .164 | .875 | .134 | 6 | 4000 | OD_4158__ | 1247675 | <2.00 |
| **1247732** | **KVNS04158OD** | 4.000 | 1.000 | .164 | 1.063 | .134 | 9 | 3200 | OD_4158__ | 1247660 | <2.00 |
| **1247746** | **KVNS05158OD** | 5.000 | 1.250 | .164 | 1.375 | .134 | 11 | 2600 | OD_4158__ | 1247663 | <2.00 |




Drive Ring Support Ring

## KVNS • Cutting Width .197"

| order number | catalog number | D1 | D | B min | CDX | THUB | Z | max RPM | insert 1 | drive ring | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247721** | **KVNS03197OD** * | 3.000 | .625 | .206 | .875 | .173 | 5 | 4000 | OD_5197__ | 1247675 | <2.00 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## KVNS • Cutting Width .236"

| order number | catalog number | D1 | D | B min | CDX | THUB | Z | max RPM | insert 1 | drive ring | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247722** | **KVNS03236OD** | 3.000 | .625 | .245 | .875 | .213 | 5 | 4000 | OD_6236__ | **1247675** | <2.00 |
| **1247735** | **KVNS04236OD** | 4.000 | 1.000 | .245 | 1.063 | .213 | 8 | 3200 | OD_6236__ | **1247660** | <2.00 |
| **1247785** | **KVNS102360D** | 10.000 | 2.000 | .245 | 3.250 | .213 | 24 | 1300 | OD_6236__ | **1247668** | <2.00 |

NOTE: Insert wrench 170.183 (order number 1124601) must be ordered separately.

## Drive Rings

| order number | D1 | O.D. | OAL | bore size | drive ring | lbs |
|---|---|---|---|---|---|---|
| **1247650** | 2.500 | 1.250 | .315 | .625 | **KAP1250632** | .07 |
| **1247652** | 2.500 | 1.250 | .315 | .625 | **KAP1250634** | .08 |
| **1247675** | 3.000 | 1.250 | .315 | .625 | **KAP1250764** | .11 |
| **1247660** | 4.000 | 1.875 | .394 | 1.000 | **KAP1871004** | .20 |
| **1247663** | 5.000 | 2.250 | .394 | 1.250 | **KAP2251254** | .26 |
| **1247666** | 6.000 | 3.125 | .472 | 1.250 | **KAP3121254** | .75 |
| **1247668** | 8.000 | 3.500 | .472 | 2.000 | **KAP3502004** | .75 |
| **1247668** | 10.000 | 3.500 | .472 | 2.000 | **KAP3502004** | .75 |

NOTE: KAP1250634 is for use with KVNS020630D.
KAP1250632 is for use with KVNS021180D.

## Support Rings

| order number | catalog number | D1 | O.D. | OAL | clamp screw | Allen key | bore size | lbs |
|---|---|---|---|---|---|---|---|---|
| **1247669** | **KAP5502004** | 8.000 | 5.500 | .472 | **125.616** | **170.005** | 2.000 | 2.53 |
| **1247669** | **KAP5502004** | 10.000 | 5.500 | .472 | **125.616** | **170.005** | 2.000 | 2.53 |

## Spare Parts

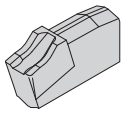
| D1 | support ring screw |
|---|---|
| 8.000 | **125.616** |
| 10.000 | **125.616** |

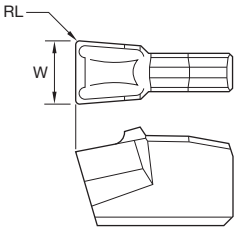
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..GD | KC735M | **.S..GD** | **KCPK30** | .S..GB | KCPK30 |
| P3–P4 | .S..GD | KC735M | **.S..GD** | **KCPK30** | .S..GB | KCPK30 |
| P5–P6 | .S..GD | KC735M | **.S..GB** | **KCPK30** | .S..GB | KCPK30 |
| M1–M2 | .S..GD | KC735M | **.S..GD** | **KCPK30** | .S..GB | KCPK30 |
| M3 | .S..GD | KCPK30 | **.S..GB** | **KCPK30** | .S..GB | KCPK30 |
| K1–K2 | .S..GD | KCPK30 | **.S..GD** | **KCPK30** | .S..GB | KCPK30 |
| K3 | .S..GD | KCPK30 | **.S..GD** | **KCPK30** | .S..GB | KCPK30 |
| N1–N2 | .E..GD | KMF | **.E..GD** | **KMF** | .E..GD | KMF |
| N3 | .E..GD | KMF | **.E..GD** | **KMF** | .E..GD | KMF |
| S1–S2 | .E..GD | KMF | **.E..GD** | **KMF** | .E..GD | KMF |
| S3 | .E..GD | KMF | **.E..GD** | **KMF** | .E..GD | KMF |
| S4 | .E..GD | KMF | **.E..GD** | **KMF** | .E..GD | KMF |
| H1 | – | – | – | – | – | – |



- Positive chipforming insert geometry.
- Very narrow slotting/slitting operations.






● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | ○ | ● | |
| M | ● | ○ | |
| K | | ○ | |
| N | | | ● |
| S | ● | | ● |
| H | | | |

### .063"

| catalog number | W | RL | hm | KC735M | KCPK30 | KMF |
|---|---|---|---|---|---|---|
| **ODG1063ISGD** | .063 | .006 | .003 | ● | ● | – |
| **ODG1063ISGB** | .063 | .006 | .003 | ● | ● | – |
| **ODC1063IEGD** | .063 | .006 | .003 | – | – | ● |

### .087"

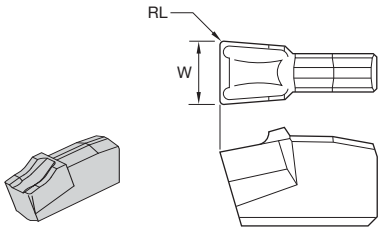
| catalog number | W | RL | hm | KC735M | KCPK30 | KMF |
|---|---|---|---|---|---|---|
| **ODG2087ISGD** | .087 | .008 | .003 | ● | ● | – |
| **ODG2087ISGB** | .087 | .008 | .003 | ● | ● | – |
| **ODC2087IEGD** | .087 | .008 | .003 | – | – | ● |

### .118"

| catalog number | W | RL | hm | KC735M | KCPK30 | KMF |
|---|---|---|---|---|---|---|
| **ODG3125ISGD** | .120 | .008 | .003 | ● | ● | – |
| **ODG3125ISGB** | .120 | .008 | .003 | ● | ● | – |
| **ODC3125IEGD** | .119 | .008 | .003 | – | – | ● |

### .158"

| catalog number | W | RL | hm | KC735M | KCPK30 | KMF |
|---|---|---|---|---|---|---|
| **ODG4158ISGD** | .160 | .008 | .003 | ● | ● | – |
| **ODG4158ISGB** | .160 | .008 | .003 | ● | ● | – |
| **ODC4158IEGD** | .159 | .008 | .003 | – | – | ● |




● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | | ○ | ● |
| M | | ● | ○ |
| K | | | ○ |
| N | | | |
| S | | ● | |
| H | | | |

## .197"

| catalog number | W | RL | hm | KC735M | KCPK30 | KMF |
|---|---|---|---|---|---|---|
| ODG5197ISGB | .199 | .012 | .003 | ● | – | – |

## .236"

| catalog number | W | RL | hm | KC735M | KCPK30 | KMF |
|---|---|---|---|---|---|---|
| ODG6236ISGB | .238 | .012 | .003 | ● | ● | – |

## Recommended Starting Feeds

### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

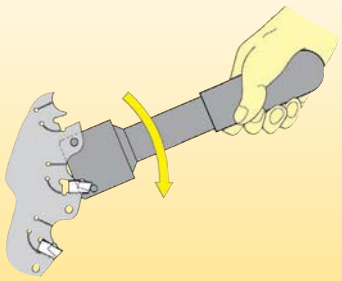
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..GD | .009 | **.015** | .024 | .007 | **.011** | .017 | .005 | **.008** | .013 | .004 | **.007** | .011 | .004 | **.007** | .010 | .E..GD |
| .S..GD | .009 | **.017** | .026 | .007 | **.013** | .019 | .005 | **.009** | .014 | .004 | **.008** | .012 | .004 | **.008** | .011 | .S..GD |
| .S..GB | .009 | **.017** | .028 | .007 | **.013** | .020 | .005 | **.009** | .015 | .004 | **.008** | .013 | .004 | **.008** | .012 | .S..GB |

NOTE: Use "Light Machining" values as starting feed rate.
% = ae/Dc * 100 (ae = radial depth of cut, Dc = cutting diameter)
Please see pages X22–X37 for recommended starting speeds.

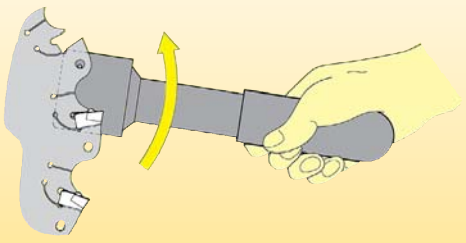
## Slotting Cutters • Technical Information

Slot Milling

### Secure clamping self-clamping insert seat for maximum machining safety



**Using the assembly wrench:**
Fitting the insert



Removing the insert

- Exact position of the insert guaranteed by the positive stop.
- Maximum possible insert repeatability with dual positive prism clamping.
- Powerful, secure clamping guarantees high peripheral speeds.

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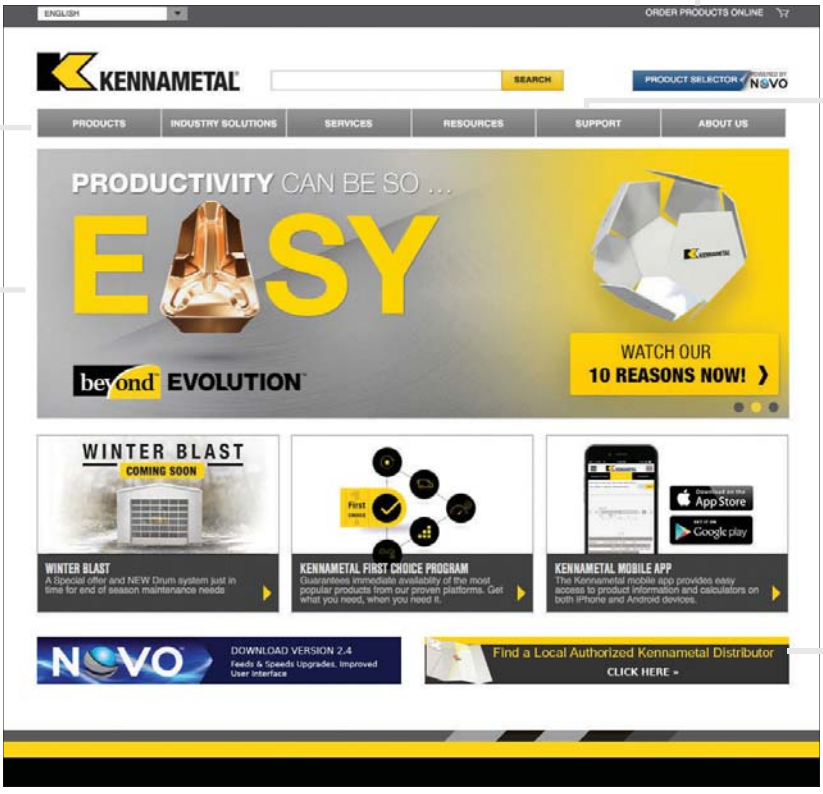


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# SN Slotting Cutter

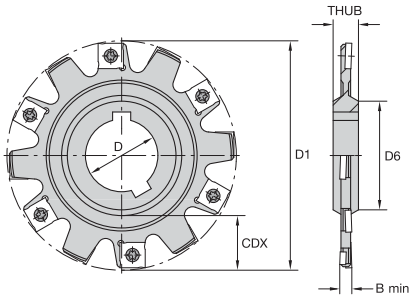
## Primary Application

SN slotting cutters are perfect for deeper applications that require the cutting load to be shared from one insert to the other. Provides groove widths from .161–.187" and cutter diameters from 4–6" as well as an economical way to achieve balanced cutting.

## Features and Benefits

- Cutters available in arbor mount.
- Inserts with four indexes.
- Staggered key ways in mounting bore, used for multiple ganged cutters.
- Slot width .161–.187".
- Three insert geometries available: -GP, -GE, and -T.
- Requires only one spare part.

- .161–.187" slotting width range.
- Four indexes per insert.
- Three chipformers available.
- Two keyways for staggered mounting.
- Requires only one spare part.



## SN • Cutting Width .161"

| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z U | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247681** | **KS426SNH1102** | 4.000 | 1.000 | 1.620 | .161 | 1.120 | .500 | 12 | 6 | 9530 | SNHX1102T | <2.00 |
| **1247684** | **KS526SNH1102** | 5.000 | 1.250 | 1.880 | .161 | 1.500 | .500 | 14 | 7 | 8520 | SNHX1102T | <2.00 |

## SN • Cutting Width .187"

| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z U | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1247686** | **KS33SNH1103** | 3.000 | 1.000 | 1.620 | .187 | .620 | .500 | 10 | 5 | 10000 | SNHX1103T | <2.00 |
| **1247688** | **KS43SNH1103** | 4.000 | 1.000 | 1.620 | .187 | 1.120 | .500 | 12 | 6 | 8660 | SNHX1103T | <2.00 |
| **1247691** | **KS53SNH1103** | 5.000 | 1.250 | 1.880 | .187 | 1.500 | .500 | 14 | 7 | 7745 | SNHX1103T | <2.00 |
| **1247694** | **KS63SNH1103** | 6.000 | 1.250 | 1.880 | .187 | 2.000 | .500 | 18 | 9 | 7070 | SNHX1103T | 2.00 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 3.000 | **192.530** | 10 | **DT7** |
| 4.000 | **192.530** | 10 | **DT7** |
| 5.000 | **192.530** | 10 | **DT7** |
| 6.000 | **192.530** | 10 | **DT7** |

NOTE: Slot width tolerance is +/-.003" over standard insert.
Bottom slot angle is 2°.

## Insert Selection Guide

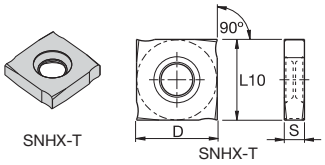
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .T..GP | KCPM40 | **.T..GP** | **KCPM40** | ..T | KCPM40 |
| P3–P4 | .T..GP | KCPK30 | **.T..GP** | **KCPM40** | ..T | KCPM40 |
| P5–P6 | .T..GP | KCPK30 | **..T** | **KCPK30** | ..T | KCPM40 |
| M1–M2 | .T..GP | KC725M | **.T..GP** | **KC725M** | ..T | KC725M |
| M3 | .T..GP | KCPM40 | **.T..GP** | **KCPM40** | ..T | KCPM40 |
| K1–K2 | ..T | KC520M | **..T** | **KC520M** | ..T | KC520M |
| K3 | .T..GP | KCPK30 | **.T..GP** | **KCPK30** | ..T | KCPK30 |
| N1–N2 | .F..GE | KC510M | **.F..GE** | **KC510M** | .T..GP | K110M |
| N3 | .T..GP | K110M | **.T..GP** | **K110M** | .T..GP | K110M |
| S1–S2 | .T..GP | KC725M | **.T..GP** | **KC725M** | ..T | KC725M |
| S3 | .T..GP | KCPM40 | **.T..GP** | **KCPM40** | ..T | KCPM40 |
| S4 | .T..GP | KC725M | **..T** | **KC725M** | ..T | KC725M |
| H1 | .F..GE | KC510M | – | – | – | – |

## Indexable Inserts • SNHX-T • SNHX-NGE

- Medium to heavy machining.
- With T-land geometry.
- Four cutting edges.

● first choice
○ alternate choice

| | | K110M | KC510M | KC520M | KC725M | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● | ● |
| M | | | | | ● | ○ | ○ |
| K | | ○ | ● | ● | | ○ | |
| N | | ● | ○ | | | | |
| S | | | | | ● | | |
| H | | | | | | | |

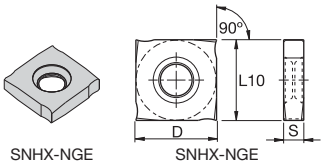



### SNHX-T

| catalog number | D | S | L10 | hm | cutting edges | K110M | KC510M | KC520M | KC725M | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNHX1102T** | .433 | .091 | .433 | .006 | 4 | – | – | – | ● | – | ● |
| **SNHX1103T** | .433 | .106 | .433 | .006 | 4 | – | – | – | ● | ● | ● |
| **SNHX1203T** | .500 | .126 | .500 | .006 | 4 | – | – | – | ● | – | ● |
| **SNHX1204T** | .500 | .157 | .500 | .004 | 4 | – | – | – | ● | – | – |
| **SNHX12045T** | .500 | .177 | .500 | .004 | 4 | – | – | – | ● | – | – |
| **SNHX1205T** | .500 | .213 | .500 | .004 | 4 | – | – | – | ● | – | – |

NOTE: Inch cutter bodies for SNHX12* inserts are available upon request.

- Positive geometry for lighter machining.
- Four cutting edges.



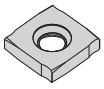

### SNHX-NGE

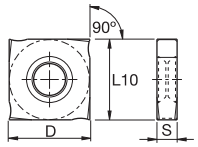
| catalog number | D | S | L10 | hm | cutting edges | K110M | KC510M | KC520M | KC725M | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNHX11T3PZFNGE** | .433 | .106 | .433 | .002 | 4 | – | ● | – | – | – | – |
| **SNHX1203PZFNGE** | .500 | .126 | .500 | .002 | 4 | – | ● | – | – | – | – |
| **SNHX12L5PZFNGE** | .500 | .213 | .500 | .002 | 4 | ● | ● | – | – | – | – |

NOTE: Inch cutter bodies for SNHX12* inserts are available upon request.

Slot Milling

- Four cutting edges.
- High-feed capabilities up to 55 HRC.


SNHX-NGP



SNHX-NGP

● first choice
○ alternate choice

| | | K110M | KC510M | KC520M | KC725M | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● | ● |
| M | | | | | ● | ○ | ○ |
| K | | ○ | ● | ● | | ○ | |
| N | | ● | ○ | | | | |
| S | | | | | ● | | |
| H | | | | | | | |

## SNHX-NGP

| catalog number | D | S | L10 | hm | cutting edges | K110M | KC510M | KC520M | KC725M | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SNHX1102PZTNGP** | .433 | .091 | .433 | .006 | 4 | ● | – | – | ● | ● | ● |
| **SNHX11T3PZTNGP** | .433 | .106 | .433 | .006 | 4 | – | – | – | ● | – | ● |
| **SNHX1203PZTNGP** | .500 | .126 | .500 | .006 | 4 | ● | – | – | ● | ● | ● |
| **SNHX12L4PZTNGP** | .500 | .177 | .500 | .006 | 4 | – | – | – | – | ● | – |
| **SNHX12L5PZTNGP** | .500 | .213 | .500 | .006 | 4 | ● | – | – | ● | ● | – |

NOTE: Inch cutter bodies for SNHX12* inserts are available upon request.



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..GE | .005 | **.017** | .028 | .004 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .F..GE |
| .T..GP | .009 | **.018** | .027 | .007 | **.013** | .020 | .005 | **.010** | .015 | .004 | **.009** | .013 | .004 | **.008** | .012 | .T..GP |
| ..T | .009 | **.022** | .032 | .007 | **.016** | .023 | .005 | **.012** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | ..T |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# LN Slotting Cutter

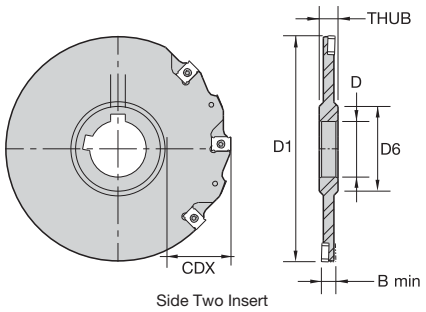
## Primary Application

LN slotting cutters offer arbor and shell mill cutter options, groove widths from .250–.539", and cutter diameters from 3–8". Easy to adjust radially in .020" increments.

## Features and Benefits

- Cutter available in arbor and shell mounts.
- Groove width .250–.500".
- Groove width can be increased by .020" or .040". Please consult the charts “Technical Information: Possible Insert Combinations”. NOTE: This involves changing the insert and insert screw.
- Easy width adjustment through insert thickness.
- Staggered internal keys.
- Positive chip grooves.
- Full side cutting.
- Neutral and positive chip forming inserts are standard.
- Four insert cutting edges.
- Requires only one spare part.

- .250–.500" slot width range.
- Easy width adjustment through insert thickness.
- Full side cutting.
- Neutral and positive chip forming inserts are standard.
- Four insert cutting edges.
- Two keyways for staggered mounting.
- Requires only one spare part.
- Base slot angle: 2°.
- Maximum slot width tolerance: +/- 0,001".



Side Two Insert

## LN • Cutting Width .250"

| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1025930 | KS34LNE1240 | 3.000 | 1.000 | 1.500 | .250 | .594 | .500 | 8 | 4 | 9470 | MS1281 | TT15 | 35 | LNE_1240___ | .36 |
| 1025931 | KS44LNE1240 | 4.000 | 1.250 | 1.880 | .250 | .904 | .500 | 10 | 5 | 8200 | MS1281 | TT15 | 35 | LNE_1240___ | .66 |
| 1025895 | KS54LNE1240 | 5.000 | 1.250 | 1.880 | .250 | 1.404 | .500 | 12 | 6 | 7300 | MS1281 | TT15 | 35 | LNE_1240___ | 1.08 |
| 1025932 | KS64LNE1240 | 6.000 | 1.500 | 2.250 | .250 | 1.747 | .500 | 16 | 8 | 6700 | MS1281 | TT15 | 35 | LNE_1240___ | 1.54 |
| 1025933 | KS84LNE1240 | 8.000 | 1.500 | 2.250 | .250 | 2.719 | .500 | 18 | 9 | 5800 | MS1281 | TT15 | 35 | LNE_1240___ | 2.87 |

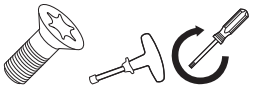
## LN • Cutting Width .312"

| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1025964 | KS45LNE1245 | 4.000 | 1.250 | 1.880 | .312 | .935 | .500 | 10 | 5 | 7400 | MS1282 | TT15 | 35 | LNE_1245___ | .81 |
| 1025896 | KS55LNE1245 | 5.000 | 1.250 | 1.880 | .312 | 1.435 | .500 | 12 | 6 | 6600 | MS1282 | TT15 | 35 | LNE_1245___ | 1.33 |
| 1025965 | KS65LNE1245 | 6.000 | 1.500 | 2.250 | .312 | 1.750 | .500 | 16 | 8 | 6000 | MS1282 | TT15 | 35 | LNE_1245___ | 1.93 |
| 1025897 | KS85LNE1245 | 8.000 | 1.500 | 2.250 | .312 | 2.750 | .500 | 18 | 9 | 5200 | MS1282 | TT15 | 35 | LNE_1245___ | 3.62 |

## LN • Cutting Width .375"

| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1025966 | KS46LNE1245 | 4.000 | 1.250 | 1.880 | .375 | .966 | .500 | 9 | 3 | 7400 | MS1282 | TT15 | 35 | LNE_1245___ | .96 |
| 1025898 | KS56LNE1245 | 5.000 | 1.250 | 1.880 | .375 | 1.466 | .500 | 12 | 4 | 6600 | MS1282 | TT15 | 35 | LNE_1245___ | 1.57 |
| 1025967 | KS66LNE1245 | 6.000 | 1.500 | 2.250 | .375 | 1.809 | .500 | 15 | 5 | 8000 | MS1282 | TT15 | 35 | LNE_1245___ | 1.56 |
| 1025968 | KS86LNE1245 | 8.000 | 1.500 | 2.250 | .375 | 2.781 | .500 | 18 | 6 | 5200 | MS1282 | TT15 | 35 | LNE_1245___ | 1.56 |

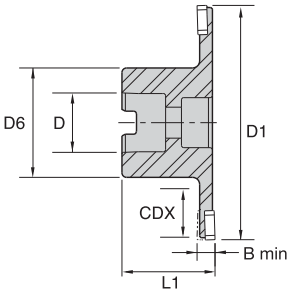
## LN • Cutting Width .500"

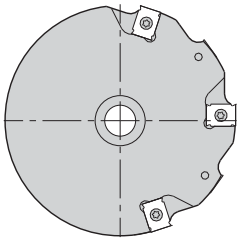


| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1025969 | KS48LNE1255 | 4.000 | 1.250 | 1.880 | .500 | 1.060 | .500 | 9 | 3 | 4900 | MS1284 | TT15 | 35 | LNE_1255___ | 1.23 |
| 1025899 | KS58LNE1255 | 5.000 | 1.250 | 1.880 | .500 | 1.560 | .500 | 12 | 4 | 4400 | MS1284 | TT15 | 35 | LNE_1255___ | 2.07 |
| 1025970 | KS68LNE1255 | 6.000 | 1.500 | 2.250 | .500 | 1.844 | .500 | 15 | 5 | 4000 | MS1284 | TT15 | 35 | LNE_1255___ | 3.04 |
| 1025971 | KS88LNE1255 | 8.000 | 1.500 | 2.250 | .500 | 2.875 | .500 | 18 | 6 | 3500 | MS1284 | TT15 | 35 | LNE_1255___ | 5.83 |

NOTE: Slot width tolerance is +/-.003" over standard insert.

- .250–.500" slot width range.
- Easy width adjustment through insert thickness.
- Full side cutting.
- Neutral and positive chip forming inserts are standard.
- Four insert cutting edges.
- Requires only one spare part.
- Base slot angle: 2°.
- Maximum slot width tolerance: +/- 0,001".



## LN • Cutting Width .250"

| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | flat-head cap screw | socket-head cap screw | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1067765** | **KS254BLNE1240** | 2.500 | .750 | 1.580 | .250 | .560 | 1.875 | 6 | 3 | 10400 | **MS1281** | **TT15** | 35 | **S1903** | **–** | LNE_1240___ |
| **1025861** | **KS44BLNE1240** | 4.000 | 1.000 | 1.880 | .250 | .940 | 1.570 | 10 | 5 | 8200 | **MS1281** | **TT15** | 35 | **–** | **S458** | LNE_1240___ |

## LN • Cutting Width .312"

| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | flat-head cap screw | socket-head cap screw | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1067766** | **KS255BLNE1245** | 2.500 | .750 | 1.580 | .312 | .560 | 1.875 | 6 | 3 | 9400 | **MS1282** | **TT15** | 35 | **S1903** | **–** | LNE_1245___ |
| **1025862** | **KS45BLNE1245** | 4.000 | 1.000 | 1.880 | .312 | .942 | 1.570 | 10 | 5 | 7400 | **MS1282** | **TT15** | 35 | **–** | **S458** | LNE_1245___ |

## LN • Cutting Width .375"

| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | socket-head cap screw | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1025863** | **KS46BLNE1245** | 4.000 | 1.000 | 1.880 | .375 | .942 | 1.570 | 9 | 3 | 7400 | **MS1282** | **TT15** | 35 | **S458** | LNE_1245___ |

## LN • Cutting Width .500"

| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Z | Z U | max RPM | insert screw | Torx wrench | in. lbs. | socket-head cap screw | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1025894** | **KS48BLNE1255** | 4.000 | 1.000 | 1.880 | .500 | .940 | 2.000 | 9 | 3 | 4900 | **MS1284** | **TT15** | 35 | **S458** | LNE_1255___ |

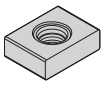
NOTE: Slot width tolerance is +/-.003" over standard insert.

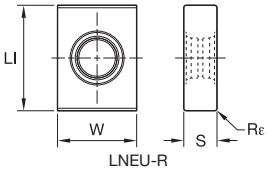
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | LNE.. | KCPM40 | **LNE..** | **KCPM40** | .S..GP | KCPM40 |
| P3–P4 | LNE.. | KCPK30 | **LNE..** | **KCPM40** | .S..GP | KCPM40 |
| P5–P6 | LNE.. | KC725M | **.S..GP** | **KC725M** | .S..GP | KCPM40 |
| M1–M2 | LNE.. | KC725M | **LNE..** | **KC725M** | .S..GP | KC725M |
| M3 | LNE.. | KC725M | **LNE..** | **KCPM40** | .S..GP | KCPM40 |
| K1–K2 | LNE.. | KC520M | **LNE..** | **KCK15** | LNE.. | KCK15 |
| K3 | LNE.. | KC520M | **LNE..** | **KCK15** | LNE.. | KCPK30 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | LNE.. | KC725M | **LNE..** | **KC725M** | .S..GP | KC725M |
| S3 | LNE.. | KC725M | **LNE..** | **KCPM40** | .S..GP | KCPM40 |
| S4 | LNE.. | KC725M | **.S..GP** | **KC725M** | .S..GP | KC725M |
| H1 | **–** | **–** | – | – | – | – |



- Light machining.
- Four cutting edges.


LNEU-R



LNEU-R

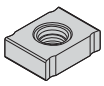
● first choice
○ alternate choice

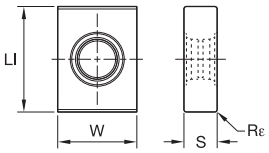
| | | | | | | |
|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● |
| M | | | ● | | ○ | ○ |
| K | ● | | | ● | ○ | |
| N | | | | | | |
| S | | | ● | | | |
| H | | | | | | |

## LNEU-R

| catalog number | LI | W | S | Rε | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNEU1235R03 4** | .500 | .375 | .138 | .012 | .002 | 4 | ● | ● | – | – | ● |
| **LNEU1240R03 4** | .500 | .375 | .157 | .012 | .002 | 4 | ● | ● | – | – | ● |
| **LNEU1245R04** | .500 | .375 | .177 | .016 | .002 | 4 | ● | ● | – | ● | ● |
| **LNEU1250R04** | .500 | .375 | .197 | .016 | .002 | 4 | – | ● | – | – | ● |
| **LNEU1255R04** | .500 | .375 | .217 | .016 | .002 | 4 | – | ● | – | – | ● |
| **LNEU1260R04** | .500 | .375 | .236 | .016 | .002 | 4 | – | ● | – | – | ● |
| **LNEU1240R08 4** | .500 | .375 | .157 | .031 | .002 | 4 | ● | ● | – | – | ● |
| **LNEU1245R08** | .500 | .375 | .177 | .031 | .002 | 4 | ● | ● | – | – | ● |
| **LNEU1250R08** | .500 | .375 | .197 | .031 | .002 | 4 | – | ● | – | – | ● |
| **LNEU1255R08** | .500 | .375 | .217 | .031 | .002 | 4 | ● | ● | – | – | ● |
| **LNEU1240R16 4** | .500 | .375 | .157 | .062 | .002 | 4 | – | ● | – | – | – |
| **LNEU1245R16** | .500 | .375 | .177 | .062 | .002 | 4 | ● | ● | – | – | – |
| **LNEU1255R16** | .500 | .375 | .217 | .062 | .002 | 4 | – | ● | – | – | – |
| **LNEU1245R32** | .500 | .375 | .177 | .125 | .002 | 4 | ● | ● | – | – | – |
| **LNEU1255R32** | .500 | .375 | .217 | .125 | .002 | 4 | – | ● | – | – | – |

- Medium machining with chip groover.
- Four cutting edges.


LNEU-SGP



LNEU-SGP

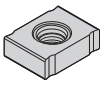
● first choice
○ alternate choice

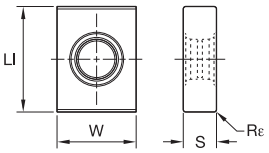
| | | | | | | |
|---|---|---|---|---|---|---|
| P | | | ● | | ● | ● |
| M | | | ● | | ○ | ○ |
| K | | ● | | ● | ○ | |
| N | | | | | | |
| S | | | ● | | | |
| H | | | | | | |

## LNEU-SGP

| catalog number | LI | W | S | Rε | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNEU1235R03SGP 4** | .500 | .375 | .138 | .012 | .004 | 4 | – | ● | – | – | – |
| **LNEU1240R03SGP 4** | .500 | .375 | .157 | .012 | .004 | 4 | – | ● | – | – | – |
| **LNEU1245R04SGP** | .500 | .375 | .177 | .016 | .004 | 4 | – | ● | – | – | – |
| **LNEU1250R04SGP** | .500 | .375 | .197 | .016 | .004 | 4 | – | ● | – | – | – |
| **LNEU1245R08SGP** | .500 | .375 | .177 | .031 | .004 | 4 | – | ● | – | – | ● |
| **LNEU1250R08SGP** | .500 | .375 | .197 | .031 | .004 | 4 | – | ● | – | – | – |
| **LNEU1245R16SGP** | .500 | .375 | .177 | .063 | .004 | 4 | – | ● | – | – | – |

- Very strong geometry for roughing application.
- Four cutting edges.


LNEQ

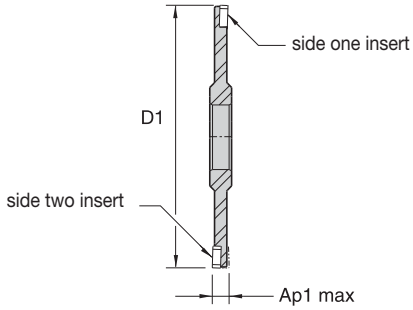


LNEQ

## LNEQ

| catalog number | LI | W | S | Rε | hm | cutting edges | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **LNEQ1235R03 4** | .500 | .375 | .138 | .012 | .002 | 4 | – | ● | ● | – | – |
| **LNEQ1240R03 4** | .500 | .375 | .157 | .012 | .002 | 4 | – | ● | – | ● | – |
| **LNEQ1245R04** | .500 | .375 | .177 | .016 | .002 | 4 | ● | ● | ● | ● | – |
| **LNEQ1250R04** | .500 | .375 | .197 | .016 | .002 | 4 | – | – | ● | – | – |
| **LNEQ1255R04** | .500 | .375 | .217 | .016 | .002 | 4 | – | ● | ● | – | – |
| **LNEQ1260R04** | .500 | .375 | .236 | .016 | .002 | 4 | – | ● | ● | – | ● |

- Utilizes wider inserts in standard cutter bodies.
- Cutting width of the unique LNE insert style for narrow slotting cutters can be varied by using an insert one size thicker.
- The width can be increased in .020" or .040" increments.
- Refer to the insert combination in the table “LN Slotting Cutter Widths” for insert and screw selection.




## LN Slotting Cutter Widths: Adjust Width by Changing Inserts and Screws • Arbor Mount

| cutter catalog number | D1 | Ap1 max | Ap1 max (new) | side one insert* | screw** | side two insert* | screw** |
|---|---|---|---|---|---|---|---|
| **KS34LNE** | 3.000 | .250 | .270 | LNE1240 | MS-1281 | LNE1245 | MS-1282 |
| **KS44LNE** | 4.000 | .250 | .270 | LNE1240 | MS-1281 | LNE1245 | MS-1282 |
| **KS54LNE** | 5.000 | .250 | .289 | LNE1245 | MS-1282 | LNE1245 | MS-1282 |
| **KS64LNE** | 6.000 | .250 | .289 | LNE1245 | MS-1282 | LNE1245 | MS-1282 |
| **KS84LNE** | 8.000 | .250 | .289 | LNE1245 | MS-1282 | LNE1245 | MS-1282 |
| **KS45LNE** | 4.000 | .312 | .332 | LNE1245 | MS-1282 | LNE1250 | MS-1283 |
| **KS55LNE** | 5.000 | .312 | .332 | LNE1245 | MS-1282 | LNE1250 | MS-1283 |
| **KS65LNE** | 6.000 | .312 | .351 | LNE1250 | MS-1283 | LNE1250 | MS-1283 |
| **KS85LNE** | 8.000 | .312 | .351 | LNE1250 | MS-1283 | LNE1250 | MS-1283 |
| **KS46LNE** | 4.000 | .375 | .395 | LNE1245 | MS-1282 | LNE1250 | MS-1283 |
| **KS56LNE** | 5.000 | .375 | .395 | LNE1245 | MS-1282 | LNE1250 | MS-1283 |
| **KS66LNE** | 6.000 | .375 | .414 | LNE1250 | MS-1283 | LNE1250 | MS-1283 |
| **KS86LNE** | 8.000 | .375 | .414 | LNE1250 | MS-1283 | LNE1250 | MS-1283 |
| **KS48LNE** | 4.000 | .500 | .520 | LNE1255 | MS-1284 | LNE1260 | MS-1285 |
| **KS58LNE** | 5.000 | .500 | .520 | LNE1255 | MS-1284 | LNE1260 | MS-1285 |
| **KS68LNE** | 6.000 | .500 | .539 | LNE1260 | MS-1285 | LNE1260 | MS-1285 |
| **KS88LNE** | 8.000 | .500 | .539 | LNE1260 | MS-1285 | LNE1260 | MS-1285 |

## Example: Cutting Width of .289"

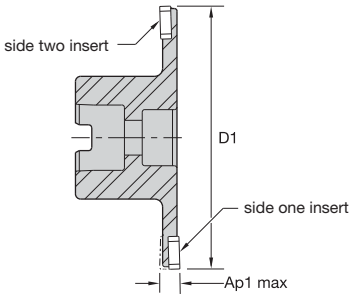
| cutter catalog number | D1 | Ap1 max (new) | side one insert* | screw** | side two insert* | screw** |
|---|---|---|---|---|---|---|
| **KS34LNE** | 3.000 | .289 | LNE1245 | MS-1282 | LNE1245 | MS-1282 |

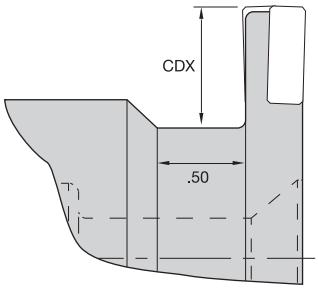
*Caution variation in cutting width range is limited to one size (thickness) greater than the standard insert thickness.

**When changing to wider insert thickness, use the necessary longer screw.

NOTE: When cutters have 3 rows of inserts, the above table only refers to the outer insert on both sides of the cutter. When using inserts that employ a radius of .094" or .125", the corner radius under the insert on the cutter body must be modified to a .10" radius or an optional .10" x 45° chamfer; see chart for detail.

- Utilizes wider inserts in standard cutter bodies.
- Cutting width of the unique LNE insert style for narrow slotting cutters can be varied by using an insert one size thicker.
- The width can be increased in .020" or .040" increments.
- Refer to the insert combination table below for insert selection.




## LN Slotting Cutter Widths: Adjust Width by Changing Inserts and Screws • Shell Mill

| cutter catalog number | D1 | Ap1 max | Ap1 max (new) | side one insert* | screw** | side two insert* | screw** |
|---|---|---|---|---|---|---|---|
| **KS254BLNE1240** | 2.500 | .250 | .270 | LNE1240 | MS-1281 | LNE1245 | MS-1282 |
| **KS44BLNE1240** | 4.000 | .250 | .289 | LNE1245 | MS-1282 | LNE1245 | MS-1282 |
| **KS255BLNE1245** | 2.500 | .312 | .332 | LNE1245 | MS-1282 | LNE1250 | MS-1283 |
| **KS45BLNE1245** | 4.000 | .312 | .351 | LNE1250 | MS-1283 | LNE1250 | MS-1283 |
| **KS46BLNE1245** | 4.000 | .375 | .395 | LNE1245 | MS-1282 | LNE1250 | MS-1283 |
| **KS46BLNE1245** | 4.000 | .375 | .414 | LNE1250 | MS-1283 | LNE1250 | MS-1283 |
| **KS48BLNE1255** | 4.000 | .500 | .520 | LNE1255 | MS-1284 | LNE1260 | MS-1285 |
| **KS48BLNE1255** | 4.000 | .500 | .539 | LNE1260 | MS-1285 | LNE1260 | MS-1285 |

*Caution variation in cutting width range limited to one size (thickness) greater than the standard insert thickness.
**When changing to wider insert thickness, use the necessary longer screw.
NOTE: When using inserts with a radius of .094" or .125", the corner radius under the insert on the cutter body must be modified to a .10" radius or an optional .10" x 45° chamfer.

## Recommended Starting Feeds



### Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| ... | .007 | **.019** | .027 | .005 | **.013** | .020 | .004 | **.010** | .015 | .003 | **.009** | .013 | .003 | **.008** | .012 | ... |
| .S..GP | .009 | **.020** | .032 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | .S..GP |

**NOTE: Use "Light Machining" values as starting feed rate.**
**Please see pages X22–X37 for recommended starting speeds.**

# NOVO KNOWS CAD/CAM

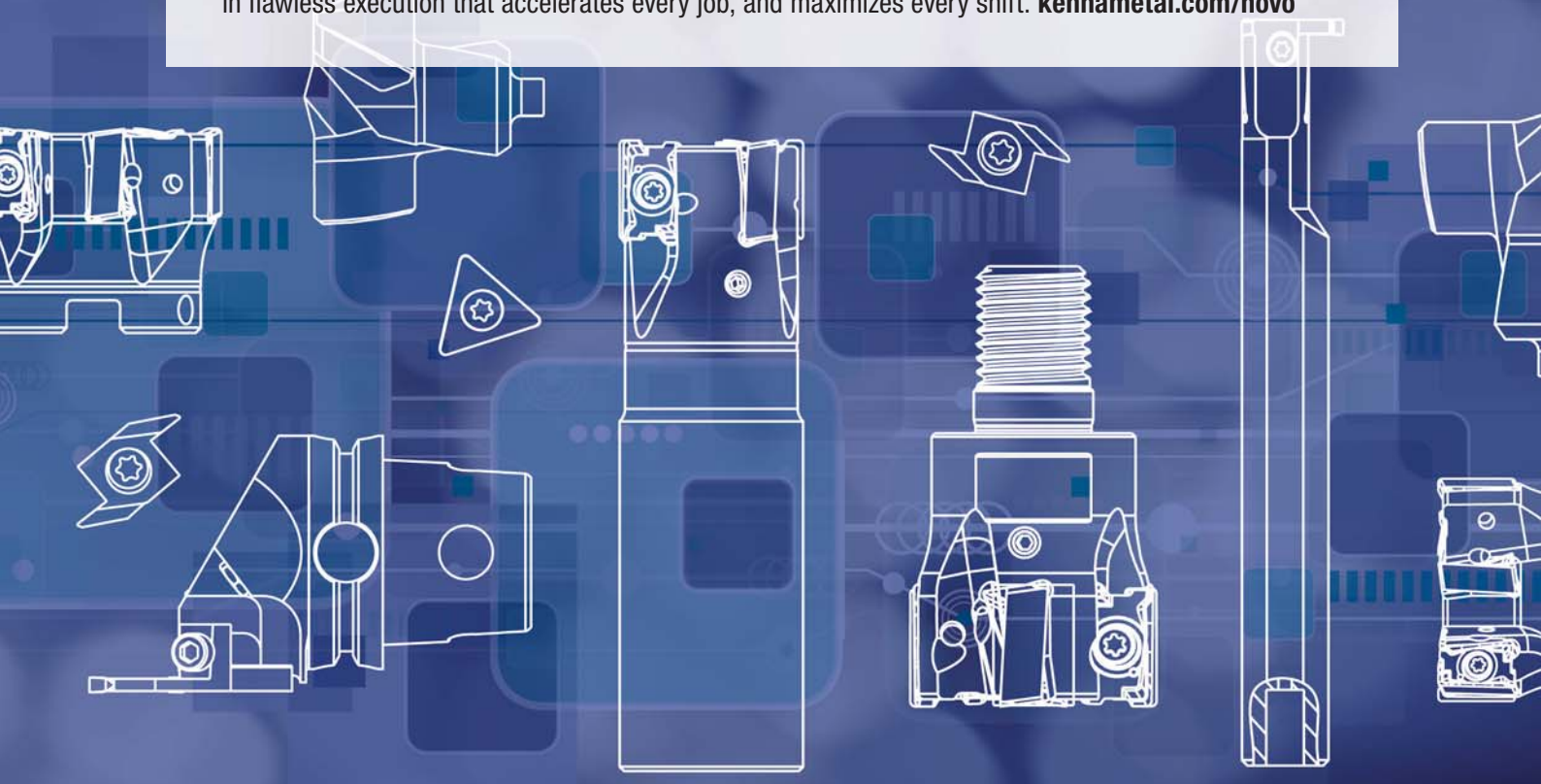
With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the tedious method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

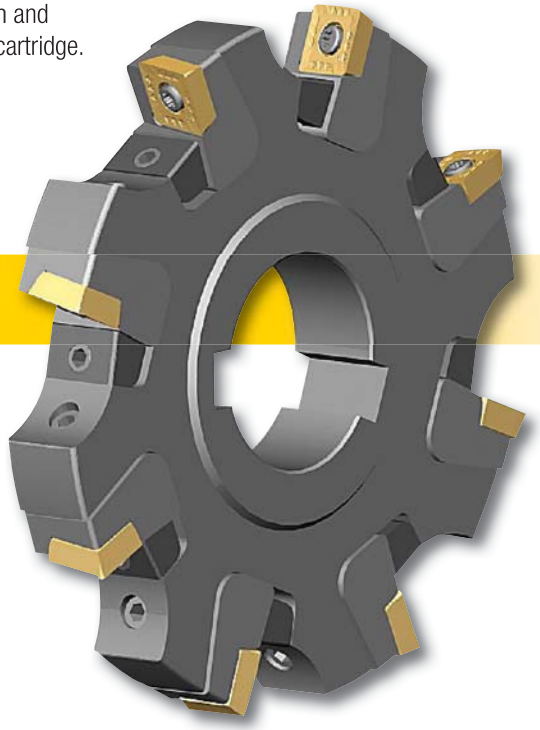


# KSSM™ Slotting Cutter

## Primary Application

Cutters available in fixed and adjustable groove widths:

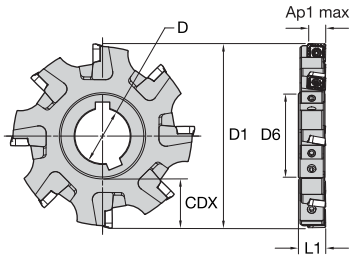
Cutters available in arbor and shell mounts, as well as in fixed and adjustable groove widths, with insert grades and geometries for most materials, KSSM fixed-width slotting cutters are a cost effective solution for the general engineering market. Very precise adjustments to achieve consistent widths are possible with the variable width and enable you to change the tool from right hand to left hand with a change of cartridge.



## Features and Benefits

- Cutters available in arbor and shell mounts, as well as in fixed and adjustable groove widths.
- Maximum groove widths:
  - — Fixed cutters IC 10: .359" and .614".
  - — Fixed cutters 1/2" IC: .461" and .739".
  - — Adjustable cutters IC 10: .551–.709".
  - — Adjustable cutters 1/2" IC: .709–.917".
- Rapid adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Faceted inserts for superior surface finish.
- Cutter diameter range is 4–12".
- Insert corner radii from 0.016–0.125".

- Right-hand and left-hand cutters with .359" width of cut.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Insert radii available.
- Faceted inserts for superior surface finishes.



## Arbor Mount • 10mm IC • Right Hand

| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Ap1 max | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3330528** | **100G10RP90SP10 *** | 3.937 | 1.260 | 1.841 | .359 | 1.035 | .630 | .359 | 10 | 10 | 17200 | 1.20 |
| **2629770** | **KSSS400ASP10R625** | 4.000 | 1.250 | 1.880 | — | 1.038 | .625 | .359 | 10 | 10 | 17100 | 1.22 |
| **3330531** | **125H11RP90SP10 *** | 4.921 | 1.575 | 2.156 | .359 | 1.370 | .630 | .359 | 11 | 11 | 15400 | 1.89 |

NOTE: For superior surface finish, use right-hand inserts.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Arbor Mount • 10mm IC • Left Hand

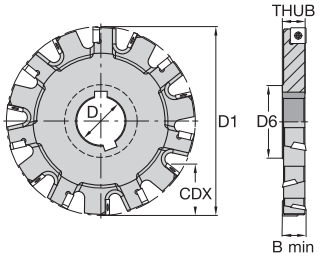
| order number | catalog number | D1 | D | D6 | CDX | L1 | Ap1 max | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2629769** | **KSSS400ASP10L625** | 4.000 | 1.250 | 1.880 | 1.038 | .625 | .359 | 10 | 10 | 17100 | 1.22 |
| **2629772** | **KSSS500ASP10L625 *** | 5.000 | 1.500 | 2.250 | 1.353 | .625 | .359 | 11 | 11 | 15300 | 1.98 |

NOTE: For superior surface finish, use left-hand inserts.
Insert radii ≥ .062" (1,6mm) has no facet.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 4.000 | **MS2148** | 17 | **DT9IP** |
| 5.000 | **MS2148** | 17 | **DT9IP** |

- Neutral slot width (B min) is .614" + .010".
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Wide selection of insert radii.
- Faceted inserts for superior surface finishes.



## Arbor Mount • 10mm IC • Neutral (Full Slotting)

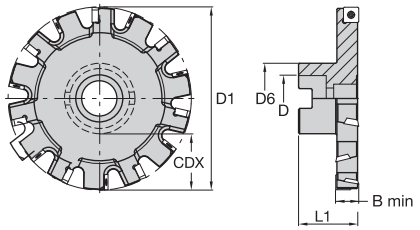
| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2629768** | **KSSS400ASP10N625** | 4.000 | 1.250 | 1.880 | .614 | 1.042 | .542 | 10 | 5 | 17100 | 1.05 |
| **2629794** | **KSSS500ASP10N625** | 5.000 | 1.500 | 2.250 | .614 | 1.357 | .542 | 12 | 6 | 15300 | 1.75 |
| **2629774** | **KSSS600ASP10N625** | 6.000 | 1.500 | 2.250 | .614 | 1.857 | .542 | 12 | 6 | 14000 | 2.78 |

NOTE: For superior surface finish, use right- and left-hand inserts.
Insert radii ≥.062" (1,6mm) has no facet.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 4.000 | **MS2148** | 17 | **DT9IP** |
| 5.000 | **MS2148** | 17 | **DT9IP** |
| 6.000 | **MS2148** | 17 | **DT9IP** |

- Neutral slot width (B min) is .614" + .010".
- Neutral cutting.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Wide selection of insert radii.
- Faceted inserts for superior surface finishes.



## Shell Mount • 10mm IC • Neutral (Full Slotting)

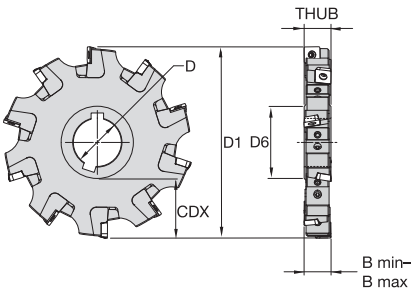
| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2629780** | **KSSS400BSP10N625** | 4.000 | 1.000 | 2.132 | .614 | .887 | 1.500 | 10 | 5 | 17100 | 2.12 |
| **2629781** | **KSSS500BSP10N625** | 5.000 | 1.250 | 2.880 | .614 | .995 | 1.750 | 12 | 6 | 15300 | 3.89 |
| **2629783** | **KSSS800BSP10N625** | 8.000 | 1.500 | 3.810 | .614 | 2.030 | 2.000 | 14 | 7 | 12100 | 8.80 |

NOTE: For superior surface finish, use right- and left-hand inserts.
Insert radii ≥.062" (1,6mm) has no facet.

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|
| 4.000 | **MS2148** | 17 | **DT9IP** | **S2044** |
| 5.000 | **MS2148** | 17 | **DT9IP** | **S467** |
| 8.000 | **MS2148** | 17 | **DT9IP** | **–** |

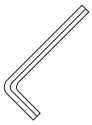
- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Two keyways for staggered mounting.
- Wiper insert facets for superior surface finishes.



## Arbor Mount • Slotting Cutter • .551–.630" Adjustment Range

| order number | catalog number | D1 | D | D6 | B min | B max | CDX | L1 | THUB | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2268052** | **KSSS400ASP10N551-630** | 4.000 | 1.250 | 1.880 | .551 | .630 | 1.030 | .548 | .545 | 6 | 3 | 17100 | 1.17 |
| **2268640** | **KSSS600ASP10N551-630** | 6.000 | 1.500 | 2.250 | .551 | .630 | 1.845 | .548 | .545 | 10 | 5 | 14000 | 2.97 |
| **2268652** | **KSSS800ASP10N551-630** | 8.000 | 2.000 | 2.880 | .551 | .630 | 2.530 | .548 | .545 | 14 | 7 | 12100 | 5.53 |

## Spare Parts

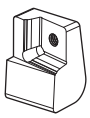
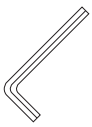
| D1 | cartridge right-hand | cartridge left-hand | wedge |  cam pin wrench | insert screw | in. lbs. | Torx Plus wrench | cam pin | wedge wrench | wedge screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 4.000 | **KSSC551-630R** | **KSSC551-630L** | **KSSW551-630** | **MW25** | **MS2148** | 17 | **TTP9** | **KSSCP551-709** | **THW3M** | **STCM32** |
| 6.000 | **KSSC551-630R** | **KSSC551-630L** | **KSSW551-630** | **MW25** | **MS2148** | 17 | **TTP9** | **KSSCP551-709** | **THW3M** | **STCM11** |
| 8.000 | **KSSC551-630R** | **KSSC551-630L** | **KSSW551-630** | **MW25** | **MS2148** | 17 | **TTP9** | **KSSCP551-709** | **THW3M** | **STCM11** |

## Arbor Mount • Slotting Cutter • .630–.709" Adjustment Range

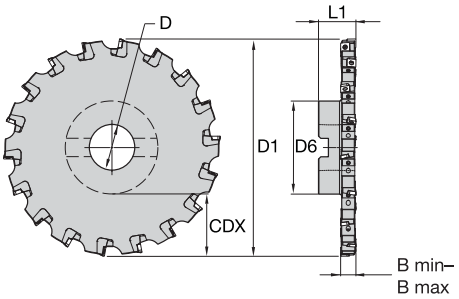
| order number | catalog number | D1 | D | D6 | B min | B max | CDX | L1 | THUB | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2268634** | **KSSS500ASP10N630-709 *** | 5.000 | 1.500 | 2.250 | .630 | .709 | 1.345 | .627 | .624 | 8 | 4 | 15300 | 2.27 |
| **2268670** | **KSSS1200ASP10N630-709 *** | 12.000 | 2.000 | 2.880 | .630 | .709 | 4.530 | .627 | .624 | 20 | 10 | 9900 | 15.96 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

| D1 |  cartridge right-hand | cartridge left-hand | wedge |  cam pin wrench | insert screw | in. lbs. | Torx Plus wrench | cam pin | wedge wrench | wedge screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 12.000 | **KSSC630-709R** | **KSSC630-709L** | **KSSW630-709** | **MW25** | **MS2148** | 17 | **TTP9** | **KSSCP551-709** | **THW3M** | **STCM11** |
| 5.000 | **KSSC630-709R** | **KSSC630-709L** | **KSSW630-709** | **MW25** | **MS2148** | 17 | **TTP9** | **KSSCP551-709** | **THW3M** | **STCM11** |

- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Wiper insert facets for superior surface finishes.



## Shell Mount • Slotting Cutting • .551–.630" Adjustment Range

| order number | catalog number | D1 | D | D6 | B min | B max | CDX | L1 | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2268625 | KSSS400BSP10N551-630 | 4.000 | 1.000 | 2.132 | .551 | .630 | .872 | 2.072 | 6 | 3 | 17100 | 2.49 |

## Spare Parts

| D1 | cartridge right-hand | cartridge left-hand | wedge | cam pin wrench | insert screw | in. lbs. | Torx Plus wrench | cam pin | wedge wrench | wedge screw | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.000 | KSSC551-630R | KSSC551-630L | KSSW551-630 | MW25 | MS2148 | 17 | TTP9 | KSSCP551-709 | THW3M | STCM11 | S458 |

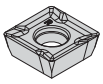
## Insert Selection Guide

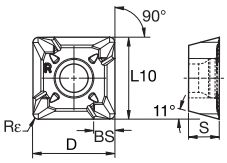
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPK30 |
| P3–P4 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPK30** | .S..GB2 | KCPK30 |
| P5–P6 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M1–M2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KC725M |
| K1–K2 | .E..LD2 | KC520M | **.E..GB2** | **KCK15** | .S..GB2 | KCK15 |
| K3 | .E..LD2 | KC520M | **.E..GB2** | **KC520M** | .S..GB2 | KC520M |
| N1–N2 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| N3 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| S1–S2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| S3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KC725M |
| S4 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| H1 | – | – | **–** | **–** | – | – |

## Indexable Inserts for KSSM™ SP.T10T3...

- Light-duty Insert.
- Four cutting edges.

SPCT-LD2


SPCT-LE



SPCT-LD2
SPCT-LE

● first choice
○ alternate choice

| | | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KTPK20 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | | ● | | ● | ● | | |
| M | | | | ● | | ○ | ○ | ○ | |
| K | | | ● | | ● | ○ | ○ | | ● |
| N | | ● | | | | | | | |
| S | | | | | | | | ● | |
| H | | | | | | | | | |

### SPCT-LD2

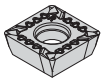
| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KTPK20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPCT31251PPEL8LD2** | .394 | .156 | .394 | .106 | .016 | .002 | 4 | – | – | ● | – | – | – | – | – |
| **SPCT31251PPER8LD2** | .394 | .156 | .394 | .106 | .016 | .002 | 4 | – | – | ● | – | – | – | – | – |
| **SPCT3125PPEL8LD2** | .394 | .156 | .394 | .106 | .031 | .002 | 4 | – | – | ● | – | – | – | – | – |
| **SPCT3125PPER8LD2** | .394 | .156 | .394 | .106 | .031 | .002 | 4 | – | ● | ● | – | – | ● | – | – |
| **SPCT31253PPEL8LD2** | .394 | .156 | .394 | .106 | .047 | .002 | 4 | – | – | ● | – | – | – | – | – |
| **SPCT31253PPER8LD2** | .394 | .156 | .394 | .106 | .047 | .002 | 4 | – | – | ● | – | – | – | – | – |
| **SPCT31254ENLD2** | .394 | .156 | .394 | – | .063 | .002 | 4 | – | – | ● | – | – | – | ● | – |
| **SPCT31255ENLD2** | .394 | .156 | .394 | – | .078 | .002 | 4 | – | – | ● | – | – | – | – | – |

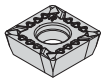
- Light-duty Insert.
- Four cutting edges.

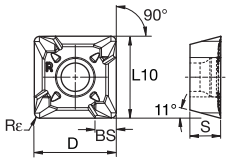
### SPCT-LE

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KTPK20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPCT31251PPFL8LE** | .394 | .156 | .394 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SPCT31251PPFR8LE** | .394 | .156 | .394 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SPCT3125PPFL8LE** | .394 | .156 | .394 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SPCT3125PPFR8LE** | .394 | .156 | .394 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SPCT31253PPFR8LE** | .394 | .156 | .394 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SPCT31255FNLE** | .394 | .156 | .394 | – | .078 | .001 | 4 | ● | – | – | – | – | – | – | – |

- Light-duty Insert.
- Four cutting edges.


SPET-GB2


SPPT-GB2



SPET-GB2
SPPT-GB2

● first choice
○ alternate choice

| | | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KTPK20 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | | ● | | ● | ● | | |
| M | | | | ● | | ○ | ○ | ○ | |
| K | | | ● | | ● | ○ | ○ | | ● |
| N | | ● | | | | | | | |
| S | | | | | | | | ● | |
| H | | | | | | | | | |

## SPET-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KTPK20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPET31251PPEL8GB2** | .394 | .156 | .394 | .106 | .016 | .003 | 4 | – | – | ● | ● | ● | – | – | – |
| **SPET31251PPER8GB2** | .394 | .156 | .394 | .106 | .016 | .003 | 4 | – | – | ● | ● | ● | – | – | – |
| **SPET3125PPEL8GB2** | .394 | .156 | .394 | .106 | .031 | .003 | 4 | – | ● | ● | ● | ● | – | – | – |
| **SPET3125PPER8GB2** | .394 | .156 | .394 | .106 | .031 | .003 | 4 | – | ● | ● | ● | ● | ● | – | – |
| **SPET3125PPSL8GB2** | .394 | .156 | .394 | .106 | .031 | .005 | 4 | – | – | ● | – | ● | – | – | – |
| **SPET3125PPSR8GB2** | .394 | .156 | .394 | .106 | .031 | .005 | 4 | – | ● | ● | ● | ● | – | – | – |

## SPPT-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KTPK20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SPPT3125PPER8GB2** | .394 | .156 | .394 | .106 | .031 | .003 | 4 | – | – | – | ● | ● | – | – | – |
| **SPPT3125PPSR8GB2** | .394 | .156 | .394 | .106 | .031 | .005 | 4 | – | – | – | ● | ● | – | – | ● |



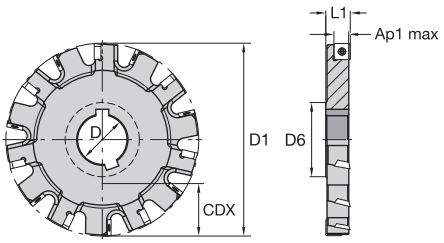
## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LE | .005 | **.017** | .028 | .003 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .F..LE |
| .F..LD | .005 | **.017** | .028 | .003 | **.012** | .020 | .003 | **.009** | .015 | .002 | **.008** | .013 | .002 | **.007** | .012 | .F..LD |
| .E..LD2 | .005 | **.018** | .032 | .004 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LD2 |
| .E..LD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .E..GB2 | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB2 |
| .S..GB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB |
| .S..GB2 | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB2 |
| .S..GN | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Right- and left-hand cutters available.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Faceted inserts for superior surface finishes.



## Arbor Mount • 1/2" IC • Right Hand

| order number | catalog number | D1 | D | D6 | CDX | L1 | Ap1 max | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2618969** | **KSSS600ASD43R750** | 6.000 | 1.500 | 2.250 | 1.851 | .750 | .461 | 12 | 12 | 9400 | 3.73 |
| **2629787** | **KSSS800ASD43R750** | 8.000 | 2.000 | 2.880 | 2.536 | .750 | .461 | 14 | 14 | 8150 | 6.86 |
| **2629790** | **KSSS1000ASD43R750 *** | 10.000 | 2.000 | 2.880 | 3.536 | .750 | .461 | 16 | 16 | 7250 | 11.44 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Arbor Mount • 1/2" IC • Left Hand

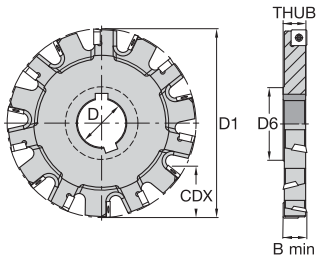
| order number | catalog number | D1 | D | D6 | CDX | L1 | Ap1 max | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2629784** | **KSSS600ASD43L750** | 6.000 | 1.500 | 2.250 | 1.851 | .750 | .461 | 12 | 12 | 9400 | 3.73 |
| **2629786** | **KSSS800ASD43L750** | 8.000 | 2.000 | 2.880 | 2.536 | .750 | .461 | 14 | 14 | 8150 | 6.86 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 6.000 | **MS2078** | 35 | **DT15IP** |
| 8.000 | **MS2078** | 35 | **DT15IP** |
| 10.000 | **MS2078** | 35 | **DT15IP** |

NOTE: For superior surface finish, use right- and left-hand inserts.

- Neutral slot width (B min) is .739" + .010" wide.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Faceted inserts for superior surface finishes.



## Arbor Mount • 1/2" IC • Neutral (Full Slotting)

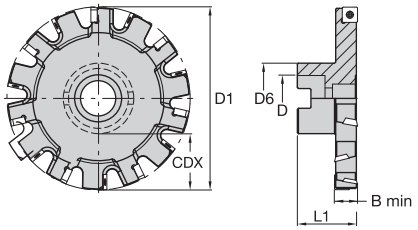
| order number | catalog number | D1 | D | D6 | B min | CDX | THUB | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2618967** | **KSSS600ASD43N750** | 6.000 | 1.500 | 2.250 | .744 | 1.857 | .666 | 14 | 7 | 9400 | 3.49 |
| **2629785** | **KSSS800ASD43N750** | 8.000 | 2.000 | 2.880 | .739 | 2.542 | .666 | 18 | 9 | 8150 | 6.58 |
| **2629788** | **KSSS1000ASD43N750** | 10.000 | 2.000 | 2.880 | .739 | 3.542 | .666 | 22 | 11 | 7250 | 11.02 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 6.000 | **MS2078** | 35 | **DT15IP** |
| 8.000 | **MS2078** | 35 | **DT15IP** |
| 10.000 | **MS2078** | 35 | **DT15IP** |

NOTE: For superior surface finish, use right-hand and left-hand inserts.

- Neutral slot width (B min) is .739" + .010" wide.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Faceted inserts for superior surface finishes.



## Shell Mount • 1/2" IC • Neutral (Full Slotting)

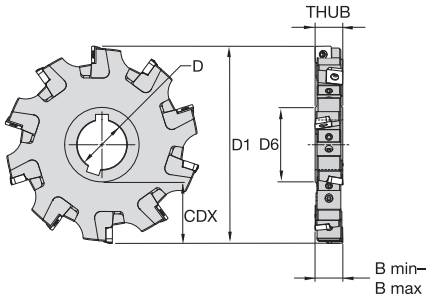
| order number | catalog number | D1 | D | D6 | B min | CDX | L1 | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2629791** | **KSSS600BSD43N750** | 6.000 | 1.500 | 3.810 | .739 | 1.029 | 2.000 | 14 | 7 | 9400 | 6.28 |
| **2629792** | **KSSS800BSD43N750** | 8.000 | 1.500 | 3.810 | .739 | 2.029 | 2.000 | 18 | 9 | 8150 | 9.90 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 6.000 | **MS2078** | 35 | **DT15IP** |
| 8.000 | **MS2078** | 35 | **DT15IP** |

NOTE: For superior surface finish, use right-hand and left-hand inserts.

- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Two keyways for staggered mounting.
- Wiper insert facets for superior surface finishes.



## Arbor Mount • Slotting Cutter • .709–.813" Adjustment Range

| order number | catalog number | D1 | D | D6 | B min | B max | CDX | THUB | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2268676 | KSSS500ASD43N709-813 | 5.000 | 1.500 | 2.250 | .709 | .813 | 1.331 | .716 | 8 | 4 | 10300 | 2.33 |
| 2268688 | KSSS600ASD43N709-813 * | 6.000 | 1.500 | 2.250 | .709 | .813 | 1.831 | .716 | 10 | 5 | 9400 | 3.62 |
| 2268712 | KSSS1000ASD43N709-813 | 10.000 | 2.000 | 2.880 | .709 | .813 | 3.516 | .716 | 16 | 8 | 7250 | 11.51 |
| 2268724 | KSSS1200ASD43N709-813 | 12.000 | 2.000 | 2.880 | .709 | .813 | 4.516 | .716 | 18 | 9 | 6650 | 17.30 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts

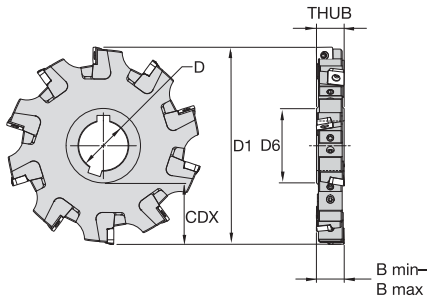
| D1 | cartridge right-hand | cartridge left-hand | wedge | cam pin wrench | insert screw | in. lbs. | Torx Plus wrench | cam pin | wedge wrench | wedge screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 5.000 | KSSC709-813R | KSSC709-813L | KSSW709-813 | MW3 | MS2077 | 35 | TTP15 | KSSCP709-917 | THW3M | STCM11 |
| 6.000 | KSSC709-813R | KSSC709-813L | KSSW709-813 | MW3 | MS2077 | 35 | TTP15 | KSSCP709-917 | THW3M | STCM11 |
| 10.000 | KSSC709-813R | KSSC709-813L | KSSW709-813 | MW3 | MS2077 | 35 | TTP15 | KSSCP709-917 | THW3M | STCM11 |
| 12.000 | KSSC709-813R | KSSC709-813L | KSSW709-813 | MW3 | MS2077 | 35 | TTP15 | KSSCP709-917 | THW3M | STCM11 |

## Cartridges • Larger Insert Radii

| order number | catalog number |
|---|---|
| 3663324 | KSSC709813RX |
| 3663325 | KSSC709813LX |

NOTE: Use left- or right-hand cartridges for neutral cutters. Fits all larger radii inserts.

- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Two keyways for staggered mounting.
- Wiper insert facets for superior surface finishes.

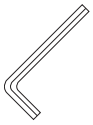


## Arbor Mount • Slotting Cutter • .813–.917" Adjustment Range

| order number | catalog number | D1 | D | D6 | B min | B max | CDX | THUB | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2268694** | **KSSS600ASD43N813-917** | 6.000 | 1.500 | 2.250 | .813 | .917 | 1.831 | .820 | 10 | 5 | 9400 | 4.23 |
| **2268706** | **KSSS800ASD43N813-917 *** | 8.000 | 2.000 | 2.880 | .813 | .917 | 2.516 | .820 | 14 | 7 | 8150 | 7.99 |
| **2268730** | **KSSS1200ASD43N813-917 *** | 12.000 | 2.000 | 2.880 | .813 | .917 | 4.516 | .820 | 18 | 9 | 6650 | 20.20 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts



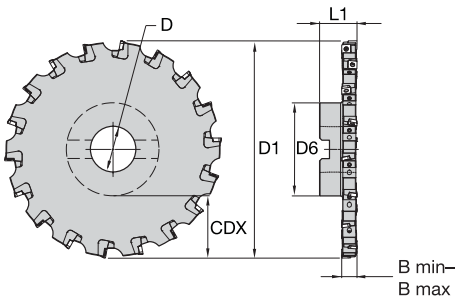
| D1 | cartridge right-hand | cartridge left-hand | wedge | cam pin wrench | insert screw | in. lbs. | Torx Plus wrench | cam pin | wedge wrench | wedge screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.000 | **KSSC813-917R** | **KSSC813-917L** | **KSSW813-917** | **MW3** | **MS2077** | 35 | **TTP15** | **KSSCP709-917** | **THW3M** | **STCM11** |
| 8.000 | **KSSC813-917R** | **KSSC813-917L** | **KSSW813-917** | **MW3** | **MS2077** | 35 | **TTP15** | **KSSCP709-917** | **THW3M** | **STCM11** |
| 12.000 | **KSSC813-917R** | **KSSC813-917L** | **KSSW813-917** | **MW3** | **MS2077** | 35 | **TTP15** | **KSSCP709-917** | **THW3M** | **STCM11** |

## Cartridges • Larger Insert Radii

| order number | catalog number |
|---|---|
| **3663326** | **KSSC813917RX** |
| **3663327** | **KSSC813917LX** |

NOTE: Use left- or right-hand cartridges for neutral cutters. Fits all larger radii inserts.

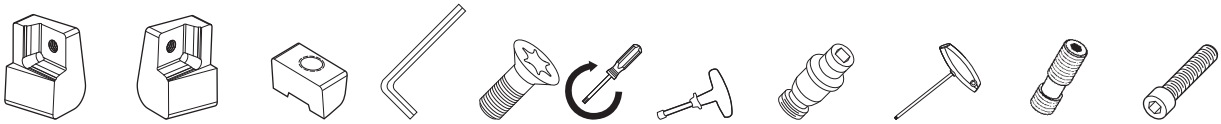
- Rapid adjustment and setting via unique cam adjustment mechanism.
- Large selection of insert geometries and grades to cut most workpiece materials.
- Four insert cutting edges.
- Large selection of insert radii.
- Wiper insert facets for superior surface finishes.



## Shell Mount • Slotting Cutting • .709–.813" Adjustment Range

| order number | catalog number | D1 | D | D6 | B min | B max | CDX | L1 | Z | Z S | max RPM | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2268679** | **KSSS500BSD43N709-813** | 5.000 | 1.250 | 2.880 | .709 | .813 | .997 | 2.093 | 8 | 4 | 10300 | 4.55 |
| **2268727** | **KSSS1200BSD43N709-813** | 12.000 | 2.500 | 5.250 | .709 | .813 | 3.312 | 2.093 | 18 | 9 | 6650 | 19.83 |

## Spare Parts



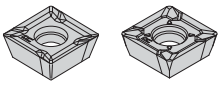
| D1 | cartridge right-hand | cartridge left-hand | wedge | cam pin wrench | insert screw | in. lbs. | Torx Plus wrench | cam pin | wedge wrench | wedge screw | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.000 | **KSSC709-813R** | **KSSC709-813L** | **KSSW709-813** | **MW3** | **MS2077** | 35 | **TTP15** | **KSSCP709-917** | **THW3M** | **KSSW709-813** | **S467** |
| 12.000 | **KSSC709-813R** | **KSSC709-813L** | **KSSW709-813** | **MW3** | **MS2077** | 35 | **TTP15** | **KSSCP709-917** | **THW3M** | **KSSW709-813** | **—** |

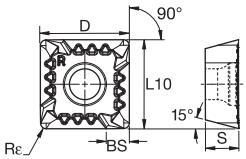
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| P3–P4 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPK30** | .S..GB2 | KCPK30 |
| P5–P6 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| M1–M2 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| M3 | .E..LD2 | KCPM40 | **.E..GB2** | **KCPM40** | .S..GB2 | KCPM40 |
| K1–K2 | .E..LD2 | KC520M | **.E..GB2** | **KCK15** | .S..GB2 | KCK15 |
| K3 | .E..LD2 | KC520M | **.E..GB2** | **KC520M** | .S..GB2 | KC520M |
| N1–N2 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| N3 | .F..LE | KC410M | **.F..LE** | **KC410M** | .F..LE | KC410M |
| S1–S2 | .E..LD2 | KC725M | **.E..GB2** | **KC725M** | .S..GB2 | KC725M |
| S3 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| S4 | .E..LD2 | KCSM40 | **.E..GB2** | **KCSM40** | .S..GB2 | KCSM40 |
| H1 | – | – | **–** | **–** | – | – |

## Indexable Inserts • KSSM™ SD.T1204...

- Light-duty Insert.
- Four cutting edges.


SDCT-LE SDCT-LD2



SDCT-LE
SDCT-LD2

● first choice
○ alternate choice

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |

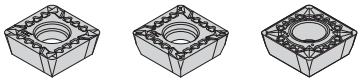
### SDCT-LE (Ground) 20° Rake Face

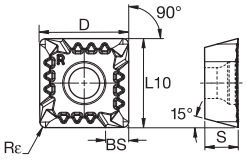
| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDFL8LE** | .500 | .188 | .500 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT431PDFR8LE** | .500 | .188 | .500 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT43PDFL8LE** | .500 | .188 | .500 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT43PDFR8LE** | .500 | .188 | .500 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT433PDFL8LE** | .500 | .188 | .500 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT433PDFR8LE** | .500 | .188 | .500 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT434FNLE** | .500 | .188 | .500 | – | .063 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT435FNLE** | .500 | .188 | .500 | – | .078 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT436FNLE** | .500 | .188 | .500 | – | .094 | .001 | 4 | ● | – | – | – | – | – | – | – | – |
| **SDCT438FNLE** | .500 | .188 | .500 | – | .125 | .001 | 4 | ● | – | – | – | – | – | – | – | – |

### SDCT-LD2 (Ground) 15° Rake Face

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDEL8LD2** | .500 | .188 | .500 | .106 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT431PDER8LD2** | .500 | .188 | .500 | .115 | .016 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT43PDEL8LD2** | .500 | .188 | .500 | .130 | .031 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT43PDER8LD2** | .500 | .188 | .500 | .130 | .031 | .002 | 4 | – | ● | – | ● | – | – | ● | – | ● |
| **SDCT433PDEL8LD2** | .500 | .188 | .500 | .120 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT433PDER8LD2** | .500 | .188 | .500 | .120 | .047 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT434ENLD2** | .500 | .188 | .500 | – | .063 | .002 | 4 | – | – | – | ● | – | – | – | – | ● |
| **SDCT435ENLD2** | .500 | .188 | .500 | – | .078 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT436ENLD2** | .500 | .188 | .500 | – | .094 | .002 | 4 | – | – | – | ● | – | – | – | – | – |
| **SDCT438ENLD2** | .500 | .188 | .500 | – | .125 | .002 | 4 | – | – | ● | ● | – | – | – | – | – |
| **SDCT4316ENLD2** | .500 | .188 | .500 | – | .250 | .002 | 2 | – | – | – | ● | – | – | – | – | ● |

- Heavy machining.
- Four cutting edges.


SDET-GB2 SDPT-GB2 SDET-GB



SDET-GB2
SDPT-GB2
SDET-GB

● first choice
○ alternate choice

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ |
| M | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | |
| S | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | |

## SDET-GB (Ground) 5° Rake Face

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET43PDER8GB** | .500 | .188 | .500 | .101 | .031 | .003 | 4 | – | ● | – | – | – | – | – | – | ● |
| **SDET43PDSR8GB** | .500 | .188 | .500 | .101 | .031 | .006 | 4 | – | – | – | ● | – | ● | ● | ● | ● |
| **SDET433PDER8GB** | .500 | .188 | .500 | .086 | .047 | .003 | 4 | – | – | – | ● | – | – | ● | – | ● |
| **SDET433PDSR8GB** | .500 | .188 | .500 | .085 | .047 | .006 | 4 | – | – | – | ● | – | – | – | – | ● |
| **SDET434ENGB** | .500 | .188 | .500 | – | .062 | .003 | 4 | – | – | – | – | – | – | – | – | ● |
| **SDET434SNGB** | .500 | .188 | .500 | – | .062 | .006 | 4 | – | – | – | ● | – | – | – | – | ● |
| **SDET436ENGB** | .500 | .188 | .500 | – | .094 | .003 | 4 | – | – | – | ● | – | – | – | – | ● |
| **SDET436SNGB** | .500 | .188 | .500 | – | .094 | .006 | 4 | – | – | – | ● | – | – | – | – | ● |
| **SDET438ENGB** | .500 | .188 | .500 | – | .125 | .003 | 4 | – | – | – | ● | – | – | – | – | ● |
| **SDET438SNGB** | .500 | .188 | .500 | – | .125 | .006 | 4 | – | – | – | – | – | – | – | – | ● |
| **SDET4312ENGB** | .500 | .188 | .500 | – | .188 | .003 | 2 | – | – | – | ● | – | – | – | – | ● |
| **SDET4312SNGB** | .500 | .188 | .500 | – | .188 | .006 | 2 | – | – | – | ● | – | – | – | – | ● |
| **SDET4316SNGB** | .500 | .188 | .500 | – | .250 | .006 | 2 | – | – | – | ● | – | ● | – | ● | ● |
| **SDET4316ENGB** | .500 | .188 | .500 | – | .250 | .003 | 2 | – | – | – | ● | – | – | – | – | ● |

## SDET-GB2 (Ground) 5° Rake Face

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET43PDEL8GB2** | .500 | .188 | .500 | .130 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | – | – | – |
| **SDET43PDER8GB2** | .500 | .188 | .500 | .130 | .031 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | ● |
| **SDET43PDSL8GB2** | .500 | .188 | .500 | .130 | .031 | .005 | 4 | – | – | – | ● | – | ● | – | – | – |
| **SDET43PDSR8GB2** | .500 | .188 | .500 | .130 | .031 | .005 | 4 | – | ● | – | ● | ● | ● | ● | – | – |
| **SDET433PDEL8GB2** | .500 | .188 | .500 | .120 | .047 | .003 | 4 | – | ● | – | ● | ● | – | – | – | – |
| **SDET433PDER8GB2** | .500 | .188 | .500 | .120 | .047 | .003 | 4 | – | ● | – | ● | ● | ● | ● | – | – |
| **SDET434SNGB2** | .500 | .188 | .500 | – | .063 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – |
| **SDET435SNGB2** | .500 | .188 | .500 | – | .078 | .005 | 4 | – | ● | – | ● | ● | ● | ● | – | – |
| **SDET436SNGB2** | .500 | .188 | .500 | – | .094 | .005 | 4 | – | – | – | ● | ● | ● | – | – | – |
| **SDET438XENGB2** | .500 | .188 | .500 | – | .125 | .003 | 2 | – | – | – | ● | – | – | – | – | – |
| **SDET438SNGB2** | .500 | .188 | .500 | – | .125 | .005 | 4 | – | ● | – | ● | ● | ● | – | – | – |
| **SDET4316SNGB2** | .500 | .188 | .500 | – | .250 | .005 | 2 | – | – | – | – | – | ● | – | – | – |

## SDPT-GB2

| catalog number | D | S | L10 | BS | Rε | hm | cutting edges | KC410M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDPT43PDER8GB2** | .500 | .188 | .500 | .106 | .031 | .003 | 4 | – | – | – | ● | ● | ● | ● | – | ● |
| **SDPT43PDSR8GB2** | .500 | .188 | .500 | .106 | .031 | .005 | 4 | – | – | – | ● | ● | ● | ● | – | ● |

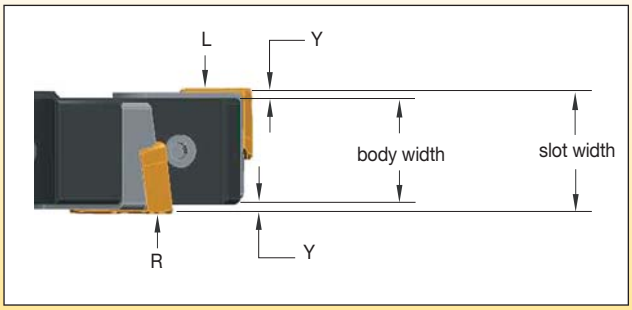
## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LE | .005 | **.017** | .030 | .003 | **.012** | .021 | .003 | **.009** | .016 | .002 | **.008** | .014 | .002 | **.007** | .013 | .F..LE |
| .E..LD | .007 | **.019** | .032 | .005 | **.013** | .023 | .004 | **.010** | .017 | .003 | **.009** | .015 | .003 | **.008** | .014 | .E..LD |
| .E..LD2 | .005 | **.018** | .032 | .004 | **.013** | .023 | .003 | **.010** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LD2 |
| .E..GB | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB |
| .E..GB2 | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .E..GB2 |
| .S..GB | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB |
| .S..GB2 | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GB2 |
| .S..GN | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..GN |

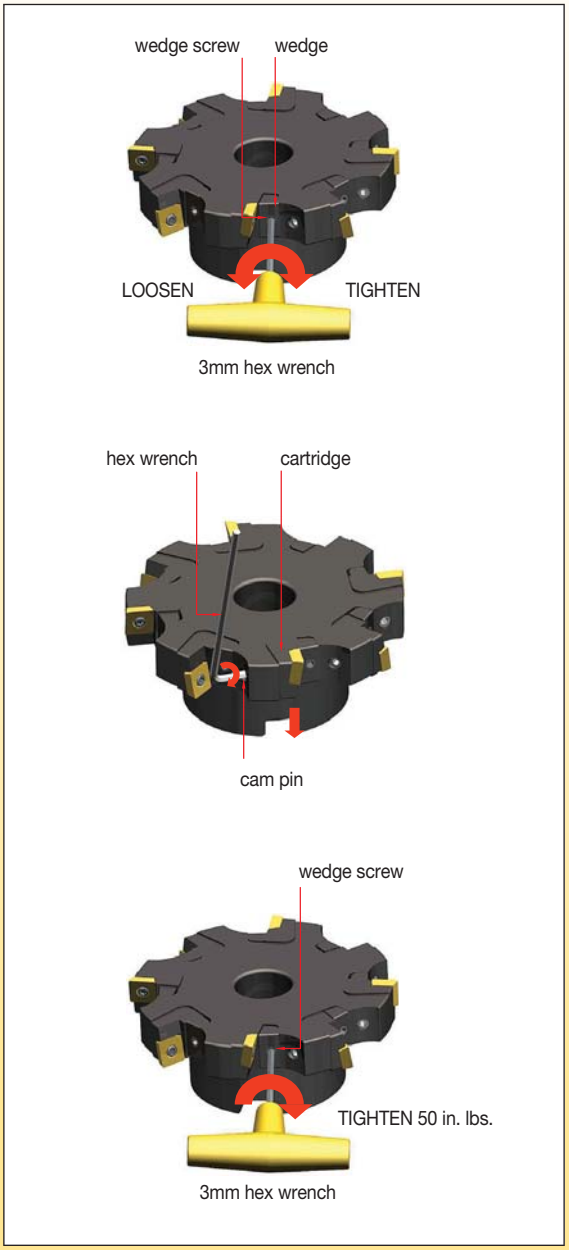
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## KSSM Slot Width Adjustment Instructions

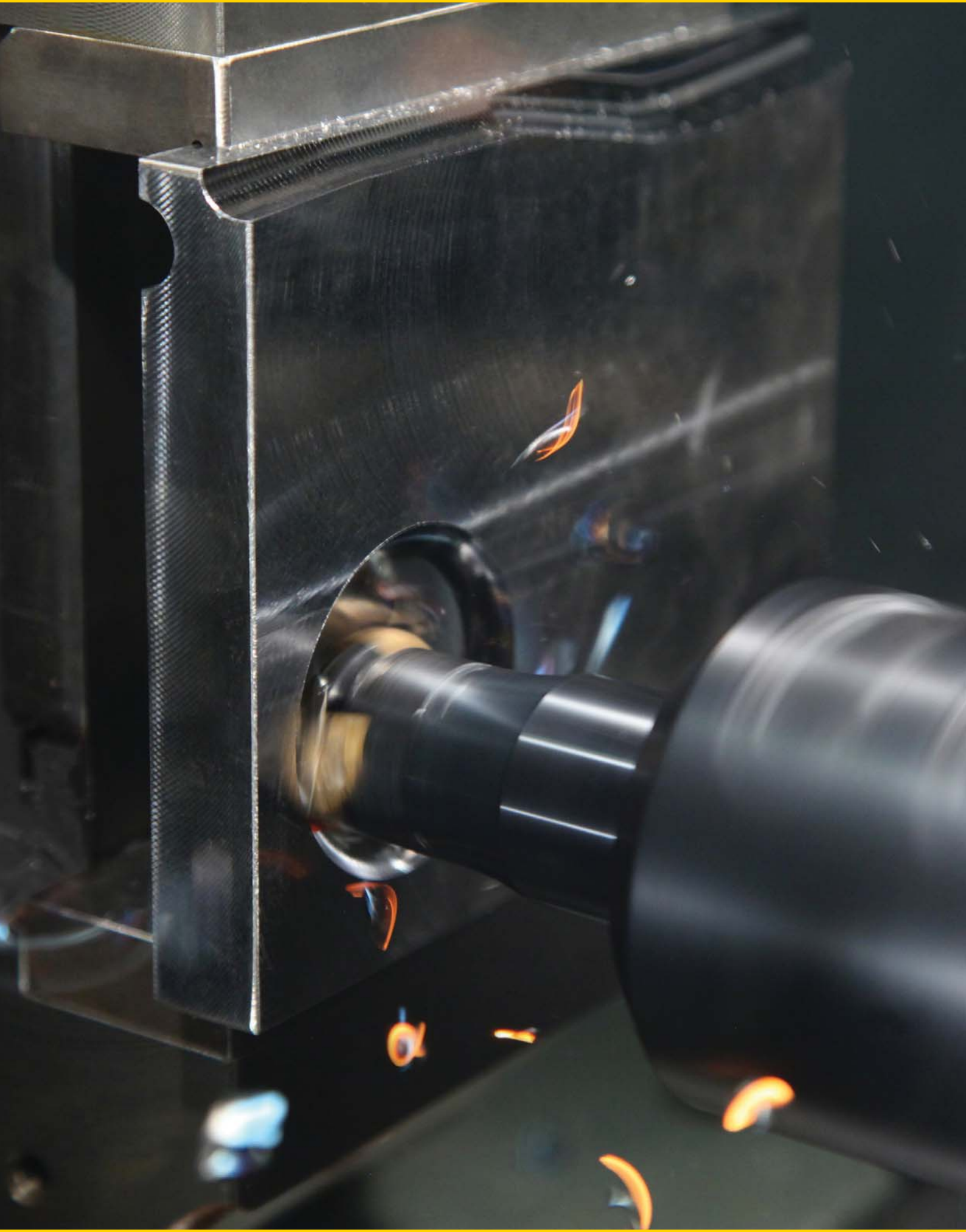



1. Measure body width at pocket 1 (per stamp on tool body) behind cartridge.
2. Zero tool presetter at pocket 1 behind cartridge.
3. Move presetter over the insert and set distance Y. Y= (Desired Slot Width-Body Width)/2
4. Zero over insert at starting pocket (pocket 1).
5. Adjust remaining cartridges on the same side.
6. Return to starting pocket and start with step 2 for opposite side of cutter.

## KSSM Cartridge Adjustment Instructions




1. Insert 3mm hex wrench into STCM Screw.
2. Rotate 3mm hex wrench counter-clockwise to loosen wedge.
3. Rotate 3mm hex wrench clockwise to lightly tighten STCM screw to approximately 9 in. lbs., so the wedge is touching the cartridge and cutter body. This creates some slight resistance against the cartridge during the adjustment.
4. Insert hex wrench into cam pin behind cartridge.
5. Rotate wrench to adjust cartridge to desired position.
6. For best accuracy, back cam pin off, so you can feel it is not touching the sides of the slot in the back of the cartridge.
7. Remove wrench from cam pin.
8. Insert 3mm hex wrench into STCM screw.
9. Tighten STCM screw to 55 in. lbs. prior to using the cutter. Kennametal torque wrench KTW45 or alternate torque wrench should be used.
10. Double check cartridge position to assure no movement.



# Indexable Milling • Copy Milling


**Stellram 7792VX • High-Feed Series ..... V2–V32**

**KenFeed 2X • Double-Sided High-Feed Milling Cutters ..... V34–V41**

**Rodeka • Double-Sided Round Inserts ..... V42–V64**

Rodeka 10 ..... V44–V50

Rodeka 12 ..... V51–V57

Rodeka 16 ..... V58–V60

Rodeka 12X ..... V61–V64

**KSRM • Round Inserts, Specially Developed for Titanium and Stainless Steel ..... V66–V94**

**Stellram 7713VR • Round Inserts ..... V96–V108**

Stellram 7713VR10 ..... V97–V101

Stellram 7713VR12 ..... V102–V108

**Stellram 5505VX ..... V110–V118**

**KDMB and KDMT ..... V120–V137**

**Z-Axis ..... V138–V145**

**KCRA • Double-Sided Ceramic Round Inserts ..... V146–V152**

**KIPR ..... V154–V159**

# Stellram® 7792 High-Feed Series

## Indexable Milling

The 7792 cutter series has been designed for high-feed milling applications with superior surface generation. 7792VX cutters are designed for a wide range of applications, including facing, pocketing, ramping, helical interpolation, and plunging. They are capable of machining all materials, including steel, stainless steel, cast iron, and high-temperature and aluminum alloys.

## Features and Benefits

- The 7792VX high-feed cutters are the best solution for reducing cycle times or removing the maximum amount of material in the shortest time.
- New ultra-fine pitch cutters further increase metal removal rates, especially in high-temp alloys.
- The unique design and insert positioning help to achieve up to 5x higher feed rates than other cutters on the market.
- When used in long (extended) toolholders, 7792VX cutters absorb vibrations and greatly reduce instability and tool deflection.
- Integrated wiper facet for improved surface finish: 16 Ra (1,6µ) when used at <0.020 in/z.

**7792VXP06:**
Maximum ap = 0.035"
Diameter Range = 0.625–1.250"

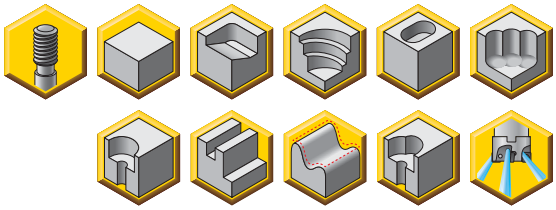
**7792VXD09:**
Maximum ap = 0.059"
Diameter Range = 1.000–2.000"

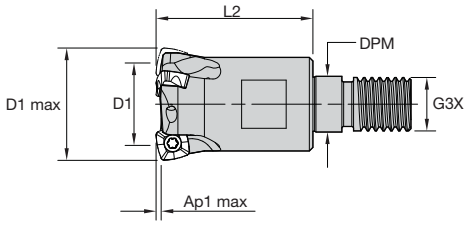
**7792VXD12:**
Maximum ap = 0.098"
Diameter Range = 1.250–6.300"

**7792VXE16:**
Maximum ap = 0.138"
Diameter Range = 2.000–6.000"

NOTE: Larger diameter shell mill fixation cutters with interchangeable cartridges are available.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.





## 7792VXP06 Modular Head • Screw-On

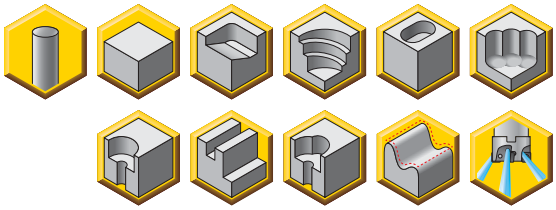
| order number | catalog number | D1 max | D1 | L2 | G3X | DPM | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|---|
| 5661213 | A7792VXP06SA.625Z2R1 | .625 | .255 | 1.000 | M8 | .335 | .035 | 2 |
| 5660060 | A7792VXP06SA.75Z2R1.4 | .750 | .380 | 1.377 | M10 | .413 | .035 | 2 |
| 5661214 | A7792VXP06SA.75Z3R1.4 | .750 | .380 | 1.377 | M10 | .413 | .035 | 3 |
| 5667958 | A7792VXP06SA1.0Z3R1.4 | 1.000 | .630 | 1.377 | M12 | .492 | .035 | 3 |
| 5661215 | A7792VXP06SA1.0Z4R1.4 | 1.000 | .630 | 1.377 | M12 | .492 | .035 | 4 |
| 5681114 | A7792VXP06SA1.25Z5R2 | 1.250 | .880 | 1.693 | M16 | .669 | .035 | 5 |

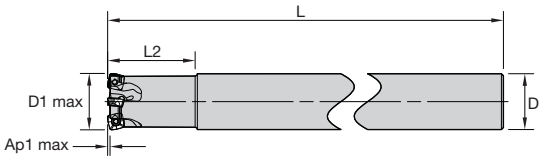
## Spare Parts

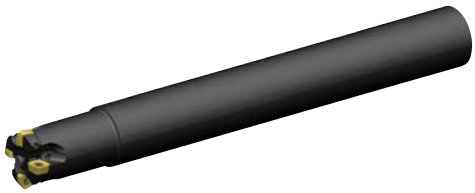
| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| A7792VXP06SA.625Z2R1 | FP2506T | 7.1 | TP7 |
| A7792VXP06SA.75Z2R1.4 | FP2506T | 7.1 | TP7 |
| A7792VXP06SA.75Z3R1.4 | FP2506T | 7.1 | TP7 |
| A7792VXP06SA1.0Z3R1.4 | FP2507T | 7.1 | TP7 |
| A7792VXP06SA1.0Z4R1.4 | FP2507T | 7.1 | TP7 |
| A7792VXP06SA1.25Z5R2 | FP2507T | 7.1 | TP7 |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXP06 Cylindrical Shank

| order number | catalog number | D1 max | D | L | L2 | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 5667588 | C7792VXP06CA.62Z2R5.5 | .625 | .625 | 7.402 | .980 | .035 | 2 |
| 5658507 | C7792VXP06CA.75Z3R6.1 | .750 | .750 | 7.874 | 1.259 | .035 | 3 |
| 5661212 | C7792VXP06CA1.0Z4R6.1 | 1.000 | 1.000 | 8.344 | 1.575 | .035 | 4 |
| 5681117 | C7792VXP06CA1.25Z5R8 | 1.250 | 1.250 | 9.761 | 1.575 | .035 | 5 |

## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| C7792VXP06CA.62Z2R5.5 | FP2506T | 7.1 | TP7 |
| C7792VXP06CA.75Z3R6.1 | FP2506T | 7.1 | TP7 |
| C7792VXP06CA1.0Z4R6.1 | FP2507T | 7.1 | TP7 |
| C7792VXP06CA1.25Z5R8 | FP2507T | 7.1 | TP7 |

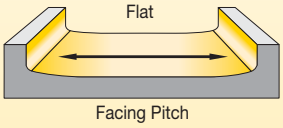
NOTE: For further application recommendation, please see technical information on pages V30–V32.

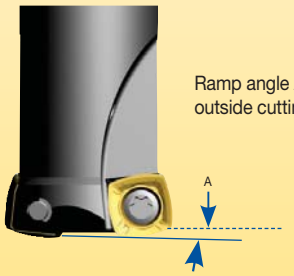
## Technical Information (in)

| | | dimension | | | | | | |
|---|---|---|---|---|---|---|---|---|
| order number | catalog number | facing pitch | ramping angle | helical hole min–max | | ap max helical/ linear | $a_e$ max plunging | max RPM |
| 5667588 | C7792VXP06CA.62Z2R5.5 | 6.090 | 8.20 | 0.850 | 1.170 | 0.024 | 0.118 | 65,000 |
| 5658507 | C7792VXP06CA.75Z3R6.1 | 3.860 | 6.74 | 1.100 | 1.420 | 0.024 | 0.118 | 57,000 |
| 5661212 | C7792VXP06CA1.0Z4R6.1 | 2.110 | 4.34 | 1.600 | 1.920 | 0.024 | 0.118 | 49,000 |
| 5681117 | C7792VXP06CA1.25Z5R8 | 1.430 | 2.69 | 2.100 | 2.420 | 0.024 | 0.118 | 41,500 |
| 5661213 | A7792VXP06SA.625Z2R1 | 6.090 | 8.20 | 0.850 | 1.170 | 0.024 | 0.118 | 65,000 |
| 5660060 | A7792VXP06SA.75Z2R1.4 | 3.860 | 6.74 | 1.100 | 1.420 | 0.024 | 0.118 | 57,000 |
| 5661214 | A7792VXP06SA.75Z3R1.4 | 3.860 | 6.74 | 1.100 | 1.420 | 0.024 | 0.118 | 57,000 |
| 5667958 | A7792VXP06SA1.0Z3R1.4 | 2.110 | 4.34 | 1.600 | 1.920 | 0.024 | 0.118 | 49,000 |
| 5661215 | A7792VXP06SA1.0Z4R1.4 | 2.110 | 4.34 | 1.600 | 1.920 | 0.024 | 0.118 | 49,000 |
| 5681114 | A7792VXP06SA1.25Z5R2 | 1.430 | 2.69 | 2.100 | 2.420 | 0.024 | 0.118 | 41,500 |

Helical Interpolation

Plunging




Ramp angle A uses one outside cutting edge only.

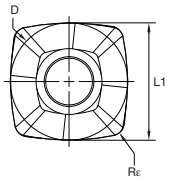
A = max ramp angle utilizing full-face contact.

## Inserts

## Insert Selection Guide • IC 06

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | ...D41 | SC6525 | **...D41** | **SC6525** | ...D41 | X400 |
| P3–P4 | …D | KC522M | **…D** | **KC522M** | …D | KCPM40 |
| P5–P6 | ...D41 | SP6519 | **...D41** | **X500** | ...D41 | X500 |
| M1–M2 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| M3 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| K1–K2 | …D | KC510M | **…D** | **KCPK30** | …D | KCPK30 |
| K3 | …D | KC510M | **…D** | **KCPK30** | …D | KCPK30 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| S3 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| S4 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| H1 | …D | KC510M | **…D** | **KC510M** | …D | KCPM40 |

XPLT06-D41



XPLT06-D41

● first choice
○ alternate choice

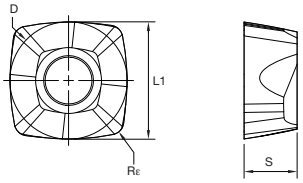
| | | KC510M | KC522M | KCPK30 | KCPM40 | KCSM40 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | ○ | ○ | ● | ● | ○ | ● | ○ | ● | ○ |
| M | | | ● | ○ | ○ | ● | | ● | | ● |
| K | | ● | ○ | ○ | | | ● | ○ | | |
| N | | ○ | | | | | | | | |
| S | | | ● | | | ● | | ● | | ● |
| H | | | | | | | | | ○ | |

## XPLT06-D41 • First choice for machining stainless steel and high-temp alloys

| catalog number | D | LI | S | Rε | hm | RT | KC510M | KC522M | KCPK30 | KCPM40 | KCSM40 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XPLT060308ERD41** | .276 | .276 | .125 | .031 | .002 | .054 | – | – | – | – | – | ● | ● | ● | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XPPT-D41

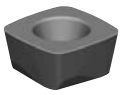


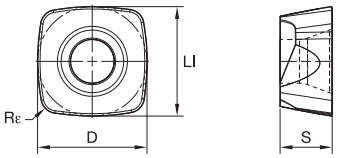
XPPT-D41

## XPPT-D41 • Precision pressed insert. General purpose in soft steels, stainless steels, and high-temp alloys.

| catalog number | D | LI | S | Rε | hm | RT | KC510M | KC522M | KCPK30 | KCPM40 | KCSM40 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XPPT060308ERD41** | .276 | .276 | .125 | .031 | .002 | .054 | – | – | – | – | ● | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.


XPPW-06-D



XPPW-06-D

## XPPW-06-D • Precision pressed insert; improved cost per edge. Reinforced geometry. Particularly suitable for high strength steels, hardened materials, and cast iron.

| catalog number | D | LI | S | Rε | hm | RT | KC510M | KC522M | KCPK30 | KCPM40 | KCSM40 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XPPW060310SRD** | .276 | .276 | .125 | .039 | .006 | .061 | ● | ● | ● | ● | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

## Recommended Starting Feeds [IPT] • High-Feed

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .035 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D41 | .015 | **.043** | .076 | .011 | **.029** | .050 | .008 | **.022** | .036 | .007 | **.019** | .031 | .006 | **.017** | .028 | .E..D41 |
| .S..D | .027 | **.058** | .093 | .019 | **.039** | .059 | .014 | **.028** | .042 | .012 | **.024** | .036 | .011 | **.022** | .033 | .S..D |

### At .025 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D41 | .018 | **.051** | .094 | .013 | **.035** | .059 | .009 | **.025** | .042 | .008 | **.022** | .037 | .007 | **.020** | .033 | .E..D41 |
| .S..D | .032 | **.070** | .118 | .023 | **.046** | .071 | .017 | **.033** | .050 | .014 | **.029** | .043 | .013 | **.026** | .039 | .S..D |

### At .020 Axial Depth of Cut (ap)

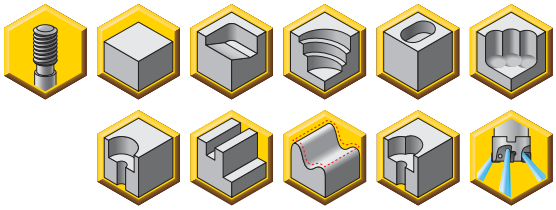
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D41 | .020 | **.058** | .109 | .014 | **.039** | .067 | .010 | **.028** | .047 | .009 | **.025** | .041 | .008 | **.022** | .037 | .E..D41 |
| .S..D | .036 | **.080** | .141 | .025 | **.052** | .080 | .019 | **.037** | .056 | .016 | **.032** | .048 | .015 | **.029** | .043 | .S..D |

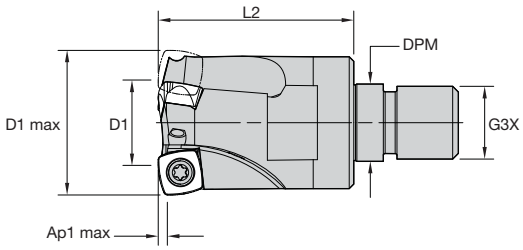
## Feed Rate Guide • Plunging • IC 06 • fz [in/tooth]

| Insert Geometry | Programmed Feed per Tooth (fz) Max .118" insert engagement (ae radial engagement) | | | Insert Geometry |
|---|---|---|---|---|
| .E..D41 | .002 | **.006** | .010 | .E..D41 |
| .S..D | .004 | **.008** | .012 | .S..D |

NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use "Light Machining" values as starting feed rate
Please see pages X22–X37 for recommended starting speeds.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.





## 7792VXD09 Modular Head • Screw-On

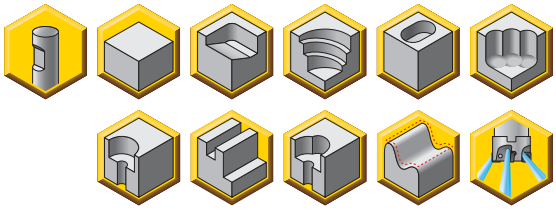
| order number | catalog number | D1 max | D1 | L2 | G3X | DPM | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|---|
| 5659840 | A7792VXD09SA1.0Z2R1.4 | 1.000 | .487 | 1.378 | M12 | .492 | .059 | 2 |
| 5660449 | A7792VXD09SA1.25Z3R2 | 1.250 | .738 | 1.692 | M16 | .669 | .059 | 3 |

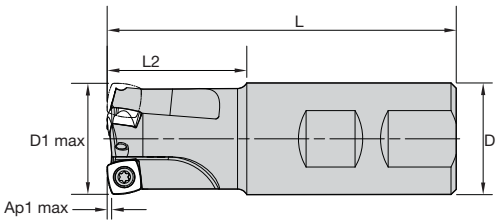
## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| A7792VXD09SA1.0Z2R1.4 | F3508T | 18.6 | T15 |
| A7792VXD09SA1.25Z3R2 | F3510T | 18.6 | T15 |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXD09 Weldon® Shank

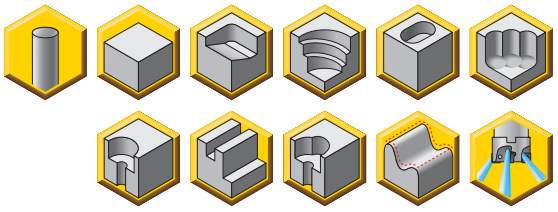
| order number | catalog number | D1 max | D | L | L2 | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| **5658075** | **C7792VXD09WA1.00Z2R** | 1.000 | 1.000 | 3.856 | 1.575 | .059 | 2 |
| **5666067** | **C7792VXD09WA1.25Z3R** | 1.250 | 1.250 | 3.855 | 1.574 | .059 | 3 |

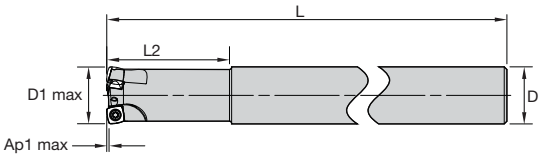
## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| **C7792VXD09WA1.00Z2R** | **F3508T** | 18.6 | **T15** |
| **C7792VXD09WA1.25Z3R** | **F3510T** | 18.6 | **T15** |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXD09 Cylindrical Shank

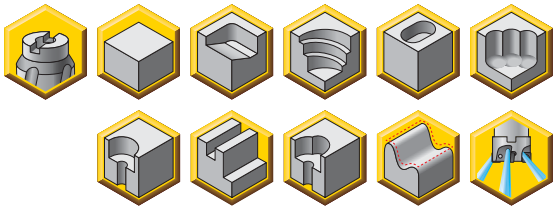
| order number | catalog number | D1 max | D | L | L2 | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 5667564 | C7792VXD09CA1.00Z2R2 | 1.000 | 1.000 | 7.874 | 1.969 | .059 | 2 |
| 6025590 | C7792VXD09CA1.00Z3R2 | 1.000 | 1.000 | 8.000 | 2.000 | .059 | 3 |
| 5659948 | C7792VXD09CA1.25Z3R3 | 1.250 | 1.250 | 9.843 | 2.756 | .059 | 3 |
| 6025611 | C7792VXD09CA1.25Z4R3 | 1.251 | 1.250 | 10.000 | 3.000 | .059 | 4 |

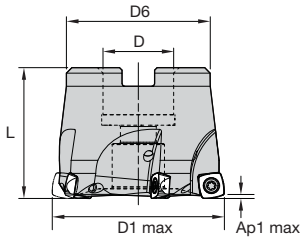
## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| C7792VXD09CA1.00Z2R2 | F3508T | 18.6 | T15 |
| C7792VXD09CA1.00Z3R2 | F3508T | 18.6 | T15 |
| C7792VXD09CA1.25Z3R3 | F3510T | 18.6 | T15 |
| C7792VXD09CA1.25Z4R3 | F3510T | 18.6 | T15 |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXD09 Shell Mill

| order number | catalog number | D1 max | D | D6 | L | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 5656731 | C7792VXD09-A1.50Z4R | 1.500 | .500 | 1.339 | 1.260 | .059 | 4 |
| 5658170 | C7792VXD09-A1.50Z5R | 1.500 | .500 | 1.339 | 1.260 | .059 | 5 |
| 5667832 | C7792VXD09-A2.00Z5R | 2.000 | .750 | 1.811 | 1.575 | .059 | 5 |
| 5665795 | C7792VXD09-A2.00Z6R | 2.000 | .750 | 1.811 | 1.575 | .059 | 6 |
| 6025612 | C7792VXD09-A2.00Z7R | 2.000 | .750 | 1.772 | 1.575 | .059 | 7 |

## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver | mounting screw |
|---|---|---|---|---|
| C7792VXD09-A1.50Z4R | F3510T | 18.6 | T15 | #1/4-28X3/4SHCSA |
| C7792VXD09-A1.50Z5R | F3510T | 18.6 | T15 | #1/4-28X3/4SHCSA |
| C7792VXD09-A2.00Z5R | F3510T | 18.6 | T15 | #3/8-24X1SHCSA |
| C7792VXD09-A2.00Z6R | F3510T | 18.6 | T15 | #3/8-24X1SHCSA |
| C7792VXD09-A2.00Z7R | F3510T | 18.6 | TB15 | #3/8-24X1SHCSA |

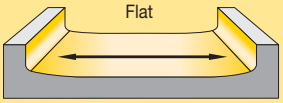
NOTE: For further application recommendation, please see technical information on pages V30–V32.

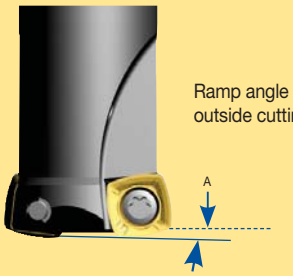
## Technical Information (in)

| order number | catalog number | dimension | | | | | | max RPM |
|---|---|---|---|---|---|---|---|---|
| | | facing pitch | ramping angle | helical hole min–max | | ap max helical/ linear | $a_e$ max plunging | |
| 5658075 | C7792VXD09WA1.00Z2R | 0.478 | 2.70 | 1.370 | 1.920 | 0.039 | 0.236 | 48,000 |
| 5666067 | C7792VXD09WA1.25Z3R | 0.728 | 1.50 | 1.870 | 2.420 | 0.039 | 0.236 | 40,500 |
| 5667564 | C7792VXD09CA1.00Z2R2 | 0.478 | 2.70 | 1.370 | 1.920 | 0.039 | 0.236 | 48,000 |
| 6025590 | C7792VXD09CA1.00Z3R2 | 0.478 | 2.70 | 1.370 | 1.920 | 0.039 | 0.236 | 48,000 |
| 5659948 | C7792VXD09CA1.25Z3R3 | 0.728 | 1.50 | 1.870 | 2.420 | 0.039 | 0.236 | 40,500 |
| 6025611 | C7792VXD09CA1.25Z4R3 | 0.728 | 1.50 | 1.870 | 2.420 | 0.039 | 0.236 | 40,500 |
| 5656731 | C7792VXD09-A1.50Z4R | 0.980 | 1.10 | 2.370 | 2.920 | 0.039 | 0.236 | 36,000 |
| 5658170 | C7792VXD09-A1.50Z5R | 0.980 | 1.10 | 2.370 | 2.920 | 0.039 | 0.236 | 36,000 |
| 5667832 | C7792VXD09-A2.00Z5R | 1.478 | 0.70 | 3.370 | 3.920 | 0.039 | 0.236 | 30,000 |
| 5665795 | C7792VXD09-A2.00Z6R | 1.478 | 0.70 | 3.370 | 3.920 | 0.039 | 0.236 | 30,000 |
| 6025612 | C7792VXD09-A2.00Z7R | 1.478 | 0.70 | 3.370 | 3.920 | 0.039 | 0.236 | 30,000 |
| 5659840 | A7792VXD09SA1.0Z2R1.4 | 0.480 | 2.70 | 1.370 | 1.920 | 0.039 | 0.236 | 48,000 |
| 5660449 | A7792VXD09SA1.25Z3R2 | 0.730 | 1.50 | 1.870 | 2.420 | 0.039 | 0.236 | 40,500 |

Helical Interpolation

Plunging




Ramp angle A uses one outside cutting edge only.

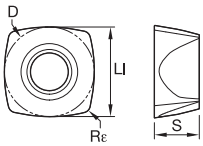
A = max ramp angle utilizing full face contact.

## Insert Selection Guide • IC 09

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——— | ———► | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | …GP | KC522M | **…GP** | **KCPM40** | …GP | KCPM40 |
| P3–P4 | …GP | KC522M | **…D** | **KC522M** | …D | KCPM40 |
| P5–P6 | ...D411 | SP6519 | **...D411** | **X500** | ...D41 | X500 |
| M1–M2 | ...D411 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| M3 | ...D411 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| K1–K2 | …D | KCK15 | **…D** | **KCK15** | …D | KCPK30 |
| K3 | …D | KCPK30 | **…D** | **KCPK30** | …D | KCPK30 |
| N1–N2 | ...D721 | GH2 | **...D721** | **GH2** | ...D721 | GH2 |
| N3 | ...D721 | GH2 | **...D721** | **GH2** | ...D721 | GH2 |
| S1–S2 | ...D411 | SP6519 | **...D411** | **KCSM40** | ...D41 | KCSM40 |
| S3 | ...D411 | SP6519 | **...D411** | **KCSM40** | ...D41 | KCSM40 |
| S4 | ...D411 | SP6519 | **...D411** | **KCSM40** | ...D41 | KCSM40 |
| H1 | …D | KC510M | **…D** | **KC510M** | …D | KCPM40 |

## Milling Inserts

XDLT09-D721




XDLT09-D721

● first choice
○ alternate choice

| | | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ○ | ● | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | | | | ● | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | | ● | ○ | | | ● | ● | ○ | | |
| N | | ● | ○ | | | | | | | | | | | | |
| S | | | | | ● | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | | | | | ○ | |

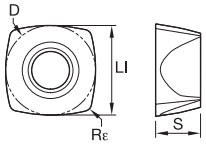
### XDLT09-D721 • First choice for non-ferrous alloys

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDLT090408ERD721** | .375 | .375 | .187 | .031 | .002 | .079 | ● | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

• First choice for machining stainless steel and high-temp alloys.

XDLT09-D41




XDLT09-D41

### XDLT09-D41 • General purpose in soft steels. Best fit for face milling, slotting operation

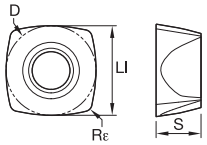
| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDLT090408ERD41** | .375 | .375 | .187 | .031 | .002 | .079 | – | – | – | – | – | – | – | – | – | ● | ● | – | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

Copy Milling

- First choice for machining stainless steel and high-temp alloys.

XDPT09...D41



XDPT09...D41

● first choice
○ alternate choice

| | | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ○ | ● | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | | | ● | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | ● | ○ | | | ● | ● | ○ | | |
| N | | ● | ○ | | | | | | | | | | | |
| S | | | | ● | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | | | | ○ | |

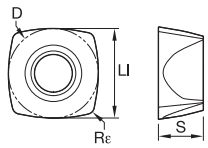
## XDPT09-D41 • Precision pressed. General purpose in soft steels. Best fit for face milling, slotting operation

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPT090408ERD41** | .375 | .375 | .187 | .031 | .002 | .079 | – | – | – | – | – | – | – | ● | – | ● | ● | – | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- Geometry similar to D41, but with higher corner nose protection for heavier applications.

XDLT09...D411



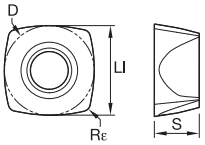
XDLT09...D411

## XDLT09-D411 • General purpose in stainless steel and high-temp alloys. Best fit for pocketing and profiling operations in general, also in combination with long overhangs

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDLT090412ERD411** | .375 | .375 | .187 | .047 | .002 | .089 | – | – | – | – | – | – | – | – | – | – | ● | – | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDPT-D411



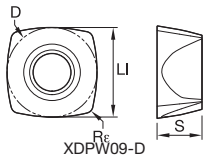
XDPT-D411

## XDPT-D411 • Precision pressed. General purpose in stainless steel and high-temp alloys. Best fit for pocketing and profiling operations in general, also in combination with long overhangs

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPT090412ERD411** | .375 | .375 | .187 | .047 | .002 | .089 | – | – | – | – | – | – | – | ● | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDPW09-D



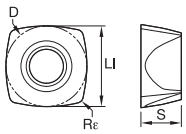
XDPW09-D

## XDPW09-D • Precision pressed. First choice for roughing alloyed steel and cast iron

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPW090412SRD** | .375 | .375 | .187 | .047 | .004 | .089 | – | ● | ● | – | ● | ● | ● | – | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDLW09-D



XDLW09-D

● first choice
○ alternate choice

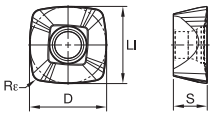
| | | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ○ | ● | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | | | ● | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | ● | ○ | | | ● | ● | ○ | | |
| N | | ● | ○ | | | | | | | | | | | |
| S | | | | ● | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | | | | ○ | |

## ■ XDLW09-D • First choice for roughing alloyed steel and cast iron

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDLW090408SRD** | .375 | .375 | .187 | .031 | .004 | .079 | – | – | – | – | – | – | – | – | ● | ● | – | ● | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDPT09-GP



XDPT09-GP

## ■ XDPT09-GP • Precision pressed. General use on alloyed steels. Good balance across all machining situations.

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPT090412SRGP** | .375 | .375 | .187 | .047 | .009 | .026 | – | – | ● | ● | – | ● | ● | – | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

## Recommended Starting Feeds • High-Feed and Plunging Applications • fz [in/tooth]

### ■ Recommended Starting Feeds [IPT] • High-Feed

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .060 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D721 | .012 | **.038** | .067 | .009 | **.027** | .047 | .006 | **.020** | .034 | .006 | **.018** | .030 | .005 | **.016** | .027 | .E..D721 |
| .E..D41 | .015 | **.044** | .067 | .011 | **.031** | .047 | .008 | **.023** | .034 | .007 | **.020** | .030 | .006 | **.018** | .027 | .E..D41 |
| .E..D411 | .015 | **.044** | .067 | .011 | **.031** | .047 | .008 | **.023** | .034 | .007 | **.020** | .030 | .006 | **.018** | .027 | .E..D411 |
| .S..D | .021 | **.048** | .079 | .015 | **.034** | .055 | .011 | **.025** | .040 | .010 | **.022** | .035 | .009 | **.020** | .032 | .S..D |
| .S..GP | .021 | **.048** | .079 | .015 | **.034** | .054 | .011 | **.025** | .040 | .010 | **.022** | .035 | .009 | **.020** | .032 | .S..GP |

### At .040 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D721 | .015 | **.047** | .083 | .010 | **.033** | .057 | .008 | **.024** | .042 | .007 | **.021** | .036 | .006 | **.019** | .033 | .E..D721 |
| .E..D41 | .018 | **.053** | .083 | .013 | **.038** | .057 | .010 | **.028** | .042 | .009 | **.024** | .036 | .008 | **.022** | .033 | .E..D41 |
| .E..D411 | .018 | **.053** | .083 | .013 | **.038** | .057 | .010 | **.028** | .042 | .009 | **.024** | .036 | .008 | **.022** | .033 | .E..D411 |
| .S..D | .026 | **.059** | .098 | .019 | **.041** | .067 | .014 | **.031** | .049 | .012 | **.027** | .042 | .011 | **.024** | .039 | .S..D |
| .S..GP | .026 | **.058** | .097 | .019 | **.041** | .067 | .014 | **.030** | .049 | .012 | **.026** | .042 | .011 | **.024** | .038 | .S..GP |

### At .030 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D721 | .017 | **.054** | .097 | .012 | **.038** | .066 | .009 | **.028** | .048 | .008 | **.024** | .042 | .007 | **.022** | .038 | .E..D721 |
| .E..D41 | .021 | **.062** | .097 | .015 | **.043** | .066 | .011 | **.032** | .048 | .010 | **.028** | .042 | .009 | **.025** | .038 | .E..D41 |
| .E..D411 | .021 | **.062** | .097 | .015 | **.043** | .066 | .011 | **.032** | .048 | .010 | **.028** | .042 | .009 | **.025** | .038 | .E..D411 |
| .S..D | .030 | **.069** | .115 | .021 | **.048** | .078 | .016 | **.035** | .056 | .014 | **.031** | .049 | .013 | **.028** | .044 | .S..D |
| .S..GP | .030 | **.068** | .114 | .021 | **.047** | .077 | .016 | **.035** | .056 | .014 | **.030** | .048 | .013 | **.028** | .044 | .S..GP |

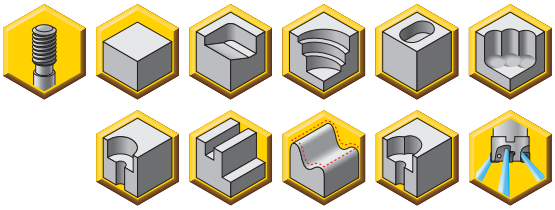
### ■ Feed Rate Guide • Plunging • IC 09 • fz [in/tooth]

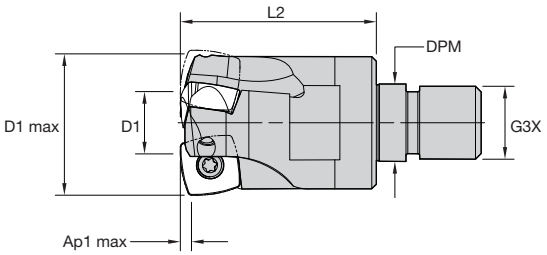
| Insert Geometry | Programmed Feed per Tooth (fz) Max .236" insert engagement (ae radial engagement) | | | Insert Geometry |
|---|---|---|---|---|
| .E..D721 | .002 | **.007** | .012 | .E..D721 |
| .E..D41 | .003 | **.008** | .012 | .E..D41 |
| .E..D411 | .003 | **.008** | .012 | .E..D411 |
| .S..D | .004 | **.009** | .014 | .S..D |
| .S..GP | .004 | **.009** | .014 | .S..GP |

NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use "Light Machining" values as starting feed rate
Please see pages X22–X37 for recommended starting speeds.

Copy Milling

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.
- Screw-on cutters provide better rigidity and stability when used with small spindels: BT30, BT40, DV40, HSK50, HSK63, etc.
- Screw-on cutters can be less expensive when compared to cylindrical shank cutters due to their higher flexibility through multiple holder combinations.





## 7792VXD12 Modular Head • Screw-On

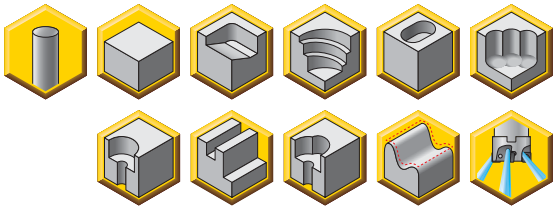
| order number | catalog number | D1 max | D1 | L2 | G3X | DPM | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|---|
| 5659929 | A7792VXD12SA1.25Z2R2 | 1.250 | .520 | 1.693 | M16 | .669 | .098 | 2 |
| 5667487 | A7792VXD12SA1.5Z3R1.7 | 1.500 | .785 | 1.750 | M16 | .669 | .098 | 3 |

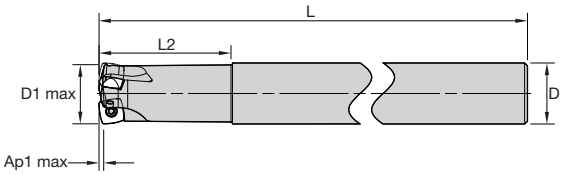
## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| A7792VXD12SA1.25Z2R2 | D4010T | 27.4 | T15 |
| A7792VXD12SA1.5Z3R1.7 | D4010T | 27.4 | T15 |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXD12 Cylindrical Shank

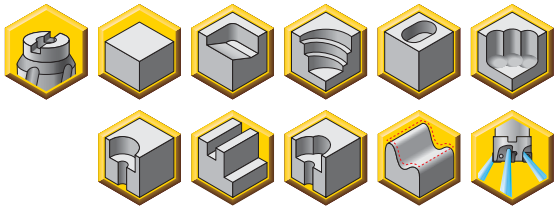
| order number | catalog number | D1 max | D | L | L2 | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 5666596 | C7792VXD12CA1.25Z2R3 | 1.250 | 1.250 | 9.843 | 2.756 | .098 | 2 |
| 6025588 | C7792VXD12CA1.25Z3R3 | 1.250 | 1.250 | 10.000 | 3.000 | .098 | 3 |
| 5665832 | C7792VXD12CA1.2/1.5Z3 | 1.500 | 1.250 | 9.843 | 2.755 | .098 | 3 |
| 6025589 | C7792VXD12CA1.50Z4R3 | 1.500 | 1.500 | 10.000 | 3.000 | .098 | 4 |

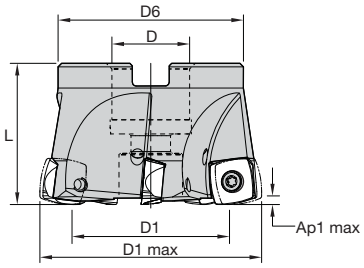
## Spare Parts

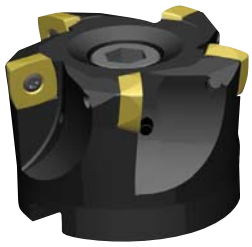
| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| C7792VXD12CA1.25Z2R3 | D4010T | 27.4 | T15 |
| C7792VXD12CA1.25Z3R3 | D4010T | 27.4 | T15 |
| C7792VXD12CA1.2/1.5Z3 | D4010T | 27.4 | T15 |
| C7792VXD12CA1.50Z4R3 | D4010T | 27.4 | T15 |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXD12 Shell Mill • Coarse, Medium, and Fine Pitch

| order number | catalog number | D1 max | D | D6 | L | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 6025581 | C7792VXD12-A1.50Z4R | 1.500 | .750 | 1.417 | 1.575 | .098 | 4 |
| 5657237 | C7792VXD12-A2.00Z3R | 2.000 | .750 | 1.811 | 1.575 | .098 | 3 |
| 5667404 | C7792VXD12-A2.00Z4R | 2.000 | .750 | 1.772 | 1.575 | .098 | 4 |
| 5656382 | C7792VXD12-A2.00Z5R | 2.000 | .750 | 1.811 | 1.575 | .098 | 5 |
| 6025582 | C7792VXD12-A2.00Z6R | 2.000 | .750 | 1.772 | 1.575 | .098 | 6 |
| 5667809 | C7792VXD12-A2.50Z4R | 2.500 | 1.000 | 1.969 | 1.575 | .098 | 4 |
| 5656732 | C7792VXD12-A2.50Z5R | 2.500 | 1.000 | 1.969 | 1.575 | .098 | 5 |
| 6025583 | C7792VXD12-A2.50Z7R | 2.500 | 1.000 | 2.087 | 1.575 | .098 | 7 |
| 5665708 | C7792VXD12-A3.00Z5R | 3.000 | 1.000 | 2.087 | 1.969 | .098 | 5 |
| 5656919 | C7792VXD12-A3.00Z8R | 3.000 | 1.000 | 1.969 | 1.969 | .098 | 8 |
| 6025584 | C7792VXD12-A3.00Z9R | 3.000 | 1.000 | 2.087 | 1.969 | .098 | 9 |
| 5667833 | C7792VXD12-A4.00Z6R | 4.000 | 1.250 | 2.559 | 1.969 | .098 | 6 |
| 5656378 | C7792VXD12-A4.00Z9R | 4.000 | 1.250 | 2.559 | 1.969 | .098 | 9 |
| 6025585 | C7792VXD12-A4.00Z11R | 4.000 | 1.250 | 2.559 | 1.969 | .098 | 11 |
| 5667476 | C7792VXD12-A5.00Z8R | 5.000 | 1.500 | 3.244 | 2.480 | .098 | 8 |
| 5658171 | C7792VXD12-A5.00Z11R | 5.000 | 1.500 | 3.244 | 2.480 | .098 | 11 |
| 6025586 | C7792VXD12-A5.00Z13R | 5.000 | 1.500 | 3.189 | 2.480 | .098 | 13 |
| 5656915 | C7792VXD12-6.00Z12R | 6.000 | 1.500 | 3.953 | 2.480 | .098 | 12 |
| 6025587 | C7792VXD12-6.00Z15R | 6.000 | 1.500 | 4.323 | 2.480 | .098 | 15 |
| 5659736 | C7792VXD12-6.30Z8R | 6.300 | 1.500 | 3.945 | 2.480 | .098 | 8 |

NOTE: No through coolant for cutters where D1 max = 6.00".

## Spare Parts

| catalog number | insert screw | in. lbs. | Torx driver | mounting screw | mounting screw |
|---|---|---|---|---|---|
| C7792VXD12-A1.50Z4R | D4010T | 27.4 | T15 | – | KLSS0714C |
| C7792VXD12-A2.00Z3R | D4012T | 27.4 | T15 | #3/8-24X1SHCSA | – |
| C7792VXD12-A2.00Z4R | D4012T | 27.4 | T15 | #3/8-24X1SHCSA | – |
| C7792VXD12-A2.00Z5R | D4010T | 27.4 | T15 | #3/8-24X1SHCSA | – |
| C7792VXD12-A2.00Z6R | D4010T | 27.4 | TB15 | #3/8-24X1SHCSA | – |
| C7792VXD12-A2.50Z4R | D4012T | 27.4 | T15 | #1/2-20X1-1/4 LHCSA | – |
| C7792VXD12-A2.50Z5R | D4012T | 27.4 | T15 | #1/2-20X1-1/4 LHCSA | – |
| C7792VXD12-A2.50Z7R | D4012T | 27.4 | TB15 | #1/2-20X1-1/4 LHCSA | – |
| C7792VXD12-A3.00Z5R | D4012T | 27.4 | T15 | #1/2-20X1-1/4SHCSA | – |
| C7792VXD12-A3.00Z8R | D4012T | 27.4 | T15 | #1/2-20X1-1/4SHCSA | – |
| C7792VXD12-A3.00Z9R | D4012T | 27.4 | TB15 | #1/2-20X1-1/4SHCSA | – |
| C7792VXD12-A4.00Z6R | D4012T | 27.4 | T15 | #5/8-18X1-1/2SHCSA | – |
| C7792VXD12-A4.00Z9R | D4012T | 27.4 | T15 | #5/8-18X1-1/2SHCSA | – |
| C7792VXD12-A4.00Z11R | D4012T | 27.4 | TB15 | #5/8-18X1-1/2SHCSA | – |
| C7792VXD12-A5.00Z8R | D4012T | 27.4 | T15 | #3/4-16X1-3/4SHCSA | – |
| C7792VXD12-A5.00Z11R | D4012T | 27.4 | T15 | #3/4-16X1-3/4SHCSA | – |
| C7792VXD12-A5.00Z13R | D4012T | 27.4 | TB15 | #3/4-16X1-3/4SHCSA | – |
| C7792VXD12-6.00Z12R | D4012T | 27.4 | T15 | – | – |
| C7792VXD12-6.00Z15R | D4010T | 27.4 | TB15 | – | – |
| C7792VXD12-6.30Z8R | D4012T | 27.4 | T15 | – | – |

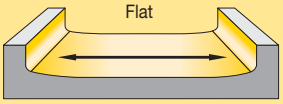
NOTE: For further application recommendation, please see technical information on pages V30–V32.

## Technical Information (in)

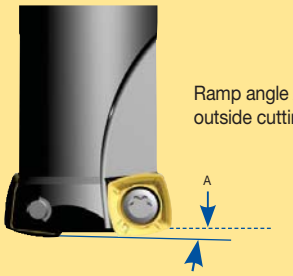
| order number | catalog number | dimension | | | | | | max RPM |
|---|---|---|---|---|---|---|---|---|
| | | facing pitch | ramping angle | helical hole min–max | | ap max helical/ linear | $a_e$ max plunging | |
| 5666596 | C7792VXD12CA1.25Z2R3 | 0.526 | 1.85 | 1.630 | 2.420 | 0.070 | 0.354 | 31,500 |
| 5665832 | C7792VXD12CA1.2/1.5Z3 | 0.770 | 0.95 | 2.130 | 2.920 | 0.070 | 0.354 | 27,500 |
| 6025581 | C7792VXD12-A1.50Z4R | 0.770 | 0.95 | 2.130 | 2.920 | 0.070 | 0.354 | 27,500 |
| 5657237 | C7792VXD12-A2.00Z3R | 1.276 | 0.90 | 3.130 | 3.920 | 0.070 | 0.354 | 22,500 |
| 5667404 | C7792VXD12-A2.00Z4R | 1.276 | 0.90 | 3.130 | 3.920 | 0.070 | 0.354 | 22,500 |
| 5656382 | C7792VXD12-A2.00Z5R | 1.276 | 0.90 | 3.370 | 3.920 | 0.070 | 0.354 | 22,500 |
| 6025582 | C7792VXD12-A2.00Z6R | 1.276 | 0.90 | 3.130 | 3.920 | 0.070 | 0.354 | 22,500 |
| 5667809 | C7792VXD12-A2.50Z4R | 1.776 | 0.60 | 4.130 | 4.920 | 0.070 | 0.354 | 22,500 |
| 5656732 | C7792VXD12-A2.50Z5R | 1.776 | 0.60 | 4.130 | 4.920 | 0.070 | 0.354 | 22,500 |
| 6025583 | C7792VXD12-A2.50Z7R | 1.776 | 0.60 | 4.130 | 4.920 | 0.070 | 0.354 | 19,500 |
| 5665708 | C7792VXD12-A3.00Z5R | 2.276 | 0.45 | 5.130 | 5.920 | 0.070 | 0.354 | 17,500 |
| 5656919 | C7792VXD12-A3.00Z8R | 2.276 | 0.45 | 5.130 | 5.920 | 0.070 | 0.354 | 17,500 |
| 6025584 | C7792VXD12-A3.00Z9R | 2.276 | 0.45 | 5.130 | 5.920 | 0.070 | 0.354 | 17,500 |
| 5667833 | C7792VXD12-A4.00Z6R | 3.270 | 0.31 | 7.130 | 7.920 | 0.070 | 0.354 | 14,500 |
| 5656378 | C7792VXD12-A4.00Z9R | 3.270 | 0.31 | 7.130 | 7.920 | 0.070 | 0.354 | 14,500 |
| 6025585 | C7792VXD12-A4.00Z11R | 3.270 | 0.31 | 7.130 | 7.920 | 0.070 | 0.354 | 14,500 |
| 5667476 | C7792VXD12-A5.00Z8R | 4.270 | 0.24 | 9.130 | 9.920 | 0.070 | 0.354 | 13,000 |
| 5658171 | C7792VXD12-A5.00Z11R | 4.270 | 0.24 | 9.130 | 9.920 | 0.070 | 0.354 | 13,000 |
| 6025586 | C7792VXD12-A5.00Z13R | 4.270 | 0.24 | 9.130 | 9.920 | 0.070 | 0.354 | 13,000 |
| 5656915 | C7792VXD12-6.00Z12R | 5.270 | 0.19 | 11.130 | 11.920 | 0.070 | 0.354 | 11,500 |
| 6025587 | C7792VXD12-6.00Z15R | 5.270 | 0.19 | 11.130 | 11.920 | 0.070 | 0.354 | 11,500 |
| 5659736 | C7792VXD12-6.30Z8R | 5.570 | 0.18 | 11.130 | 11.920 | 0.070 | 0.354 | 11,000 |
| 5659929 | A7792VXD12SA1.25Z2R2 | 0.520 | 2.60 | 1.630 | 2.420 | 0.070 | 0.354 | 31,500 |
| 6025588 | C7792VXD12CA1.25Z3R3 | 0.520 | 2.60 | 1.630 | 2.420 | 0.070 | 0.354 | 31,500 |
| 5667487 | A7792VXD12SA1.5Z3R1.7 | 0.770 | 1.60 | 2.130 | 2.920 | 0.070 | 0.354 | 27,500 |
| 6025589 | C7792VXD12CA1.50Z4R3 | 0.770 | 1.60 | 2.130 | 2.920 | 0.070 | 0.354 | 27,500 |

Helical Interpolation

Plunging



Facing Pitch



Ramp angle A uses one outside cutting edge only.

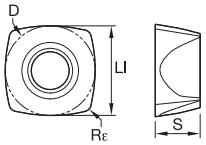
A = max ramp angle utilizing full face contact.

## Insert Selection Guide • IC 12

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——— | ———► | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | …GP | KC522M | …GP | KCPM40 | …GP | KCPM40 |
| P3–P4 | …GP | KC522M | …D | KC522M | …D | KCPM40 |
| P5–P6 | ...D411 | SP6519 | ...D411 | X500 | ...D41 | X500 |
| M1–M2 | ...D411 | SP6519 | ...D41 | KCSM40 | ...D41 | KCSM40 |
| M3 | ...D411 | SP6519 | ...D41 | KCSM40 | ...D41 | KCSM40 |
| K1–K2 | …D | KCK15 | …D | KCK15 | …D | KCPK30 |
| K3 | …D | KCPK30 | …D | KCPK30 | …D | KCPK30 |
| N1–N2 | ...D721 | GH2 | ...D721 | GH2 | ...D721 | GH2 |
| N3 | ...D721 | GH2 | ...D721 | GH2 | ...D721 | GH2 |
| S1–S2 | ...D411 | SP6519 | ...D411 | KCSM40 | ...D41 | KCSM40 |
| S3 | ...D411 | SP6519 | ...D411 | KCSM40 | ...D41 | KCSM40 |
| S4 | ...D411 | SP6519 | ...D411 | KCSM40 | ...D41 | KCSM40 |
| H1 | …D | KC510M | …D | KC510M | …D | KCPM40 |

## Milling Inserts

XDLT12-D721




XDLT12-D721

● first choice
○ alternate choice

| | | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ○ | ● | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | | | ● | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | ● | ○ | | | ● | ● | ○ | | |
| N | | ● | ○ | | | | | | | | | | | |
| S | | | | ● | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | | | | ○ | |

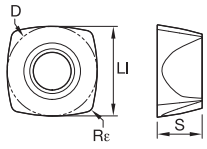
### XDLT12-D721 • First choice for non-ferrous alloys

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| XDLT120508ERD721 | .500 | .500 | .219 | .031 | .002 | .098 | ● | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- Positive geometry for lower cutting forces; first choice for machining stainless steel and high-temp alloys.

XDLT12-D41




XDLT12-D41

### XDLT12-D41 • General purpose in soft steels. Best fit for face milling, slotting operation

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| XDLT120508ERD41 | .500 | .500 | .219 | .031 | .002 | .098 | – | – | – | – | – | – | – | ● | – | ● | ● | – | ● |

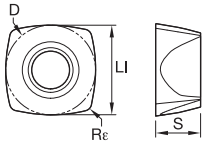
NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- First choice for machining stainless steel and high-temp alloys.

● first choice
○ alternate choice

| | | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ○ | ● | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | | | | ● | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | | ● | ○ | | | ● | ● | ○ | | |
| N | | ● | ○ | | | | | | | | | | | | |
| S | | | | | ● | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | | | | | ○ | |

XDPT12-D41



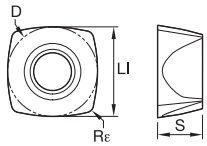
XDPT12-D41

## XDPT12-D41 • Precision-pressed insert; improved cost per edge. General purpose in soft steels. Best fit for face milling, slotting operation

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPT120508ERD41** | .500 | .500 | .219 | .031 | .002 | .098 | – | – | – | – | – | – | – | ● | – | ● | ● | – | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDPT12-D411



XDPT12-D411

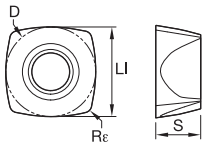
## XDPT12-D411 • Precision pressed. General purpose in stainless steel and high-temp alloys. Best fit for pocketing and profiling operations in general, also in combination with long overhangs.

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPT120512ERD411** | .500 | .500 | .219 | .047 | .002 | .107 | – | – | – | – | – | – | – | ● | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- Geometry similar to D41, but with higher corner nose protection for heavier applications.

XDLT12-D411



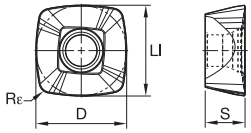
XDLT12-D411

## XDLT12-D411 • General purpose in stainless steel and high-temp alloys. Best fit for pocketing and profiling operations in general

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDLT120512ERD411** | .500 | .500 | .219 | .047 | .002 | .107 | – | – | – | – | – | – | – | ● | – | – | ● | – | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDPT12-GP




XDPT12-GP

● first choice
○ alternate choice

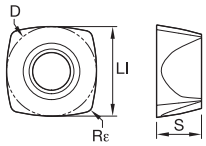
| | | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ○ | ● | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | | | ● | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | ● | ○ | | | ● | ● | ○ | | |
| N | | ● | ○ | | | | | | | | | | | |
| S | | | | ● | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | | | | ○ | |

## XDPT12-GP • Precision-pressed insert; improved cost per edge. General use on alloyed steels. Good balance across all machining situations

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPT120515SRGP** | .500 | .500 | .219 | .059 | .009 | .109 | – | – | ● | ● | – | ● | ● | – | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XDLW12-D




XDLW12-D

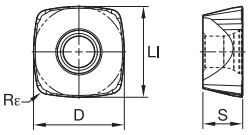
## XDLW12-D • First choice for roughing alloyed steel and cast iron

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDLW120508SRD** | .500 | .500 | .219 | .031 | .010 | .098 | – | – | – | – | – | – | – | – | ● | – | – | ● | ● |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

- Particularly suitable for high strength steels, hardened materials, and cast iron.

XDPW12-D




XDPW12-D

## XDPW12-D • Precision Pressed with Reinforced Geometry • First Choice for Hardened Materials and Cast Iron

| catalog number | D | LI | S | Rε | hm | RT | GH2 | KC510M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **XDPW120515SRD** | .500 | .500 | .219 | .058 | .010 | .109 | – | ● | ● | – | ● | ● | ● | – | – | – | – | – | – |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

## Recommended Starting Feeds [IPT] • High-Feed

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .100 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D721 | .011 | **.041** | .066 | .008 | **.029** | .047 | .006 | **.022** | .035 | .005 | **.019** | .030 | .005 | **.017** | .028 | .E..D721 |
| .E..D41 | .014 | **.046** | .072 | .010 | **.033** | .051 | .008 | **.024** | .038 | .007 | **.021** | .033 | .006 | **.019** | .030 | .E..D41 |
| .E..D411 | .014 | **.046** | .072 | .010 | **.033** | .051 | .008 | **.024** | .038 | .007 | **.021** | .033 | .006 | **.019** | .030 | .E..D411 |
| .S..GP | .020 | **.051** | .077 | .015 | **.036** | .055 | .011 | **.027** | .041 | .009 | **.024** | .035 | .009 | **.022** | .032 | .S..GP |
| .S..D | .020 | **.051** | .077 | .015 | **.036** | .055 | .011 | **.027** | .041 | .009 | **.024** | .036 | .009 | **.022** | .032 | .S..D |

### At .070 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D721 | .013 | **.048** | .078 | .010 | **.035** | .056 | .007 | **.026** | .041 | .006 | **.022** | .036 | .006 | **.021** | .033 | .E..D721 |
| .E..D41 | .017 | **.054** | .086 | .012 | **.039** | .061 | .009 | **.029** | .045 | .008 | **.025** | .039 | .007 | **.023** | .036 | .E..D41 |
| .E..D411 | .017 | **.054** | .086 | .012 | **.039** | .061 | .009 | **.029** | .045 | .008 | **.025** | .039 | .007 | **.023** | .036 | .E..D411 |
| .S..GP | .024 | **.061** | .092 | .017 | **.043** | .065 | .013 | **.032** | .048 | .011 | **.028** | .042 | .010 | **.026** | .038 | .S..GP |
| .S..D | .024 | **.061** | .092 | .017 | **.043** | .065 | .013 | **.032** | .048 | .011 | **.028** | .042 | .010 | **.026** | .038 | .S..D |

### At .055 Axial Depth of Cut (ap)

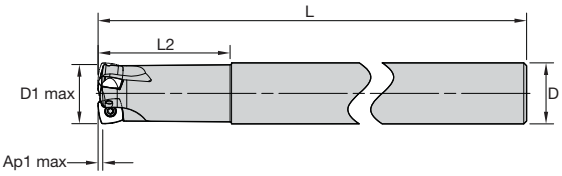
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D721 | .015 | **.054** | .088 | .011 | **.039** | .063 | .008 | **.029** | .046 | .007 | **.025** | .040 | .007 | **.023** | .037 | .E..D721 |
| .E..D41 | .019 | **.061** | .097 | .014 | **.044** | .069 | .010 | **.033** | .051 | .009 | **.028** | .044 | .008 | **.026** | .040 | .E..D41 |
| .E..D411 | .019 | **.061** | .097 | .014 | **.044** | .069 | .010 | **.033** | .051 | .009 | **.028** | .044 | .008 | **.026** | .040 | .E..D411 |
| .S..GP | .027 | **.068** | .104 | .019 | **.049** | .073 | .014 | **.036** | .054 | .013 | **.031** | .047 | .012 | **.029** | .043 | .S..GP |
| .S..D | .027 | **.068** | .104 | .019 | **.049** | .074 | .014 | **.036** | .054 | .013 | **.031** | .047 | .012 | **.029** | .043 | .S..D |

## Feed Rate Guide • Plunging • IC 12 • fz [in/tooth]

| Insert Geometry | Programmed Feed per Tooth (fz) Max .354" insert engagement (ae radial engagement) | | | Insert Geometry |
|---|---|---|---|---|
| .E..D721 | .002 | **.008** | .013 | .E..D721 |
| .E..D41 | .003 | **.009** | .014 | .E..D41 |
| .E..D411 | .003 | **.009** | .014 | .E..D411 |
| .S..GP | .004 | **.010** | .015 | .S..GP |
| .S..D | .004 | **.010** | .015 | .S..D |

NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use "Light Machining" values as starting feed rate
Please see pages X22–X37 for recommended starting speeds.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.



## 7792VXE16 Cylindrical Shank

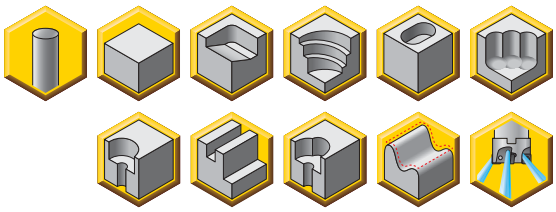
| order number | catalog number | D1 max | D | L | L2 | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 5659564 | C7792VXE16CA1.50Z2R4 | 1.500 | 1.500 | 6.703 | 4.016 | .138 | 2 |
| 5666415 | C7792VXE16CA2.00Z3R4 | 2.000 | 1.500 | 6.703 | 4.016 | .138 | 3 |

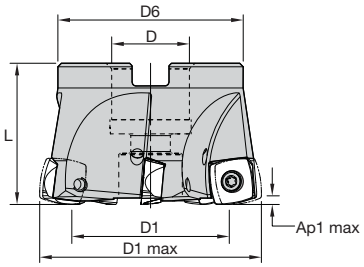
## Spare Parts

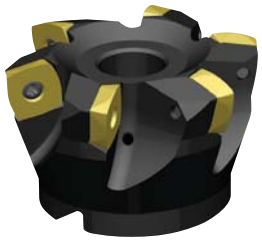
| catalog number | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| C7792VXE16CA1.50Z2R4 | DP5013T | 54.0 | TP20 |
| C7792VXE16CA2.00Z3R4 | DP5013T | 53.9 | TP20 |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

- Ultra-fine pitch cutters available to increase material removal rates, especially on high-temp alloys.
- Positive design to support lower cutting forces and long overhang usage.
- Ramping and plunge milling capabilities.





## 7792VXE16 Shell Mill

| order number | catalog number | D1 max | D | D6 | L | Ap1 max | Z U |
|---|---|---|---|---|---|---|---|
| 6025564 | C7792VXE16-A2.00Z4R | 2.000 | .750 | 1.772 | 1.772 | .138 | 4 |
| 5665812 | C7792VXE16-A2.50Z5R | 2.500 | 1.000 | 2.055 | 1.575 | .138 | 5 |
| 6025565 | C7792VXE16-A2.50Z6R | 2.500 | 1.000 | 1.969 | 1.575 | .138 | 6 |
| 5661029 | C7792VXE16-A3.00Z6R | 3.000 | 1.000 | 2.087 | 1.969 | .138 | 6 |
| 6025566 | C7792VXE16-A3.00Z7R | 3.000 | 1.000 | 1.969 | 1.969 | .138 | 7 |
| 6160743 | C7792VXE16-A1.5/4.00Z7R | 4.000 | 1.500 | 3.189 | 2.480 | .138 | 7 |
| 5667941 | C7792VXE16-A4.00Z8R | 4.000 | 1.250 | 2.559 | 1.969 | .138 | 8 |
| 6160744 | C7792VXE16-A1.5/4.00Z9R | 4.000 | 1.500 | 3.189 | 2.480 | .138 | 9 |
| 6025567 | C7792VXE16-A4.00Z9R | 4.000 | 1.250 | 2.559 | 1.969 | .138 | 9 |
| 5661030 | C7792VXE16-A5.00Z10R | 5.000 | 1.500 | 3.307 | 2.480 | .138 | 10 |
| 6025568 | C7792VXE16-A5.00Z11R | 5.000 | 1.500 | 3.189 | 2.480 | .138 | 11 |
| 5667570 | C7792VXE16-6.00Z12R | 6.000 | 1.500 | 4.291 | 2.480 | .138 | 12 |
| 6025569 | C7792VXE16-6.00Z13R | 6.000 | 1.500 | 4.323 | 2.480 | .138 | 13 |

NOTE: No through coolant for cutters where D1 max = 6.00".

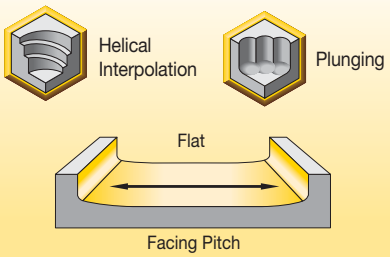
## Spare Parts

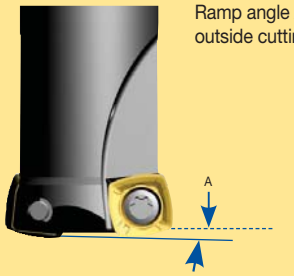
| catalog number | insert screw | in. lbs. | Torx driver | mounting screw | mounting screw |
|---|---|---|---|---|---|
| C7792VXE16-A2.00Z4R | DP5013T | 54.0 | TP20 | – | KLSS0714C |
| C7792VXE16-A2.50Z5R | DP5013T | 54.0 | TP20 | #1/2-20X1-1/4 LHCSA | – |
| C7792VXE16-A2.50Z6R | DP5013T | 54.0 | TB20 | #1/2-20X1-1/4 LHCSA | – |
| C7792VXE16-A3.00Z6R | DP5013T | 54.0 | TP20 | #1/2-20X1-1/4SHCSA | – |
| C7792VXE16-A3.00Z7R | DP5013T | 54.0 | TB20 | #1/2-20X1-1/4SHCSA | – |
| C7792VXE16-A1.5/4.00Z7R | DP5013T | 54.0 | TP20 | #3/4-16X1-3/4SHCSA | – |
| C7792VXE16-A4.00Z8R | DP5013T | 54.0 | TP20 | #5/8-18X1-1/2SHCSA | – |
| C7792VXE16-A1.5/4.00Z9R | DP5013T | 54.0 | TB20 | #3/4-16X1-3/4SHCSA | – |
| C7792VXE16-A4.00Z9R | DP5013T | 54.0 | TB20 | #5/8-18X1-1/2SHCSA | – |
| C7792VXE16-A5.00Z10R | DP5013T | 67.3 | TP20 | #3/4-16X1-3/4SHCSA | – |
| C7792VXE16-A5.00Z11R | DP5013T | 54.0 | TB20 | #3/4-16X1-3/4SHCSA | – |
| C7792VXE16-6.00Z12R | DP5013T | 54.0 | TP20 | – | – |
| C7792VXE16-6.00Z13R | DP5013T | 54.0 | TB20 | – | – |

NOTE: For further application recommendation, please see technical information on pages V30–V32.

## Technical Information (in)

| order number | catalog number | dimension | | | | | | max RPM |
|---|---|---|---|---|---|---|---|---|
| | | facing pitch | ramping angle | helical hole min–max | | ap max helical/ linear | $a_e$ max plunging | |
| 5666415 | C7792VXE16CA2.0Z3R4 | 1.05 | 2.85 | 3 | 4 | 0.098 | 0.512 | 27,000 |
| 6025564 | C7792VXE16-A2.00Z4R | 1.05 | 2.85 | 3 | 4 | 0.098 | 0.512 | 27,000 |
| 5665812 | C7792VXE16-A2.5Z5R | 1.46 | 1.00 | 4 | 5 | 0.098 | 0.512 | 22,000 |
| 6025565 | C7792VXE16-A2.50Z6R | 1.56 | 0.86 | 3.82 | 5 | 0.098 | 0.512 | 27,500 |
| 5661029 | C7792VXE16-A3.00Z6R | 1.96 | 0.65 | 5 | 6 | 0.098 | 0.512 | 19,500 |
| 6025566 | C7792VXE16-A3.00Z7R | 2.06 | 0.58 | 5 | 6 | 0.098 | 0.512 | 27,500 |
| 5667941 | C7792VXE16-A4.00Z8R | 2.96 | 0.51 | 7 | 8 | 0.098 | 0.512 | 16,500 |
| 6025567 | C7792VXE16-A4.00Z9R | 3.06 | 0.42 | 7 | 8 | 0.098 | 0.512 | 27,500 |
| 5661030 | C7792VXE16-A5.00Z10R | 3.96 | 0.37 | 8.82 | 9.92 | 0.098 | 0.512 | 14,500 |
| 6025568 | C7792VXE16-A5.00Z11R | 4.06 | 0.32 | 8.82 | 9.92 | 0.098 | 0.512 | 27,500 |
| 5667570 | C7792VXE16-6.00Z12R | 4.96 | 0.27 | 10.82 | 11.92 | 0.098 | 0.512 | 13,000 |
| 6025569 | C7792VXE16-6.00Z13R | 5.06 | 0.23 | 10.82 | 11.92 | 0.098 | 0.512 | 27,500 |




Ramp angle A uses one outside cutting edge only.

A = max ramp angle utilizing full-face contact.



## Insert Selection Guide • IC 16

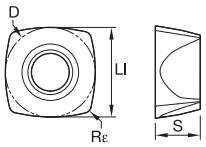
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← → | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | ...D41 | SC6525 | **...D41** | **KCPM40** | ...D41 | KCPM40 |
| P3–P4 | ...D41 | SC6525 | **...D** | **KCPM40** | ...D | KCPM40 |
| P5–P6 | ...D41 | SP6519 | **...D41** | **KCPM40** | ...D41 | KCPM40 |
| M1–M2 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| M3 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| K1–K2 | ...D | KCK15 | **...D** | **KCK15** | ...D | KCPK30 |
| K3 | ...D | KCPK30 | **...D** | **KCPK30** | ...D | KCPK30 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| S3 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| S4 | ...D41 | SP6519 | **...D41** | **KCSM40** | ...D41 | KCSM40 |
| H1 | ...D | KCPM40 | **...D** | **KCPM40** | ...D | KCPM40 |

- First choice for machining stainless steel and high-temp alloys.

● first choice
○ alternate choice

| | | KC522M | KCK15 | KCPK30 | KCPM40 | KCSM40 | SC3025 | SC6525 | SP6519 | X400 | X500 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | ○ | | ● | ● | ○ | | ● | ○ | ● | ○ |
| M | | ● | | ○ | ○ | ● | | | ● | | ● |
| K | | ○ | ● | ○ | | | ● | ● | ○ | | |
| N | | | | | | | | | | | |
| S | | ● | | | | ● | | | ● | | ● |
| H | | | | | | | | | | ○ | |

XELT16-D41



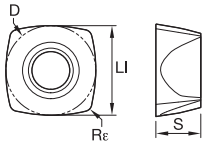
XELT16-D41

## XELT16-D41 • Best fit for face milling and slotting operation. General purpose in soft steels.

| catalog number | D | LI | S | Rε | hm | RT |
|---|---|---|---|---|---|---|
| **XELT160512ERD41** | .661 | .661 | .219 | .047 | .002 | .165 |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XEPT-D41



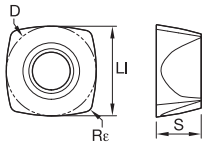
XEPT-D41

## XEPT16-D41 • Precision pressed insert • Best fit for face milling and slotting operation. General purpose in soft steels.

| catalog number | D | LI | S | Rε | hm | RT |
|---|---|---|---|---|---|---|
| **XEPT160512ERD41** | .661 | .661 | .219 | .047 | .002 | .165 |
| **XEPT160516ERD41** | .661 | .661 | .219 | .063 | .002 | .175 |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XEPW16-D



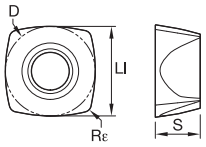
XEPW16-D

## XEPW16-D • Precision pressed insert. First Choice for machining steel and cast iron

| catalog number | D | LI | S | Rε | hm | RT |
|---|---|---|---|---|---|---|
| **XEPW160520SRD** | .661 | .661 | .219 | .079 | .005 | .187 |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

XELW16-D



XELW16-D

## XELW16-D • First Choice for Machining Steel and Cast Iron

| catalog number | D | LI | S | Rε | hm | RT |
|---|---|---|---|---|---|---|
| **XELW160512SRD** | .661 | .661 | .219 | .047 | .005 | .165 |

NOTE: RT is the theoretical radius to be used for CAD/CAM programming.

## Recommended Starting Feeds [IPT] • High-Feed

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .140 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D41 | .012 | **.039** | .066 | .009 | **.028** | .047 | .007 | **.021** | .035 | .006 | **.018** | .030 | .005 | **.017** | .028 | .E..D41 |
| .S..D | .017 | **.043** | .070 | .012 | **.031** | .050 | .009 | **.023** | .037 | .008 | **.020** | .032 | .007 | **.019** | .030 | .S..D |

### At .100 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D41 | .014 | **.046** | .077 | .010 | **.033** | .055 | .008 | **.024** | .041 | .007 | **.021** | .036 | .006 | **.019** | .032 | .E..D41 |
| .S..D | .020 | **.051** | .083 | .015 | **.036** | .059 | .011 | **.027** | .044 | .009 | **.024** | .038 | .009 | **.022** | .035 | .S..D |

### At .080 Axial Depth of Cut (ap)

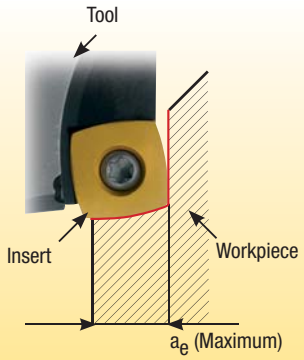
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..D41 | .016 | **.051** | .086 | .011 | **.036** | .061 | .009 | **.027** | .045 | .007 | **.024** | .039 | .007 | **.022** | .036 | .E..D41 |
| .S..D | .022 | **.057** | .092 | .016 | **.041** | .065 | .012 | **.030** | .048 | .011 | **.026** | .042 | .010 | **.024** | .039 | .S..D |

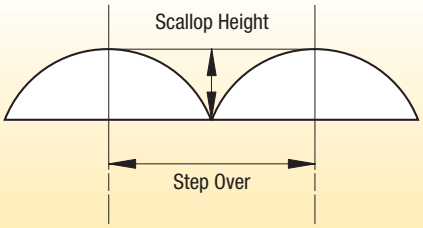
## Feed Rate Guide • Plunging • IC 16 • fz [in/tooth]

| Insert Geometry | Programmed Feed per Tooth (fz) Max .512" insert engagement (ae radial engagement) | | | Insert Geometry |
|---|---|---|---|---|
| .E..D41 | .003 | **.009** | .015 | .E..D41 |
| .S..D | .004 | **.010** | .016 | .S..D |

NOTE: For further details about using the 7792VX series in plunging operations, please see page V30.
Use “Light Machining” values as starting feed rate
Please see pages X22–X37 for recommended starting speeds.

## Plunging




The cutting edge should not be in contact with the material face after machining to maintain the cutting edge quality.

The scallop height is calculated in relation to the step over.

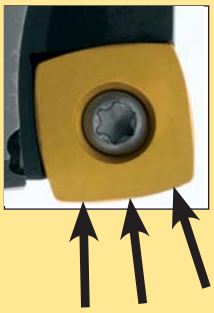
The maximum radial engagement is directly in relation to insert cutting edge length.

For insert type:
XP…06 the ae max is .118"
XD…09 the ae max is .236"
XD…12 the ae max is .354"
XE…16 the ae max is .512"

The advantages of face milling and producing cavities with the Stellram® high-feed face mill are numerous.
The unique design of the insert, approach angle, and the cutter body ensure the cutting forces are predominantly directed in the axial direction. The example shown with a round insert tool shows complex forces which result in high levels of vibration and damage to the cutting edge.

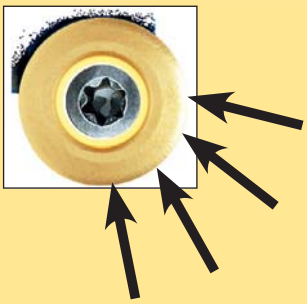
**7792VX**

- Cutting forces predominantly axial.
- Relationship between cutting edge and workpiece is at its most stable.
- Results in high feed rates and consistent tool life.



**Round Insert Tools**

- Tangential forces act around the radius.
- Leads to vibration and damage of the cutting edge.
- Leads to reduced feed and lower productivity.



The 7792VX machines with a constant volume of chip throughout all aspects of producing cavities and produces a side wall that is close to profile.

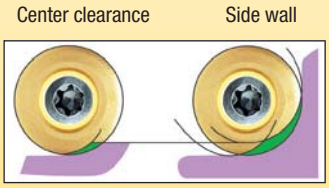
**7792VX**

- Constant cutting section (chip volume) irrespective of position in cavity.
- Producing a close to profile side wall.
- Near-square side walls possible.

Round insert tools have increasing chip volume through the process.

**Round insert**

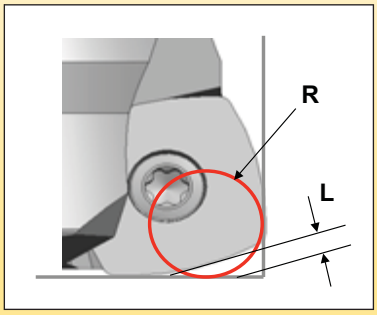
- Greater surface contact.
- Increased chip section for side wall machining.
- Vibration in corners.
- Undulating side wall cusps.




## CNC Program • Corner Radius Definition

The use of common CAD/CAM systems requires a round insert dimension to be known for cavity machining. This is available with 7792VX cutters as shown below and in the reference table.

For finish pass applications:
Wiper facet for finishing use max. feed 0.031"

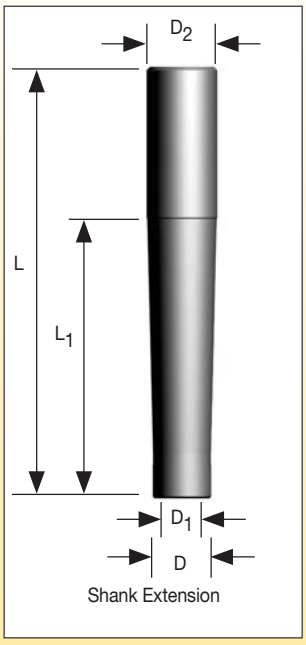



| Programming Data (inch) | | | |
|---|---|---|---|
| Insert corner nose size (IC) | Rε | R | L |
| 06 | 0.750 | 1.100 | 1.420 |
| 09 | 0.031 | 0.079 | 0.028 |
| | 0.047 | 0.089 | 0.026 |
| 12 | 0.031 | 0.098 | 0.040 |
| | 0.047 | 0.107 | 0.038 |
| 16 | 0.047 | 0.164 | 0.057 |

## Cylindrical Shank Extensions for Modular Heads

| order number | catalog number | dimension | | | | | |
|---|---|---|---|---|---|---|---|
| | | | ramping angle | | helical hole | | |
| | | L | L1 | $D_2$ | D | D1 | M |
| **5673704** | **M-13-M8-CA.625-3.543** | 3.543 | 1.600 | 0.625 | 0.512 | 0.335 | M8 |
| **5673705** | **M-13-M8-CA.625-4.331** | 4.331 | 2.500 | 0.625 | 0.512 | 0.335 | M8 |
| **5672469** | **M-13-M8-CA.625-5.118** | 5.118 | 3.000 | 0.625 | 0.512 | 0.335 | M8 |
| **5672833** | **M-13-M8-CA.625-6.693** | 6.693 | 4.750 | 0.625 | 0.512 | 0.335 | M8 |
| **5672470** | **M-18-M10-CA.750-4.331** | 4.331 | 2.500 | 0.750 | 0.709 | 0.413 | M10 |
| **5672834** | **M-18-M10-CA.750-5.118** | 5.118 | 3.000 | 0.750 | 0.709 | 0.413 | M10 |
| **5672990** | **M-18-M10-CA.750-6.693** | 6.693 | 4.750 | 0.750 | 0.709 | 0.413 | M10 |
| **5672835** | **M-21-M12-CA1-5.157** | 5.157 | 3.000 | 1.000 | 0.827 | 0.492 | M12 |
| **5672991** | **M-21-M12-CA1-6.142** | 6.142 | 4.000 | 1.000 | 0.827 | 0.492 | M12 |
| **5673353** | **M-21-M12-CA1-7.126** | 7.126 | 5.000 | 1.000 | 0.827 | 0.492 | M12 |
| **5673588** | **M-21-M12-CA1-8.110** | 8.110 | 6.000 | 1.000 | 0.827 | 0.492 | M12 |
| **5672471** | **M-21-M12-CA1-9.094** | 9.094 | 7.000 | 1.000 | 0.827 | 0.492 | M12 |
| **5672992** | **M-29-M16-CA1.25-6.3** | 6.300 | 4.000 | 1.250 | 1.141 | 0.669 | M16 |
| **5672836** | **M-29-M16-CA1.25-8.27** | 8.268 | 6.000 | 1.250 | 1.141 | 0.669 | M16 |
| **5672993** | **M-29-M16-CA1.25-10.2** | 10.236 | 8.000 | 1.250 | 1.141 | 0.669 | M16 |
| **5673706** | **M-29-M16-CA1.25-12.2** | 12.205 | 10.000 | 1.250 | 1.141 | 0.669 | M16 |

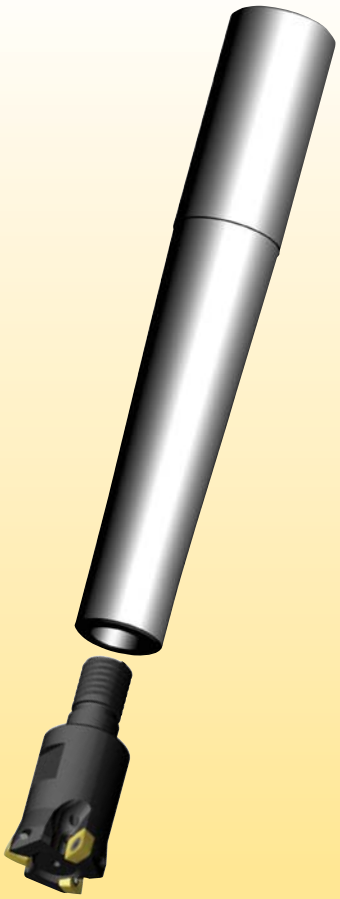
NOTE: Order example with cylindrical shank: M-13-M8-CA.625-3.543.



Shank Extension

Cylindrical shank extensions can be used with all modular heads found in several product family series within this catalog.

These extensions have the industry standard of metric threads.



### Technical Advice

| | |
|---|---|
| **M** | Modular adapter |
| **13** | Diameter in front of the modular shank (D) = 0.512" (13mm) |
| **M8** | Metric Thread (M) |
| **CA.625** | Cylindrical shank diameter 0.625" with through coolant |
| **3.543** | Total length of the body in Inches |

# NOVO KNOWS SEARCH

Searching for a tool has been enhanced by Advise and Select functions from NOVO™ applications — saving you time and money.

## ADVISE

Uses a rules-based approach to provide cutting tool recommendations:

- Define Machining Feature (face milling, slotting, blind hole, etc.)
- Apply Constraint Requirements (geometric, material, tolerance, etc.)
- Set Machining Sequence (single or multi-step operations, rough then finish, etc.)
- Receive Ranked Results

## SELECT

A method of selecting cutting tools from a tree structure via a hierarchy or parametric search:

- If you know which product you are looking for, a quick search can be performed by just the catalog number or product description.
- Smart filters significantly reduce the amount of potential tooling solutions.
- After the tool is selected, NOVO also provides cutting and adaptive item options that fit with your solution.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

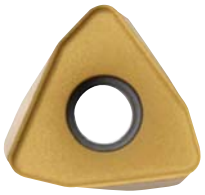
# KenFeed™ 2X Series

## Primary Application

KenFeed 2X is a double-sided trigon with six cutting edges engineered to provide superior metal removal and productivity through high feed rates in roughing operations. Smaller depths of cut at extremely high feed rates result in lower cutting forces, reducing vibrations and increasing process reliability.

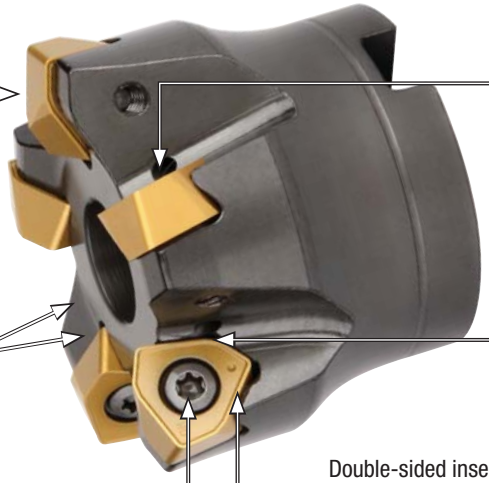
## Features and Benefits

- Six cutting edges per insert. Double-sided solution with unique design.
- Two different topography styles cover any type of material, component, and application.
- KenFeed 2X inserts are specially suitable for long, deep applications, up to 10 x L/D ratio.



**9mm IC Insert WOEJ094....**
Up to 0.059" Ap max.
Diameter 1.000–3.000"

# The ultimate and innovative concept for applying the latest high-feed milling strategies.



Strong design with a thick insert provides outstanding reliability.

Screw-on, end mill, and shell mill cutters with internal coolant.

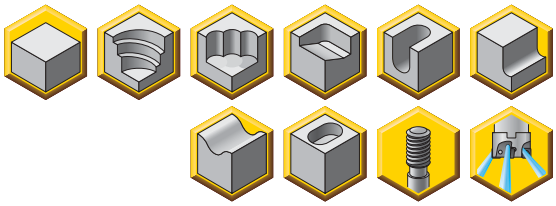
Platform designed for pocketing, ramping, and helical interpolations.

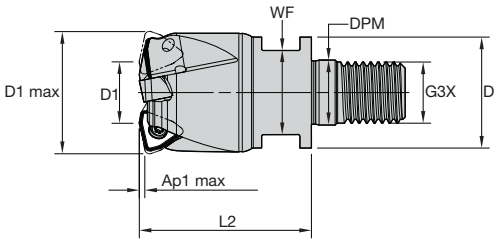
Just two topographies to cover all applications with easy selection.

Double-sided insert with six cutting edges for better cost-per-edge position with full usage.

No need for additional clamping device. Screw provides easy handling.

- Dramatically improves MRR using the latest milling strategies.
- Engineered to run up to 0,1 IPT.
- Ideal for pocketing, ramping, and helical interpolations. Z-plunge capabilities.
- First choice for deep cavities or from 3 x D.





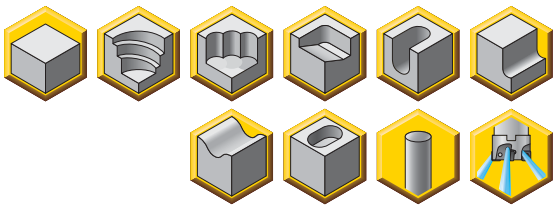
## Screw-On End Mills

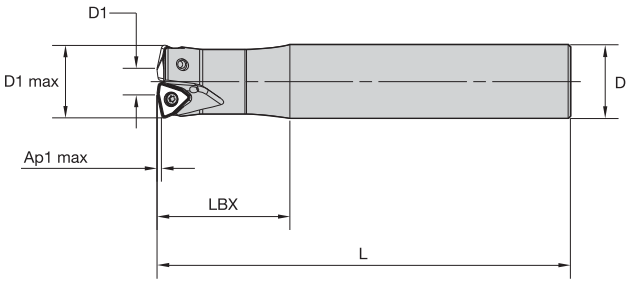
| order number | catalog number | D1 max | D1 | D | DPM | WF (mm) | G3X | L2 | Ap1 max | Z | lbs | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4109575** | **KF2X100W0902M12L138** | 1.000 | .350 | .827 | .492 | 17 | M12 | 1.380 | .059 | 2 | .20 | 36600 | **WOEJ090512__** |
| **4109577** | **KF2X125W0903M16L169** | 1.250 | .622 | 1.142 | .669 | 22 | M16 | 1.690 | .059 | 3 | .45 | 31000 | **WOEJ090512__** |
| **4109579** | **KF2X150W0904M16L169** | 1.500 | .869 | 1.142 | .669 | 22 | M16 | 1.691 | .059 | 4 | .51 | 27400 | **WOEJ090512__** |

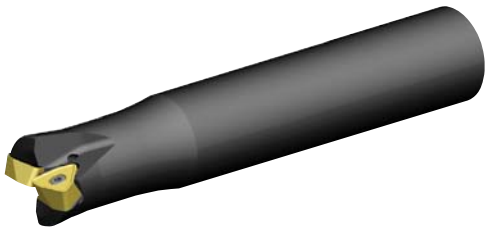
## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2219** | 16 | **DT9IP** |
| 1.250 | **MS2219** | 16 | **DT9IP** |
| 1.500 | **MS2219** | 16 | **DT9IP** |

- Dramatically improves MRR using the latest milling strategies.
- Engineered to run up to 0,1 IPT.
- Ideal for pocketing, ramping, and helical interpolations. Z-plunge capabilities.
- First choice for deep cavities or from 3 x D.





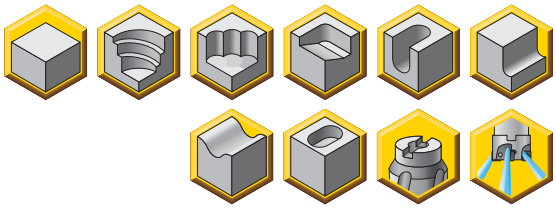
## End Mills

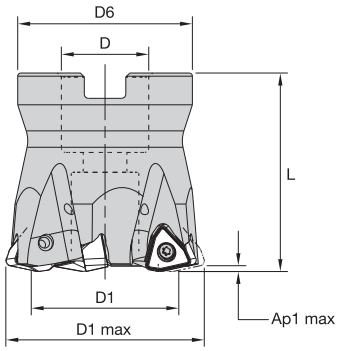
| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4109580** | **KF2X100W0902C100L600** | 1.000 | .350 | 1.000 | 6.000 | 1.780 | .059 | 2 | 36600 | WOEJ090512__ | 1.15 |
| **4109581** | **KF2X100W0902C100L800** | 1.000 | .350 | 1.000 | 8.000 | 1.780 | .059 | 2 | 36600 | WOEJ090512__ | 1.58 |
| **4109582** | **KF2X125W0903C125L600** | 1.250 | .619 | 1.250 | 6.000 | 1.690 | .059 | 3 | 31000 | WOEJ090512__ | 1.84 |
| **4109593** | **KF2X125W0903C125L800** | 1.250 | .622 | 1.250 | 8.000 | 1.690 | .059 | 3 | 31000 | WOEJ090512__ | 2.53 |
| **4109594** | **KF2X150W0903C125L600** | 1.500 | .869 | 1.250 | 6.000 | 1.691 | .059 | 3 | 27400 | WOEJ090512__ | 1.94 |
| **4109595** | **KF2X150W0903C125L800** | 1.500 | .869 | 1.250 | 8.000 | 1.691 | .059 | 3 | 27400 | WOEJ090512__ | 2.61 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **MS2219** | 15 | **DT9IP** |
| 1.250 | **MS2219** | 15 | **DT9IP** |
| 1.500 | **MS2219** | 15 | **DT9IP** |

- Dramatically improves MRR using the latest milling strategies.
- Engineered to run up to 0,1 IPT.
- Ideal for pocketing, ramping, and helical interpolations. Z-plunge capabilities.
- First choice for deep cavities or from 3 x D.





## Face Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4109596** | **KF2X150W0904S050L157** | 1.500 | .869 | .500 | 1.417 | 1.571 | .059 | 4 | 27400 | WOEJ090512__ | .40 |
| **4109597** | **KF2X200W0905S075L157** | 2.000 | 1.366 | .750 | 1.772 | 1.575 | .059 | 5 | 22900 | WOEJ090512__ | .71 |
| **4109598** | **KF2X200W0906S075L157** | 2.000 | 1.366 | .750 | 1.732 | 1.570 | .059 | 6 | 22900 | WOEJ090512__ | .69 |
| **4109599** | **KF2X250W0906S075L175** | 2.500 | 1.864 | .750 | 1.732 | 1.750 | .059 | 6 | 20000 | WOEJ090512__ | 1.16 |
| **4109600** | **KF2X300W0907S100L175** | 3.000 | 2.362 | 1.000 | 2.189 | 1.750 | .059 | 7 | 18000 | WOEJ090512__ | 1.77 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | **MS2219** | 15.00 | **DT9IP** | **S424** |
| 2.000 | **MS2219** | 15.00 | **DT9IP** | **S445** |
| 2.500 | **MS2219** | 15.00 | **DT9IP** | **S445** |
| 3.000 | **MS2219** | 15.00 | **DT9IP** | **S458** |

## Insert Selection Guide

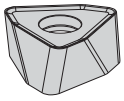
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..GD | KCPK30 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .S..GD | KCPK30 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P5–P6 | .S..GD | KCPK30 | **.S..GD** | **KC725M** | .S..HD | KC725M |
| M1–M2 | .S..GD | KC522M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| M3 | .S..GD | KCPK30 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| K1–K2 | .S..HD | KCK15 | **.S..HD** | **KCK15** | .S..HD | KCK15 |
| K3 | .S..GD | KCPK30 | **.S..HD** | **KCK15** | .S..HD | KCPK30 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .S..GD | KC522M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .S..GD | KC725M | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| S4 | .S..GD | KC522M | **.S..HD** | **KC522M** | .S..HD | KC725M |
| H1 | – | – | **–** | **–** | – | – |

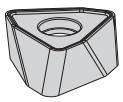
## Indexable Inserts • WOEJ09...

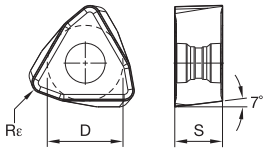
- Double-sided insert with six cutting edges.
- Unique and strong insert design that enables high-feed conditions, up to 0.1 IPT.
- -GD provides lower cutting forces; first choice for soft materials.

● first choice
○ alternate choice

| | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 |
|---|---|---|---|---|---|---|---|
| P | | ○ | ● | | ● | ● | |
| M | | ● | ● | | ○ | ○ | ○ |
| K | ● | ○ | | ● | ○ | | |
| N | | | | | | | |
| S | | ● | ● | | | | ● |
| H | | ○ | | | | | |


WOEJ-GD


WOEJ-HD



WOEJ-GD
WOEJ-HD

### WOEJ-GD

| catalog number | D | S | Rε | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WOEJ090512SRGD** | .350 | .213 | .048 | 6 | – | ● | ● | – | ● | ● | ● |

- Double-sided insert with six cutting edges.
- Unique and strong insert design that enables high-feed conditions, up to 0,1 IPT.
- -HD geometry is the first choice for steels, high-strength steels, and cast iron.

### WOEJ-HD

| catalog number | D | S | Rε | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WOEJ090512SRHD** | .351 | .215 | .048 | 6 | – | ● | ● | – | ● | ● | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .S..GD | .045 | **.089** | .141 | .032 | **.063** | .098 | .024 | **.047** | .072 | .021 | **.040** | .063 | .019 | **.037** | .057 | .S..GD |
| .S..HD | .045 | **.109** | .168 | .032 | **.077** | .116 | .024 | **.057** | .085 | .021 | **.049** | .074 | .019 | **.045** | .067 | .S..HD |

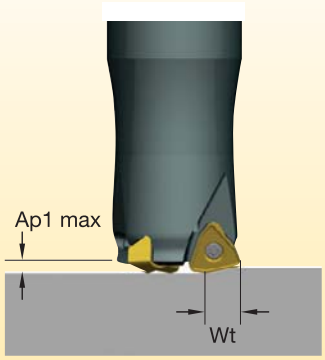
## Feed Rate Guide • Plunging • IC09 • fz [in/tooth]

| Insert Geometry | Programmed Feed per Tooth (fz) Max .118" insert engagement (ae radial engagement) | | | Insert Geometry |
|---|---|---|---|---|
| .S..GD | .004 | **.008** | .012 | .S..GD |
| .S..HD | .004 | **.009** | .014 | .S..HD |

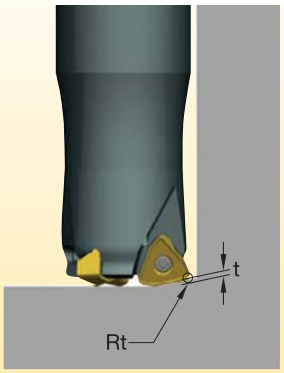
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## General Programming Information for Applying KenFeed 2X • IC 09

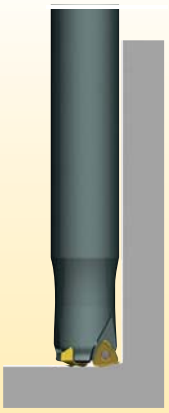
| Rt | Wt | t |
|---|---|---|
| .110 | .312 | .045 |




Small Ap1 values and higher feed rates generate lower cutting forces versus traditional milling strategies.

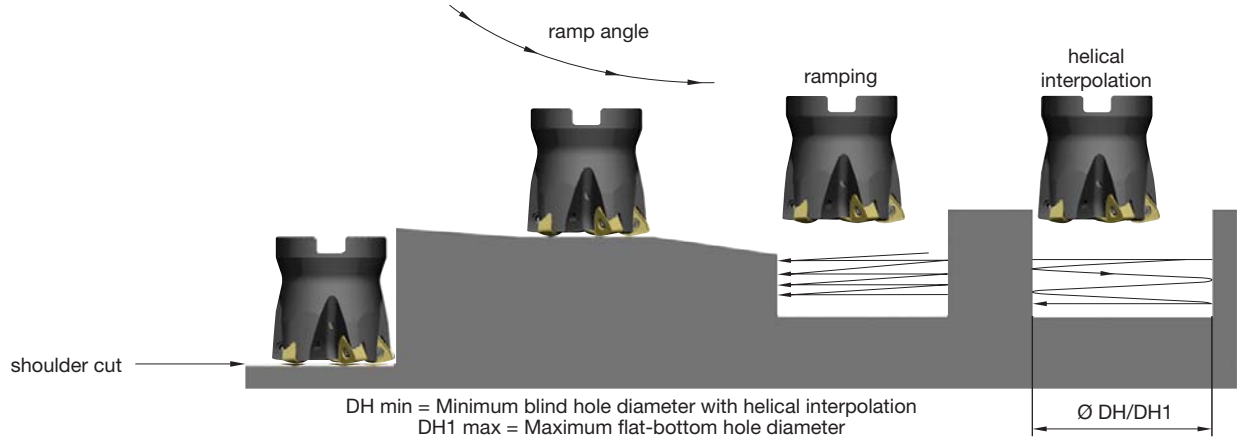



For CAM programming, the loads can be programmed as a toroidal tool type by using the Rt value as the insert radius.



Recommended when long overhang is necessary due to lower radial forces. Maximum L/D ratio of 10 x D.

## Maximum Linear Ramping and Helical Interpolation from Solid • Inch




| cutter type | catalog number | recommended ramping angle (for continuous ramping process) | max ramp angle when Ap max (not for continuous ramping process) | max ramp angle for 360° helical interpolation | min hole diameter (DH min) | max flat-bottom hole diameter (DH1 max) | max diameter (no flat bottom) |
|---|---|---|---|---|---|---|---|
| Screw-On | **KF2X100W0902M12L138** | 3.5° | 5.2° | 3.1° | 1.291 | 1.35 | 2.0 |
| | **KF2X125W0902M16L169** | 1.9° | 2.8° | 1.7° | 1.813 | 1.87 | 2.5 |
| | **KF2X125W0903M16L169** | 1.9° | 2.8° | 1.7° | 1.813 | 1.87 | 2.5 |
| | **KF2X150W0903M16L169** | 1.4° | 2.1° | 1.2° | 2.310 | 2.37 | 3.0 |
| | **KF2X150W0904M16L169** | 1.4° | 2.1° | 1.2° | 2.310 | 2.37 | 3.0 |
| End Mills | **KF2X100W0902C100L600** | 3.5° | 5.2° | 3.1° | 1.291 | 1.35 | 2.0 |
| | **KF2X100W0902C100L800** | 3.5° | 5.2° | 3.1° | 1.291 | 1.35 | 2.0 |
| | **KF2X125W0903C125L600** | 1.9° | 2.8° | 1.7° | 1.813 | 1.87 | 2.5 |
| | **KF2X125W0903C125L800** | 1.9° | 2.8° | 1.7° | 1.813 | 1.87 | 2.5 |
| | **KF2X150W0903C125L600** | 1.4° | 2.1° | 1.2° | 2.310 | 2.37 | 3.0 |
| | **KF2X150W0903C125L800** | 1.4° | 2.1° | 1.2° | 2.310 | 2.37 | 3.0 |
| Face Mills | **KF2X150W0904S050L157** | 1.4° | 2.1° | 1.2° | 2.310 | 2.37 | 3.0 |
| | **KF2X200W0905S075L157** | 1.0° | 1.4° | 0.8° | 3.307 | 3.37 | 4.0 |
| | **KF2X200W0906S075L157** | 1.0° | 1.4° | 0.8° | 3.307 | 3.37 | 4.0 |
| | **KF2X250W0906S075L175** | 0.7° | 1.1° | 0.6° | 4.305 | 4.36 | 5.0 |
| | **KF2X300W0907S100L175** | 0.6° | 1.0° | 0.5° | 5.303 | 5.36 | 6.0 |
| | **KF2X300W0907S125L200** | 0.6° | 1.0° | 0.5° | 5.303 | 5.36 | 6.0 |

# Rodeka™ Inserts

## The New Round Insert Generation

### Primary Application

Kennametal introduces a revolutionary double-sided round milling insert capable of running in multiple types of milling operations and workpiece materials. The Rodeka series provides the latest double-sided insert technology to boost your productivity with the most efficient cost per edge.

## Features and Benefits

### Rodeka Double-Sided Round Inserts

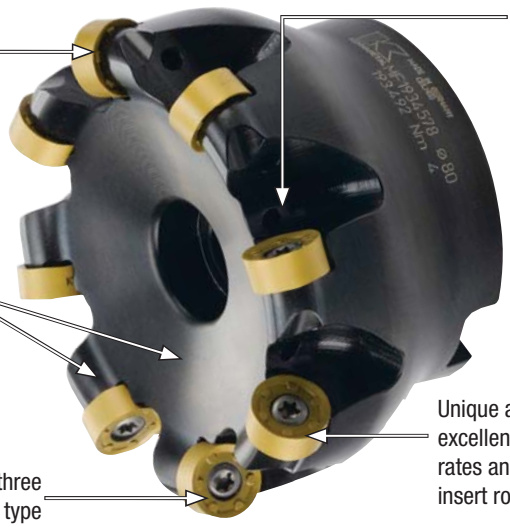
- Three insert sizes: 10, 12, and 16mm.
- Innovative, cutting-edge design increases tool life and reduces cutting forces.
- Rodeka 12X series is a tailor-made solution for turbine blade machining.

**Rodeka 10**
10mm IC insert
8 cutting edges

**Rodeka 12X**
12mm IC insert
8 cutting edges

**Rodeka 12**
12mm IC insert
12 cutting edges

**Rodeka 16**
16mm IC insert
12 cutting edges



Double-sided insert with up to 12 cutting edges for a more productive cutting process.

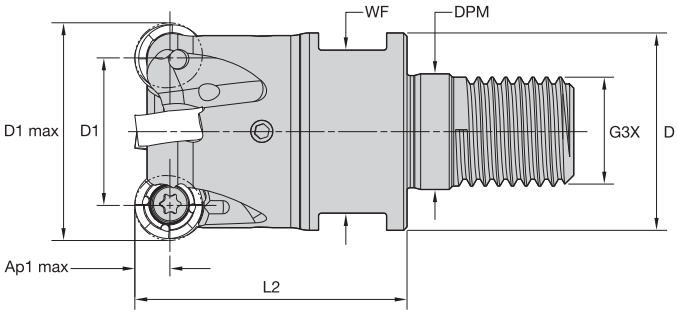
Screw-on, end mill, and shell mill cutters with internal coolant.

Higher clearance in bodies to permit pocketing, profiling, and 5-axis machining.

Unique anti-rotation feature for excellent stability with higher feed rates and cutting forces. User-friendly insert rotation.

Three different insert sizes and three topography styles per size cover any type of material, component, and application.

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



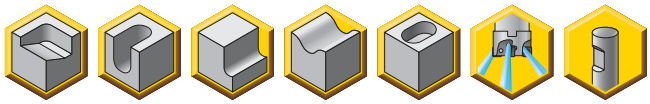
## Screw-On End Mills

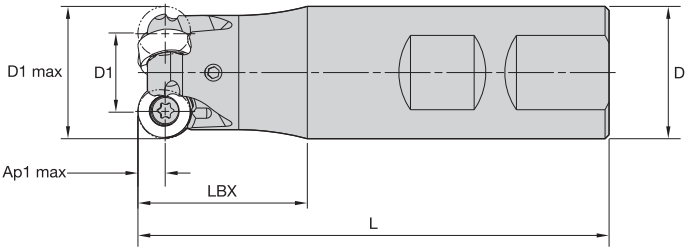
| order number | catalog number | D1 max | D1 | D | WF (mm) | G3X | DPM | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5154366** | **KDR100R1003M12L125** | 1.00 | .606 | .827 | 17 | M12 | .490 | 1.250 | .200 | 3 | .6° | .17 | 54200 | RN_J10T3M0_N__ |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **191.848** | 18 | **170.025** |

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing, profiling, ramping, and helical interpolation capabilities.





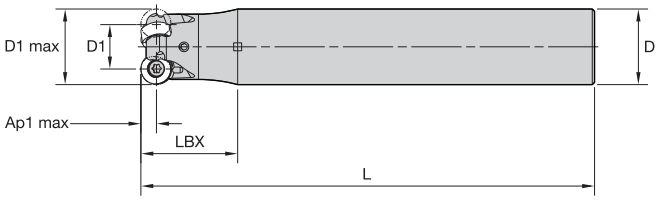
## Weldon End Mills

| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5154400** | **KDR100R1003W100L200** | 1.000 | .606 | 1.000 | 4.280 | 2.000 | .200 | 3 | .6° | 54200 | RN_J10T3M0_N__ | .74 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **191.848** | 18 | **170.025** |

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



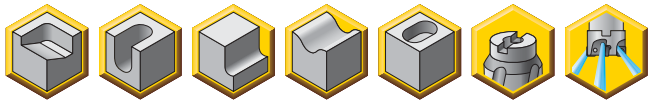
## Cylindrical End Mills

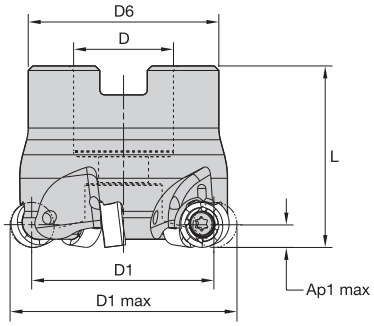
| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max ramp angle | lbs | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5154402** | **KDR100R1003C100L600** | 1.000 | .606 | 1.000 | 6.000 | 1.500 | .200 | 3 | .6° | 1.15 | 54200 | RN_J10T3M0_N__ |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.000 | **191.848** | 18 | **170.025** |

- Double-sided round insert with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.





## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5154406** | **KDR150R1005S050L157** | 1.500 | 1.106 | .500 | 1.300 | 1.570 | .200 | 5 | .4° | 44300 | RN_J10T3M0_N__ | .43 |
| **5154408** | **KDR200R1006S075L200** | 2.000 | 1.606 | .750 | 1.654 | 2.000 | .200 | 6 | .3° | 38300 | RN_J10T3M0_N__ | 1.02 |

## Spare Parts

| D1 max | insert screw | in. lbs. | socket-head cap screw | Torx Plus driver |
|---|---|---|---|---|
| 1.500 | **191.848** | 18 | **S422** | **–** |
| 2.000 | **191.848** | 18 | **S445** | **170.025** |

## Insert Selection Guide

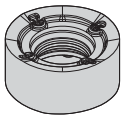
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LDJ | KC725M | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .S..GD | KCPK30 | **.S..HD** | **KCPK30** | .S..HD | KCPM40 |
| P5–P6 | .E..LDJ | KC725M | **.S..GDJ** | **KC725M** | .S..HD | KC725M |
| M1–M2 | .E..LDJ | KC522M | **.E..LDJ** | **KCSM40** | .S..GDJ | KC522M |
| M3 | .E..LDJ | KCSM40 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| K1–K2 | .S..HD | KC520M | **.S..HD** | **KC520M** | .S..HD | KCK15 |
| K3 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD | KCPK30 |
| N1–N2 | .F..LDJ | KC422M | **.F..LDJ** | **KC422M** | .S..GD | KC510M |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LDJ | KC725M | **.S..GDJ** | **KC725M** | .S..HD | KC725M |
| S3 | .E..LDJ | KCSM40 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| S4 | .E..LDJ | KC522M | **.E..LDJ** | **KCSM40** | .S..GDJ | KC522M |
| H1 | .S..GD | KC510M | **.S..GD** | **KC510M** | – | – |

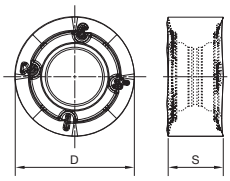
## Indexable Inserts RN.J10..

- -LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.

● first choice
○ alternate choice

| | | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ● | ○ | | ● | ○ | | | |
| N | | ● | ○ | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |


RNGJ10-LD



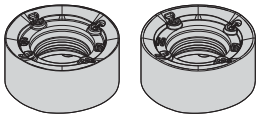
RNGJ10-LD

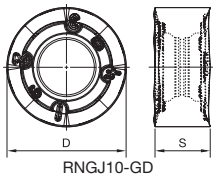
## RNGJ10-LD

| catalog number | D | S | hm | cutting edges | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNGJ10T3M0ELDJ** | .394 | .187 | .002 | 8 | – | – | – | – | ● | – | – | – | – | ● |
| **RNGJ10T3M0FLDJ** | .394 | .187 | .002 | 8 | ● | – | – | – | – | – | – | – | – | – |

Copy Milling

- -GD geometry is for general use in steel and stainless steel.


RNGJ10-GD RNPJ10-HD



RNGJ10-GD

● first choice
○ alternate choice

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | ○ | | ○ | ● | | ● | ● | | ○ |
| M | | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ● | ○ | | ● | ○ | | | |
| N | ● | ○ | | | | | | | | | |
| S | | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | | |

## RNGJ10-GD

| catalog number | D | S | hm | cutting edges | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNGJ10T3M0SGDJ** | .394 | .187 | .003 | 8 | – | – | – | – | – | – | – | – | ● | – |

## RNGJ10-GDJ

| catalog number | D | S | hm | cutting edges | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNGJ10T3M0SGDJ** | .394 | .187 | .003 | 8 | – | – | – | – | ● | – | – | – | – | – |

## RNPJ10-GD

| catalog number | D | S | hm | cutting edges | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNPJ10T3M0SGD** | .394 | .188 | .003 | 8 | – | – | – | ● | – | – | ● | ● | – | – |

- -HD geometry is the first choice for heavy machining high-strength steel and cast iron.

## RNPJ10-HD

| catalog number | D | S | hm | cutting edges | KC422M | KC510M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNPJ10T3M0SHD** | .394 | .188 | .007 | 8 | – | – | – | – | ● | ● | ● | ● | – | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .200 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.016** | .028 | .004 | **.011** | .020 | .003 | **.008** | .015 | .002 | **.007** | .013 | .002 | **.007** | .012 | .F..LDJ |
| .E..LDJ | .005 | **.017** | .030 | .004 | **.013** | .021 | .003 | **.009** | .016 | .002 | **.008** | .014 | .002 | **.008** | .013 | .E..LDJ |
| .E..LD | .005 | **.017** | .030 | .004 | **.013** | .021 | .003 | **.009** | .016 | .002 | **.008** | .014 | .002 | **.008** | .013 | .E..LD |
| .S..GDJ | .009 | **.021** | .032 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | .S..GDJ |
| .S..GD | .009 | **.021** | .032 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | .S..GD |
| .S..HD | .009 | **.021** | .033 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | .S..HD |

### At .070 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .006 | **.021** | .037 | .005 | **.015** | .027 | .003 | **.011** | .020 | .003 | **.010** | .017 | .003 | **.009** | .016 | .F..LDJ |
| .E..LDJ | .006 | **.023** | .040 | .005 | **.016** | .028 | .003 | **.012** | .021 | .003 | **.011** | .018 | .003 | **.010** | .017 | .E..LDJ |
| .E..LD | .006 | **.023** | .040 | .005 | **.016** | .028 | .003 | **.012** | .021 | .003 | **.011** | .018 | .003 | **.010** | .017 | .E..LD |
| .S..GDJ | .012 | **.027** | .043 | .009 | **.019** | .030 | .007 | **.014** | .022 | .006 | **.013** | .019 | .005 | **.012** | .018 | .S..GDJ |
| .S..GD | .012 | **.027** | .043 | .009 | **.019** | .030 | .007 | **.014** | .022 | .006 | **.013** | .019 | .005 | **.012** | .018 | .S..GD |
| .S..HD | .012 | **.028** | .043 | .009 | **.020** | .031 | .007 | **.015** | .023 | .006 | **.013** | .020 | .005 | **.012** | .018 | .S..HD |

### At .040 Axial Depth of Cut (ap)

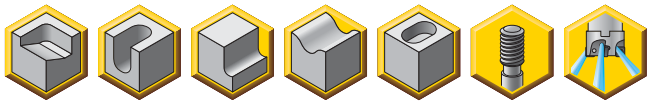
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .008 | **.026** | .048 | .006 | **.019** | .034 | .004 | **.014** | .025 | .004 | **.012** | .022 | .004 | **.011** | .020 | .F..LDJ |
| .E..LDJ | .008 | **.029** | .051 | .006 | **.021** | .036 | .004 | **.016** | .027 | .004 | **.014** | .023 | .004 | **.012** | .021 | .E..LDJ |
| .E..LD | .008 | **.029** | .051 | .006 | **.021** | .036 | .004 | **.016** | .027 | .004 | **.014** | .023 | .004 | **.012** | .021 | .E..LD |
| .S..GDJ | .015 | **.035** | .054 | .011 | **.025** | .038 | .008 | **.018** | .028 | .007 | **.016** | .025 | .007 | **.015** | .023 | .S..GDJ |
| .S..GD | .015 | **.035** | .054 | .011 | **.025** | .038 | .008 | **.018** | .028 | .007 | **.016** | .025 | .007 | **.015** | .023 | .S..GD |
| .S..HD | .015 | **.035** | .055 | .011 | **.025** | .039 | .008 | **.019** | .029 | .007 | **.016** | .025 | .007 | **.015** | .023 | .S..HD |

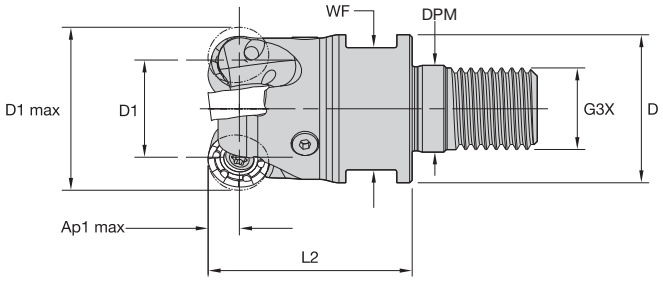
### At .020 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .011 | **.037** | .067 | .008 | **.026** | .047 | .006 | **.019** | .034 | .005 | **.017** | .030 | .005 | **.015** | .027 | .F..LDJ |
| .E..LDJ | .011 | **.041** | .072 | .008 | **.029** | .050 | .006 | **.021** | .037 | .005 | **.019** | .032 | .005 | **.017** | .029 | .E..LDJ |
| .E..LD | .011 | **.041** | .072 | .008 | **.029** | .050 | .006 | **.021** | .037 | .005 | **.019** | .032 | .005 | **.017** | .029 | .E..LD |
| .S..GDJ | .021 | **.048** | .077 | .015 | **.034** | .053 | .011 | **.025** | .039 | .010 | **.022** | .034 | .009 | **.020** | .031 | .S..GDJ |
| .S..GD | .021 | **.048** | .077 | .015 | **.034** | .053 | .011 | **.025** | .039 | .010 | **.022** | .034 | .009 | **.020** | .031 | .S..GD |
| .S..HD | .021 | **.049** | .078 | .015 | **.035** | .054 | .011 | **.026** | .040 | .010 | **.022** | .034 | .009 | **.020** | .031 | .S..HD |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.





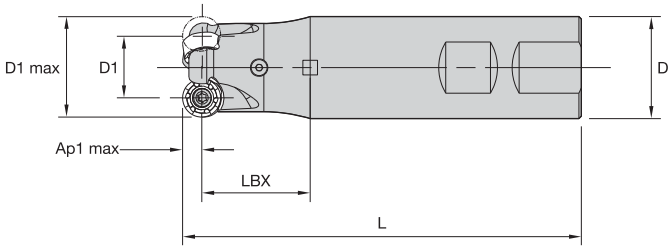
## Screw-On End Mills

| order number | catalog number | D1 max | D1 | D | WF (mm) | G3X | DPM | L2 | Ap1 max | Z | max ramp angle | lbs | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4178116** | **KDR150R1204M16L150** | 1.50 | 1.028 | 1.142 | 24 | M16 | .670 | 1.50 | .117 | 4 | .5° | .42 | 35890 | RN_J1204M0__ |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.500 | **193.492** | 35 | **170.025** |

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing, profiling, ramping, and helical interpolation capabilities.



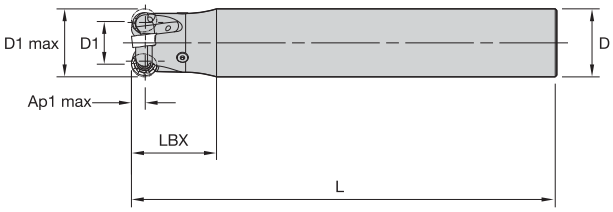
## Weldon End Mills

| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4178119** | **KDR125R1202W100L200** | 1.250 | .778 | 1.000 | 4.280 | 2.000 | .117 | 2 | 1.0° | 39310 | RN_J1204M0__ | .85 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.250 | **193.492** | 35 | **170.025** |

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



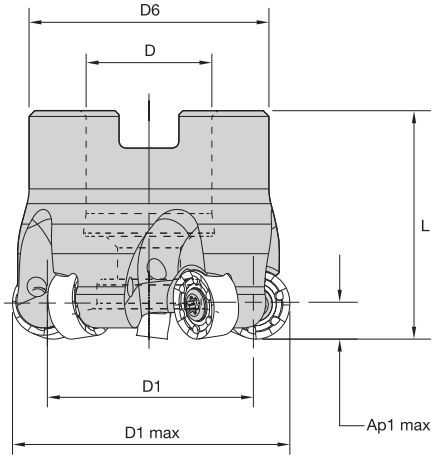
## Cylindrical End Mills

| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4178120** | **KDR125R1202C125L900** | 1.250 | .778 | 1.250 | 9.000 | 1.500 | .117 | 2 | .9° | 39310 | RN_J1204M0__ | 2.79 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.250 | **193.492** | 35 | **170.025** |

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4178122** | **KDR150R1204S050L157** | 1.500 | 1.028 | .500 | 1.300 | 1.570 | .117 | 4 | .5° | 35890 | RN_J1204M0__ | .39 |
| **4178123** | **KDR200R1204S075L200** | 2.000 | 1.528 | .750 | 1.750 | 2.000 | .117 | 4 | .4° | 31080 | RN_J1204M0__ | 1.00 |
| **4178124** | **KDR200R1205S075L200** | 2.000 | 1.528 | .750 | 1.750 | 2.000 | .117 | 5 | .4° | 31080 | RN_J1204M0__ | .96 |
| **4178125** | **KDR250R1207S075L200** | 2.500 | 2.028 | .750 | 1.750 | 2.000 | .117 | 7 | .3° | 27800 | RN_J1204M0__ | 1.41 |
| **4178126** | **KDR300R1208S100L200** | 3.000 | 2.528 | 1.000 | 2.189 | 2.000 | .117 | 8 | .2° | 25370 | RN_J1204M0__ | 2.01 |
| **5360215** | **KDR300R1208S125L200** | 3.000 | 2.528 | 1.250 | 2.875 | 2.000 | .117 | 8 | .5° | 25370 | RN_J1204M0__ | 2.60 |

## Spare Parts

| order number | D1 max | insert screw | in. lbs. | socket-head cap screw | socket-head cap screw with coolant groove | low head cap screw with coolant groove | wrench |
|---|---|---|---|---|---|---|---|
| **4178122** | 1.500 | **193.492** | 35 | **S422** | **S422CG** | **–** | **170.025** |
| **4178123** | 2.000 | **193.492** | 35 | **S445** | **S445CG** | **–** | **170.025** |
| **4178124** | 2.000 | **193.492** | 35 | **S445** | **S445CG** | **–** | **170.025** |
| **4178125** | 2.500 | **193.492** | 35 | **S445** | **S445CG** | **–** | **170.025** |
| **4178126** | 3.000 | **193.492** | 35 | **S458** | **S458CG** | **–** | **170.025** |
| **5360215** | 3.000 | **193.492** | 35 | **S467** | **–** | **S2172CG** | **170.025** |

## Insert Selection Guide

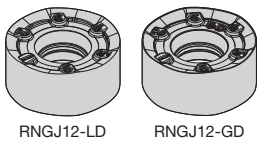
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LD | KCPK30 | **.S..GD** | **KCPM40** | .S..HD | KCPM40 |
| P3–P4 | .E..LD | KCPK30 | **.S..GD** | **KCPK30** | .S..HD | KCPM40 |
| P5–P6 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| M1–M2 | .E..LD | KC522M | **.S..GDJ** | **KCSM40** | .S..HD | KC725M |
| M3 | .S..GD | KCPM40 | **.S..GDJ** | **KCSM40** | .S..HD | KCPM40 |
| K1–K2 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD | KCK15 |
| K3 | .S..HD | KC520M | **.S..HD** | **KCK15** | .S..HD | KCK15 |
| N1–N2 | .F..LDJ | KC422M | **.F..LDJ** | **KC422M** | .S..GD | KC510M |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LD | KC725M | **.S..GD** | **KC725M** | .S..HD | KC725M |
| S3 | .S..GD | KCPM40 | **.S..GDJ** | **KCSM40** | .S..HD | KCPM40 |
| S4 | .S..GD | KC522M | **.S..GDJ** | **KCSM40** | .S..HD | KC725M |
| H1 | .S..GD | KC510M | **.S..GD** | **KC510M** | – | – |

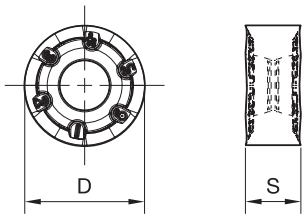


- -LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.
- -GD geometry is for general use in steel and for stainless steel.

● first choice
○ alternate choice

| | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ |
| M | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | ● | ○ | | ● | ○ | | | |
| N | ● | | | | | | | | |
| S | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | |


RNGJ12-LD RNGJ12-GD



RNGJ12-LD
RNGJ12-GD

### RNGJ12-LD

| catalog number | D | S | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNGJ1204M0ELD** | .472 | .187 | .002 | 12 | – | – | ● | ● | – | ● | – | – | – |
| **RNGJ1204M0ELDJ** | .472 | .187 | .002 | 12 | – | – | – | – | – | – | – | ● | – |
| **RNGJ1204M0FLDJ** | .472 | .187 | .002 | 12 | ● | – | – | – | – | – | – | – | – |

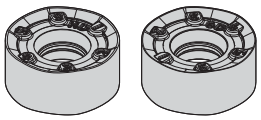
### RNGJ12-GD

| catalog number | D | S | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNGJ1204M0SGD** | .472 | .187 | .003 | 12 | – | – | ● | ● | – | ● | – | – | – |
| **RNGJ1204M0SGDJ** | .472 | .187 | .003 | 12 | – | – | – | – | – | – | – | – | ● |

- -HD geometry is the first choice for heavy machining high-strength steel and cast iron.
- -GD geometry is for general use in steel and for stainless steel.

● first choice
○ alternate choice

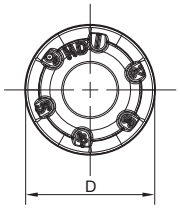
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | ○ | ● | | ● | ● | | ○ |
| M | | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | | ● | ○ | | ● | ○ | | | |
| N | | ● | | | | | | | | |
| S | | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | | |



RNGJ12-HD
RNPJ12-HD



RNPJ12-GD




RNGJ12-HD
RNPJ12-HD

## RNGJ12-HD

| catalog number | D | S | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNGJ1204M0SHD** | .472 | .187 | .007 | 12 | – | – | – | ● | – | ● | – | – | – |

## RNPJ12-GD

| catalog number | D | S | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNPJ1204M0SGD** | .472 | .187 | .003 | 12 | – | – | ● | ● | – | ● | ● | – | – |

## RNPJ12-HD

| catalog number | D | S | hm | cutting edges | KC422M | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RNPJ1204M0SHD** | .472 | .187 | .007 | 12 | – | – | – | ● | – | ● | ● | – | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .240 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .005 | **.016** | .030 | .004 | **.011** | .021 | .003 | **.008** | .016 | .002 | **.007** | .014 | .002 | **.007** | .013 | .F..LDJ |
| .E..LDJ | .005 | **.017** | .032 | .004 | **.013** | .023 | .003 | **.009** | .017 | .002 | **.008** | .015 | .002 | **.008** | .014 | .E..LDJ |
| .E..LD | .005 | **.017** | .032 | .004 | **.013** | .023 | .003 | **.009** | .017 | .002 | **.008** | .015 | .002 | **.008** | .014 | .E..LD |
| .S..GDJ | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | .S..GDJ |
| .S..GD | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | .S..GD |
| .S..HD | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | .S..HD |

### At .080 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .007 | **.021** | .040 | .005 | **.015** | .029 | .004 | **.011** | .021 | .003 | **.010** | .019 | .003 | **.009** | .017 | .F..LDJ |
| .E..LDJ | .007 | **.023** | .043 | .005 | **.017** | .030 | .004 | **.013** | .023 | .003 | **.011** | .020 | .003 | **.010** | .018 | .E..LDJ |
| .E..LD | .007 | **.023** | .043 | .005 | **.017** | .030 | .004 | **.013** | .023 | .003 | **.011** | .020 | .003 | **.010** | .018 | .E..LD |
| .S..GDJ | .012 | **.031** | .048 | .009 | **.022** | .034 | .007 | **.017** | .025 | .006 | **.015** | .022 | .005 | **.013** | .020 | .S..GDJ |
| .S..GD | .012 | **.031** | .048 | .009 | **.022** | .034 | .007 | **.017** | .025 | .006 | **.015** | .022 | .005 | **.013** | .020 | .S..GD |
| .S..HD | .012 | **.031** | .048 | .009 | **.022** | .034 | .007 | **.017** | .025 | .006 | **.015** | .022 | .005 | **.013** | .020 | .S..HD |

### At .050 Axial Depth of Cut (ap)

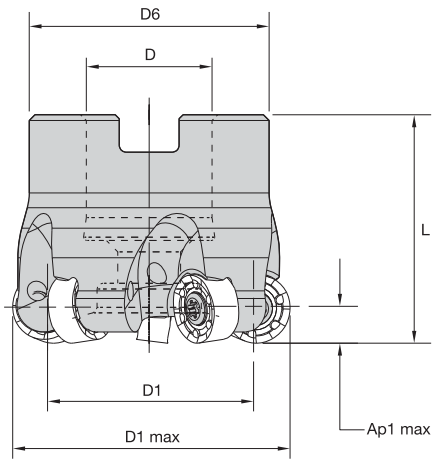
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .008 | **.026** | .049 | .006 | **.018** | .035 | .004 | **.014** | .026 | .004 | **.012** | .023 | .003 | **.011** | .021 | .F..LDJ |
| .E..LDJ | .008 | **.029** | .052 | .006 | **.020** | .037 | .004 | **.015** | .028 | .004 | **.013** | .024 | .003 | **.012** | .022 | .E..LDJ |
| .E..LD | .008 | **.029** | .052 | .006 | **.020** | .037 | .004 | **.015** | .028 | .004 | **.013** | .024 | .003 | **.012** | .022 | .E..LD |
| .S..GDJ | .015 | **.038** | .059 | .011 | **.027** | .041 | .008 | **.020** | .031 | .007 | **.018** | .027 | .007 | **.016** | .024 | .S..GDJ |
| .S..GD | .015 | **.038** | .059 | .011 | **.027** | .041 | .008 | **.020** | .031 | .007 | **.018** | .027 | .007 | **.016** | .024 | .S..GD |
| .S..HD | .015 | **.038** | .059 | .011 | **.027** | .041 | .008 | **.020** | .031 | .007 | **.018** | .027 | .007 | **.016** | .024 | .S..HD |

### At .030 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .F..LDJ | .010 | **.033** | .063 | .007 | **.023** | .044 | .005 | **.017** | .033 | .005 | **.015** | .029 | .004 | **.014** | .026 | .F..LDJ |
| .E..LDJ | .010 | **.036** | .067 | .007 | **.026** | .047 | .005 | **.019** | .035 | .005 | **.017** | .030 | .004 | **.015** | .028 | .E..LDJ |
| .E..LD | .010 | **.036** | .067 | .007 | **.026** | .047 | .005 | **.019** | .035 | .005 | **.017** | .030 | .004 | **.015** | .028 | .E..LD |
| .S..GDJ | .019 | **.049** | .075 | .014 | **.035** | .052 | .010 | **.026** | .039 | .009 | **.022** | .034 | .008 | **.021** | .031 | .S..GDJ |
| .S..GD | .019 | **.049** | .075 | .014 | **.035** | .052 | .010 | **.026** | .039 | .009 | **.022** | .034 | .008 | **.021** | .031 | .S..GD |
| .S..HD | .019 | **.049** | .075 | .014 | **.035** | .052 | .010 | **.026** | .039 | .009 | **.022** | .034 | .008 | **.021** | .031 | .S..HD |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Double-sided round insert with 12 indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Pocketing and profiling capabilities.



## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5154910** | **KDR200R1604S075L200** | 2.000 | 1.370 | .750 | 1.752 | 2.000 | .156 | 4 | .5° | 26400 | RN_J1605M0__ | .93 |
| **5154913** | **KDR300R1607S100L200** | 3.000 | 2.370 | 1.000 | 2.189 | 2.000 | .156 | 7 | .3° | 20100 | RN_J1605M0__ | 1.92 |
| **5360214** | **KDR300R1607S125L200** | 3.000 | 2.370 | 1.250 | 2.875 | 2.000 | .156 | 7 | .5° | 20100 | RN_J1605M0__ | 2.33 |
| **5154914** | **KDR400R1606S150L200** | 4.000 | 3.370 | 1.500 | 3.812 | 2.000 | .156 | 6 | .4° | 16800 | RNGJ1605M0__ | 3.99 |
| **5154915** | **KDR400R1608S150L200** | 4.000 | 3.370 | 1.500 | 3.812 | 2.000 | .156 | 8 | .4° | 16800 | RNGJ1605M0__ | 4.04 |
| **5154916** | **KDR500R1608S150L200** | 5.000 | 4.370 | 1.500 | 3.380 | 2.000 | .156 | 8 | .2° | 14800 | RN_J1605M0__ | 5.08 |

## Spare Parts

| D1 max | insert screw | in. lbs. | socket-head cap screw | wrench | coolant screw assembly |
|---|---|---|---|---|---|
| 2.000 | **192.932** | 35 | **S446** | **170.026** | **–** |
| 3.000 | **192.932** | 35 | **S458** | **170.026** | **–** |
| 3.000 | **MS2260** | 35 | **S467** | **170.026** | **S2172CG** |
| 4.000 | **MS2260** | 35 | **–** | **170.026** | **–** |
| 5.000 | **MS2260** | 35 | **–** | **170.026** | **–** |

## Insert Selection Guide

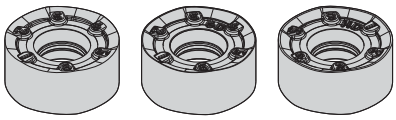
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LDJ | KC725M | .S..GD | KCPM40 | .S..HD | KCPM40 |
| P3–P4 | .E..LDJ | KC522M | .S..GD | KCPK30 | .S..HD | KCPM40 |
| P5–P6 | .E..LDJ | KC725M | .S..GD | KC725M | .S..HD | KC725M |
| M1–M2 | .E..LDJ | KC522M | .S..HD | KC725M | .S..GD | KCSM40 |
| M3 | .E..LDJ | KC725M | .S..GD | KCPM40 | .S..HD | KCPM40 |
| K1–K2 | .S..HD | KC520M | .S..HD | KC520M | .S..HD | KCK15 |
| K3 | .S..GD | KCPK30 | .S..HD | KC520M | .S..HD | KCK15 |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | .E..LDJ | KC725M | .S..GD | KCSM40 | .S..HD | KC725M |
| S3 | .E..LDJ | KC725M | .S..GD | KCSM40 | .S..HD | KCPM40 |
| S4 | .E..LDJ | KC522M | .S..GD | KCSM40 | .S..HD | KC725M |
| H1 | – | – | – | – | – | – |

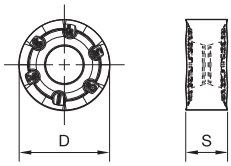


- -LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.
- -GD geometry is for general use in steel and stainless steel.
- -HD geometry is the first choice for heavy machining high-strength steel and cast iron.

● first choice
○ alternate choice

| | | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | | ● | ● | | ○ |
| M | | | ● | ● | | ○ | ○ | ○ | ● |
| K | | ● | ○ | | ● | ○ | | | |
| N | | | | | | | | | |
| S | | | ● | ● | | | | ● | ● |
| H | | | | | | | | | |


RNGJ16-LD RNPJ16-GD RNPJ16-HD



RNGJ16-LD

### RNGJ16-LD

| catalog number | D | S | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RNGJ1605M0ELDJ | .630 | .217 | .002 | 12 | – | ● | ● | – | – | – | – | – |

### RNPJ16-GD

| catalog number | D | S | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RNPJ1605M0SGD | .630 | .217 | .003 | 12 | – | ● | ● | – | ● | ● | – | ● |

### RNPJ16-HD

| catalog number | D | S | hm | cutting edges | KC520M | KC522M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RNPJ1605M0SHD | .630 | .217 | .009 | 12 | ● | – | ● | ● | ● | ● | – | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .320 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJ | .005 | **.017** | .031 | .004 | **.013** | .023 | .003 | **.009** | .017 | .002 | **.008** | .015 | .002 | **.008** | .014 | .E..LDJ |
| .E..LD | .005 | **.017** | .031 | .004 | **.013** | .023 | .003 | **.009** | .017 | .002 | **.008** | .015 | .002 | **.008** | .014 | .E..LD |
| .S..GD | .009 | **.020** | .035 | .007 | **.014** | .025 | .005 | **.011** | .019 | .004 | **.009** | .016 | .004 | **.009** | .015 | .S..GD |
| .S..HD | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..HD |

### At .100 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJ | .007 | **.024** | .043 | .005 | **.017** | .031 | .004 | **.013** | .023 | .003 | **.011** | .020 | .003 | **.010** | .018 | .E..LDJ |
| .E..LD | .007 | **.024** | .043 | .005 | **.017** | .031 | .004 | **.013** | .023 | .003 | **.011** | .020 | .003 | **.010** | .018 | .E..LD |
| .S..GD | .013 | **.027** | .048 | .009 | **.019** | .034 | .007 | **.015** | .026 | .006 | **.013** | .022 | .005 | **.012** | .020 | .S..GD |
| .S..HD | .013 | **.032** | .051 | .009 | **.023** | .037 | .007 | **.017** | .027 | .006 | **.015** | .024 | .005 | **.014** | .022 | .S..HD |

### At .060 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJ | .008 | **.030** | .054 | .006 | **.021** | .039 | .005 | **.016** | .029 | .004 | **.014** | .025 | .004 | **.013** | .023 | .E..LDJ |
| .E..LD | .008 | **.030** | .054 | .006 | **.021** | .039 | .005 | **.016** | .029 | .004 | **.014** | .025 | .004 | **.013** | .023 | .E..LD |
| .S..GD | .016 | **.034** | .060 | .011 | **.024** | .043 | .009 | **.018** | .032 | .007 | **.016** | .028 | .007 | **.014** | .025 | .S..GD |
| .S..HD | .016 | **.040** | .064 | .011 | **.029** | .046 | .009 | **.021** | .034 | .007 | **.019** | .030 | .007 | **.017** | .027 | .S..HD |

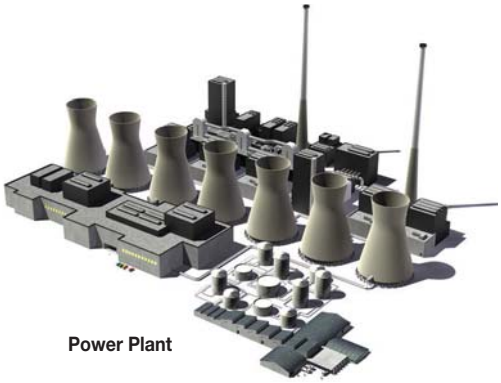
### At .040 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJ | .010 | **.036** | .066 | .007 | **.026** | .047 | .005 | **.019** | .035 | .005 | **.017** | .030 | .004 | **.015** | .028 | .E..LDJ |
| .E..LD | .010 | **.036** | .066 | .007 | **.026** | .047 | .005 | **.019** | .035 | .005 | **.017** | .030 | .004 | **.015** | .028 | .E..LD |
| .S..GD | .019 | **.041** | .073 | .014 | **.029** | .052 | .010 | **.022** | .039 | .009 | **.019** | .034 | .008 | **.017** | .031 | .S..GD |
| .S..HD | .019 | **.048** | .078 | .014 | **.034** | .056 | .010 | **.026** | .041 | .009 | **.022** | .036 | .008 | **.021** | .033 | .S..HD |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Rodeka 12X Turbine Blade Version

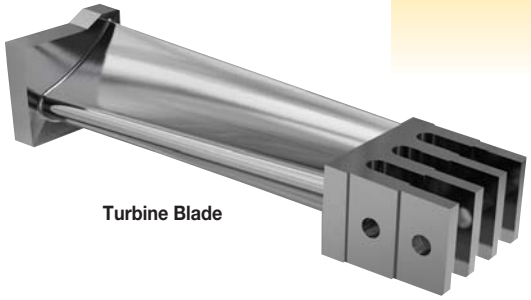
Revolutionary double-sided round insert engineered for turbine blade machining. Special geometries, insert styles, and dedicated cutter bodies have been developed to serve this demanding application.



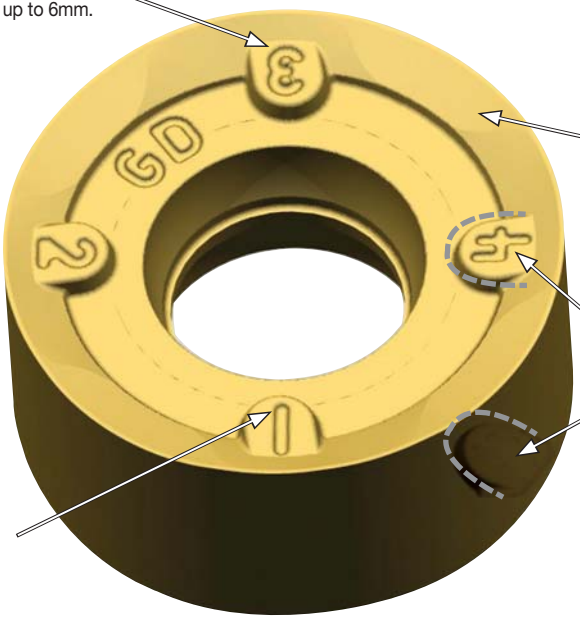
Power Plant

Steam Turbine

Rodeka 12X



Turbine Blade



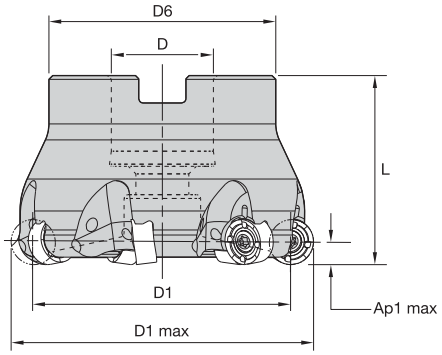

Four indexes per side, in total eight cutting edges. With higher Ap capabilities, up to 6mm.

Specific high positive geometries with improved chip forming and higher tool life.

Insert location twisted by 45° between top and bottom side for equal performance over all eight cutting edges.

Unique anti-rotation feature with higher contact area for excellent stability, allowing higher feed rates.

- Double-sided round inserts with eight indexable positions.
- Anti-rotation features enable higher cutting data and extra stability.
- Engineered for turbine blade machining.



## Shell Mills • Inch

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5104420** | **KDR40Z04S16RN12X** | 1.575 | 1.102 | .630 | 1.496 | 1.575 | .236 | 4 | .5° | 35020 | RN_J1204M0___ | .51 |
| **5104421** | **KDR50Z05S22RN12X** | 1.970 | 1.496 | .866 | 1.650 | 1.570 | .236 | 5 | .7° | 31330 | RN_J1204M0___ | .67 |
| **5104424** | **KDR63Z06S22RN12X** | 2.480 | 2.008 | .866 | 1.930 | 1.570 | .236 | 6 | .5° | 27910 | RN_J1204M0___ | 1.06 |
| **5104426** | **KDR80Z07S27RN12X** | 3.150 | 2.677 | 1.063 | 2.360 | 1.970 | .236 | 7 | .3° | 24760 | RN_J1204M0___ | 2.31 |

## Spare Parts

| D1 max | insert screw | in. lbs. | socket-head cap screw | socket-head cap screw with coolant groove | wrench |
|---|---|---|---|---|---|
| 1.575 | **193.492** | 35 | **–** | **MS1294CG** | **170.025** |
| 1.970 | **193.492** | 35 | **–** | **MS1234CG** | **170.025** |
| 2.480 | **193.492** | 35 | **–** | **MS1234CG** | **170.025** |
| 3.150 | **193.492** | 35 | **MS2038** | **MS2038CG** | **170.025** |

NOTE: Socket-head cap screws with coolant groove need to be purchased separately.

## Insert Selection Guide

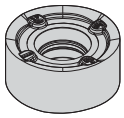
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LDJX | KC522M | **.E..LDJX** | **KC725M** | .S..GDJX | KC725M |
| P3–P4 | .E..LDJX | KC522M | **.E..LDJX** | **KC725M** | .S..GDJX | KC522M |
| P5–P6 | .E..LDJX | KC725M | **.E..LDJX** | **KC725M** | .S..GDJX | KC725M |
| M1–M2 | .E..LDJX | KC522M | **.E..LDJX** | **KC725M** | .S..GDJX | KC522M |
| M3 | .E..LDJX | KC522M | **.E..LDJX** | **KC725M** | .S..GDJX | KC725M |
| K1–K2 | – | – | **–** | **–** | – | – |
| K3 | – | – | **–** | **–** | – | – |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LDJX | KC522M | **.E..LDJX** | **KC725M** | .S..GDJX | KC725M |
| S3 | .E..LDJX | KC725M | **.E..LDJX** | **KC725M** | .S..GDJX | KC725M |
| S4 | .E..LDJX | KC522M | **.S..GDJX** | **KC522M** | .S..GDJX | KC725M |
| H1 | – | – | **–** | **–** | – | – |

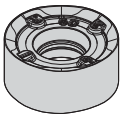
## Indexable Inserts

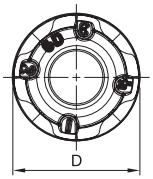
- -LD geometry is for general use on blades from a solid block.
- -LD geometry is the first choice for stainless steel and titanium machining at lower cutting forces.
- -GD geometry is the first choice for forged blades.
- -GD geometry is for general use in steel and stainless steel.

● first choice
○ alternate choice

| | | KC522M | KC725M | KCSM30 |
|---|---|---|---|---|
| P | | ○ | ● | |
| M | | ● | ● | ○ |
| K | | ○ | | |
| N | | | | |
| S | | ● | ● | ● |
| H | | ○ | | |


RNGJ12-LDX


RNGJ12-GDX



RNGJ12-GDX

### RNGJ12-LDX

| catalog number | D | S | hm | cutting edges | KC522M | KC725M | KCSM30 |
|---|---|---|---|---|---|---|---|
| **RNGJ1204M0ENLDJX** | .472 | .187 | .001 | 8 | ● | – | – |

### RNGJ12-GDX

| catalog number | D | S | hm | cutting edges | KC522M | KC725M | KCSM30 |
|---|---|---|---|---|---|---|---|
| **RNGJ1204M0SNGDJX** | .472 | .187 | .003 | 8 | – | ● | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .240 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJX | .005 | **.019** | .034 | .003 | **.014** | .024 | .003 | **.011** | .018 | .002 | **.009** | .016 | .002 | **.008** | .014 | .E..LDJX |
| .S..GDJX | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | .S..GDJX |

### At .080 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJX | .006 | **.026** | .045 | .004 | **.019** | .032 | .003 | **.014** | .024 | .003 | **.012** | .021 | .003 | **.011** | .019 | .E..LDJX |
| .S..GDJX | .012 | **.031** | .047 | .009 | **.022** | .034 | .007 | **.017** | .025 | .006 | **.015** | .022 | .005 | **.013** | .020 | .S..GDJX |

### At .050 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJX | .007 | **.032** | .055 | .005 | **.023** | .039 | .004 | **.017** | .029 | .004 | **.015** | .026 | .003 | **.014** | .023 | .E..LDJX |
| .S..GDJX | .015 | **.038** | .057 | .011 | **.027** | .041 | .008 | **.020** | .031 | .007 | **.018** | .027 | .007 | **.016** | .024 | .S..GDJX |

### At .030 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LDJX | .009 | **.040** | .070 | .007 | **.029** | .050 | .005 | **.022** | .037 | .004 | **.019** | .032 | .004 | **.017** | .030 | .E..LDJX |
| .S..GDJX | .019 | **.048** | .073 | .014 | **.034** | .052 | .010 | **.026** | .039 | .009 | **.022** | .034 | .008 | **.021** | .031 | .S..GDJX |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# The Next Generation Spindle Interface for Heavy-Duty Machining!

# KM4X™

KM4X is designed to take on your most aggressive machining jobs. This next generation KM™ spindle interface should be your first choice for heavy-duty machining applications. It's especially suited for large structural components, like titanium aerospace components.

We engineered these rotating and static tool adapters to handle 3x more bending capacity than similar competitive models.

**What does this mean for you?**

- Enables full use of machine and cutting tools for the highest productivity.
- Higher metal removal rates.
- Can retrofit to existing machines to boost throughput without buying new equipment.
- Ideal for aerospace and transportation industry machining jobs.

Visit **kennametal.com** or contact your local Authorized Kennametal Distributor.

KENNAMETAL®

kennametal.com

# KSRM™ Series

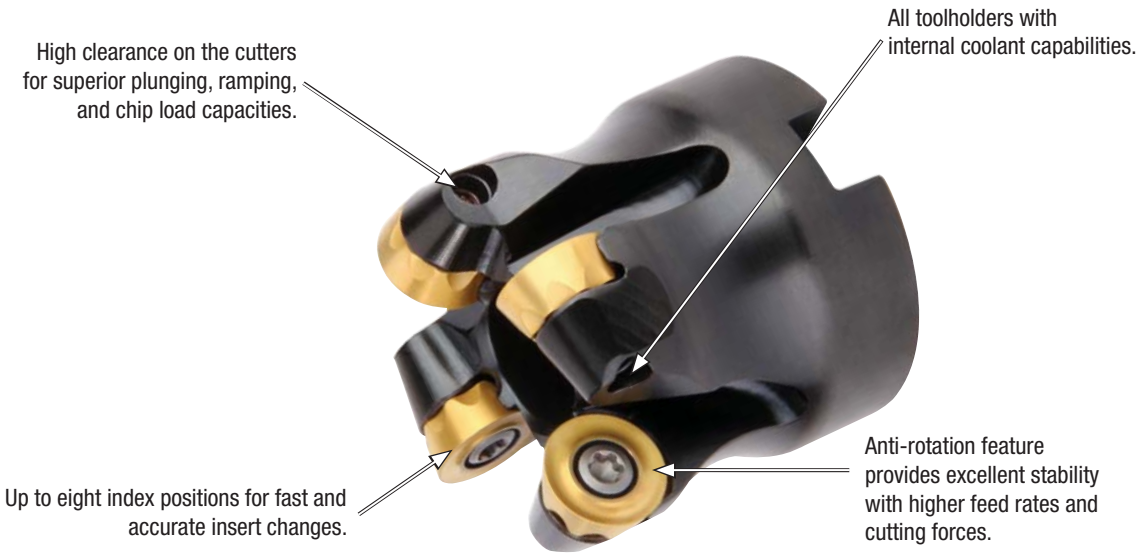
## Multipurpose Milling Cutters • 12mm, 1/2", 16mm, 3/4", and 1" ICs

### Primary Application

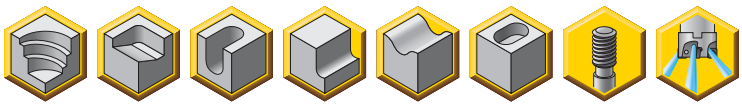
Specially developed for machining titanium and stainless steel. KSRM platform enables you to pocket, profile, ramp, and plunge with consistent performance and outstanding metal removal rates with the lowest cutting forces.

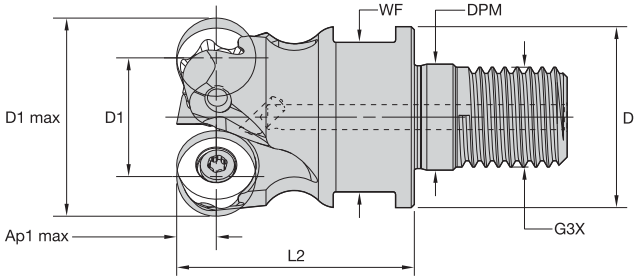
## Features and Benefits

- Up to eight cutting edges per insert.
- Anti-rotation feature achieves excellent stability.
- Engineered to provide longer tool life in titanium and stainless steel.
- Roughing and semi-finishing operations with lower cutting forces.


High clearance on the cutters for superior plunging, ramping, and chip load capacities.
All toolholders with internal coolant capabilities.
Up to eight index positions for fast and accurate insert changes.
Anti-rotation feature provides excellent stability with higher feed rates and cutting forces.

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



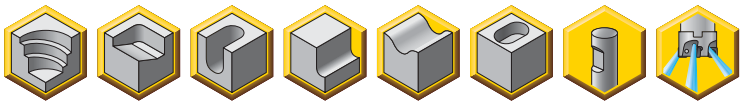


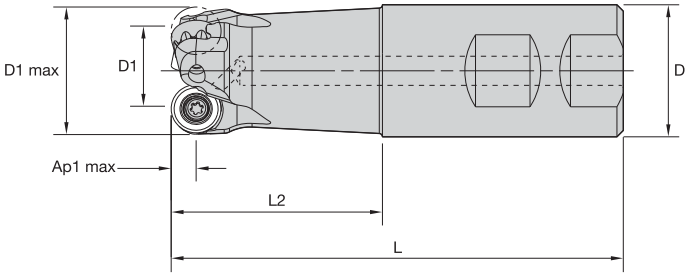
## Screw-On End Mills

| order number | catalog number | D1 max | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | max ramp angle | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4042688** | **BMD125R1203M16L150** | 1.250 | .778 | 1.142 | .670 | M16 | 1.500 | 22 | .236 | 3 | 5.7° | 43500 | .35 | RP..T1204M0.. |
| **4042690** | **BMD150R1204M16L150** | 1.500 | 1.028 | 1.142 | .670 | M16 | 1.500 | 22 | .236 | 4 | 9.2° | 39700 | .41 | RP..T1204M0.. |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.250 | **MS2077** | 20 | **DT15IP** |
| 1.500 | **MS2077** | 20 | **DT15IP** |





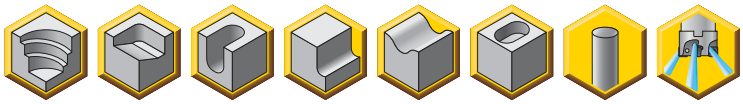
## Weldon End Mills

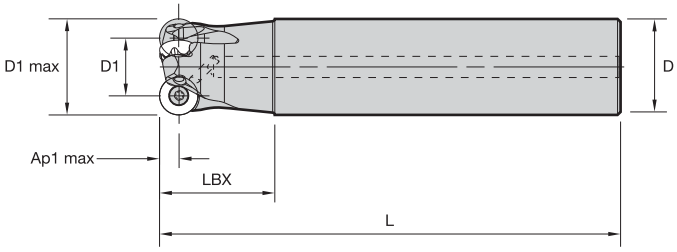
| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4042691** | **BMD125R1203W125L200** | 1.250 | .778 | 1.250 | 4.280 | 2.000 | .236 | 3 | 5.7° | 43500 | RP..T1204M0.. | 1.17 |
| **3891915** | **BMD150R1204W150L200** | 1.500 | 1.028 | 1.500 | 4.690 | 2.000 | .236 | 4 | 9.2° | 39700 | RP..T1204M0.. | 1.94 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.250 | **MS2077** | 20 | **DT15IP** |
| 1.500 | **MS2077** | 20 | **DT15IP** |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.





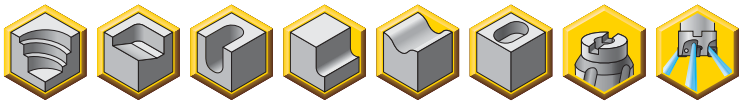
## Cylindrical End Mills

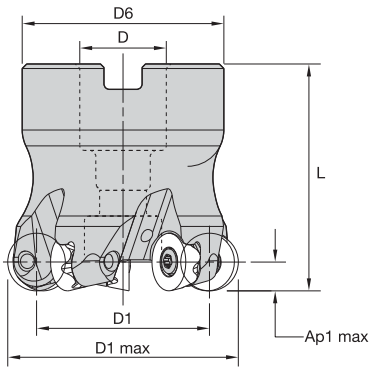
| order number | catalog number | D1 max | D1 | D | L | L2 | LBX | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4042692** | **BMD125R1203C125L700** | 1.250 | .778 | 1.250 | 7.000 | 1.575 | 1.575 | .236 | 3 | 5.7° | 43500 | RP..T1204M0.. | 2.11 |
| **4042713** | **BMD150R1203C125L800** | 1.500 | 1.028 | 1.250 | 8.000 | 1.575 | 1.575 | .236 | 3 | 9.8° | 39700 | RP..T1204M0.. | 2.54 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.250 | **MS2077** | 20 | **DT15IP** |
| 1.500 | **MS2077** | 20 | **DT15IP** |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.





## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3891882** | **BMD150R1204S050L158** | 1.500 | 1.028 | .500 | 1.440 | 1.575 | .236 | 4 | 9.2° | 39700 | RP..T1204M0# | .47 |
| **4042714** | **BMD200R1203S075L200** | 2.000 | 1.528 | .750 | 1.752 | 2.000 | .236 | 3 | 10.5° | 34400 | RP..T1204M0# | 1.02 |
| **4042715** | **BMD200R1205S075L200** | 2.000 | 1.528 | .750 | 1.752 | 2.000 | .236 | 5 | 7.7° | 34400 | RP..T1204M0# | 1.01 |
| **4042716** | **BMD250R1207S100L200** | 2.500 | 2.028 | 1.000 | 2.190 | 2.000 | .236 | 7 | 4.1° | 30800 | RP..T1204M0# | 1.61 |
| **3885499** | **BMD300R1206S100L200** | 3.000 | 2.528 | 1.000 | 2.752 | 2.000 | .236 | 6 | 5.7° | 28100 | RP..T1204M0# | 2.54 |
| **4042717** | **BMD300R1208S100L200** | 3.000 | 2.528 | 1.000 | 2.752 | 2.000 | .236 | 8 | 3.5° | 28100 | RP..T1204M0# | 2.57 |
| **4042718** | **BMD400R1207S125L200** | 4.000 | 3.528 | 1.250 | 2.878 | 2.000 | .236 | 7 | 3.3° | 23800 | RP..T1204M0# | 3.23 |
| **4002349** | **BMD400R1209S125L200** | 4.000 | 3.528 | 1.250 | 2.878 | 2.000 | .236 | 9 | 3.0° | 23800 | RP..T1204M0# | 3.20 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver | socket-head cap screw | socket-head cap screw with coolant groove | coolant lock screw assembly |
|---|---|---|---|---|---|---|
| 1.500 | **MS2077** | 20 | **DT15IP** | **S424** | **S422CG** | **—** |
| 2.000 | **MS2077** | 20 | **DT15IP** | **S446** | **S446CG** | **—** |
| 2.500 | **MS2077** | 20 | **DT15IP** | **S459** | **S459CG** | **—** |
| 3.000 | **MS2077** | 20 | **DT15IP** | **S459** | **S459CG** | **—** |
| 4.000 | **MS2077** | 20 | **DT15IP** | **—** | **—** | **S2162C** |

NOTE: Socket-head cap screw with coolant groove must be ordered separately.

## Insert Selection Guide

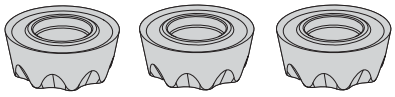
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .S..GE | KCPK30 | **.S..GDX** | **KCPM40** | .S..GP | KCPM40 |
| P3–P4 | .S..GE | KCPK30 | **.S..GDX** | **KCPM40** | .S..GP | KCPM40 |
| P5–P6 | .S..GEJ | KC725M | **.S..GDX** | **KC725M** | .S..GP | KC725M |
| M1–M2 | .E..LEJ | KC725M | **.S..GDX** | **KC725M** | .S..GP | KC725M |
| M3 | .S..GE | KCPK30 | **.S..GDX** | **KCPM40** | .S..GP | KCPM40 |
| K1–K2 | – | – | **–** | **–** | – | – |
| K3 | .E..LE | KCPK30 | **.S..GE** | **KCPK30** | .S..GP | KCPK30 |
| N1–N2 | .E..LEJ | KC422M | **.E..LEJ** | **KC422M** | .E..LEJ | KC422M |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .S..GEJ | KC725M | **.S..GDX** | **KC725M** | .S..GP | KC725M |
| S3 | .S..GEJ | KC725M | **.S..GDX** | **KCPM40** | .S..GP | KCPM40 |
| S4 | .S..GEJ | KC522M | **.S..GDX** | **KC725M** | .S..GP | KC725M |
| H1 | – | – | **–** | **–** | – | – |

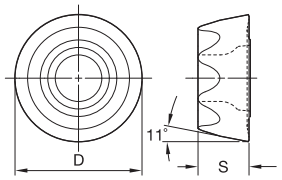
## Indexable Inserts

- -SGEJ and -ELEJ are the first choice for titanium machining.
- -ELEJ is the first choice for lower cutting forces to avoid built-up edges.
- -SGEJ geometry for general purpose in roughing operations.

● first choice
○ alternate choice

| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | ● | ● | | ○ |
| M | | | ● | ● | ○ | ● | ○ | ● |
| K | | | ○ | | ○ | | | |
| N | | ● | | | | | | |
| S | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | |


RPET-LEJ RPET-LE RPET-GEJ



RPET-LEJ

### RPET-LEJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1204M0ELEJ** | .472 | .188 | .002 | 8 | ● | ● | ● | – | – | ● | – |

### RPET-LE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1204M0ELE** | .472 | .188 | .002 | 8 | – | – | ● | ● | – | – | – |

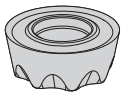
### RPET-GEJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1204M0SGEJ** | .472 | .188 | .005 | 8 | – | ● | ● | – | – | ● | – |

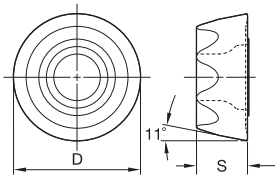
- -SGEJ and -ELEJ are the first choice for titanium machining.
- -ELEJ is the first choice for lower cutting forces to avoid built-up edges.
- -SGEJ geometry for general purpose in roughing operations.

● first choice
○ alternate choice

| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | ● | ● | | ○ |
| M | | | ● | ● | ○ | ● | ○ | ● |
| K | | | ○ | | ○ | | | |
| N | | ● | | | | | | |
| S | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | |



RPET-GE

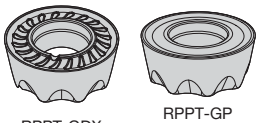



RPET-GE

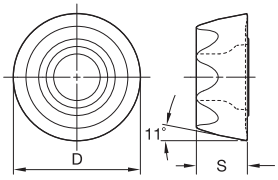
## RPET-GE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1204M0SGE** | .472 | .188 | .005 | 8 | – | – | – | ● | – | – | – |

- -GP geometry for roughing operations, especially in steel.
- -SGDX is the first choice for martensitic stainless steel and turbine blade applications.



RPPT-GDX RPPT-GP




RPPT-GDX
RPPT-GP

## RPPT-GDX

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT1204M0SGDX** | .472 | .187 | .007 | 8 | – | – | ● | – | ● | – | – |

## RPPT-GP

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT1204M0SGP** | .472 | .188 | .005 | 8 | – | – | ● | ● | ● | – | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .240 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .007 | **.019** | .030 | .005 | **.013** | .021 | .004 | **.010** | .016 | .003 | **.009** | .014 | .003 | **.008** | .013 | .E..LEJ |
| .E..LE | .007 | **.019** | .030 | .005 | **.013** | .021 | .004 | **.010** | .016 | .003 | **.009** | .014 | .003 | **.008** | .013 | .E..LE |
| .S..GEJ | .009 | **.021** | .033 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | .S..GEJ |
| .S..GE | .009 | **.021** | .033 | .007 | **.015** | .023 | .005 | **.011** | .017 | .004 | **.010** | .015 | .004 | **.009** | .014 | .S..GE |
| .S..GDX | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | .S..GDX |
| .S..GP | .009 | **.023** | .035 | .007 | **.017** | .025 | .005 | **.013** | .019 | .004 | **.011** | .016 | .004 | **.010** | .015 | .S..GP |

### At .080 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .009 | **.025** | .040 | .006 | **.018** | .028 | .005 | **.013** | .021 | .004 | **.012** | .018 | .004 | **.011** | .017 | .E..LEJ |
| .E..LE | .009 | **.025** | .040 | .006 | **.018** | .028 | .005 | **.013** | .021 | .004 | **.012** | .018 | .004 | **.011** | .017 | .E..LE |
| .S..GEJ | .012 | **.028** | .044 | .009 | **.020** | .031 | .007 | **.015** | .023 | .006 | **.013** | .020 | .005 | **.012** | .019 | .S..GEJ |
| .S..GE | .012 | **.028** | .044 | .009 | **.020** | .031 | .007 | **.015** | .023 | .006 | **.013** | .020 | .005 | **.012** | .019 | .S..GE |
| .S..GDX | .012 | **.031** | .048 | .009 | **.022** | .034 | .007 | **.017** | .025 | .006 | **.015** | .022 | .005 | **.013** | .020 | .S..GDX |
| .S..GP | .012 | **.031** | .048 | .009 | **.022** | .034 | .007 | **.017** | .025 | .006 | **.015** | .022 | .005 | **.013** | .020 | .S..GP |

### At .050 Axial Depth of Cut (ap)

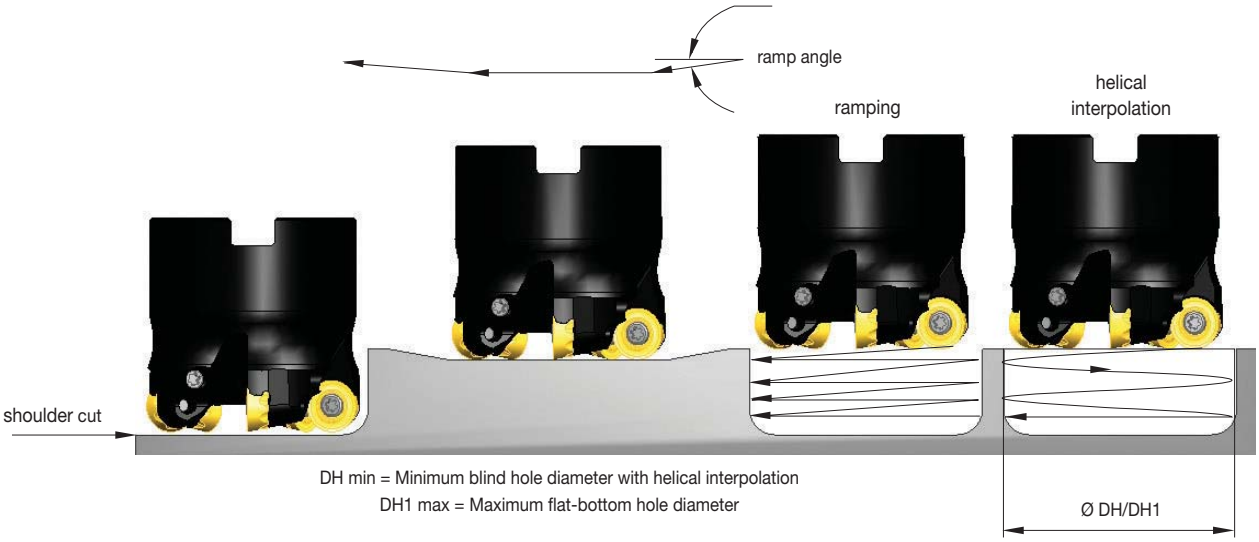
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .011 | **.031** | .049 | .008 | **.022** | .035 | .006 | **.016** | .026 | .005 | **.014** | .022 | .005 | **.013** | .020 | .E..LEJ |
| .E..LE | .011 | **.031** | .049 | .008 | **.022** | .035 | .006 | **.016** | .026 | .005 | **.014** | .022 | .005 | **.013** | .020 | .E..LE |
| .S..GEJ | .015 | **.034** | .054 | .011 | **.025** | .038 | .008 | **.018** | .028 | .007 | **.016** | .025 | .007 | **.015** | .023 | .S..GEJ |
| .S..GE | .015 | **.034** | .054 | .011 | **.025** | .038 | .008 | **.018** | .028 | .007 | **.016** | .025 | .007 | **.015** | .023 | .S..GE |
| .S..GDX | .015 | **.038** | .059 | .011 | **.027** | .041 | .008 | **.020** | .031 | .007 | **.018** | .027 | .007 | **.016** | .024 | .S..GDX |
| .S..GP | .015 | **.038** | .059 | .011 | **.027** | .041 | .008 | **.020** | .031 | .007 | **.018** | .027 | .007 | **.016** | .024 | .S..GP |

### At .030 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .013 | **.039** | .062 | .010 | **.028** | .044 | .007 | **.021** | .032 | .006 | **.018** | .028 | .006 | **.016** | .026 | .E..LEJ |
| .E..LE | .013 | **.039** | .062 | .010 | **.028** | .044 | .007 | **.021** | .032 | .006 | **.018** | .028 | .006 | **.016** | .026 | .E..LE |
| .S..GEJ | .019 | **.044** | .069 | .014 | **.031** | .049 | .010 | **.023** | .036 | .009 | **.020** | .031 | .008 | **.018** | .029 | .S..GEJ |
| .S..GE | .019 | **.044** | .069 | .014 | **.031** | .049 | .010 | **.023** | .036 | .009 | **.020** | .031 | .008 | **.018** | .029 | .S..GE |
| .S..GDX | .019 | **.049** | .075 | .014 | **.035** | .052 | .010 | **.026** | .039 | .009 | **.022** | .034 | .008 | **.021** | .031 | .S..GDX |
| .S..GP | .019 | **.049** | .075 | .014 | **.035** | .052 | .010 | **.026** | .039 | .009 | **.022** | .034 | .008 | **.021** | .031 | .S..GP |

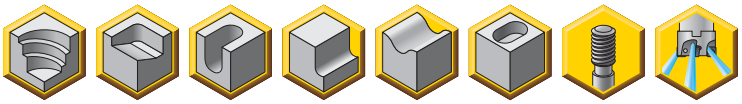
NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

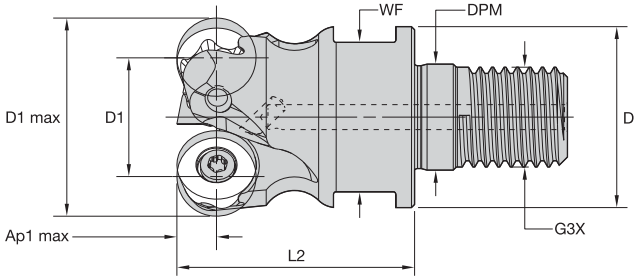
## Maximum Linear Ramping and Helical Interpolation from Solid




| catalog number | max ramp angle | max plunging depth | min hole diameter (DH min) | max flat-bottom hole diameter (DH1 max) | max diameter (no flat bottom) |
|---|---|---|---|---|---|
| **BMD125R1203M16L150** | 5.7° | 0.061 | 1.719 | 2.028 | 2.5 |
| **BMD150R1204M16L150** | 9.2° | 0.130 | 2.112 | 2.528 | 3.0 |
| **BMD125R1203W125L200** | 5.7° | 0.061 | 1.719 | 2.028 | 2.5 |
| **BMD150R1204W150L200** | 9.2° | 0.130 | 2.112 | 2.528 | 3.0 |
| **BMD125R1203C125L700** | 5.7° | 0.061 | 1.719 | 2.028 | 2.5 |
| **BMD150R1203C125L800** | 9.8° | 0.138 | 2.104 | 2.528 | 3.0 |
| **BMD150R1204S050L158** | 9.2° | 0.130 | 2.112 | 2.528 | 3.0 |
| **BMD200R1203S075L200** | 10.5° | 0.236 | 3.058 | 3.528 | 4.0 |
| **BMD200R1205S075L200** | 7.7° | 0.173 | 3.074 | 3.528 | 4.0 |
| **BMD250R1207S100L200** | 4.1° | 0.130 | 4.114 | 4.528 | 5.0 |
| **BMD300R1206S100L200** | 5.7° | 0.228 | 5.048 | 5.528 | 6.0 |
| **BMD300R1208S100L200** | 3.5° | 0.138 | 5.078 | 5.528 | 6.0 |
| **BMD400R1207S125L200** | 3.3° | 0.189 | 7.068 | 7.528 | 8.0 |
| **BMD400R1209S125L200** | 3.0° | 0.173 | 7.525 | 7.528 | 8.0 |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.





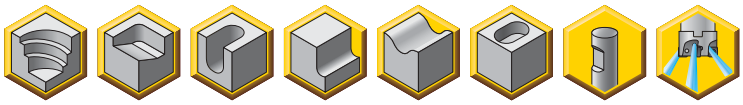
## Screw-On End Mills

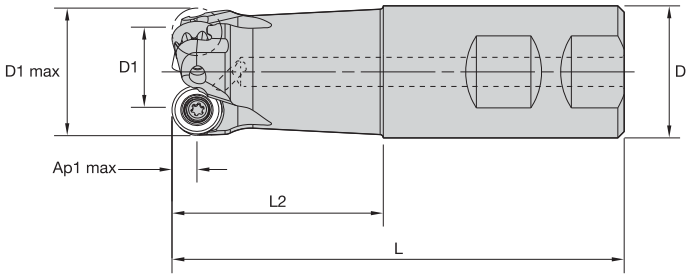
| order number | catalog number | D1 max | D1 | D | DPM | G3X | L2 | WF (mm) | Ap1 max | Z | max ramp angle | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4043037 | BMD150R1603M16 | 1.500 | .870 | 1.142 | .670 | M16 | 1.500 | 22 | .315 | 3 | 9.9° | 28000 | .35 | RP..T1605M0.. |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.500 | MS-2071 | 35 | DT15IP |

## Weldon® End Mills





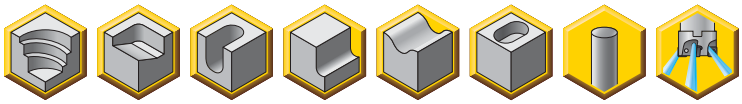
## Weldon End Mills

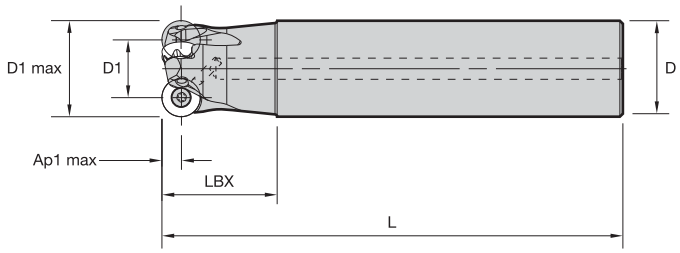
| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z | lbs | max ramp angle | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4043038 | BMD150R1603W125L200 | 1.500 | .870 | 1.250 | 4.280 | 2.000 | .315 | 3 | 1.24 | 9.9° | 28000 | RP..T1605M0.. |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.500 | MS-2071 | 35 | DT15IP |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.





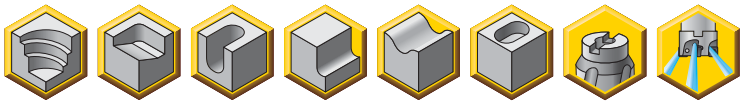
## Cylindrical End Mills

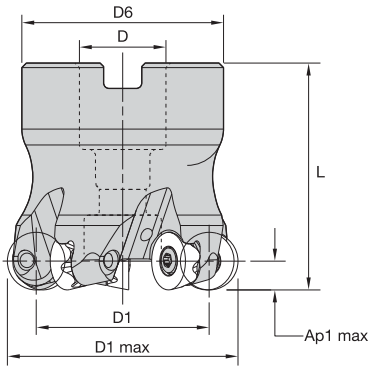
| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4043039** | **BMD150R1602C125L800** | 1.500 | .870 | 1.250 | 8.000 | 1.500 | .315 | 2 | 11.1° | 28000 | RP..T1605M0.. | 2.48 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.500 | **MS-2071** | 35 | **DT15IP** |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature eight indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.





## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4043040 | BMD200R1603S075L200 | 2.000 | 1.370 | .750 | 1.752 | 2.000 | .315 | 3 | 11.7° | 24200 | RP..T1605M0… | .82 |
| 4043041 | BMD200R1604S075L200 | 2.000 | 1.370 | .750 | 1.752 | 2.000 | .315 | 4 | 9.7° | 24200 | RP..T1605M0.. | .83 |
| 4043042 | BMD250R1605S100L200 | 2.500 | 1.870 | 1.000 | 2.189 | 2.000 | .315 | 5 | 11.7° | 21700 | RP..T1605M0.. | 1.43 |
| 4043053 | BMD300R1605S100L200 | 3.000 | 2.370 | 1.000 | 2.750 | 2.000 | .315 | 5 | 8.8° | 19800 | RP..T1605M0.. | 2.37 |
| 3997748 | BMD300R1607S100L200 | 3.000 | 2.370 | 1.000 | 2.750 | 2.000 | .315 | 7 | 6.8° | 19800 | RP..T1605M0.. | 2.38 |
| 4043054 | BMD400R1608S125L200 | 4.000 | 3.370 | 1.250 | 2.875 | 2.000 | .315 | 8 | 4.6° | 16600 | RP..T1605M0.. | 2.79 |
| 4043056 | BMD600R1610S150L250 | 6.000 | 5.370 | 1.500 | 3.811 | 2.500 | .315 | 10 | 3.4° | 13100 | RP..T1605M0.. | 7.86 |

## Spare Parts

| D1 max | insert screw | in. lbs. | socket-head cap screw | socket-head cap screw with coolant groove | coolant lock screw assembly | T-handle hex wrench | Torx Plus driver |
|---|---|---|---|---|---|---|---|
| 2.000 | MS-2071 | 35 | S446 | S446CG | – | – | DT15IP |
| 2.500 | MS-2071 | 35 | S459 | – | – | – | DT15IP |
| 3.000 | MS-2071 | 35 | S459 | – | – | – | DT15IP |
| 4.000 | MS-2071 | 35 | – | – | S2162C | THW2M | DT15IP |
| 6.000 | MS-2071 | 35 | – | – | S2163C | THW2M | DT15IP |

NOTE: Socket head cap screw with coolant groove must be ordered separately.

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LE | KCPK30 | **.S..GE** | **KCPK30** | .S..HP | KCPM40 |
| P3–P4 | .E..LE | KCPK30 | **.S..GE** | **KCPK30** | .S..HP | KCPM40 |
| P5–P6 | .E..LEJ | KC725M | **.S..GEJ** | **KC725M** | .S..HP | KC725M |
| M1–M2 | .E..LEJ | KC522M | **.S..GEJ** | **KC522M** | .S..HP | KC725M |
| M3 | .E..LEJ | KC725M | **.S..GEJ** | **KC725M** | .S..HP | KCPM40 |
| K1–K2 | – | – | **–** | **–** | – | – |
| K3 | .E..LE | KCPK30 | **.S..GE** | **KCPK30** | .S..HP | KCPK30 |
| N1–N2 | .E..LEJ | KC422M | **.E..LEJ** | **KC422M** | .E..LEJ | KC422M |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LEJ | KC725M | **.S..GEJ** | **KC725M** | .S..HP | KC725M |
| S3 | .E..LEJ | KC725M | **.S..GEJ** | **KC725M** | .S..HP | KCPM40 |
| S4 | .E..LEJ | KC522M | **.S..GEJ** | **KC522M** | .S..HP | KC725M |
| H1 | – | – | **–** | **–** | – | – |

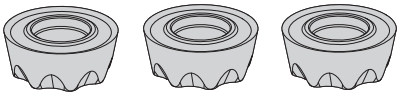
## Indexable Inserts

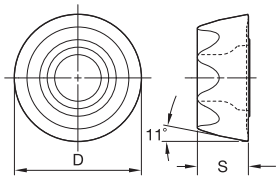
- -SGEJ and -ELEJ are the first choice for titanium machining.
- -ELEJ is the first choice for lower cutting forces to avoid built-up edge.
- -SGEJ geometry for general purpose in roughing operations.

beyond

● first choice
○ alternate choice

| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | ● | ● | | ○ |
| M | | | ● | ● | ○ | ● | ○ | ● |
| K | | | ○ | | ○ | | | |
| N | | ● | | | | | | |
| S | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | |


RPET-LEJ RPET-GEJ RPET-GE RPET-LE



RPET-GEJ

### RPET-LEJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1605M0ELEJ** | .630 | .219 | .001 | 8 | – | – | ● | – | – | – | – |

### RPET-LE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1605M0ELE** | .630 | .219 | .001 | 8 | – | – | – | ● | – | – | – |

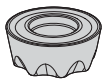
### RPET-GEJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1605M0SGEJ** | .630 | .219 | .005 | 8 | – | ● | ● | – | – | ● | – |

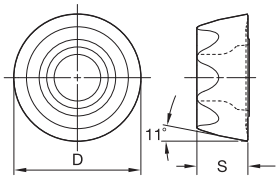
### RPET-GE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET1605M0SGE** | .630 | .219 | .005 | 8 | – | – | – | ● | – | – | – |

- HP geometry for roughing operations, especially in steel.



RPPT-HP




RPPT-HP

● first choice
○ alternate choice

beyond

| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | ○ | ● | ● | ● | | ○ |
| M | | ● | ● | ○ | ● | ○ | ● |
| K | | ○ | | ○ | | | |
| N | | ● | | | | | |
| S | | ● | ● | | ○ | ● | ● |
| H | | | | | | | |

## RPPT-HP

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RPPT1605M0SHP | .630 | .219 | .007 | 8 | – | – | ● | ● | ● | – | – |



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .320 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .005 | **.020** | .032 | .003 | **.014** | .023 | .003 | **.011** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LEJ |
| .E..LE | .005 | **.020** | .032 | .003 | **.014** | .023 | .003 | **.011** | .017 | .002 | **.009** | .015 | .002 | **.008** | .014 | .E..LE |
| .S..GEJ | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .S..GEJ |
| .S..GE | .009 | **.021** | .035 | .007 | **.015** | .025 | .005 | **.011** | .019 | .004 | **.010** | .016 | .004 | **.009** | .015 | .S..GE |
| .S..HP | .009 | **.023** | .038 | .007 | **.017** | .027 | .005 | **.013** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | .S..HP |

### At .100 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .006 | **.027** | .045 | .005 | **.019** | .032 | .003 | **.014** | .024 | .003 | **.013** | .021 | .003 | **.011** | .019 | .E..LEJ |
| .E..LE | .006 | **.027** | .045 | .005 | **.019** | .032 | .003 | **.014** | .024 | .003 | **.013** | .021 | .003 | **.011** | .019 | .E..LE |
| .S..GEJ | .013 | **.029** | .048 | .009 | **.021** | .034 | .007 | **.015** | .025 | .006 | **.013** | .022 | .005 | **.012** | .020 | .S..GEJ |
| .S..GE | .013 | **.029** | .048 | .009 | **.021** | .034 | .007 | **.015** | .025 | .006 | **.013** | .022 | .005 | **.012** | .020 | .S..GE |
| .S..HP | .013 | **.032** | .052 | .009 | **.023** | .037 | .007 | **.017** | .027 | .006 | **.015** | .024 | .005 | **.014** | .022 | .S..HP |

### At .060 Axial Depth of Cut (ap)

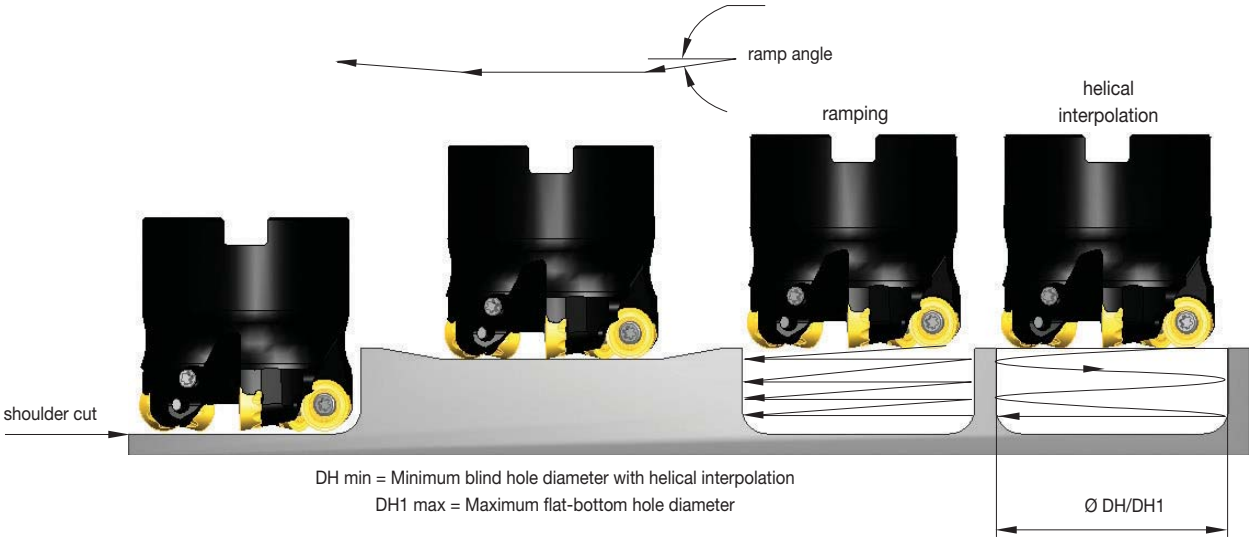
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .008 | **.034** | .056 | .006 | **.024** | .040 | .004 | **.018** | .030 | .004 | **.016** | .026 | .003 | **.014** | .024 | .E..LEJ |
| .E..LE | .008 | **.034** | .056 | .006 | **.024** | .040 | .004 | **.018** | .030 | .004 | **.016** | .026 | .003 | **.014** | .024 | .E..LE |
| .S..GEJ | .016 | **.036** | .060 | .011 | **.026** | .043 | .009 | **.019** | .032 | .007 | **.017** | .028 | .007 | **.015** | .025 | .S..GEJ |
| .S..GE | .016 | **.036** | .060 | .011 | **.026** | .043 | .009 | **.019** | .032 | .007 | **.017** | .028 | .007 | **.015** | .025 | .S..GE |
| .S..HP | .016 | **.040** | .065 | .011 | **.029** | .046 | .009 | **.021** | .034 | .007 | **.019** | .030 | .007 | **.017** | .027 | .S..HP |

### At .040 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| .E..LEJ | .009 | **.041** | .068 | .007 | **.029** | .048 | .005 | **.022** | .036 | .004 | **.019** | .031 | .004 | **.017** | .028 | .E..LEJ |
| .E..LE | .009 | **.041** | .068 | .007 | **.029** | .048 | .005 | **.022** | .036 | .004 | **.019** | .031 | .004 | **.017** | .028 | .E..LE |
| .S..GEJ | .019 | **.044** | .073 | .014 | **.031** | .052 | .010 | **.023** | .038 | .009 | **.020** | .033 | .008 | **.018** | .030 | .S..GEJ |
| .S..GE | .019 | **.044** | .073 | .014 | **.031** | .052 | .010 | **.023** | .038 | .009 | **.020** | .033 | .008 | **.018** | .030 | .S..GE |
| .S..HP | .019 | **.049** | .079 | .014 | **.035** | .056 | .010 | **.026** | .041 | .009 | **.022** | .036 | .008 | **.021** | .033 | .S..HP |

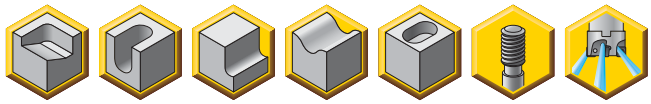
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

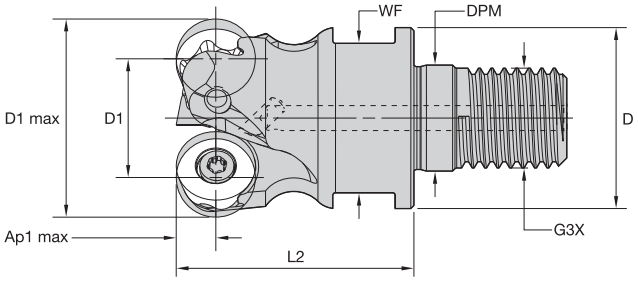
## Maximum Linear Ramping and Helical Interpolation from Solid




| catalog number | max ramp angle | max plunging depth | min hole diameter (DH min) | max flat-bottom hole diameter (DH1 max) | max diameter (no flat bottom) |
|---|---|---|---|---|---|
| **BMD150R1603M16L150** | 9.9° | .106 | 1.904 | 2.37 | 3.0 |
| **BMD150R1603W125L200** | 9.9° | .106 | 1.904 | 2.37 | 3.0 |
| **BMD150R1602C125L800** | 11.0° | .117 | 1.888 | 2.37 | 3.0 |
| **BMD200R1603S075L200** | 11.7° | .217 | 2.776 | 3.37 | 4.0 |
| **BMD200R1604S075L200** | 9.7° | .181 | 2.810 | 3.37 | 4.0 |
| **BMD250R1605S100L200** | 11.7° | .315 | 3.744 | 4.37 | 5.0 |
| **BMD300R1605S100L200** | 8.8° | .315 | 4.738 | 5.37 | 6.0 |
| **BMD300R1607S100L200** | 6.8° | .245 | 4.768 | 5.37 | 6.0 |
| **BMD400R1608S125L200** | 4.6° | .245 | 6.762 | 7.37 | 8.0 |
| **BMD500R1609S150L250** | 4.2° | .295 | 8.744 | 9.37 | 10.0 |
| **BMD600R1610S150L250** | 3.4° | .295 | 10.744 | 11.37 | 12.0 |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature six indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.





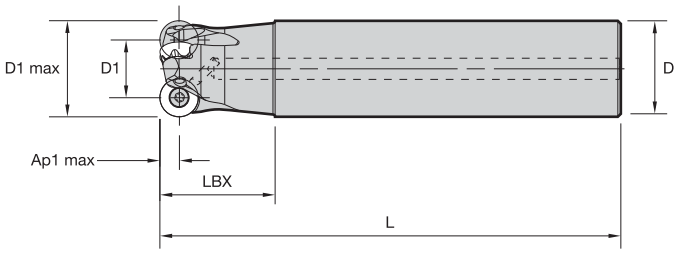
## Screw-On End Mills

| order number | catalog number | D1 max | D1 | D | DPM | WF (mm) | G3X | L2 | Ap1 max | Z | max ramp angle | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5175033** | **KSRM125R4303M16L150** | 1.250 | .750 | 1.142 | .670 | 24 | M16 | 1.500 | .250 | 3 | 5.3° | 44600 | .36 | RP_T43___ |
| **5175034** | **KSRM150R4304M16L150** | 1.500 | 1.000 | 1.142 | .670 | 24 | M16 | 1.500 | .250 | 4 | 4.7° | 38600 | .38 | RP_T43___ |

## Spare Parts

| D1 max | insert screw | in. lbs. |
|---|---|---|
| 1.250 | **MS2085** | 35 |
| 1.500 | **MS2085** | 35 |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature six indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



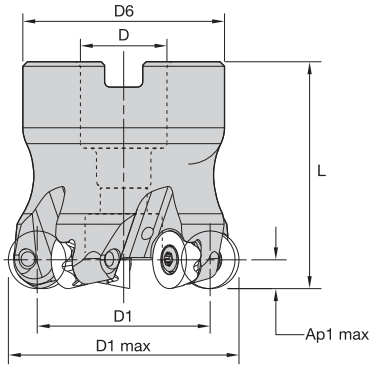
## Cylindrical End Mills

| order number | catalog number | D1 max | D1 | D | L | LBX | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5175035** | **KSRM125R4302C125L600** | 1.250 | .750 | 1.250 | 6.000 | 1.500 | .250 | 2 | 6.0° | 44600 | RP_T43____ | 1.77 |
| **5175037** | **KSRM125R4303C125L1000** | 1.250 | .750 | 1.250 | 10.000 | 1.500 | .250 | 3 | 5.3° | 44600 | RP_T43____ | 3.10 |
| **5175038** | **KSRM150R4304C125L600** | 1.500 | 1.000 | 1.250 | 6.000 | 1.500 | .250 | 4 | 4.7° | 38600 | RP_T43____ | 1.85 |
| **5175039** | **KSRM150R4304C125L1000** | 1.500 | 1.000 | 1.250 | 10.000 | 1.500 | .250 | 4 | 4.7° | 38600 | RP_T43____ | 3.17 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| 1.250 | **MS2085** | 35 | **DT15IP** |
| 1.500 | **MS2085** | 35 | **DT15IP** |

- Engineered for titanium and stainless steel machining.
- Anti-rotation components feature six indexable positions.
- Pocketing, ramping, plunging, and helical interpolation capabilities.



## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5302954** | **KSRM200R4303S075L197** | 2.000 | 1.500 | .750 | 1.750 | 1.969 | .250 | 3 | 11.5° | 31500 | RP_T43___ | .89 |
| **5175380** | **KSRM200R4305S075L197** | 2.000 | 1.500 | .750 | 1.750 | 1.969 | .250 | 5 | 11.4° | 31500 | RP_T43___ | .92 |
| **5302955** | **KSRM250R4304S075L197** | 2.500 | 2.000 | .750 | 1.750 | 1.969 | .250 | 4 | 8.2° | 27300 | RP_T43___ | 1.14 |
| **5175381** | **KSRM250R4306S075L197** | 2.500 | 2.000 | .750 | 1.750 | 1.969 | .250 | 6 | 8.2° | 27300 | RP_T43___ | 1.16 |
| **5302956** | **KSRM300R4305S100L197** | 3.000 | 2.500 | 1.000 | 2.750 | 1.969 | .250 | 5 | 6.4° | 24400 | RP_T43___ | 2.46 |
| **5175382** | **KSRM300R4307S100L197** | 3.000 | 2.500 | 1.000 | 2.750 | 1.969 | .250 | 7 | 6.4° | 24400 | RP_T43___ | 2.48 |

## Spare Parts

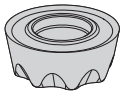
| D1 max | insert screw | in. lbs. | socket-head cap screw | Torx Plus driver |
|---|---|---|---|---|
| 2.000 | **MS2085** | 35 | **S446** | **DT15IP** |
| 2.500 | **MS2085** | 35 | **S446** | **DT15IP** |
| 3.000 | **MS2085** | 35 | **S459** | **DT15IP** |

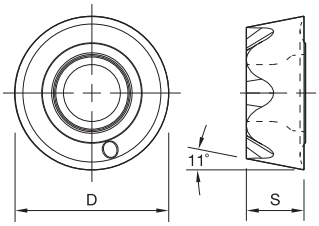
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LEJ | KC725M | **.E..GE** | **KC725M** | .S..GE | KCPK30 |
| P3–P4 | .E..LEJ | KC725M | **.S..GE** | **KCPK30** | – | – |
| P5–P6 | .E..GE | KCPK30 | **.S..GE** | **KCPK30** | – | – |
| M1–M2 | .E..LEJ | KC725M | **.E..LEJ** | **KC725M** | .S..GE | KC725M |
| M3 | .S..GEJ | KC725M | **.E..GE** | **KC725M** | .S..GE | KCPK30 |
| K1–K2 | – | – | **.S..GE** | **KCPK30** | – | – |
| K3 | – | – | **.S..GE** | **KCPK30** | – | – |
| N1–N2 | .E..LEJ | KC422M | **.E..LEJ** | **KC422M** | .E..LEJ | KC422M |
| N3 | .E..LEJ | KC422M | **.E..LEJ** | **KC422M** | .E..LEJ | KC422M |
| S1–S2 | .E..LEJ | KC725M | **.S..GEJ** | **KC725M** | .S..GE | KC725M |
| S3 | .E..LEJ | KC725M | **.S..GEJ** | **KC725M** | .S..GE | KC725M |
| S4 | .E..LEJ | KC725M | **.E..GE** | **KC725M** | .S..GE | KC725M |
| H1 | – | – | **.S..GE** | **KC522M** | – | – |

## Indexable Inserts

- -EGE is the first choice for titanium machining.


RPPT-EGE



RPPT-EGE

● first choice
○ alternate choice

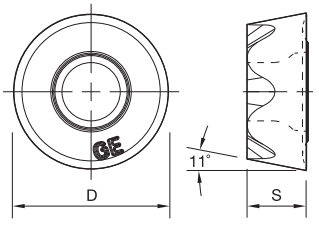
| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | ● | ● | | ○ |
| M | | | ● | ● | ○ | ● | ○ | ● |
| K | | | ○ | | ○ | | | |
| N | | ● | | | | | | |
| S | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | |

### RPPT-EGE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT43EGE** | .500 | .188 | .003 | 6 | – | – | ● | ● | – | – | – |

- -SGE geometry for general purpose in roughing operations in steel.

RPPT-SGE



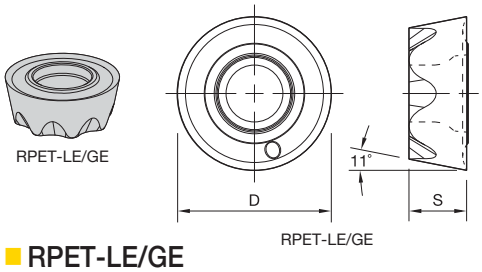
RPPT-SGE

### RPPT-SGE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT43SGE** | .500 | .188 | .005 | 6 | – | – | ● | ● | – | – | – |

Copy Milling

- ELEJ is the first choice for lower cutting forces to avoid built-up edges.




● first choice
○ alternate choice

| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | ● | ● | | ○ |
| M | | | ● | ● | ○ | ● | ○ | ● |
| K | | | ○ | | ○ | | | |
| N | | ● | | | | | | |
| S | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | |

## RPET-LE/GE

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPET43SGEJ** | .500 | .188 | .005 | 6 | – | – | ● | – | – | – | – |



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LEJ | .003 | **.005** | .007 | .003 | **.004** | .005 | .002 | **.003** | .005 | .002 | **.003** | .004 | .002 | **.003** | .004 | .E..LEJ |
| .E..GE | .006 | **.010** | .015 | .004 | **.008** | .011 | .004 | **.007** | .010 | .004 | **.006** | .009 | .004 | **.006** | .009 | .E..GE |
| .S..GEJ | .007 | **.017** | .023 | .005 | **.013** | .017 | .004 | **.011** | .015 | .004 | **.010** | .014 | .004 | **.010** | .014 | .S..GEJ |
| .S..GE | .007 | **.017** | .023 | .005 | **.013** | .017 | .004 | **.011** | .015 | .004 | **.010** | .014 | .004 | **.010** | .014 | .S..GE |

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LEJ | .004 | **.006** | .008 | .003 | **.004** | .006 | .003 | **.004** | .005 | .002 | **.003** | .005 | .002 | **.003** | .005 | .E..LEJ |
| .E..GE | .007 | **.012** | .017 | .005 | **.009** | .013 | .004 | **.008** | .011 | .004 | **.007** | .010 | .004 | **.007** | .010 | .E..GE |
| .S..GEJ | .008 | **.020** | .027 | .006 | **.015** | .020 | .005 | **.013** | .017 | .005 | **.012** | .016 | .005 | **.012** | .016 | .S..GEJ |
| .S..GE | .008 | **.020** | .027 | .006 | **.015** | .020 | .005 | **.013** | .017 | .005 | **.012** | .016 | .005 | **.012** | .016 | .S..GE |

### At .063 Axial Depth of Cut (ap)

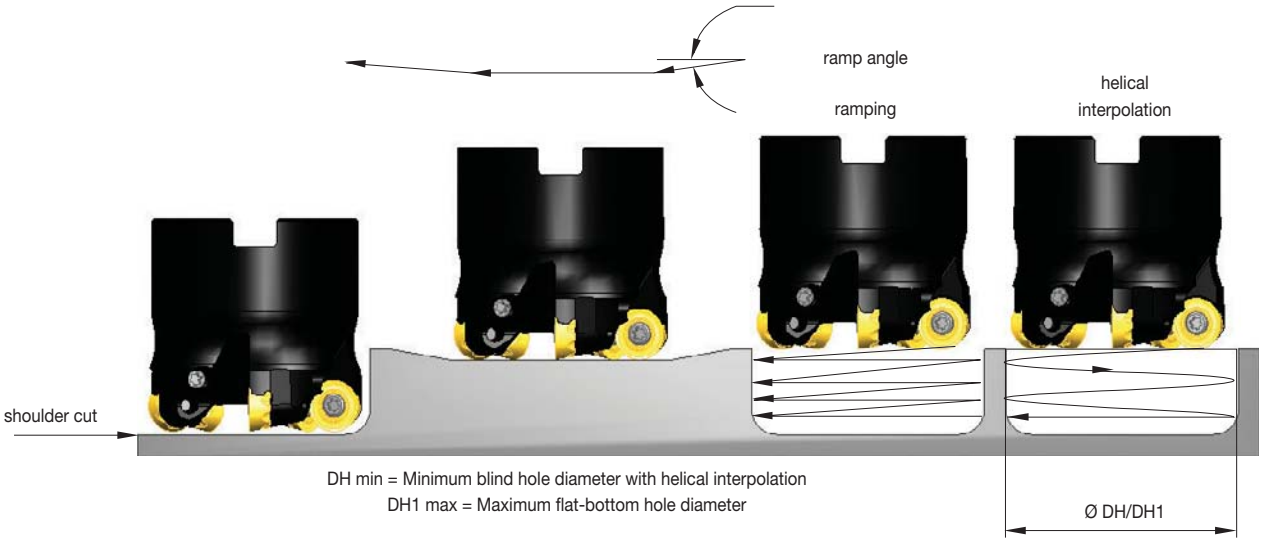
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LEJ | .005 | **.007** | .011 | .004 | **.005** | .008 | .003 | **.005** | .007 | .003 | **.004** | .006 | .003 | **.004** | .006 | .E..LEJ |
| .E..GE | .009 | **.015** | .023 | .007 | **.011** | .017 | .006 | **.010** | .014 | .005 | **.009** | .014 | .005 | **.009** | .013 | .E..GE |
| .S..GEJ | .010 | **.026** | .035 | .008 | **.019** | .026 | .007 | **.017** | .022 | .006 | **.015** | .021 | .006 | **.015** | .020 | .S..GEJ |
| .S..GE | .010 | **.026** | .035 | .008 | **.019** | .026 | .007 | **.017** | .022 | .006 | **.015** | .021 | .006 | **.015** | .020 | .S..GE |

### At .031 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LEJ | .007 | **.010** | .015 | .005 | **.007** | .011 | .005 | **.006** | .009 | .004 | **.006** | .009 | .004 | **.006** | .009 | .E..LEJ |
| .E..GE | .012 | **.021** | .031 | .009 | **.016** | .023 | .008 | **.014** | .020 | .007 | **.013** | .018 | .007 | **.012** | .018 | .E..GE |
| .S..GEJ | .014 | **.036** | .049 | .010 | **.026** | .035 | .009 | **.023** | .031 | .008 | **.021** | .028 | .008 | **.021** | .028 | .S..GEJ |
| .S..GE | .014 | **.036** | .049 | .010 | **.026** | .035 | .009 | **.023** | .031 | .008 | **.021** | .028 | .008 | **.021** | .028 | .S..GE |

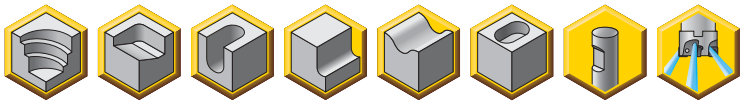
NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

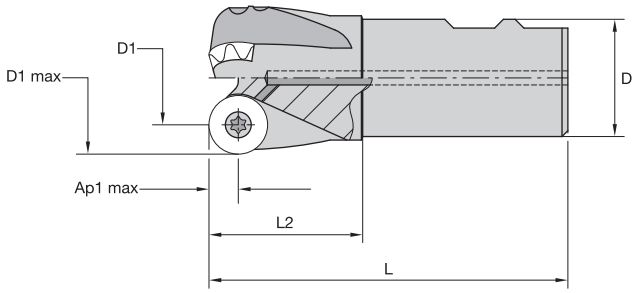
## Maximum Linear Ramping and Helical Interpolation from Solid




| catalog number | Maximum Ramp Angle (ra) when hx = .01" and ae > ae1 | Maximum Ramp Depth (ap) per pass when ae > ae1 | Maximum Ramp Depth (ap) per pass when hx = .01" and ae < ae1 | ae1 | Maximum Plunge Depth (ap) when hx = .01" and ae > ae2 | ae2 | min hole diameter (DH min) | max flat-bottom hole diameter (DH1 max) | Maximum Hole Diameter (No Flat Bottom) |
|---|---|---|---|---|---|---|---|---|---|
| KSRM125R4303C125L600 | 5.30° | .055 | .250 | .406 | .250 | .500 | 1.688 | 2.001 | 2.500 |
| KSRM125R4302C125L600 | 5.95° | .061 | .250 | .413 | .250 | .500 | 1.674 | 2.001 | 2.500 |
| KSRM125R4303C125L1000 | 5.30° | .055 | .250 | .406 | .250 | .500 | 1.688 | 2.001 | 2.500 |
| KSRM125R4302C125L1000 | 5.95° | .061 | .250 | .413 | .250 | .500 | 1.674 | 2.001 | 2.500 |
| KSRM150R4304C125L600 | 4.74° | .069 | .250 | .421 | .250 | .500 | 2.157 | 2.502 | 3.000 |
| KSRM150R4303C125L600 | 5.31° | .077 | .250 | .429 | .250 | .500 | 2.142 | 2.502 | 3.000 |
| KSRM150R4304C125L1000 | 4.74° | .069 | .250 | .421 | .250 | .500 | 2.157 | 2.502 | 3.000 |
| KSRM150R4303C125L1000 | 5.31° | .077 | .250 | .429 | .250 | .500 | 2.142 | 2.502 | 3.000 |
| KSRM125R4303M16L150 | 5.30° | .055 | .250 | .406 | .250 | .500 | 1.688 | 2.001 | 2.500 |
| KSRM125R4302M16L150 | 6.43° | .065 | .250 | .418 | .250 | .500 | 1.665 | 2.001 | 2.500 |
| KSRM150R4304M16L150 | 4.74° | .069 | .250 | .421 | .250 | .500 | 2.157 | 2.502 | 3.000 |
| KSRM150R4303M16L150 | 5.31° | .077 | .250 | .429 | .250 | .500 | 2.142 | 2.502 | 3.000 |
| KSRM200R4305S075L197 | 11.43° | .250 | .250 | .499 | .250 | .500 | 3.001 | 3.501 | 4.000 |
| KSRM200R4303S075L197 | 11.45° | .250 | .250 | .499 | .250 | .500 | 3.001 | 3.501 | 4.000 |
| KSRM250R4306S075L197 | 8.16° | .250 | .250 | .500 | .250 | .500 | 4.001 | 4.500 | 5.000 |
| KSRM250R4304S075L197 | 8.16° | .250 | .250 | .500 | .250 | .500 | 4.001 | 4.500 | 5.000 |
| KSRM300R4307S100L197 | 6.35° | .250 | .250 | .500 | .250 | .500 | 5.001 | 5.500 | 6.000 |
| KSRM300R4305S100L197 | 6.35° | .250 | .250 | .500 | .250 | .500 | 5.001 | 5.500 | 6.000 |

- Engineered for roughing with large depths of cut through positive geometries.
- Anti-rotation feature with six indexable positions.
- Excellent for long overhangs.





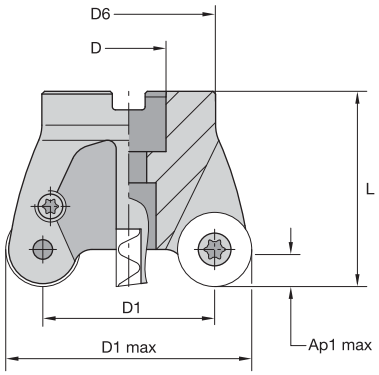
## Weldon • End Mills

| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2610667** | **BMD200R6403W150L200** | 2.000 | 1.250 | 1.500 | 4.690 | 2.000 | .375 | 3 | .6° | 29000 | RCG_64___ | 2.15 |

## Spare Parts

| D1 max | insert screw | in. lbs. | anti-rotation screw | Torx wrench |
|---|---|---|---|---|
| 2.000 | **MS1162** | 45 | **S2160** | **TT25** |

- Engineered for roughing with large depths of cut through positive geometry inserts.
- Anti-rotation feature with six indexable positions.
- Excellent for long overhangs.
- High coolant pressure capabilities.

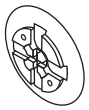


## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2610668** | **BMD250R6404S075L200** | 2.500 | 1.750 | .750 | 1.750 | 2.000 | .375 | 4 | .6° | 26000 | RCG_64___ | 1.16 |
| **2610670** | **BMD300R6405S100L200** | 3.000 | 2.250 | 1.000 | 2.190 | 2.000 | .375 | 5 | .7° | 22000 | RCG_64___ | 1.78 |
| **2610672** | **BMD400R6405S125L200** | 4.000 | 3.250 | 1.250 | 2.875 | 2.000 | .375 | 5 | .7° | 18000 | RCG_64___ | 3.17 |
| **2610683** | **BMD400R6406S125L200** | 4.000 | 3.250 | 1.250 | 2.875 | 2.000 | .375 | 6 | .6° | 18000 | RCG_64___ | 3.15 |
| **2610684** | **BMD500R6406S150L250** | 5.000 | 4.250 | 1.500 | 3.810 | 2.500 | .375 | 6 | .8° | 15000 | RCG_64___ | 7.08 |
| **2610685** | **BMD500R6408S150L250** | 5.000 | 4.250 | 1.500 | 3.810 | 2.500 | .375 | 8 | .7° | 15000 | RCG_64___ | 7.07 |
| **2610686** | **BMD600R6407S150L250** | 6.000 | 5.250 | 1.500 | 3.810 | 2.500 | .375 | 7 | .7° | 14000 | RCG_64___ | 9.48 |
| **2610687** | **BMD600R6408S150L250** | 6.000 | 5.250 | 1.500 | 3.810 | 2.500 | .375 | 8 | .7° | 14000 | RCG_64___ | 9.52 |
| **2610688** | **BMD800R6409S250L250** | 8.000 | 7.250 | 2.500 | 5.000 | 2.500 | .375 | 9 | .6° | 12500 | RCG_64___ | 13.08 |
| **5971566** | **BMD800R6409S250L250HP** * | 8.000 | 7.252 | 2.500 | 6.000 | 2.500 | .375 | 9 | .6° | 12500 | RCG_64___ | 14.85 |

NOTE: For high pressure coolant applications (>30 bar/>435 PSI) with cutter diameter 8", use items marked with "HP" in the catalog number.
They are available as per request. Please ask your local sales contact for further information.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

## Spare Parts



| order number | D1 max | insert screw | in. lbs. | Torx wrench | coolant lock screw assembly | socket-head cap screw with coolant groove | coolant cap assembly |
|---|---|---|---|---|---|---|---|
| **2610668** | 2.500 | **MS1162** | 45 | **TT25** | **–** | **S445CG** | **–** |
| **2610670** | 3.000 | **MS1162** | 45 | **TT25** | **–** | **S458CG** | **–** |
| **2610672** | 4.000 | **MS1162** | 45 | **TT25** | **S2162C** | **–** | **–** |
| **2610683** | 4.000 | **MS1162** | 45 | **TT25** | **S2162C** | **–** | **–** |
| **2610684** | 5.000 | **MS1162** | 45 | **TT25** | **S2163C** | **–** | **–** |
| **2610685** | 5.000 | **MS1162** | 45 | **TT25** | **S2163C** | **–** | **–** |
| **2610686** | 6.000 | **MS1162** | 45 | **TT25** | **S2163C** | **–** | **–** |
| **2610687** | 6.000 | **MS1162** | 45 | **TT25** | **S2163C** | **–** | **–** |
| **2610688** | 8.000 | **MS1162** | 45 | **TT25** | **–** | **–** | **MCC080001** |
| **5971566** | 8.000 | **MS1162** | 45 | **TT25** | **–** | **–** | **MCC0800HP** |

NOTE: For coolant shower plate assembly use only low pressure coolant.
Use high pressure coolant cap assembly only in combination with high pressure cutters.
Wrench adapter is not included and needs to be purchased separately.

## Insert Selection Guide

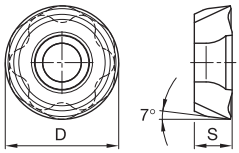
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LF | KC725M | .S..GF | KC725M | .S..HF | KC725M |
| P3–P4 | .E..LF | KC522M | .S..GF | KC725M | .S..HF | KCPK30 |
| P5–P6 | .E..LF | KC522M | .S..HF | KCPK30 | .S..HF | KCPK30 |
| M1–M2 | .E..LF | KC725M | .S..GF | KC725M | .S..HF | KC725M |
| M3 | .E..LF | KCPK30 | .S..GF | KC725M | .S..HF | KCPK30 |
| K1–K2 | – | – | .S..HF | KCPK30 | – | – |
| K3 | – | – | .S..HF | KCPK30 | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | .E..LF | KC725M | .S..GF | KC725M | .S..HF | KC725M |
| S3 | .E..LF | KC725M | .S..GF | KC725M | .S..HF | KC725M |
| S4 | .E..LF | KC725M | .S..GF | KC725M | .S..HF | KC725M |
| H1 | – | – | – | – | – | – |

- -ELF is the first choice for lower cutting forces to avoid built-up edge.
- -SGF geometry for general purpose in roughing applications.
- -SHF is the first choice for heavy-duty applications.

● first choice
○ alternate choice

| | | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|
| P | | | ○ | ● | ● | ● | | ○ |
| M | | | ● | ● | ○ | ● | ○ | ● |
| K | | | ○ | | ○ | | | |
| N | | ● | | | | | | |
| S | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | |

RCGT-LF
RCGT-HF
RCGT-GF




RCGT-LF
RCGT-HF
RCGT-GF

## RCGT-LF/LFJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RCGT64ELFJ | .750 | .250 | .002 | 6 | – | – | – | – | – | ● | – |
| RCGT64ELF | .750 | .250 | .002 | 6 | – | – | ● | ● | – | – | ● |

## RCGT-HF/-HFJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RCGT64SHFJ | .750 | .250 | .010 | 6 | – | – | – | – | ● | – | – |
| RCGT64SHF | .750 | .250 | .010 | 6 | – | – | ● | ● | – | – | ● |

## RCGT-GF

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RCGT64SGFJ | .750 | .250 | .004 | 6 | – | – | – | – | ● | – | – |
| RCGT64SGF | .750 | .250 | .004 | 6 | – | ● | ● | – | – | – | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .375 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .004 | **.007** | .013 | .003 | **.005** | .009 | .002 | **.004** | .008 | .002 | **.004** | .008 | .002 | **.004** | .008 | .E..LF |
| .S..GF | .007 | **.017** | .028 | .005 | **.013** | .020 | .004 | **.011** | .018 | .004 | **.010** | .016 | .004 | **.010** | .016 | .S..GF |
| .S..HF | .007 | **.017** | .028 | .005 | **.013** | .020 | .004 | **.011** | .018 | .004 | **.010** | .016 | .004 | **.010** | .016 | .S..HF |

### At .188 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .004 | **.008** | .015 | .003 | **.006** | .011 | .003 | **.005** | .009 | .003 | **.005** | .009 | .002 | **.005** | .009 | .E..LF |
| .S..GF | .008 | **.020** | .032 | .006 | **.015** | .023 | .005 | **.013** | .020 | .005 | **.012** | .019 | .005 | **.012** | .018 | .S..GF |
| .S..HF | .008 | **.020** | .032 | .006 | **.015** | .023 | .005 | **.013** | .020 | .005 | **.012** | .019 | .005 | **.012** | .018 | .S..HF |

### At .094 Axial Depth of Cut (ap)

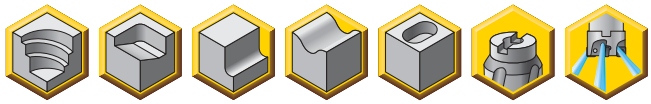
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .005 | **.010** | .019 | .004 | **.008** | .014 | .004 | **.007** | .012 | .003 | **.006** | .012 | .003 | **.006** | .011 | .E..LF |
| .S..GF | .010 | **.026** | .042 | .008 | **.019** | .031 | .007 | **.017** | .027 | .006 | **.015** | .025 | .006 | **.015** | .024 | .S..GF |
| .S..HF | .010 | **.026** | .042 | .008 | **.019** | .031 | .007 | **.017** | .027 | .006 | **.015** | .025 | .006 | **.015** | .024 | .S..HF |

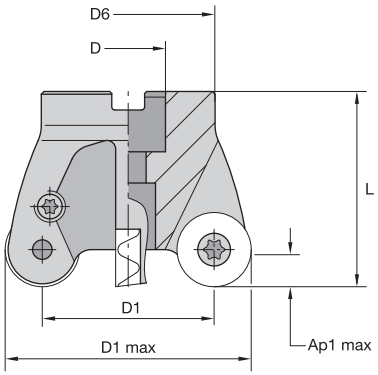
### At .047 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .007 | **.014** | .027 | .005 | **.011** | .020 | .005 | **.009** | .017 | .004 | **.009** | .016 | .004 | **.008** | .015 | .E..LF |
| .S..GF | .014 | **.036** | .059 | .010 | **.026** | .042 | .009 | **.023** | .036 | .008 | **.021** | .034 | .008 | **.021** | .033 | .S..GF |
| .S..HF | .014 | **.036** | .059 | .010 | **.026** | .042 | .009 | **.023** | .036 | .008 | **.021** | .034 | .008 | **.021** | .033 | .S..HF |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Engineered for roughing with large depths of cut through positive geometry inserts.
- Anti-rotation feature with six indexable positions.
- Excellent for long overhangs.
- High coolant pressure capabilities.





## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2610689 | BMD300R8603S075L200 | 3.000 | 2.000 | .750 | 1.750 | 2.000 | .500 | 3 | .9° | 15500 | RCGT86___ | 1.22 |
| 2610691 | BMD400R8605S125L250 | 4.000 | 3.000 | 1.250 | 2.875 | 2.500 | .500 | 5 | .8° | 12000 | RCGT86___ | 4.01 |
| 2610697 | BMD500R8606S150L250 | 5.000 | 4.000 | 1.500 | 3.810 | 2.500 | .500 | 6 | .8° | 9000 | RCGT86___ | 6.62 |
| 2610694 | BMD600R8607S150L250 | 6.000 | 5.000 | 1.500 | 3.810 | 2.500 | .500 | 7 | .8° | 8800 | RCGT86___ | 8.63 |
| 2610696 | BMD800R8608S250L250 | 8.000 | 7.000 | 2.500 | 5.000 | 2.500 | .500 | 8 | .7° | 8500 | RCGT86___ | 11.81 |
| 5971567 | BMD800R8608S250L250HP | 8.000 | 7.000 | 2.500 | 6.000 | 2.500 | .500 | 8 | .7° | 8500 | RCGT86___ | 14.00 |

NOTE: For high pressure coolant applications (>30 bar/>435 PSI) with cutter diameter 8", use items marked with "HP" in the catalog number. They are available as per request. Please ask your local sales contact for further information.

## Spare Parts

| order number | D1 max | insert screw | in. lbs. | Torx wrench | anti-rotation screw | coolant lock screw assembly | coolant cap assembly | socket-head cap screw with coolant groove | high pressure coolant cap assembly | wrench adapter |
|---|---|---|---|---|---|---|---|---|---|---|
| 2610689 | 3.000 | MS1162 | 45 | TT25 | S2160 | – | – | S445CG | – | – |
| 2610691 | 4.000 | MS1162 | 45 | TT25 | S2160 | S2164C | – | – | – | – |
| 2610697 | 5.000 | MS1162 | 45 | TT25 | S2160 | S2163C | – | – | – | – |
| 2610694 | 6.000 | MS1162 | 45 | TT25 | S2160 | S2163C | – | – | – | – |
| 2610696 | 8.000 | MS1162 | 45 | TT25 | S2160 | – | MCC080001 | – | – | – |
| 5971567 | 8.000 | MS1162 | 45 | TT25 | S2160 | – | – | – | MCC0800HP | SDSW66 |

NOTE: For coolant shower plate assembly use only low pressure coolant.
Use high pressure coolant cap assembly only in combination with high pressure cutters.
Wrench adapter is not included and needs to be purchased separately.

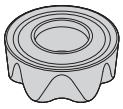
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..LF | KC725M | **.S..GF** | **KC725M** | .S..HF | KC725M |
| P3–P4 | .S..GF | KC522M | **.S..GF** | **KC725M** | .S..HF | KCPK30 |
| P5–P6 | .S..GF | KC522M | **.S..HF** | **KCPK30** | .S..HF | KCPK30 |
| M1–M2 | .E..LF | KC725M | **.S..GF** | **KC725M** | .S..HF | KC725M |
| M3 | .E..LF | KC725M | **.S..GF** | **KC725M** | .S..HF | KCPK30 |
| K1–K2 | – | – | **.S..HF** | **KCPK30** | – | – |
| K3 | – | – | **.S..HF** | **KCPK30** | – | – |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | .E..LF | KC725M | **.S..GF** | **KC725M** | .S..HF | KC725M |
| S3 | .E..LF | KC725M | **.S..GF** | **KC725M** | .S..HF | KC725M |
| S4 | .E..LF | KC725M | **.S..GF** | **KC725M** | .S..HF | KC725M |
| H1 | – | – | **–** | **–** | – | – |

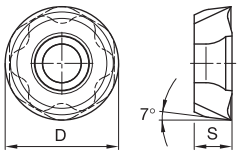
## Indexable Inserts

- -ELF is the first choice for lower cutting forces to avoid built-up edge.
- -SGF geometry for general purpose in roughing applications.
- -SHF is the first choice for heavy-duty applications.

● first choice
○ alternate choice



RCGT-LF
RCGT-GF
RCGT-HF




RCGT-LF
RCGT-GF
RCGT-HF

### RCGT-LF/-LFJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | ○ | ● | ● | ● | | ○ |
| M | | | | | | ● | ● | ○ | ● | ○ | ● |
| K | | | | | | ○ | | ○ | | | |
| N | | | | | ● | | | | | | |
| S | | | | | | ● | ● | | ○ | ● | ● |
| H | | | | | | | | | | | |
| **RCGT86ELF** | 1.000 | .375 | .002 | 6 | – | – | ● | ● | – | – | ● |

### RCGT-GF

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RCGT86SGFJ** | 1.000 | .375 | .004 | 6 | – | – | – | – | ● | – | – |
| **RCGT86SGF** | 1.000 | .375 | .004 | 6 | – | ● | ● | – | – | – | – |

### RCGT-HF/-HFJ

| catalog number | D | S | hm | cutting edges | KC422M | KC522M | KC725M | KCPK30 | KCPM40 | KCSM30 | KCSM40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RCGT86SHFJ** | 1.000 | .375 | .010 | 6 | – | – | – | – | ● | – | – |
| **RCGT86SHF** | 1.000 | .375 | .010 | 6 | – | – | ● | ● | – | – | ● |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .500 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .004 | **.007** | .013 | .003 | **.005** | .009 | .002 | **.004** | .008 | .002 | **.004** | .008 | .002 | **.004** | .008 | .E..LF |
| .S..GF | .007 | **.017** | .028 | .005 | **.013** | .020 | .004 | **.011** | .018 | .004 | **.010** | .016 | .004 | **.010** | .016 | .S..GF |
| .S..HF | .007 | **.017** | .028 | .005 | **.013** | .020 | .004 | **.011** | .018 | .004 | **.010** | .016 | .004 | **.010** | .016 | .S..HF |

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .004 | **.008** | .015 | .003 | **.006** | .011 | .003 | **.005** | .009 | .003 | **.005** | .009 | .002 | **.005** | .009 | .E..LF |
| .S..GF | .008 | **.020** | .032 | .006 | **.015** | .023 | .005 | **.013** | .020 | .005 | **.012** | .019 | .005 | **.012** | .018 | .S..GF |
| .S..HF | .008 | **.020** | .032 | .006 | **.015** | .023 | .005 | **.013** | .020 | .005 | **.012** | .019 | .005 | **.012** | .018 | .S..HF |

### At .125 Axial Depth of Cut (ap)

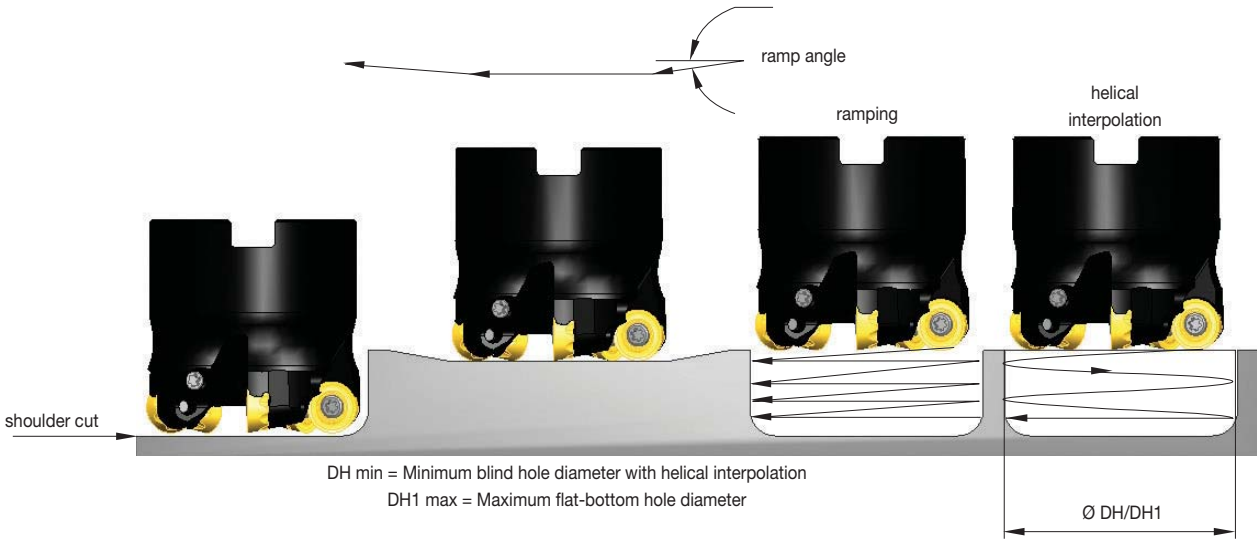
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .005 | **.010** | .019 | .004 | **.008** | .014 | .004 | **.007** | .012 | .003 | **.006** | .012 | .003 | **.006** | .011 | .E..LF |
| .S..GF | .010 | **.026** | .042 | .008 | **.019** | .031 | .007 | **.017** | .027 | .006 | **.015** | .025 | .006 | **.015** | .024 | .S..GF |
| .S..HF | .010 | **.026** | .042 | .008 | **.019** | .031 | .007 | **.017** | .027 | .006 | **.015** | .025 | .006 | **.015** | .024 | .S..HF |

### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LF | .007 | **.014** | .027 | .005 | **.011** | .020 | .005 | **.009** | .017 | .004 | **.009** | .016 | .004 | **.008** | .015 | .E..LF |
| .S..GF | .014 | **.036** | .059 | .010 | **.026** | .042 | .009 | **.023** | .036 | .008 | **.021** | .034 | .008 | **.021** | .033 | .S..GF |
| .S..HF | .014 | **.036** | .059 | .010 | **.026** | .042 | .009 | **.023** | .036 | .008 | **.021** | .034 | .008 | **.021** | .033 | .S..HF |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

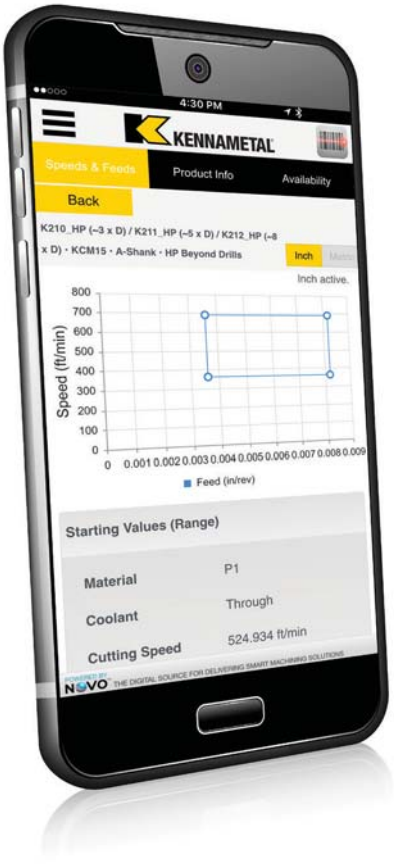
## Maximum Linear Ramping and Helical Interpolation from Solid




| catalog number | Maximum Ramp Angle (ra) when hx = .01" and ae > ae1 | Maximum Ramp Depth (ap) per pass when ae > ae1 | Maximum Ramp Depth (ap) per pass when hx = .01" and ae < ae1 | ae1 | Maximum Plunge Depth (ap) when hx = .01" and ae > ae2 | ae2 | min hole diameter (DH min) | max flat-bottom hole diameter (DH1 max) | Maximum Hole Diameter (No Flat Bottom) |
|---|---|---|---|---|---|---|---|---|---|
| KSRM125R4303C125L600 | 5.30° | .055 | .250 | .406 | .250 | .500 | 1.688 | 2.001 | 2.500 |
| KSRM125R4302C125L600 | 5.95° | .061 | .250 | .413 | .250 | .500 | 1.674 | 2.001 | 2.500 |
| KSRM125R4303C125L1000 | 5.30° | .055 | .250 | .406 | .250 | .500 | 1.688 | 2.001 | 2.500 |
| KSRM125R4302C125L1000 | 5.95° | .061 | .250 | .413 | .250 | .500 | 1.674 | 2.001 | 2.500 |
| KSRM150R4304C125L600 | 4.74° | .069 | .250 | .421 | .250 | .500 | 2.157 | 2.502 | 3.000 |
| KSRM150R4303C125L600 | 5.31° | .077 | .250 | .429 | .250 | .500 | 2.142 | 2.502 | 3.000 |
| KSRM150R4304C125L1000 | 4.74° | .069 | .250 | .421 | .250 | .500 | 2.157 | 2.502 | 3.000 |
| KSRM150R4303C125L1000 | 5.31° | .077 | .250 | .429 | .250 | .500 | 2.142 | 2.502 | 3.000 |
| KSRM125R4303M16L150 | 5.30° | .055 | .250 | .406 | .250 | .500 | 1.688 | 2.001 | 2.500 |
| KSRM125R4302M16L150 | 6.43° | .065 | .250 | .418 | .250 | .500 | 1.665 | 2.001 | 2.500 |
| KSRM150R4304M16L150 | 4.74° | .069 | .250 | .421 | .250 | .500 | 2.157 | 2.502 | 3.000 |
| KSRM150R4303M16L150 | 5.31° | .077 | .250 | .429 | .250 | .500 | 2.142 | 2.502 | 3.000 |
| KSRM200R4305S075L197 | 11.43° | .250 | .250 | .499 | .250 | .500 | 3.001 | 3.501 | 4.000 |
| KSRM200R4303S075L197 | 11.45° | .250 | .250 | .499 | .250 | .500 | 3.001 | 3.501 | 4.000 |
| KSRM250R4306S075L197 | 8.16° | .250 | .250 | .500 | .250 | .500 | 4.001 | 4.500 | 5.000 |
| KSRM250R4304S075L197 | 8.16° | .250 | .250 | .500 | .250 | .500 | 4.001 | 4.500 | 5.000 |
| KSRM300R4307S100L197 | 6.35° | .250 | .250 | .500 | .250 | .500 | 5.001 | 5.500 | 6.000 |
| KSRM300R4305S100L197 | 6.35° | .250 | .250 | .500 | .250 | .500 | 5.001 | 5.500 | 6.000 |

# Mobile App

**The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.**




## FEATURES

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Inch and metric values calculated.

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ANDROID APP ON Google play

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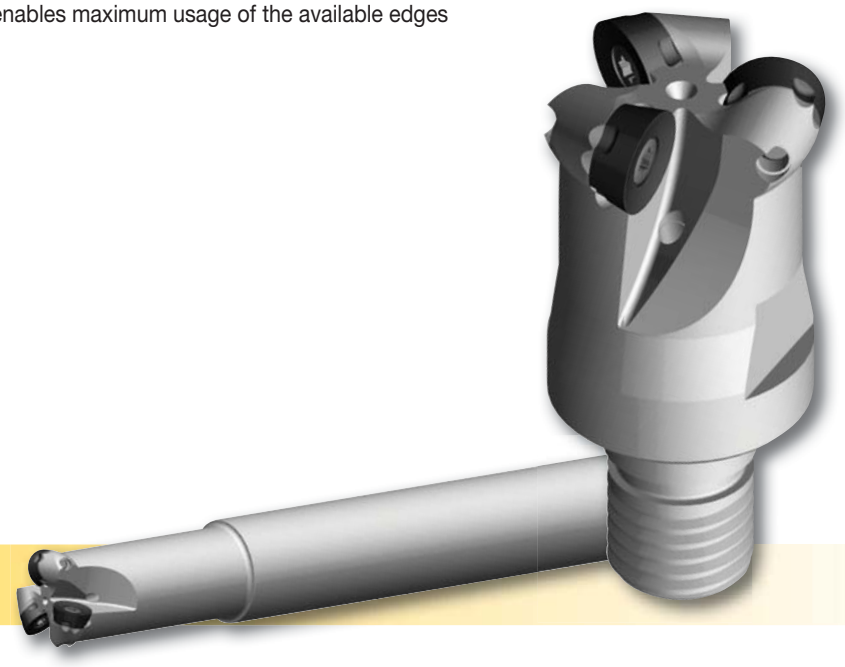
# 7713VR Series

## Round Insert Milling Cutter with Indexation

The 7713VR is our newest round insert cutter series. Designed with a new silver-satin surface treatment that reduces body degradation during high-performance applications and enhances body tool life. This cutter series has an anti-rotation design that ensures a precise number of indexes per insert. This enables maximum usage of the available edges for roughing applications.



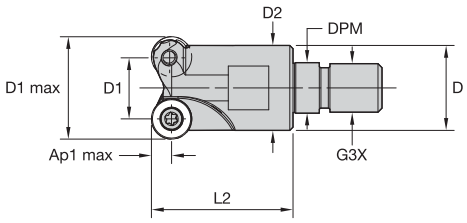
## Features and Benefits

This unique patented pocket system prevents the inserts from rotating in the pocket during heavy-feed machining and unstable conditions. The 7713VR cutter is excellent for roughing and semi-finishing of all materials, especially stainless steel and high-temperature alloys, as well as for steel, tool steel, and aluminum alloys.

**7713VR10:**
Maximum ap = .197"
Diameter Range = 1–2.50"

**7713VR12:**
Maximum ap = .236"
Diameter Range = 1–3"

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



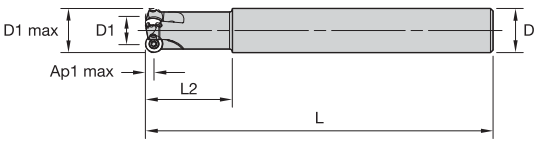
## Screw-On End Mills

| order number | catalog number | D1 max | D1 | D | D2 | L2 | G3X | DPM | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|---|---|
| 5673043 | A7713VR10SA1.25Z4R1.7 | 1.250 | .857 | 1.142 | 1.211 | 1.693 | M16 | .669 | .197 | 4 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.250 | D4008T | 27 | TB15 |

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



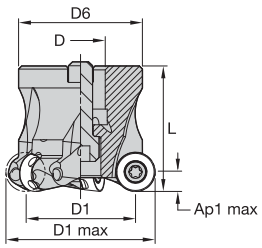
## Cylindrical End Mills

| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|
| 5672803 | C7713VR10CA1.00Z3R2.0 | 1.000 | .607 | 1.000 | 7.874 | 1.970 | .197 | 3 |
| 5672804 | C7713VR10CA1.25Z4R2.7 | 1.250 | .856 | 1.250 | 9.842 | 2.756 | .197 | 4 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.000 | D4007T | 27 | TB15 |
| 1.250 | D4008T | 27 | TB15 |

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|
| **5673597** | **C7713VR10-A1.50Z05R** | 1.500 | 1.107 | .500 | 1.244 | 1.260 | .197 | 5 |
| **5672805** | **C7713VR10-A2.00Z7R** | 2.000 | 1.606 | .750 | 1.638 | 1.575 | .197 | 7 |
| **5673042** | **C7713VR10-A2.50Z8R** | 2.500 | 2.107 | .750 | 1.835 | 1.570 | .197 | 8 |

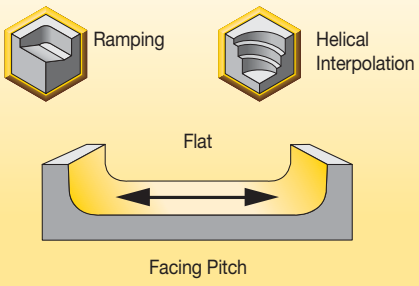
## Spare Parts

| D1 max | insert screw | in. lbs. | Torx driver | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | **D4008T** | 27 | **TB15** | **#1/4-28X3/4SHCSA** |
| 2.000 | **D4008T** | 27 | **TB15** | **#3/8-24X1SHCSA** |
| 2.500 | **D4008T** | 27 | **TB15** | **#3/8-24X1SHCSA** |

## Technical Information

### Technical Information (in)

| order number | catalog number | dimension | | | | | max RPM |
|---|---|---|---|---|---|---|---|
| | | facing pitch | ramping angle | helical hole min–max | | ap max helical/linear | |
| **5672803** | **C7713VR10CA1.00Z3R2.0** | 0.607 | 11.70 | 1.291 | 1.921 | 0.130 | 64,500 |
| **5672804** | **C7713VR10CA1.25Z4R2.7** | 0.857 | 5.70 | 1.791 | 2.421 | 0.130 | 53,500 |
| **5673597** | **C7713VR10-A1.50Z05R** | 1.107 | 7.75 | 2.291 | 2.921 | 0.130 | 47,000 |
| **5672805** | **C7713VR10-A2.00Z7R** | 1.607 | 5.10 | 3.291 | 3.921 | 0.130 | 39,500 |
| **5673042** | **C7713VR10-A2.50Z8R** | 2.107 | 3.70 | 4.291 | 4.921 | 0.130 | 34,000 |
| **5673043** | **A7713VR10SA1.25Z4R1.7** | 0.857 | 5.70 | 1.791 | 2.421 | 0.130 | 53,500 |



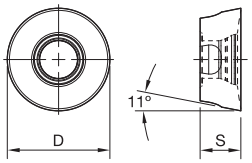
## Insert Selection Guide • IC 10

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | 422-X8 | SP6519 | **432-X5** | **SC6525** | 422-X4 | SP6519 |
| P3–P4 | 422-X8 | SP6519 | **432-X5** | **SP6519** | 422-X4 | SP6519 |
| P5–P6 | 422-X8 | SP6519 | **T-X4** | **SP6519** | T-X4 | X500 |
| M1–M2 | 422-X8 | SP6519 | **432-X5** | **SC6525** | 422-X4 | SP6519 |
| M3 | 422-X8 | X700 | **432-X5** | **SP6519** | 422-X4 | X500 |
| K1–K2 | 422-X8 | SP6519 | **432-X5** | **SC6525** | T-X4 | SP6519 |
| K3 | 422-X8 | SP6519 | **432-X5** | **SC6525** | T-X4 | SP6519 |
| N1–N2 | 701-X4 | GH1 | **701-X4** | **GH1** | 701-X4 | GH1 |
| N3 | 701-X4 | GH1 | **701-X4** | **GH1** | 701-X4 | GH1 |
| S1–S2 | 422-X8 | X700 | **432-X5** | **X500** | 422-X4 | X500 |
| S3 | 422-X8 | X700 | **432-X5** | **X500** | 422-X4 | X500 |
| S4 | 422-X8 | X700 | **432-X5** | **X500** | 422-X4 | X500 |
| H1 | – | – | – | – | – | – |



- Four indexation positions:
  - — Ap max: .197" (5mm)
  - — Ap recommended: ≤.098" (2,5mm)

RPEX10-701 RPHT10-421 RPHT10-422 RPHT10-422-X8




● first choice
○ alternate choice

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ● | ● | ● | ○ | ○ | ○ | |
| M | | | ● | | | ● | ● | ● | ● |
| K | | ○ | | ● | ● | ● | ○ | | |
| N | | ● | | | | | | | |
| S | | | ○ | | | ● | ● | ● | ● |
| H | | | | ○ | | ○ | | | |

### RPEX10-701-X4 • Precision Ground • 4 Indexes • First Choice for Roughing Non-Ferrous Alloys and Finishing High-Temp Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPEX10T3M0F701X4** | .394 | .156 | .001 | 4 | ● | – | – | – | ● | – | – | – |

### RPHT10-421-X4 • Precision Ground • 4 Indexes

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT10T3M0E421X4** | .394 | .156 | .002 | 4 | – | – | – | – | – | – | ● | ● |

### RPHT10-422-X4 • Precision Ground • 4 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT10T3M0E422X4** | .394 | .156 | .001 | 4 | – | – | – | – | – | ● | ● | ● |

### RPHT10-422-X8 • Precision Ground • 8 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

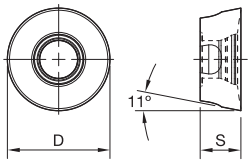
| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT10T3M0E422X8** | .394 | .156 | .001 | 8 | – | – | – | – | – | ● | ● | ● |

RPHT10-TX4

RPMT10-41-X4

RPMW10-T-X4

RPPT10-432-X5




● first choice
○ alternate choice

| | | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ● | ● | ● | ○ | ○ | ○ | |
| M | | | ● | | | ● | ● | ● | ● |
| K | ○ | | ● | ● | ● | ○ | | | |
| N | ● | | | | | | | | |
| S | | ○ | | | | ● | ● | ● | ● |
| H | | | | ○ | | ○ | | | |

## RPHT10-TX4 • Precision Ground • 4 Indexes • General Purpose for Roughing

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT10T3M0TX4** | .394 | .156 | .003 | 4 | – | – | – | – | – | ● | ● | – |

## RPMT10-41-X4 • 4 Indexes • For Finishing Alloy Steel and Iron

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPMT10T3M0E41X4** | .394 | .156 | .002 | 4 | – | – | ● | – | – | ● | ● | – |

## RPMW10-T-X4 • 4 Indexes • General Purpose for Roughing

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPMW10T3M0TX4** | .394 | .156 | .005 | 4 | – | – | – | – | – | – | ● | – |

## RPPT10-432-X5 • Precision Pressed • 5 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT10T3M0E432X5** | .394 | .156 | .001 | 5 | – | – | – | ● | – | ● | ● | ● |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .197 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701–X4 | .005 | **.009** | .013 | .003 | **.007** | .009 | .002 | **.005** | .007 | .002 | **.004** | .006 | .002 | **.004** | .006 | 701–X4 |
| 422–X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 422–X8 |
| 432–X5 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 432–X5 |
| 422–X4 | .005 | **.012** | .023 | .003 | **.008** | .016 | .002 | **.006** | .012 | .002 | **.006** | .010 | .002 | **.005** | .010 | 422–X4 |
| T–X4 | .009 | **.015** | .025 | .007 | **.011** | .018 | .005 | **.008** | .013 | .004 | **.007** | .011 | .004 | **.007** | .011 | T–X4 |

### At .098 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701–X4 | .005 | **.011** | .015 | .004 | **.008** | .011 | .003 | **.006** | .008 | .002 | **.005** | .007 | .002 | **.005** | .006 | 701–X4 |
| 422–X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 422–X8 |
| 432–X5 | .005 | **.014** | .026 | .004 | **.010** | .019 | .003 | **.007** | .014 | .002 | **.006** | .012 | .002 | **.006** | .011 | 432–X5 |
| 422–X4 | .005 | **.014** | .026 | .004 | **.010** | .019 | .003 | **.007** | .014 | .002 | **.006** | .012 | .002 | **.006** | .011 | 422–X4 |
| T–X4 | .011 | **.018** | .029 | .008 | **.013** | .020 | .006 | **.010** | .015 | .005 | **.008** | .013 | .005 | **.008** | .012 | T–X4 |

### At .079 Axial Depth of Cut (ap)

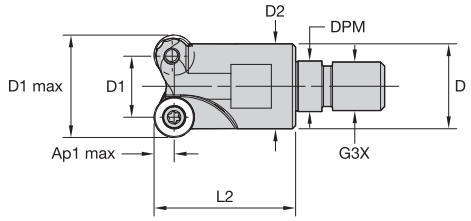
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701–X4 | .006 | **.012** | .016 | .004 | **.008** | .012 | .003 | **.006** | .009 | .003 | **.005** | .008 | .002 | **.005** | .007 | 701–X4 |
| 422–X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 422–X8 |
| 432–X5 | .006 | **.015** | .029 | .004 | **.011** | .020 | .003 | **.008** | .015 | .003 | **.007** | .013 | .002 | **.006** | .012 | 432–X5 |
| 422–X4 | .006 | **.015** | .029 | .004 | **.011** | .020 | .003 | **.008** | .015 | .003 | **.007** | .013 | .002 | **.006** | .012 | 422–X4 |
| T–X4 | .011 | **.019** | .031 | .008 | **.014** | .022 | .006 | **.010** | .016 | .005 | **.009** | .014 | .005 | **.008** | .013 | T–X4 |

### At .059 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701-X4 | .006 | **.013** | .018 | .005 | **.009** | .013 | .003 | **.007** | .010 | .003 | **.006** | .008 | .003 | **.006** | .008 | 701-X4 |
| 422-X8 | .006 | **.017** | .032 | .005 | **.012** | .023 | .003 | **.009** | .017 | .003 | **.008** | .015 | .003 | **.007** | .013 | 422-X8 |
| 432-X5 | .006 | **.017** | .032 | .005 | **.012** | .023 | .003 | **.009** | .017 | .003 | **.008** | .015 | .003 | **.007** | .013 | 432-X5 |
| 422-X4 | .006 | **.017** | .032 | .005 | **.012** | .023 | .003 | **.009** | .017 | .003 | **.008** | .015 | .003 | **.007** | .013 | 422-X4 |
| T-X4 | .013 | **.022** | .035 | .009 | **.016** | .025 | .007 | **.012** | .018 | .006 | **.010** | .016 | .006 | **.009** | .015 | T-X4 |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



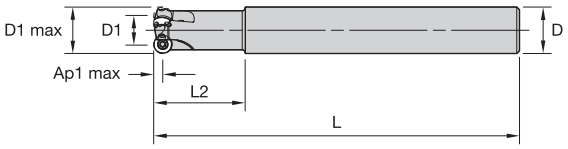
## 7713VR12 Modular Head Screw-On

| order number | catalog number | D1 max | D1 | D | D2 | L2 | G3X | DPM | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|---|---|
| **5672624** | **A7713VR12SA1.00Z2R1.4** | 1.000 | .528 | .827 | .967 | 1.378 | M12 | .492 | .236 | 2 |
| **5672810** | **A7713VR12SA1.25Z3R1.7** | 1.250 | .778 | 1.142 | 1.201 | 1.692 | M16 | .669 | .236 | 3 |
| **5673767** | **A7713VR12SA1.50Z4R1.7** | 1.500 | 1.028 | 1.142 | 1.455 | 1.693 | M16 | .669 | .236 | 4 |
| **5673598** | **A7713VR12SA1.50Z5R1.7** | 1.500 | 1.028 | 1.142 | 1.455 | 1.692 | M16 | .669 | .236 | 5 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.000 | **D4008T** | 27 | **T15** |
| 1.250 | **D4008T** | 27 | **T15** |
| 1.500 | **D4008T** | 27 | **T15** |
| 1.500 | **D4008T** | 27 | **TB15** |

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



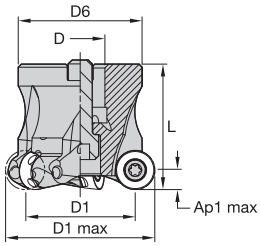
## 7713VR12 Cylindrical Shank

| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|
| **5672623** | **C7713VR12CA1.00Z2R2.0** | 1.000 | .528 | 1.000 | 7.874 | 1.969 | .236 | 2 |
| **5673499** | **C7713VR12CA1.25Z3R2.7** | 1.250 | .778 | 1.250 | 9.842 | 2.755 | .236 | 3 |

## Spare Parts

| D1 max | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.000 | **D4008T** | 27 | **T15** |
| 1.250 | **D4008T** | 27 | **T15** |

- Turbine blade machining and copy/contour milling applications.
- Patented locking system prevents insert rotation during heavy machining.
- Positive flute design for excellent chip evacuation.



## 7713VR12 Shell Mill

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|
| 5673826 | C7713VR12-A1.50Z4R | 1.500 | 1.028 | .500 | 1.323 | 1.574 | .236 | 4 |
| 5673766 | C7713VR12-A1.50Z5R | 1.500 | 1.029 | .500 | 1.323 | 1.575 | .235 | 5 |
| 5672808 | C7713VR12-A2.00Z5R | 2.000 | 1.528 | .750 | 1.835 | 1.574 | .236 | 5 |
| 5673044 | C7713VR12-A2.00Z4R | 2.000 | 1.528 | .750 | 1.835 | 1.575 | .236 | 4 |
| 5673045 | C7713VR12-A2.00Z6R | 2.000 | 1.528 | .750 | 1.835 | 1.575 | .236 | 6 |
| 5673827 | C7713VR12-A2.50Z6R | 2.500 | 2.028 | .750 | 2.031 | 1.986 | .236 | 6 |
| 5673046 | C7713VR12-A2.50Z7R | 2.500 | 2.028 | .750 | 2.031 | 1.986 | .236 | 7 |
| 5672809 | C7713VR12-A3.00Z8R | 3.000 | 2.528 | 1.000 | 2.032 | 1.969 | .236 | 8 |

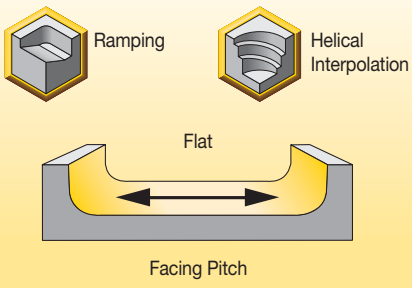
## Spare Parts

| D1 max | insert screw | in. lbs. | Torx driver | socket-head cap screw |
|---|---|---|---|---|
| 1.500 | D4010T | 27 | T15 | #1/4-28X3/4SHCSA |
| 1.500 | D4008T | 27 | TB15 | #1/4-28X3/4SHCSA |
| 2.000 | D4010T | 27 | T15 | #3/8-24X1SHCSA |
| 2.500 | D4010T | 27 | T15 | #3/8-24X1SHCSA |
| 3.000 | D4010T | 27 | T15 | #1/2-20X1-1/4SHCSA |



## Technical Information (in)

| order number | catalog number | dimension | | | | | max RPM |
|---|---|---|---|---|---|---|---|
| | | facing pitch | ramping angle | helical hole min–max | | ap max helical/linear | |
| 5672623 | C7713VR12CA1.00Z2R2.0 | 0.528 | 9.50 | 1.134 | 1.921 | 0.160 | 49,000 |
| 5673499 | C7713VR12CA1.25Z3R2.7 | 0.778 | 12.40 | 1.634 | 2.421 | 0.160 | 40,500 |
| 5673766 | C7713VR12-A1.50Z5R | 1.028 | 8.60 | 2.134 | 2.921 | 0.160 | 35,000 |
| 5673044 | C7713VR12-A2.00Z4R | 1.528 | 5.50 | 3.134 | 3.921 | 0.160 | 28,500 |
| 5672808 | C7713VR12-A2.00Z5R | 1.528 | 5.50 | 3.134 | 3.921 | 0.160 | 28,500 |
| 5673045 | C7713VR12-A2.00Z6R | 1.528 | 5.50 | 3.134 | 3.921 | 0.160 | 28,500 |
| 5673827 | C7713VR12-A2.50Z6R | 2.028 | 3.90 | 4.134 | 4.921 | 0.160 | 25,000 |
| 5673046 | C7713VR12-A2.50Z7R | 2.028 | 3.90 | 4.134 | 4.921 | 0.160 | 25,000 |
| 5672809 | C7713VR12-A3.00Z8R | 2.528 | 2.95 | 5.134 | 5.921 | 0.160 | 22,500 |
| 5672624 | A7713VR12SA1.00Z2R1.4 | 0.528 | 9.50 | 1.134 | 1.921 | 0.160 | 49,000 |
| 5672810 | A7713VR12SA1.25Z3R1.7 | 0.778 | 12.40 | 1.634 | 2.421 | 0.160 | 40,500 |
| 5673598 | A7713VR12SA1.50Z5R1.7 | 1.028 | 8.60 | 2.134 | 2.921 | 0.160 | 35,000 |



## Insert Selection Guide • IC 12

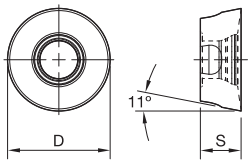
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——— | ———► | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | 442-X8 | SC6525 | **432-X5** | **SC6525** | GD-X5 | KCM40 |
| P3–P4 | 432-X8 | SP6519 | **432-X5** | **SP6519** | GD-X5 | KCM40 |
| P5–P6 | 432-X8 | SP6519 | **T-X4** | **SP6519** | T-X4 | X500 |
| M1–M2 | 442-X8 | SC6525 | **432-X5** | **SC6525** | GD-X5 | KCM40 |
| M3 | 432-X8 | SP6519 | **GD-X5** | **KCM40** | 442-X4 | X500 |
| K1–K2 | T-X4 | MP91M | **T-X4** | **MP91M** | T-X4 | MP91M |
| K3 | T-X4 | MP91M | **T-X4** | **MP91M** | T-X4 | MP91M |
| N1–N2 | 701-X4 | GH1 | **701-X4** | **GH1** | 701-X4 | GH1 |
| N3 | 701-X4 | GH1 | **701-X4** | **GH1** | 701-X4 | GH1 |
| S1–S2 | 442-X5 | SP6519 | **GD-X5** | **KCM40** | 442-X4 | X500 |
| S3 | 442-X5 | SP6519 | **GD-X5** | **KCM40** | 442-X4 | X500 |
| S4 | 442-X5 | SP6519 | **442-X5** | **X500** | 442-X4 | X500 |
| H1 | – | – | **T-X4** | **MP91M** | – | – |

## Indexable Inserts IC 12

- Four indexation positions:
  - — Ap max: .236" (6mm)
  - — Ap recommended: ≤.137" (3,5mm)
- Five indexation positions:
  - — Ap max: .157" (4mm)
  - — Ap recommended: ≤.098" (2,5mm)
- Eight indexation positions:
  - — Ap max: .118" (3mm)
  - — Ap recommended: ≤.059" (1,5mm)

● first choice
○ alternate choice

RPEX12-701-X4 RPHT12-421-X4 RPMT12-41-X4 RPHT12-442-X5




### RPEX12-701-X4 • Precision Ground • 4 Indexes • For Roughing Non-Ferrous Alloys and Finishing High-Temp Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPEX1204M0F701X4** | .472 | .187 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **RPEX1204M0E701X4** | .472 | .187 | .002 | 4 | – | – | – | – | – | – | ● | – |

### RPHT12-421-X4 • Precision Ground • 4 Indexes

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0E421X4** | .472 | .187 | .002 | 4 | – | – | – | – | – | – | ● | – |

### RPMT12-41-X4 • 4 Indexes • For Finishing Alloy Steel and Iron

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPMT1204M0E41X4** | .472 | .187 | .002 | 4 | – | – | ● | – | – | ● | ● | – |

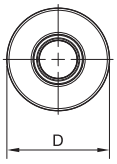
### RPHT12-442-X5 • Precision Ground • 5 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0E442X5** | .472 | .187 | .002 | 5 | – | – | – | ● | – | ● | ● | ● |

RPHT12-442-X8

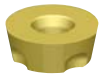
RPHT12-SGD-X5

RPHT12-SGD-X8



RPHT12-422-X4

RPHT12-T-X4


RPMW12-T-X4

● first choice
○ alternate choice

| | | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ● | ● | ● | ○ | ○ | ○ | |
| M | | | ● | | | ● | ● | ● | ● |
| K | | ○ | | ● | ● | ● | ○ | | |
| N | | ● | | | | | | | |
| S | | | ○ | | | ● | ● | ● | ● |
| H | | | | ○ | | ○ | | | |

## RPHT12-442-X8 • Precision Ground • 8 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0E442X8** | .472 | .187 | .002 | 8 | – | – | – | ● | – | – | – | – |

## RPHT12-SGD-X5 • Precision Ground • 5 Indexes • For Stainless Steel and Heat-Resistant Alloys in Tougher Conditions

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0SGDX5** | .472 | .188 | .002 | 5 | – | ● | – | – | – | – | – | – |

## RPHT12-SGD-X8 • Precision Ground • 8 Indexes • For Stainless Steel and Heat-Resistant Alloys in Tougher Conditions

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0SGDX8** | .472 | .188 | .002 | 8 | – | ● | – | – | – | – | – | – |

## RPHT12-442-X4 • Precision Ground • 4 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0E442X4** | .472 | .188 | .002 | 4 | – | – | – | – | – | ● | ● | ● |

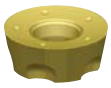
## RPHT12-T-X4 • Precision Ground • 4 Indexes • General Purpose for Roughing

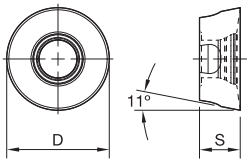
| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPHT1204M0TX4** | .472 | .187 | .004 | 4 | – | – | – | – | – | ● | ● | ● |

## RPMW12-T-X4 • 4 Indexes • General Purpose for Roughing

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPMW1204M0TX4** | .472 | .187 | .005 | 4 | – | – | ● | – | – | ● | ● | – |

RPPT12-
432-X4


RPPT12-
432-X5



RPPT12-
432-X8

RPPT12-
SGD-X5

● first choice
○ alternate choice

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ● | ● | ● | ○ | ○ | ○ | |
| M | | | ● | | | ● | ● | ● | ● |
| K | | ○ | | ● | ● | ● | ○ | | |
| N | | ● | | | | | | | |
| S | | | ○ | | | ● | ● | ● | ● |
| H | | | | ○ | | ○ | | | |

## RPPT12-432-X4 • Precision Pressed • 4 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT1204M0E432X4** | .472 | .188 | .002 | 4 | – | – | – | ● | – | – | ● | ● |

## RPPT12-432-X5 • Precision Pressed • 5 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT1204M0E432X5** | .472 | .188 | .002 | 5 | – | – | – | ● | – | ● | ● | ● |

## RPPT12-432-X8 • Precision Pressed • 8 Indexes • For Machining Stainless Steel and Heat-Resistant Alloys

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT1204M0E432X8** | .472 | .188 | .002 | 8 | – | – | – | – | – | ● | ● | ● |

## RPPT12-SGD-X4, X5, X8 • Precision Pressed • 4, 5, or 8 Indexes • For Stainless Steel and Heat-Resistant Alloys in Tougher Conditions

| catalog number | D | S | hm | cutting edges | GH1 | KCM40 | MP91M | SC6525 | SP4019 | SP6519 | X500 | X700 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **RPPT1204M0SGDX4** | .472 | .187 | .002 | 4 | – | ● | – | – | – | – | – | – |
| **RPPT1204M0SGDX5** | .472 | .188 | .002 | 5 | – | ● | – | – | – | – | – | – |
| **RPPT1204M0SGDX8** | .472 | .188 | .002 | 8 | – | ● | – | – | – | – | – | – |

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .236 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701-X4 | .005 | **.008** | .011 | .003 | **.006** | .008 | .002 | **.004** | .006 | .002 | **.004** | .005 | .002 | **.004** | .005 | 701-X4 |
| 432-X5 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 432-X5 |
| 432-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 432-X8 |
| 442-X5 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 442-X5 |
| 442-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 442-X8 |
| 442-X4 | .007 | **.021** | .037 | .005 | **.015** | .027 | .004 | **.011** | .020 | .003 | **.010** | .017 | .003 | **.009** | .016 | 442-X4 |
| GD-X5 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | GD-X5 |
| GD-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | GD-X8 |
| T-X4 | .009 | **.023** | .037 | .007 | **.017** | .027 | .005 | **.012** | .020 | .004 | **.011** | .017 | .004 | **.010** | .016 | T-X4 |

### At .118 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701-X4 | .005 | **.009** | .013 | .004 | **.007** | .009 | .003 | **.005** | .007 | .002 | **.004** | .006 | .002 | **.004** | .005 | 701-X4 |
| 432-X5 | .006 | **.019** | .037 | .005 | **.014** | .027 | .003 | **.010** | .020 | .003 | **.009** | .017 | .003 | **.008** | .016 | 432-X5 |
| 432-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 432-X8 |
| 442-X5 | .006 | **.019** | .037 | .005 | **.014** | .027 | .003 | **.010** | .020 | .003 | **.009** | .017 | .003 | **.008** | .016 | 442-X5 |
| 442-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 442-X8 |
| 442-X4 | .008 | **.024** | .043 | .006 | **.017** | .031 | .004 | **.013** | .023 | .004 | **.011** | .020 | .003 | **.010** | .018 | 442-X4 |
| GD-X5 | .006 | **.022** | .040 | .005 | **.016** | .028 | .003 | **.012** | .021 | .003 | **.010** | .018 | .003 | **.009** | .017 | GD-X5 |
| GD-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | GD-X8 |
| T-X4 | .011 | **.027** | .043 | .008 | **.019** | .031 | .006 | **.014** | .023 | .005 | **.012** | .020 | .005 | **.011** | .018 | T-X4 |

### At .098 Axial Depth of Cut (ap)

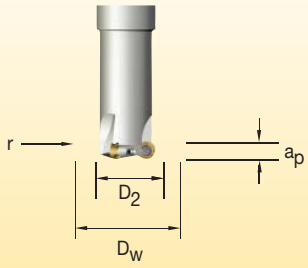
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701-X4 | .006 | **.010** | .014 | .004 | **.007** | .010 | .003 | **.005** | .007 | .003 | **.005** | .006 | .002 | **.004** | .006 | 701-X4 |
| 432-X5 | .007 | **.021** | .040 | .005 | **.015** | .028 | .004 | **.011** | .021 | .003 | **.010** | .018 | .003 | **.009** | .017 | 432-X5 |
| 432-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 432-X8 |
| 442-X5 | .007 | **.021** | .040 | .005 | **.015** | .028 | .004 | **.011** | .021 | .003 | **.010** | .018 | .003 | **.009** | .017 | 442-X5 |
| 442-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 442-X8 |
| 442-X4 | .009 | **.026** | .046 | .006 | **.019** | .033 | .005 | **.014** | .024 | .004 | **.012** | .021 | .004 | **.011** | .019 | 442-X4 |
| GD-X5 | .007 | **.023** | .042 | .005 | **.017** | .030 | .004 | **.012** | .022 | .003 | **.011** | .019 | .003 | **.010** | .018 | GD-X5 |
| GD-X8 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | GD-X8 |
| T-X4 | .011 | **.029** | .046 | .008 | **.020** | .033 | .006 | **.015** | .024 | .005 | **.013** | .021 | .005 | **.012** | .019 | T-X4 |

### At .059 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| 701-X4 | .007 | **.012** | .017 | .005 | **.009** | .012 | .004 | **.007** | .009 | .003 | **.006** | .008 | .003 | **.005** | .007 | 701-X4 |
| 432-X5 | .008 | **.026** | .049 | .006 | **.018** | .035 | .005 | **.014** | .026 | .004 | **.012** | .022 | .004 | **.011** | .021 | 432-X5 |
| 432-X8 | .008 | **.026** | .049 | .006 | **.018** | .035 | .005 | **.014** | .026 | .004 | **.012** | .022 | .004 | **.011** | .021 | 432-X8 |
| 442-X5 | .008 | **.026** | .049 | .006 | **.018** | .035 | .005 | **.014** | .026 | .004 | **.012** | .022 | .004 | **.011** | .021 | 442-X5 |
| 442-X8 | .008 | **.026** | .049 | .006 | **.018** | .035 | .005 | **.014** | .026 | .004 | **.012** | .022 | .004 | **.011** | .021 | 442-X8 |
| 442-X4 | .011 | **.032** | .058 | .008 | **.023** | .041 | .006 | **.017** | .030 | .005 | **.015** | .026 | .005 | **.014** | .024 | 442-X4 |
| GD-X5 | .008 | **.028** | .053 | .006 | **.020** | .037 | .005 | **.015** | .027 | .004 | **.013** | .024 | .004 | **.012** | .022 | GD-X5 |
| GD-X8 | .008 | **.028** | .053 | .006 | **.020** | .037 | .005 | **.015** | .027 | .004 | **.013** | .024 | .004 | **.012** | .022 | GD-X8 |
| T-X4 | .014 | **.035** | .058 | .010 | **.025** | .041 | .007 | **.019** | .030 | .006 | **.016** | .026 | .006 | **.015** | .024 | T-X4 |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## 7713VR Technical Information




**Working Diameter:**

Formula to evaluate the correct working diameter based on axial depth of cut ($a_p$).

$$D_w = D_2 + 2 \times \sqrt{r^2 - (r - a_p)^2}$$

**where:**

**$D_w$** = Working diameter
**$D_2$** = Diameter of cutter insert center to center
**r** = Insert radius
**$a_p$** = Axial depth of cut

**where:**

**$f_z$ =** Feed per tooth
**hm =** Average chip thickness
**r =** Insert radius
**$a_e$ =** Radial depth of cut
**$a_p$ =** Axial depth of cut

Formula to find programmed feed rate based on radial engagement and axial depth of cut.

$$f_z = \frac{h_m}{\frac{\sqrt{r^2-(r-a_e)^2}}{r} \times \frac{\sqrt{r^2-(r-a_p)^2}}{r}}$$

Formula to calculate the average chip thickness $h_m$ in relation with radial engagement and depth of cut.

$$h_m = f_z \times \frac{\sqrt{r^2-(r-a_e)^2}}{r} \times \frac{\sqrt{r^2-(r-a_p)^2}}{r}$$

Simplified formulas to evaluate $h_m$ and $f_z$ based on radial engagement or depth of cut.

### Calculation of the average chip thickness in relation with the D.O.C. (Axial)

**Formula: Program Feed Rate ($f_z$)**

$$f_z = h_m \times \sqrt{\frac{d}{a_p}}$$

**$h_m$** = Average chip thickness
**$a_p$** = Depth of cut
**$f_z$** = Feed per tooth
**d** = Insert diameter

**Formula: Average Chip Thickness ($h_m$)**

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$

### Calculation of the average chip thickness in relation with the $a_e$ (Radial Engagement) if $a_e$ is less than 50% of diameter

**Formula: Program Feed Rate ($f_z$)**

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

**$h_m$** = Average chip thickness
**$a_e$** = Radial engagement
**$f_z$** = Feed per tooth
**d** = Cutter diameter

**Formula: Average Chip Thickness ($h_m$)**

$$h_m = f_z \times \sqrt{\frac{d}{a_p}}$$

# Carbide Recycling

## Help preserve and protect our planet!

**It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.**

**By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.**

By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit **kennametal.com/carbiderecycling**.

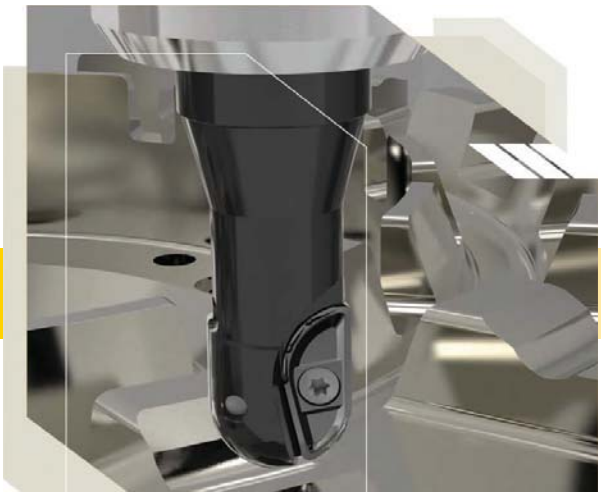
KENNAMETAL®

**kennametal.com**

# 5505VX Series

Copy/3D

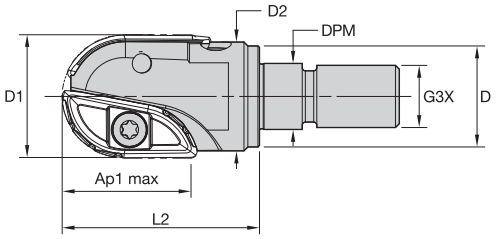
Contour Milling



## Ball Nose Contour Milling Cutter

- The 5505VX ball nose cutters have a reinforced design feature, which delivers a high volume of chip removal.
- The chipbreaker geometry provides excellent chip control and evacuation during machining and prevents edge build-up.
- 5505VX roughing ball nose cutters are ideal for roughing and semi-finishing profiles and complex contours.
- One grade and one geometry are qualified to machine steel, alloyed steel, stainless steel, high-temperature alloys, and cast iron.

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



## Screw-On End Mills

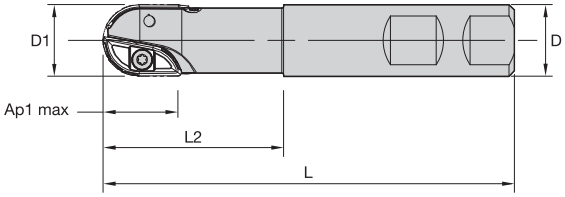
| order number | catalog number | D1 | D | D2 | L2 | G3X | DPM | Ap1 max | Z |
|---|---|---|---|---|---|---|---|---|---|
| **5673710** | **A5505VX05SA.625R1.00** | .625 | .512 | .585 | 1.000 | M8 | .335 | .630 | 2 |
| **5673603** | **A5505VX06SA.750R1.377** | .750 | .709 | .705 | 1.378 | M10 | .413 | .750 | 2 |
| **5673624** | **A5505VX08SA1.00R1.575** | 1.000 | .827 | .907 | 1.575 | M12 | .492 | .992 | 2 |
| **5672841** | **A5505VX10SA1.25R1.968** | 1.250 | 1.141 | 1.147 | 1.969 | M16 | .669 | 1.250 | 2 |

NOTE: **Products available by April 1st, 2018.**

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver | Torx driver |
|---|---|---|---|---|
| .625 | **FP3006T** | 12.4 | **TP8** | **–** |
| .750 | **FP3007T** | 12.4 | **TP8** | **–** |
| 1.000 | **D4010T** | 12.9 | **–** | **T15** |
| 1.250 | **D5013T** | 54.0 | **–** | **T20** |

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



## Weldon® End Mills

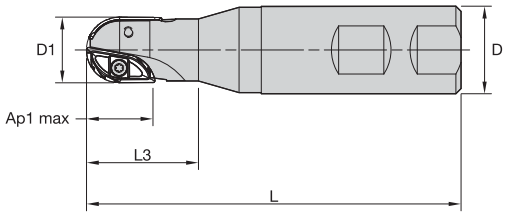
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z |
|---|---|---|---|---|---|---|---|
| **5673595** | **C5505VX08WA1.00R2.37** | 1.000 | 1.000 | 4.650 | 2.370 | .992 | 2 |
| **5672838** | **C5505VX10WA1.25R3.00** | 1.250 | 1.250 | 5.280 | 3.000 | 1.250 | 2 |
| **5673709** | **C5505VX10WA1.25R4.00** | 1.250 | 1.250 | 6.280 | 4.000 | 1.276 | 2 |
| **5672839** | **C5505VX12WA1.50R4.00** | 1.500 | 1.500 | 6.680 | 3.990 | 1.500 | 2 |
| **5673110** | **C5505VX12WA1.50R6.00** | 1.500 | 1.500 | 8.684 | 5.997 | 1.511 | 2 |
| **5672840** | **C5505VX16WA2.00R4.00** | 2.000 | 1.500 | 6.687 | 4.000 | 2.019 | 2 |
| **5673111** | **C5505VX16WA2.00R6.00** | 2.000 | 2.000 | 9.328 | 6.079 | 2.000 | 2 |

NOTE: **Products available by April 1st, 2018.**

## Spare Parts

| D1 | insert screw | in. lbs. | Torx driver |
|---|---|---|---|
| 1.000 | **D4010T** | 12.9 | **T15** |
| 1.250 | **D5013T** | 54.0 | **T20** |
| 1.500 | **D6014T** | 62.0 | **T20** |
| 2.000 | **D6018S** | 146.0 | **—** |

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



## Weldon® End Mills Flat

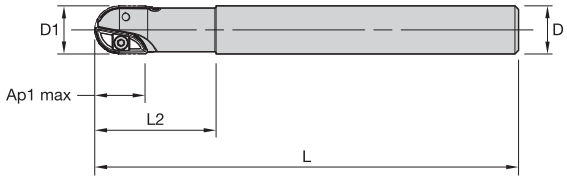
| order number | catalog number | D1 | D | L | L3 | Ap1 max | Z |
|---|---|---|---|---|---|---|---|
| **5673296** | **C5505VX06WA.750R2.00** | .750 | 1.000 | 4.280 | 1.260 | .760 | 2 |

NOTE: **Products available by April 1st, 2018.**

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .750 | **F3006T** | 16.0 | **TP8** |

- Rough to semi-finish profiling and contour milling.
- Helical insert design for increased speeds and feeds.
- One insert geometry covers most materials for optimized inventory.



## Cylindrical End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z |
|---|---|---|---|---|---|---|---|
| **5673633** | **C5505VX05CA.62R1.6** | .625 | .625 | 5.500 | 1.575 | .630 | 2 |
| **5672846** | **C5505VX05CA.75/.62R1** | .625 | .750 | 7.000 | 1.575 | .654 | 2 |
| **5672847** | **C5505VX06CA.75R1.7** | .750 | .750 | 5.000 | 2.000 | .654 | 2 |
| **5673786** | **C5505VX06CA1/.75R1.5** | .750 | 1.000 | 8.000 | 1.969 | .760 | 2 |
| **5672848** | **C5505VX08CA1.00R2.2** | 1.000 | 1.000 | 10.000 | 2.165 | 1.000 | 2 |
| **5673142** | **C5505VX10CA1.25R2.2** | 1.250 | 1.250 | 10.000 | 2.559 | 1.276 | 2 |

NOTE: **Products available by April 1st, 2018.**

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|
| .625 | **FP3006T** | 12.4 | **TP8** |
| .750 | **FP3007T** | 16.0 | **TP8** |
| 1.000 | **D4010T** | 27.4 | **TP15** |
| 1.250 | **D5013T** | 53.1 | **–** |

## Technical Information

### Technical Information (in)

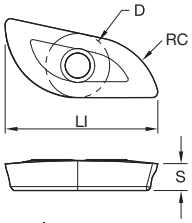
| order number | catalog number | dimension | | | | | max RPM |
|---|---|---|---|---|---|---|---|
| | | facing pitch | ramping angle | helical hole min–max | | ap max helical/linear | |
| **5673296** | **C5505VX06WA.750R2.00** | – | 85 | – | – | – | 37,250 |
| **5673595** | **C5505VX08WA1.00R2.37** | – | 85 | – | – | – | 30,250 |
| **5672658** | **C5505VX08WA1.00R3.55 032344** | – | 85 | – | – | – | 30,250 |
| **5672838** | **C5505VX10WA1.25R3.00** | – | 85 | – | – | – | 23,500 |
| **5673709** | **C5505VX10WA1.25R4.00** | – | 85 | – | – | – | 23,500 |
| **5672839** | **C5505VX12WA1.50R4.00** | – | 85 | – | – | – | 19,000 |
| **5673110** | **C5505VX12WA1.50R6.00** | – | 85 | – | – | – | 19,000 |
| **5672840** | **C5505VX16WA2.00R4.00** | – | 85 | – | – | – | 16,750 |
| **5673111** | **C5505VX16WA2.00R6.00** | – | 85 | – | – | – | 16,750 |
| **5673633** | **C5505VX05CA.62R1.6** | – | 85 | – | – | – | 54,250 |
| **5672846** | **C5505VX05CA.75/.62R1** | – | 85 | – | – | – | 54,250 |
| **5672847** | **C5505VX06CA.75R1.7** | – | 85 | – | – | – | 37,250 |
| **5673786** | **C5505VX06CA1/.75R1.5** | – | 85 | – | – | – | 37,250 |
| **5672848** | **C5505VX08CA1.00R2.2** | – | 85 | – | – | – | 30,250 |
| **5673142** | **C5505VX10CA1.25R2.2** | – | 85 | – | – | – | 23,500 |
| **5673710** | **A5505VX05SA.625R1.00** | – | 85 | – | – | – | 54,250 |
| **5673603** | **A5505VX06SA.750R1.377** | – | 85 | – | – | – | 37,250 |
| **5673624** | **A5505VX08SA1.00R1.575** | – | 85 | – | – | – | 30,250 |
| **5672841** | **A5505VX10SA1.25R1.968** | – | 85 | – | – | – | 23,500 |

Ramping

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ◄——————► | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| P3–P4 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| P5–P6 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| M1–M2 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| M3 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| K1–K2 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| K3 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| N1–N2 | – | – | **–** | **–** | – | – |
| N3 | – | – | **–** | **–** | – | – |
| S1–S2 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| S3 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| S4 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |
| H1 | R-F | SP6519 | **R-F** | **SP6519** | R-F | SP6519 |

XPNT-F




● first choice
○ alternate choice

| | |
|---|---|
| P | ○ |
| M | ● |
| K | ○ |
| N | |
| S | ● |
| H | |

## XPNT-F

| catalog number | D | LI | S | RC | hm | SP6519 |
|---|---|---|---|---|---|---|
| **XPNT050522RF** | .291 | .685 | .125 | .312 | .002 | ● |
| **XPNT06062515RF** | .336 | .783 | .156 | .375 | .002 | ● |
| **XPNT080832RF** | .433 | 1.023 | .187 | .500 | .002 | ● |
| **XPNT101043RF** | .555 | 1.315 | .249 | .625 | .002 | ● |
| **XPNT121254RF** | .669 | 1.575 | .312 | .750 | .002 | ● |
| **XPNT161654RF** | .875 | 2.081 | .336 | 1.000 | .002 | ● |

**Very Important**

Please do not remove this screw. The screw is glued into the body to keep the inserts in the correct position.

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .315 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.008** | .014 | .003 | **.006** | .010 | .002 | **.004** | .007 | .002 | **.004** | .006 | .002 | **.004** | .006 | R-F |

### At .157 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.009** | .016 | .003 | **.007** | .011 | .002 | **.005** | .009 | .002 | **.004** | .007 | .002 | **.004** | .007 | R-F |

### At .079 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .006 | **.012** | .021 | .004 | **.009** | .015 | .003 | **.007** | .011 | .003 | **.006** | .010 | .002 | **.005** | .009 | R-F |

### At .039 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .008 | **.017** | .028 | .006 | **.012** | .020 | .004 | **.009** | .015 | .004 | **.008** | .013 | .003 | **.007** | .012 | R-F |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## 5505VX • 20mm • Recommended Starting Feeds

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .394 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.010** | .016 | .003 | **.007** | .011 | .002 | **.006** | .008 | .002 | **.005** | .007 | .002 | **.004** | .007 | R-F |

### At .197 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.012** | .018 | .003 | **.009** | .013 | .002 | **.006** | .010 | .002 | **.006** | .008 | .002 | **.005** | .008 | R-F |

### At .098 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .006 | **.016** | .024 | .004 | **.011** | .017 | .003 | **.008** | .013 | .003 | **.007** | .011 | .002 | **.007** | .010 | R-F |

### At .049 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .008 | **.021** | .032 | .006 | **.015** | .023 | .004 | **.012** | .017 | .004 | **.010** | .015 | .003 | **.009** | .014 | R-F |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .492 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.011** | .019 | .003 | **.008** | .013 | .002 | **.006** | .010 | .002 | **.005** | .009 | .002 | **.005** | .008 | R-F |

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.013** | .021 | .003 | **.010** | .015 | .002 | **.007** | .012 | .002 | **.006** | .010 | .002 | **.006** | .009 | R-F |

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .006 | **.017** | .028 | .004 | **.012** | .020 | .003 | **.009** | .015 | .003 | **.008** | .013 | .002 | **.007** | .012 | R-F |

### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .008 | **.024** | .038 | .005 | **.017** | .028 | .004 | **.013** | .021 | .004 | **.011** | .018 | .003 | **.010** | .016 | R-F |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .630 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.011** | .019 | .003 | **.008** | .013 | .002 | **.006** | .010 | .002 | **.005** | .009 | .002 | **.005** | .008 | R-F |

### At .315 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.013** | .021 | .003 | **.010** | .015 | .002 | **.007** | .012 | .002 | **.006** | .010 | .002 | **.006** | .009 | R-F |

### At .157 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .006 | **.017** | .028 | .004 | **.013** | .020 | .003 | **.009** | .015 | .003 | **.008** | .013 | .002 | **.007** | .012 | R-F |

### At .079 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .008 | **.024** | .039 | .006 | **.017** | .028 | .004 | **.013** | .021 | .004 | **.011** | .018 | .003 | **.010** | .017 | R-F |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .787 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.013** | .022 | .003 | **.009** | .016 | .002 | **.007** | .012 | .002 | **.006** | .010 | .002 | **.005** | .010 | R-F |

### At .394 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.015** | .026 | .003 | **.010** | .019 | .002 | **.008** | .014 | .002 | **.007** | .012 | .002 | **.006** | .011 | R-F |

### At .197 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .006 | **.019** | .034 | .004 | **.014** | .024 | .003 | **.010** | .018 | .003 | **.009** | .016 | .002 | **.008** | .015 | R-F |

### At .098 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .008 | **.026** | .047 | .006 | **.019** | .033 | .004 | **.014** | .025 | .004 | **.012** | .022 | .003 | **.011** | .020 | R-F |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## 5505VX • 50mm • Recommended Starting Feeds

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .984 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.015** | .025 | .003 | **.011** | .018 | .002 | **.008** | .014 | .002 | **.007** | .012 | .002 | **.006** | .011 | R-F |

### At .500 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .004 | **.017** | .029 | .003 | **.012** | .021 | .002 | **.009** | .016 | .002 | **.008** | .014 | .002 | **.007** | .012 | R-F |

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .006 | **.022** | .038 | .004 | **.016** | .027 | .003 | **.012** | .020 | .003 | **.010** | .018 | .002 | **.010** | .016 | R-F |

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5% | | | 10% | | | 20% | | | 30% | | | 40–100% | | | |
| R-F | .008 | **.031** | .052 | .005 | **.022** | .038 | .004 | **.016** | .028 | .004 | **.014** | .024 | .003 | **.013** | .022 | R-F |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

# Service and Support

## Customer Application Support (CAS)

### Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

### Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

| | |
|---|---|
| **SERVICE LEVEL EXCELLENCE** | Fast telephone response.<br>Quick technical solutions.<br>Efficient case management. |
| **SERVICES** | Operating parameters.<br>Process optimization.<br>Hardware support.<br>Tooling selection.<br>Troubleshooting. |
| **BEST-IN-CLASS SUPPORT TOOLS AND TECHNOLOGY** | Materials database.<br>Application calculators.<br>Tooling performance experts. |

| Originating Country | Language | Phone | E-mail |
|---|---|---|---|
| Australia | English | 1800 666 667 | ap-kmt.techsupport@kennametal.com |
| Austria | German | 0800 202873 | eu.techsupport@kennametal.com |
| Belgium | English/French | 0800 80850 | eu.techsupport@kennametal.com |
| China | Chinese | 400 889 2238 | k-cn.techsupport@kennametal.com |
| Denmark | English | 808 89298 | na.techsupport@kennametal.com |
| Finland | English | 0800 919412 | na.techsupport@kennametal.com |
| France | French | 080 5540 367 | eu.techsupport@kennametal.com |
| Germany | German | 0800 0006651 | eu.techsupport@kennametal.com |
| India | English | 1 800 103 5227 | in.techsupport@kennametal.com |
| Israel | English | 1809 449889 | na.techsupport@kennametal.com |
| Italy | Italian | 800 916561 | eu.techsupport@kennametal.com |
| Japan | English | 03 3820 2855 | ap-kmt.techsupport@kennametal.com |
| Korea (South) | English | +82 2 2100 6100 | ap-kmt.techsupport@kennametal.com |
| Malaysia | English | 1800 812 990 | ap-kmt.techsupport@kennametal.com |
| Mexico | Spanish | 1800 253 0758 | na.techsupport@kennametal.com |
| Netherlands | English | 0800 0201 130 | eu.techsupport@kennametal.com |
| New Zealand | English | 0800 450 941 | ap-kmt.techsupport@kennametal.com |
| Norway | English | 800 10080 | na.techsupport@kennametal.com |
| Poland | Polish | 0080 04411887 | eu.techsupport@kennametal.com |
| Russia (landline) | Russian | 8800 5556394 | eu.techsupport@kennametal.com |
| Russia (cell phone) | Russian | +7 8005556394 | eu.techsupport@kennametal.com |
| Singapore | English | 1800 6221031 | ap-kmt.techsupport@kennametal.com |
| South Africa | English | 0800 981643 | na.techsupport@kennametal.com |
| Sweden | English | 020799246 | na.techsupport@kennametal.com |
| Taiwan | English | 0800 666 197 | ap-kmt.techsupport@kennametal.com |
| Thailand | English | 1800 4417820 | ap-kmt.techsupport@kennametal.com |
| UK | English | 0800 032 8339 | na.techsupport@kennametal.com |
| Ukraine | Russian | 0800502664 | eu.techsupport@kennametal.com |
| USA | English | 800 835 3668 | na.techsupport@kennametal.com |

Numbers shown only serve the originating country listed.

# KDMB™ • KDMT™

## Indexable Copy Insert Platform

### Primary Application

Ball nose and toroidal styles for roughing and finishing operations. Engineered with the ultimate technologies and supported with a wide range of diameters and insert styles to provide exceptional performance and productivity. The new high-feed insert style provides the highest metal removal rates for roughing applications.

## Features and Benefits

### Longer Tool Life and Improved Geometries

- Longer tool life for finishing operations, up to 63 HRC.
- High-accuracy inserts and holders: overall runout .0004".
- Improved geometries for roughing and finishing operations.
- Smaller diameters from .25" to replace SCEM, setting a more productive machining process.

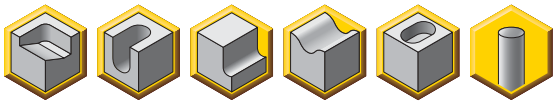
### Superior Productivity

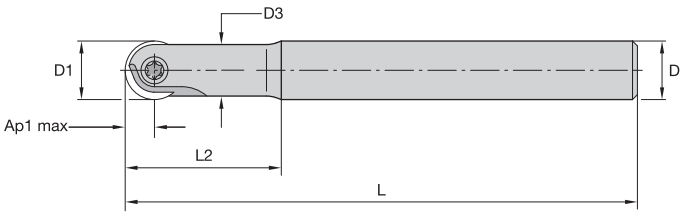
- Achieve better surface quality with the new helical geometry.
- New ultra-grain grade for outstanding tool life.
- Diameters .250" and .312" are a natural replacement for SEM tools.
- Better cost per edge.

### Usability and Flexibility

- Wide diameter range enables use in a wide range of machining conditions.
- Many workpiece materials are possible — from hardened steel to aluminum.
- Large holder style offering: screw-on, cylindrical, and tapered steel and carbide holders.

- Cutting diameter ranges from .375–1.250".
- Ball nose finishers for 3D milling applications.
- Suitable for roughing and fi nishing operations.
- High precision and runout accuracy.
- Can be used with heat shrink technology, h6 shank tolerance.





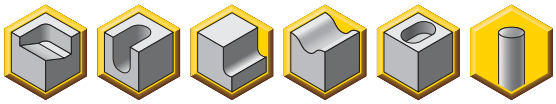
## Necked End Mills • Cylindrical Shank • Steel

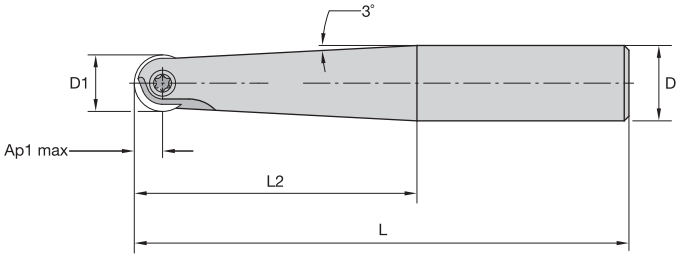
| order number | catalog number | D1 | D | D3 | L | L2 | Ap1 max | Z | Z U | coolant supply | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2877812 | KDMB0375R354A038SN | .375 | .500 | .335 | 3.543 | 1.378 | .188 | 1 | 2 | No | 3.0° | 40000 | KDMB0375.. | .07 |
| 2878434 | KDMB0500R512A050SN | .500 | .500 | .413 | 5.120 | 1.260 | .250 | 1 | 2 | No | 3.0° | 40000 | KDMB0500.. | .22 |
| 2878433 | KDMB0500R591A050SN | .500 | .500 | .413 | 5.906 | 1.810 | .250 | 1 | 2 | No | 3.0° | 40000 | KDMB0500.. | .22 |
| 2878435 | KDMB0625R551A063SN | .625 | .625 | .551 | 5.512 | 1.420 | .313 | 1 | 2 | No | 3.0° | 40000 | KDMB0625.. | .44 |
| 2878436 | KDMB0625R630A063SN | .625 | .625 | .551 | 6.299 | 2.090 | .313 | 1 | 2 | No | 3.0° | 40000 | KDMB0625.. | .44 |
| 2878437 | KDMB0750R630A075SN | .750 | .750 | .709 | 6.281 | 1.753 | .375 | 1 | 2 | No | 3.0° | 40000 | KDMB0750.. | .88 |
| 2878438 | KDMB0750R689A075SN | .750 | .750 | .709 | 6.890 | 2.362 | .375 | 1 | 2 | No | 3.0° | 40000 | KDMB0750.. | .88 |
| 2878439 | KDMB0750R827A075SN | .750 | .750 | .709 | 8.268 | 2.360 | .375 | 1 | 2 | No | 3.0° | 40000 | KDMB0750.. | .99 |
| 2878440 | KDMB1000R630A100SN | 1.000 | 1.000 | .882 | 6.299 | 1.770 | .500 | 1 | 2 | No | 3.0° | 40000 | KDMB1000.. | 1.32 |
| 2878441 | KDMB1000R748A100SN | 1.000 | 1.000 | .882 | 7.480 | 2.760 | .500 | 1 | 2 | No | 3.0° | 40000 | KDMB1000.. | 1.54 |
| 2878442 | KDMB1250R689A125SN | 1.250 | 1.250 | 1.126 | 6.890 | 2.205 | .625 | 1 | 2 | No | 3.0° | 40000 | KDMB1250.. | 2.20 |
| 2878443 | KDMB1250R827A125SN | 1.250 | 1.250 | 1.126 | 8.268 | 3.150 | .625 | 1 | 2 | No | 3.0° | 40000 | KDMB1250.. | 2.57 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| .375 | 193.394 | 27 | KT15 |
| .500 | 193.393 | 35 | KT20 |
| .625 | 193.392 | 44 | KT20 |
| .750 | 193.391 | 53 | KT20 |
| 1.000 | 193.390 | 58 | KT30 |
| 1.250 | 193.389 | 58 | KT30 |

- Available diameters: .312–1.250".
- Ball nose finishers for 3D milling applications.
- Suitable for roughing and finishing operations.
- Tapered version ideal for 5-axis applications.
- High precision and runout accuracy.
- Can be used with heat shrink technology, h6 shank tolerance.





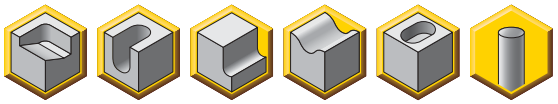

## Tapered End Mills • Cylindrical Shank • Steel

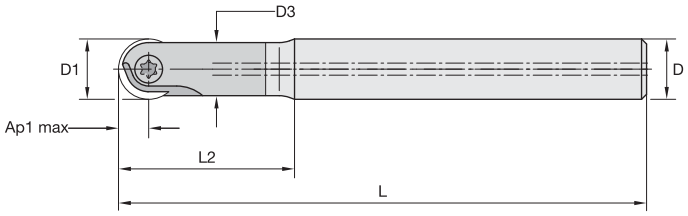
| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | Z U | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2878444** | **KDMB0312R551A031ST** | .312 | .500 | 5.510 | 1.970 | .156 | 1 | 2 | 3.0° | 40000 | KDMB0312.. | .25 |
| **2878445** | **KDMB0375R591A038ST** | .375 | .500 | 5.910 | 1.380 | .188 | 1 | 2 | 3.0° | 40000 | KDMB0375.. | .29 |
| **2878446** | **KDMB0500R630A050ST** | .500 | .625 | 6.300 | 2.360 | .250 | 1 | 2 | 3.0° | 40000 | KDMB0500.. | .47 |
| **2878448** | **KDMB0750R748A075ST** | .750 | 1.000 | 7.480 | 3.150 | .375 | 1 | 2 | 3.0° | 40000 | KDMB0750.. | 1.41 |
| **2878449** | **KDMB1000R827A100ST** | 1.000 | 1.250 | 8.270 | 3.940 | .500 | 1 | 2 | 3.0° | 30000 | KDMB1000.. | 2.52 |
| **2878450** | **KDMB1250R945A125ST** | 1.250 | 1.500 | 9.450 | 4.840 | .625 | 1 | 2 | 3.0° | 40000 | KDMB1250.. | 3.82 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| .312 | **193.395** | 18 | **KT8** |
| .375 | **193.394** | 27 | **KT15** |
| .500 | **193.393** | 35 | **KT20** |
| .750 | **193.391** | 53 | **KT20** |
| 1.000 | **193.390** | 58 | **KT30** |
| 1.250 | **193.389** | 58 | **KT30** |

- Available diameters: .250–1.250".
- Ball nose finishers for 3D milling applications.
- Suitable for roughing and finishing operations.
- High precision and runout accuracy.
- Can be used with heat shrink technology, h6 shank tolerance.





## Necked End Mills • Cylindrical Shank • Carbide

| order number | catalog number | D1 | D | D3 | L | L2 | Ap1 max | Z | Z U | coolant supply | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4177170** | **KDMB025R394A025HN** | .250 | .250 | .211 | 3.937 | 1.575 | .125 | 1 | 2 | No | 3.0° | 40000 | KDMB0250.. | .11 |
| **4177171** | **KDMB025R591A025HN** | .250 | .250 | .211 | 5.906 | 2.756 | .125 | 1 | 2 | No | 3.0° | 40000 | KDMB0250.. | .11 |
| **4177172** | **KDMB025R788A025HN** | .250 | .250 | .211 | 7.874 | 3.937 | .125 | 1 | 2 | No | 3.0° | 40000 | KDMB0250.. | .11 |
| **4177167** | **KDMB025R394A038HN** | .250 | .375 | .213 | 3.937 | 1.599 | .125 | 1 | 2 | No | 3.0° | 40000 | KDMB0250.. | .11 |
| **4177169** | **KDMB0312R591A038HN** | .312 | .375 | .276 | 5.906 | 1.623 | .156 | 1 | 2 | No | 3.0° | 40000 | KDMB0312.. | .22 |
| **2879403** | **KDMB0375R472A038HNC** | .375 | .375 | .350 | 4.730 | 1.310 | .375 | 1 | 2 | Yes | 3.0° | 30000 | KDMB0375.. | .23 |
| **2879404** | **KDMB0375R591A038HNC** | .375 | .375 | .350 | 5.910 | 1.900 | .188 | 1 | 2 | Yes | 3.0° | 30000 | KDMB0375.. | .28 |
| **2879405** | **KDMB0500R472A050HNC** | .500 | .500 | .420 | 4.730 | 1.392 | .188 | 1 | 2 | Yes | 3.0° | 40000 | KDMB0500.. | .39 |
| **2879406** | **KDMB0500R630A050HNC** | .500 | .500 | .420 | 6.300 | 1.982 | .313 | 1 | 2 | Yes | 3.0° | 40000 | KDMB0500.. | .53 |
| **2879408** | **KDMB0625R689A063HNC** | .625 | .625 | .560 | 6.890 | 2.163 | .250 | 1 | 2 | Yes | 3.0° | 40000 | KDMB0625.. | .87 |
| **2879409** | **KDMB0750R551A075HNC** | .750 | .750 | .710 | 5.520 | 1.950 | .250 | 1 | 2 | Yes | 3.0° | 40000 | KDMB0750.. | 1.04 |
| **2879410** | **KDMB0750R827A075HNC** | .750 | .750 | .710 | 8.270 | 2.362 | .500 | 1 | 2 | Yes | 3.0° | 40000 | KDMB0750.. | .96 |
| **2879411** | **KDMB1000R630A100HNC** | 1.000 | 1.000 | .890 | 6.307 | 2.370 | .375 | 1 | 2 | Yes | 3.0° | 30000 | KDMB1000.. | 2.01 |
| **2879412** | **KDMB1000R906A100HNC** | 1.000 | 1.000 | .890 | 8.270 | 3.539 | .500 | 1 | 2 | Yes | 3.0° | 30000 | KDMB1000.. | 2.01 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| .250 | **MS2236** | 18 | **KT6** |
| .312 | **193.395** | 18 | **KT8** |
| .375 | **193.394** | 27 | **KT15** |
| .500 | **193.393** | 35 | **KT20** |
| .625 | **193.392** | 44 | **KT20** |
| .750 | **193.391** | 53 | **KT20** |
| 1.000 | **193.390** | 58 | **KT30** |

## Insert Selection Guide

### KDMB Ball Nose Platform • .250"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ toughness | | | | | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P3–P4 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P5–P6 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| M1–M2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| M3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K1–K2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | – | – | **.E..GP** | **KC515M** | – | – |
| H1 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |

### KDMB Ball Nose Platform • .312"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ toughness | | | | | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| M1–M2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| M3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K1–K2 | .E..GP | KC515M | **–** | **–** | – | – |
| K3 | .E..GP | KC515M | **–** | **–** | – | – |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | – | – |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GP | KC515M |

### KDMB Ball Nose Platform • .375"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ toughness | | | | | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| M1–M2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| M3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K1–K2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | – | – |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GP | KC515M |

### KDMB Ball Nose Platform • .500"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ toughness | | | | | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| M1–M2 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| M3 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| K1–K2 | .E..GP | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| K3 | .E..GP | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GN | KC515M |

### KDMB Ball Nose Platform • .625"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ toughness | | | | | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| M1–M2 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| M3 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| K1–K2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GP | KC515M |

### KDMB Ball Nose Platform • .750"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ toughness | | | | | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| M1–M2 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| M3 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| K1–K2 | .E..GP | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| K3 | .E..GP | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GN | KC515M |

## Insert Selection Guide

### KDMB Ball Nose Platform • 1.00"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ | | | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| M1–M2 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| M3 | .E..GP | KC515M | **.E..HC** | **KC530M** | .E..HC | KC530M |
| K1–K2 | .E..GP | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| K3 | .E..GP | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | .E..HC | KC530M |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GN | KC515M |

### KDMB Ball Nose Platform • 1.25"

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ⟷ | | | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GP | KC515M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P3–P4 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| P5–P6 | .E..GP | KC505M | **.E..GP** | **KC515M** | .E..GP | KC515M |
| M1–M2 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| M3 | .E..GP | KC515M | **.E..GP** | **KC515M** | – | – |
| K1–K2 | .E..GP | KC515M | **–** | **–** | – | – |
| K3 | .E..GP | KC515M | **–** | **–** | – | – |
| N1–N2 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| N3 | .E..LD | K115M | **.E..LD** | **K115M** | – | – |
| S1–S2 | – | – | **–** | **–** | – | – |
| S3 | – | – | **–** | **–** | – | – |
| S4 | .E..LD | K115M | **.E..GP** | **KC515M** | – | – |
| H1 | .E..GP | KC505M | **.E..GP** | **KC505M** | .E..GP | KC515M |

### Insert Style

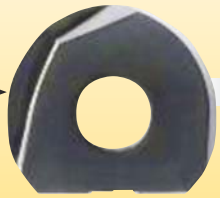
#### HC Geometry:

PSTS geometry with chipbreaker for roughing. Semi-finishing and rest material of steel, cast steel, and high-temperature alloys.

roughing, rest material

#### GP Geometry:

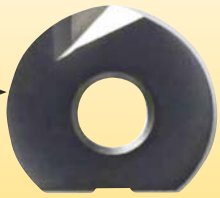
High-precision insert with helical geometry for semi-finishing and finishing of steel up to 63 HRC, cast steel, and high-temperature alloys.



semi-finishing, finishing

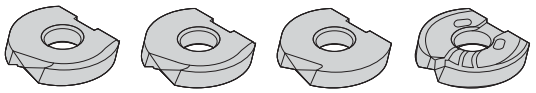
#### GN Geometry:

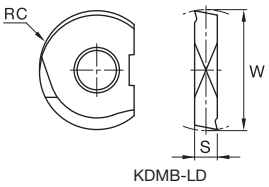
Geometry with extremely solid cutting edge for roughing cast steel, high-temperature alloys, and hardened steel up to 60 HRC.



finishing

• High-precision positive geometry.




● first choice
○ alternate choice

| | | | | |
|---|---|---|---|---|
| P | | ● | ● | ● |
| M | | ○ | ○ | ● |
| K | | ○ | ● | ○ |
| N | ● | | | |
| S | ○ | | | ○ |
| H | | ● | ○ | ○ |

## KDMB-LD • High-Precision Positive Geometry • Non-Ferrous and Titanium

| catalog number | W | S | RC | hm | K115M | KC505M | KC515M | KC530M |
|---|---|---|---|---|---|---|---|---|
| **KDMB0250M0ERLD** | .250 | .063 | .125 | .002 | ● | – | – | – |
| **KDMB0312M0ERLD** | .313 | .079 | .156 | .002 | ● | – | – | – |
| **KDMB0375M0ERLD** | .375 | .098 | .188 | .002 | ● | – | – | – |
| **KDMB0500M0ERLD** | .500 | .098 | .250 | .002 | ● | – | – | – |
| **KDMB0625M0ERLD** | .625 | .118 | .313 | .002 | ● | – | – | – |
| **KDMB0750M0ERLD** | .750 | .118 | .375 | .002 | ● | – | – | – |
| **KDMB1000M0ERLD** | 1.000 | .158 | .500 | .002 | ● | – | – | – |
| **KDMB1250M0ERLD** | 1.250 | .197 | .625 | .002 | ● | – | – | – |

• High-precision helical geometry.

## KDMB-GP • High-Precision Helical Geometry and Lower Cutting Forces

| catalog number | W | S | RC | hm | K115M | KC505M | KC515M | KC530M |
|---|---|---|---|---|---|---|---|---|
| **KDMB0250M0ERGP** | .250 | .063 | .125 | .002 | – | – | ● | – |
| **KDMB0312M0ERGP** | .312 | .079 | .156 | .002 | – | ● | – | – |
| **KDMB0375M0ERGP** | .375 | .098 | .188 | .002 | – | ● | ● | – |
| **KDMB0500M0ERGP** | .500 | .098 | .250 | .002 | – | – | ● | – |
| **KDMB0500M0ERGP** | .500 | .098 | .250 | .002 | – | ● | – | – |
| **KDMB0625M0ERGP** | .625 | .118 | .313 | .002 | – | ● | ● | – |
| **KDMB0750M0ERGP** | .750 | .118 | .375 | .002 | – | ● | ● | – |
| **KDMB1000M0ERGP** | 1.000 | .158 | .500 | .002 | – | ● | ● | – |
| **KDMB1250M0ERGP** | 1.250 | .197 | .625 | .002 | – | ● | ● | – |

• High-precision insert.

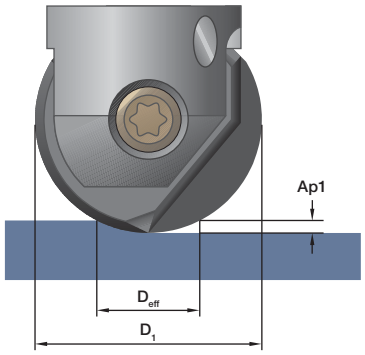
## KDMB-GN • High Precision • Extremely Solid Cutting Edge

| catalog number | W | S | RC | hm | K115M | KC505M | KC515M | KC530M |
|---|---|---|---|---|---|---|---|---|
| **KDMB0500M0ERGN** | .500 | .098 | .250 | .003 | – | – | ● | – |
| **KDMB0750M0ERGN** | .750 | .118 | .375 | .003 | – | – | ● | – |
| **KDMB1000M0ERGN** | 1.000 | .158 | .500 | .003 | – | – | ● | – |

• Pressed insert.

## KDMB-HC • PSTS Insert Developed for Roughing and Rest Material Operations

| catalog number | W | S | RC | hm | K115M | KC505M | KC515M | KC530M |
|---|---|---|---|---|---|---|---|---|
| **KDMB0500M0ERHC** | .500 | .098 | .250 | .004 | – | – | – | ● |
| **KDMB0625M0ERHC** | .625 | .118 | .313 | .004 | – | – | – | ● |
| **KDMB0750M0ERHC** | .750 | .118 | .375 | .004 | – | – | – | ● |
| **KDMB1000M0ERHC** | 1.000 | .158 | .500 | .004 | – | – | – | ● |




## KDMB Ball Nose • .250"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.125 | 0.050 | 0.025 | 0.013 |
| 0.250 | 0.250 | 0.200 | 0.150 | 0.109 |

## KDMB Ball Nose • .312"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.156 | 0.047 | 0.031 | 0.016 |
| 0.313 | 0.313 | 0.223 | 0.188 | 0.136 |

## KDMB Ball Nose • .375"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.188 | 0.056 | 0.038 | 0.019 |
| 0.375 | 0.375 | 0.268 | 0.225 | 0.163 |

## KDMB Ball Nose • .500"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.250 | 0.075 | 0.050 | 0.025 |
| 0.500 | 0.500 | 0.357 | 0.300 | 0.218 |

## KDMB Ball Nose • .625"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.313 | 0.094 | 0.063 | 0.031 |
| 0.625 | 0.625 | 0.446 | 0.375 | 0.272 |

## KDMB Ball Nose • .750"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.375 | 0.113 | 0.075 | 0.038 |
| 0.750 | 0.750 | 0.536 | 0.450 | 0.327 |

## KDMB Ball Nose • 1.00"

| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.500 | 0.150 | 0.100 | 0.050 |
| 1.000 | 1.000 | 0.714 | 0.600 | 0.436 |

## KDMB Ball Nose • 1.25"

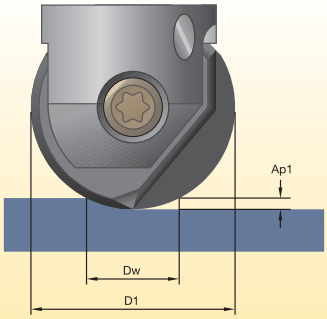
| D1 max | Working Diameter (Dw) at Axial Depth of Cut (ap) | | | |
|---|---|---|---|---|
| | 0.625 | 0.188 | 0.125 | 0.063 |
| 1.250 | 1.250 | 0.893 | 0.750 | 0.545 |

NOTE: Working diameter (Dw) or effective diameter has to be considered when calculating appropriate RPMs.

## Calculating Working Diameter and Resulting Surface Speed

### Case 1:

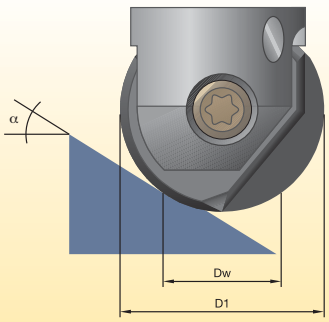
It is important to consider the effective diameter (Dw) when using light depths of cut in order to properly calculate RPM values. Use the following formula when machining flat surfaces or inclinations of 10° or less to find the Dw value. Then, use this for RPM calculations, as opposed to using the overall insert diameter (D1).




$$Dw = \sqrt{D1_2\text{-}(D1\text{-}2Ap1)_2}$$

### Case 2:

When machining inclinations between 11° and 55° , further modification of vc is required. Apply factor “k” from the given formula to calculate the correct vc (vceff). This corrected value is then used to calculate the proper RPM for the tool.




$$k = \frac{1}{\sin [\alpha + \arccos (1\text{-}(2\ (Ap1/D1)))]}$$

$$vceff = vc \times k$$

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size .250"

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |

### At .050 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .006 | **.008** | .015 | .004 | **.006** | .011 | .004 | **.005** | .010 | .004 | **.005** | .009 | .004 | **.005** | .009 | .E..LD |
| .E..GP | .006 | **.008** | .015 | .004 | **.006** | .011 | .004 | **.005** | .010 | .004 | **.005** | .009 | .004 | **.005** | .009 | .E..GP |

### At .025 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |

### At .013 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size .312"

### At .156 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |

### At .047 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |

### At .031 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |

### At .016 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size .375"

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .188 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |

### At .056 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |

### At .038 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |

### At .019 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size .500"

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |
| .E..GN | .007 | **.010** | .018 | .005 | **.008** | .013 | .004 | **.007** | .011 | .004 | **.006** | .011 | .004 | **.006** | .011 | .E..GN |
| .E..HC | .007 | **.014** | .024 | .005 | **.010** | .018 | .004 | **.009** | .015 | .004 | **.008** | .014 | .004 | **.008** | .014 | .E..HC |

### At .075 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |
| .E..GN | .009 | **.014** | .025 | .007 | **.011** | .019 | .006 | **.009** | .016 | .006 | **.009** | .015 | .006 | **.008** | .015 | .E..GN |
| .E..HC | .009 | **.019** | .034 | .007 | **.014** | .025 | .006 | **.012** | .021 | .006 | **.011** | .020 | .006 | **.011** | .020 | .E..HC |

### At .050 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |
| .E..GN | .011 | **.017** | .030 | .008 | **.013** | .022 | .007 | **.011** | .019 | .007 | **.010** | .018 | .007 | **.010** | .018 | .E..GN |
| .E..HC | .011 | **.023** | .041 | .008 | **.017** | .030 | .007 | **.015** | .026 | .007 | **.014** | .024 | .007 | **.013** | .023 | .E..HC |

### At .025 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |
| .E..GN | .016 | **.024** | .042 | .012 | **.017** | .031 | .010 | **.015** | .026 | .009 | **.014** | .025 | .009 | **.014** | .024 | .E..GN |
| .E..HC | .016 | **.032** | .057 | .012 | **.023** | .041 | .010 | **.020** | .035 | .009 | **.019** | .033 | .009 | **.018** | .032 | .E..HC |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size .625"

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .313 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |
| .E..HC | .007 | **.014** | .024 | .005 | **.010** | .018 | .004 | **.009** | .015 | .004 | **.008** | .014 | .004 | **.008** | .014 | .E..HC |

### At .094 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |
| .E..HC | .009 | **.019** | .034 | .007 | **.014** | .025 | .006 | **.012** | .021 | .006 | **.011** | .020 | .006 | **.011** | .020 | .E..HC |

### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |
| .E..HC | .011 | **.023** | .041 | .008 | **.017** | .030 | .007 | **.015** | .026 | .007 | **.014** | .024 | .007 | **.013** | .023 | .E..HC |

### At .031 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |
| .E..HC | .016 | **.032** | .057 | .012 | **.023** | .041 | .010 | **.020** | .035 | .009 | **.019** | .033 | .009 | **.018** | .032 | .E..HC |

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size .750"

### At .375 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |
| .E..GN | .007 | **.010** | .018 | .005 | **.008** | .013 | .004 | **.007** | .011 | .004 | **.006** | .011 | .004 | **.006** | .011 | .E..GN |
| .E..HC | .007 | **.014** | .024 | .005 | **.010** | .018 | .004 | **.009** | .015 | .004 | **.008** | .014 | .004 | **.008** | .014 | .E..HC |

### At .113 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |
| .E..GN | .009 | **.014** | .025 | .007 | **.011** | .019 | .006 | **.009** | .016 | .006 | **.009** | .015 | .006 | **.008** | .015 | .E..GN |
| .E..HC | .009 | **.019** | .034 | .007 | **.014** | .025 | .006 | **.012** | .021 | .006 | **.011** | .020 | .006 | **.011** | .020 | .E..HC |

### At .075 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |
| .E..GN | .011 | **.017** | .030 | .008 | **.013** | .022 | .007 | **.011** | .019 | .007 | **.010** | .018 | .007 | **.010** | .018 | .E..GN |
| .E..HC | .011 | **.023** | .041 | .008 | **.017** | .030 | .007 | **.015** | .026 | .007 | **.014** | .024 | .007 | **.013** | .023 | .E..HC |

### At .038 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |
| .E..GN | .016 | **.024** | .042 | .012 | **.017** | .031 | .010 | **.015** | .026 | .009 | **.014** | .025 | .009 | **.014** | .024 | .E..GN |
| .E..HC | .016 | **.032** | .057 | .012 | **.023** | .041 | .010 | **.020** | .035 | .009 | **.019** | .033 | .009 | **.018** | .032 | .E..HC |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size 1.00"

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .500 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |
| .E..GN | .007 | **.010** | .018 | .005 | **.008** | .013 | .004 | **.007** | .011 | .004 | **.006** | .011 | .004 | **.006** | .011 | .E..GN |
| .E..HC | .007 | **.014** | .024 | .005 | **.010** | .018 | .004 | **.009** | .015 | .004 | **.008** | .014 | .004 | **.008** | .014 | .E..HC |

### At .150 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |
| .E..GN | .009 | **.014** | .025 | .007 | **.011** | .019 | .006 | **.009** | .016 | .006 | **.009** | .015 | .006 | **.008** | .015 | .E..GN |
| .E..HC | .009 | **.019** | .034 | .007 | **.014** | .025 | .006 | **.012** | .021 | .006 | **.011** | .020 | .006 | **.011** | .020 | .E..HC |

### At .100 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |
| .E..GN | .011 | **.017** | .030 | .008 | **.013** | .022 | .007 | **.011** | .019 | .007 | **.010** | .018 | .007 | **.010** | .018 | .E..GN |
| .E..HC | .011 | **.023** | .041 | .008 | **.017** | .030 | .007 | **.015** | .026 | .007 | **.014** | .024 | .007 | **.013** | .023 | .E..HC |

### At .050 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |
| .E..GN | .016 | **.024** | .042 | .012 | **.017** | .031 | .010 | **.015** | .026 | .009 | **.014** | .025 | .009 | **.014** | .024 | .E..GN |
| .E..HC | .016 | **.032** | .057 | .012 | **.023** | .041 | .010 | **.020** | .035 | .009 | **.019** | .033 | .009 | **.018** | .032 | .E..HC |

## Recommended Starting Feeds [IPT] • Ball Nose Insert Size 1.25"

### At .625 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..LD |
| .E..GP | .005 | **.007** | .012 | .004 | **.005** | .009 | .003 | **.004** | .008 | .003 | **.004** | .007 | .003 | **.004** | .007 | .E..GP |

### At .188 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..LD |
| .E..GP | .007 | **.009** | .017 | .005 | **.007** | .012 | .004 | **.006** | .011 | .004 | **.006** | .010 | .004 | **.006** | .010 | .E..GP |

### At .125 Axial Depth of Cut (ap)

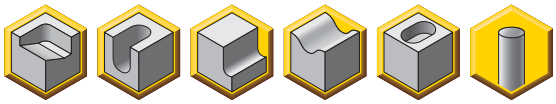
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..LD |
| .E..GP | .008 | **.011** | .020 | .006 | **.008** | .015 | .005 | **.007** | .013 | .005 | **.007** | .012 | .005 | **.007** | .012 | .E..GP |

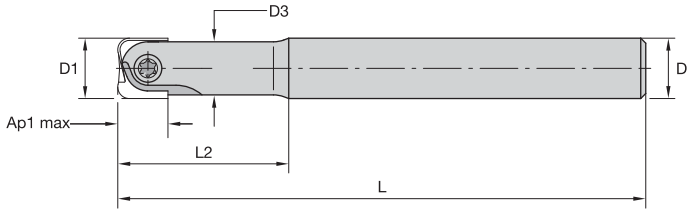
### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..LD | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..LD |
| .E..GP | .011 | **.016** | .028 | .008 | **.012** | .020 | .007 | **.010** | .018 | .007 | **.009** | .016 | .006 | **.009** | .016 | .E..GP |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X32–X37 for recommended starting speeds.

- Cutting diameter ranges from .500–1.000".
- High precision and runout accuracy.
- Can be used with the heat shrink technology, h6 shank tolerance.
- Suitable for roughing and finishing operations.
- Works with toroidal and high-feed inserts.





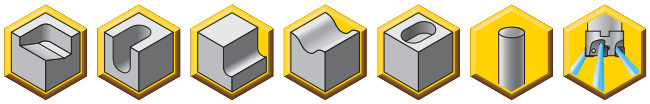
## Necked End Mills • Cylindrical Shank • Steel

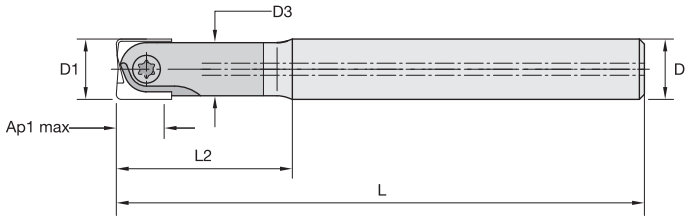
| order number | catalog number | D1 | D | D3 | L | L2 | Ap1 max | Z | Z U | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2957828** | **KDMT0500R512A050SN** | .500 | .500 | .420 | 5.120 | 1.339 | .118 | 1 | 2 | 3.0° | 40000 | KDMT0500.. | .22 |
| **2957829** | **KDMT0500R591A050SN** | .500 | .500 | .420 | 5.909 | 1.890 | .118 | 1 | 2 | 3.0° | 40000 | KDMT0500.. | .22 |
| **2957831** | **KDMT0625R630A063SN** | .625 | .625 | .560 | 6.300 | 2.165 | .157 | 1 | 2 | 3.0° | 40000 | KDMT0625.. | .44 |
| **2957832** | **KDMT0750R630A075SN** | .750 | .750 | .710 | 6.300 | 1.850 | .197 | 1 | 2 | 3.0° | 40000 | KDMT0750.. | .88 |
| **2958143** | **KDMT0750R827A075SN** | .750 | .750 | .710 | 8.270 | 2.362 | .197 | 1 | 2 | 3.0° | 40000 | KDMT0750.. | .88 |
| **2958144** | **KDMT1000R630A100SN** | 1.000 | 1.000 | .890 | 6.300 | 1.850 | .236 | 1 | 2 | 3.0° | 40000 | KDMT1000.. | 1.32 |
| **2958146** | **KDMT1000R906A100SN** | 1.000 | 1.000 | .890 | 9.059 | 3.150 | .236 | 1 | 2 | 3.0° | 40000 | KDMT1000.. | 1.76 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| .500 | **193.393** | 35 | **KT20** |
| .625 | **193.392** | 44 | **KT20** |
| .750 | **193.391** | 53 | **KT20** |
| 1.000 | **193.390** | 58 | **KT30** |

- Cutting diameter ranges from .500–1.000".
- High precision and runout accuracy.
- Can be used with the heat shrink technology, h6 shank tolerance.
- Suitable for roughing and finishing operations.
- Works with toroidal and high-feed inserts.





## Necked End Mills • Carbide Shank with Through Coolant

| order number | catalog number | D1 | D | D3 | L | L2 | Ap1 max | Z | Z U | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2878733** | **KDMT0500R630A050HNC** | .500 | .500 | .420 | 6.378 | 2.047 | .118 | 1 | 2 | 3.0° | 40000 | KDMT0500.. | .53 |
| **2878737** | **KDMT0750R748A075HNC** | .750 | .750 | .710 | 7.559 | 3.032 | .197 | 1 | 2 | 3.0° | 40000 | KDMT0750.. | 1.46 |

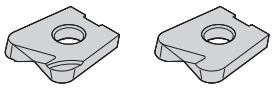
## Spare Parts

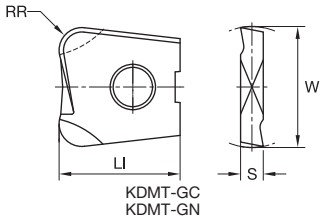
| D1 | insert screw | in. lbs. | Torx wrench |
|---|---|---|---|
| .500 | **193.393** | 35 | **KT20** |
| .750 | **193.391** | 53 | **KT20** |

## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← | → | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GC | KC515M | **.E..GC** | **KC515M** | .E..GN | KC515M |
| P3–P4 | .E..GN | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| P5–P6 | .E..GN | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| M1–M2 | – | – | **.E..GN** | **KC515M** | – | – |
| M3 | – | – | **.E..GN** | **KC515M** | – | – |
| K1–K2 | .E..GN | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| K3 | .E..GN | KC515M | **.E..GN** | **KC515M** | .E..GN | KC515M |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | – | – | – | – | – | – |
| S3 | – | – | – | – | – | – |
| S4 | – | – | – | – | – | – |
| H1 | – | – | **.E..GN** | **KC515M** | – | – |

## Indexable Inserts • KDMT...




● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | ● |
| M | | ○ |
| K | | ● |
| N | | |
| S | | |
| H | | ● |

### KDMT-GC • High-Tolerance Helical Geometry • Finishing Lower Cutting Force

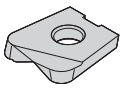
| catalog number | LI | W | S | RR | hm | KC515M |
|---|---|---|---|---|---|---|
| **KDMT05002ERGC** | .550 | .500 | .098 | .032 | .003 | ● |
| **KDMT05004ERGC** | .550 | .500 | .098 | .063 | .003 | ● |
| **KDMT07502ERGC** | .700 | .750 | .118 | .032 | .003 | ● |
| **KDMT10002ERGC** | .925 | 1.000 | .157 | .032 | .003 | ● |
| **KDMT10004ERGC** | .925 | 1.000 | .157 | .063 | .003 | ● |

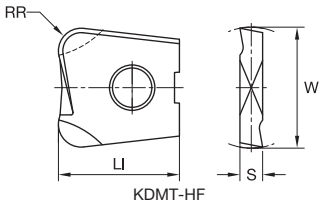
NOTE: Ap1 max is equal to RR
RT = Programming Radius

### KDMT-GN • High-Precision Insert • Semi-Finishing and Finishing

| catalog number | LI | W | S | RR | hm | KC515M |
|---|---|---|---|---|---|---|
| **KDMT05002ERGN** | .550 | .500 | .098 | .032 | .003 | ● |
| **KDMT05004ERGN** | .550 | .500 | .098 | .063 | .003 | ● |
| **KDMT06254ERGN** | .625 | .625 | .118 | .063 | .003 | ● |
| **KDMT07502ERGN** | .700 | .750 | .118 | .032 | .003 | ● |
| **KDMT07504ERGN** | .700 | .750 | .118 | .063 | .003 | ● |

NOTE: Ap1 max is equal to RR.


KDMT-HF



KDMT-HF

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | | ● |
| M | | ○ |
| K | | ● |
| N | | |
| S | | |
| H | | ● |

## KDMT-HF • Geometry Developed for High-Feed Machining up to 55 HRC

| catalog number | LI | W | S | RT | hm | KC515M |
|---|---|---|---|---|---|---|
| **KDMT0750SRHF** | .710 | .750 | .118 | .080 | .003 | ● |

NOTE: RT = Programming Radius



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .E..GC | .007 | **.010** | .014 | .005 | **.008** | .010 | .004 | **.007** | .009 | .004 | **.006** | .008 | .004 | **.006** | .008 | .E..GC |
| .E..GN | .007 | **.010** | .014 | .005 | **.008** | .010 | .004 | **.007** | .009 | .004 | **.006** | .008 | .004 | **.006** | .008 | .E..GN |

## Recommended Starting Feeds [IPT] • KDMT High-Feed

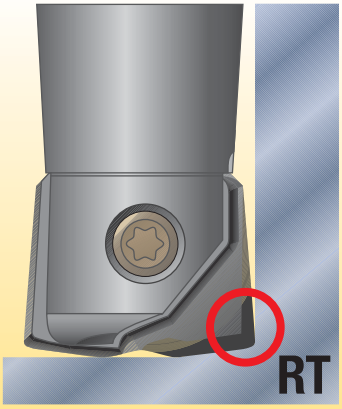
| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .S..HF | .059 | **.092** | .131 | .042 | **.064** | .086 | .036 | **.054** | .073 | .034 | **.050** | .067 | .033 | **.049** | .066 | .S..HF |

NOTE: Use "Light Machining" values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Application Advice for KDMT-HF Insert Style

For CAM programming, the tools can be programmed as a toroidal tool type requiring the diameter and the RT values only.

| insert type | inch | | | |
|---|---|---|---|---|
| | Ap max | diameter | RT | max fz |
| KDMT0500SRHF | 0.025 | 0.500 | 0.045 | 0.050 |
| KDMT0625SRHF | 0.030 | 0.625 | 0.050 | 0.050 |
| KDMT0750SRHF | 0.040 | 0.750 | 0.080 | 0.050 |




## Data for Face Milling, Pocketing, and Profiling Operations

### Starting Values

| tool diameter | Ø.500" | Ø.625" | Ø.750" |
|---|---|---|---|
| Ap max (mm) | 0.024 | 0.031 | 0.039 |
| fz recommended for 45 HRC (approximately) | 0.020 | 0.022 | 0.026 |
| fz recommended for 55 HRC (approximately) | 0.016 | 0.020 | 0.022 |
| fz recommended for general purpose | 0.026 | 0.028 | 0.031 |

NOTE: Use two effective teeth for feed calculations.
For materials above 45 HRC, we recommend to adjust the Ae max to 55% of cutting diameter.
Steel shanks for roughing operations are recommended.

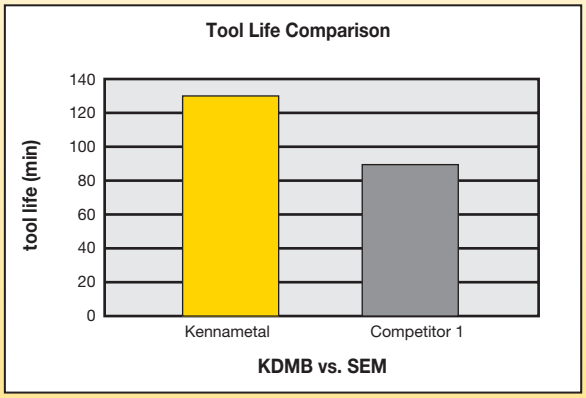
# Proven Solutions:

## KDMB™ Indexable Milling Cutter vs. Solid Carbide End Mills

### 1.

**Workpiece:**
Forging die
**Material:**
X38 CrMoV 5 3 (1.2367)
**Size:**
154mm x 115mm x 80mm
**Machine:**
Vertical milling machine center

**Kennametal**
Tool: KDMB06R100A06HN
Insert: KDMB06M0ERGN KC505M
**Competitor 1**
Solid Carbide End Mill
Ø 6 R3




**Cutting data:**
vc = 825 SFM (250 m/min)
Ap = .099" (0,28mm)
ae = .052" (1,32mm)
fz = .0052" (0,131mm)

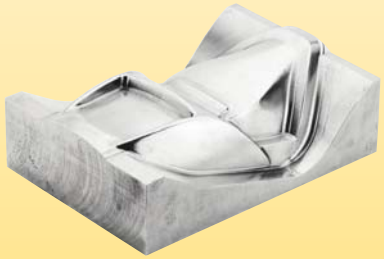
**Superior Productivity:**
Higher tool life and cost per piece

### 2.

**Workpiece:**
Pressing die component
**Material:**
1.2479 (D2)
**Size:**
410mm x 320mm x 210mm
**Machine:**
Vertical milling machine

**Kennametal**
Tool: KDMB06R100A06HN
Insert: KDMB06M0ERGP KC515M
**Competitor 1**
Solid Carbide End Mill
Ø 6 R3

**Cost Performance Ratio:**
Costs for diameter 6mm
**MMC:**
solid carbide end mill +
2 x regrinding
**Reference: 100%**
**KMT:**
3 x inserts +
3 x toolholder share:
**Cost savings: 31.15%**



# Z-Axis Plunge Mill

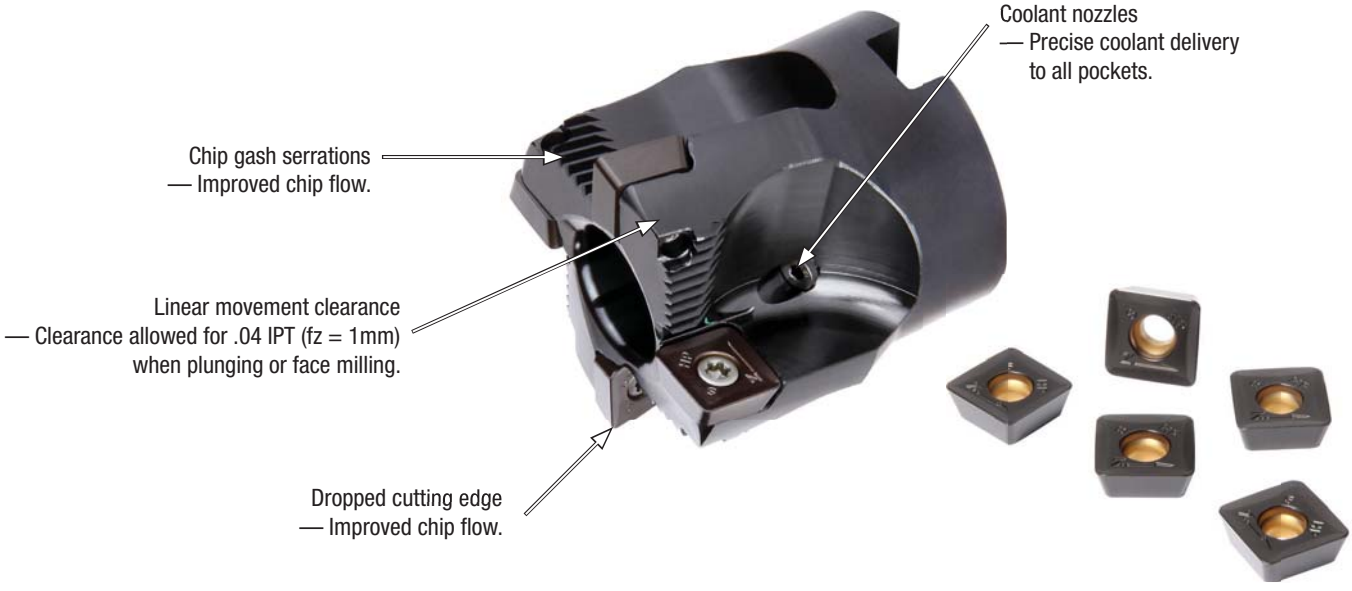
## Primary Application

Specifically engineered to eliminate vibration and improve metal removal rates in roughing applications. Ideally suited for rough slotting applications in aerospace, general engineering, die and mold, and power generation.

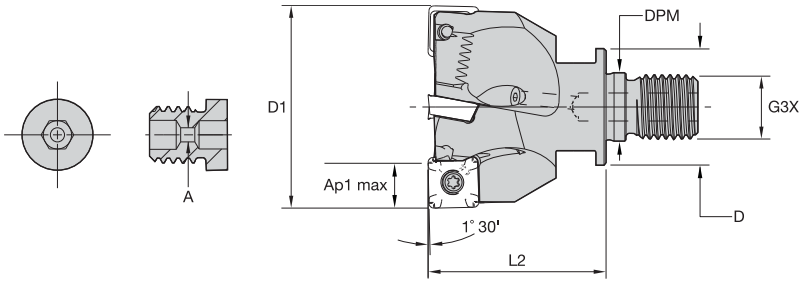
## Features and Benefits

### Platform Features

- Nine coolant nozzle sizes enable customized flow by machine tool.
- Unique design is unmatched for chip evacuation.
- Improved performance at a reduced cost per cutting edge.
- Positive geometry lowers cutting force and reduces power requirements, enabling higher feed rates.
- Improved chip control when slotting.
- Fast and easy insert indexing.



- Most stable cutting due to force directions.
- Excellent for long-reach applications.
- Extended tool life.
- Suitable for a wide variety of workpiece materials.
- Up to .433" stepover.
- Unique coolant delivery.
- Chip control when slotting.



## Screw-On End Mills

| order number | catalog number | D1 | D | DPM | G3X | L2 | Ap1 max | Z | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **3449167** | **KTSZR125SD430CM16A02** | 1.250 | 1.142 | .669 | M16 | 1.750 | .433 | 2 | 25800 | .33 | SD_T43_PD_N__Z |
| **3449168** | **KTSZR150SD430CM16A03** | 1.500 | 1.142 | .669 | M16 | 1.750 | .433 | 3 | 23550 | .40 | SD_T43_PD_N__Z |
| **3449169** | **KTSZR200SD430CM16A04** | 2.000 | 1.142 | .669 | M16 | 1.750 | .433 | 4 | 20400 | .62 | SD_T43_PD_N__Z |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver | coolant nozzle screw | T-handle hex wrench |
|---|---|---|---|---|---|
| 1.250 | **MS2197** | 35 | **DT15IP** | **MS2191C20** | **THW2M** |
| 1.500 | **MS2197** | 35 | **DT15IP** | **MS2191C20** | **THW2M** |
| 2.000 | **MS2197** | 35 | **DT15IP** | **MS2191C20** | **THW2M** |

## Coolant Screw Detail

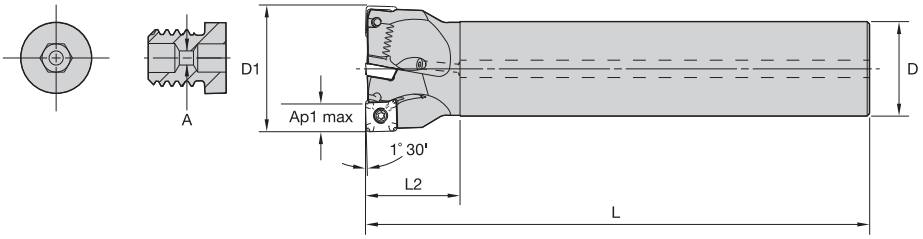
| order number | catalog number | A |
|---|---|---|
| **3400611** | **MS2191C00** | — |
| **3400612** | **MS2191C06** | .024 |
| **3400613** | **MS2191C08** | .032 |
| **3400616** | **MS2191C12** | .047 |
| **3400617** | **MS2191C14** | .055 |
| **3400618** | **MS2191C16** | .063 |
| **3400619** | **MS2191C18** | .071 |
| **3400620** | **MS2191C20** | .079 |

## Coolant Nozzle Key

| order number | catalog number | drive size |
|---|---|---|
| **1993552** | **THW2M** | 2 MM |

NOTE: Check the spare parts table for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter, which gives flexibility with coolant flow.

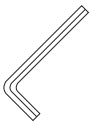
- Most stable cutting due to force directions.
- Excellent for long reach applications.
- Extended tool life.
- Suitable for a wide variety of workpiece materials.
- Up to .433" stepover.
- Unique coolant delivery.
- Chip control when slotting.



## End Mills

| order number | catalog number | D1 | D | L | L2 | Ap1 max | Z | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|
| **3064601** | **KISZR125SD430C4A02** | 1.250 | 1.000 | 8.000 | 1.500 | .433 | 2 | 25800 | SD_T43_PD_N__Z | 1.59 |
| **3107215** | **KISZR150SD430C5A03** | 1.500 | 1.250 | 8.000 | 1.500 | .433 | 3 | 23550 | SD_T43_PD_N__Z | 2.47 |
| **3107216** | **KISZR200SD430C6A04** | 2.000 | 1.500 | 8.000 | 1.500 | .433 | 4 | 20450 | SD_T43_PD_N__Z | 3.72 |

## Spare Parts

| D1 | insert screw | in. lbs. | Torx Plus driver |  T-handle hex wrench | coolant nozzle screw |
|---|---|---|---|---|---|
| 1.250 | **MS2197** | 35 | **DT15IP** | **THW2M** | **MS2191C20** |
| 1.500 | **MS2197** | 35 | **DT15IP** | **THW2M** | **MS2191C20** |
| 2.000 | **MS2197** | 35 | **DT15IP** | **THW2M** | **MS2191C20** |

## Coolant Screw Detail

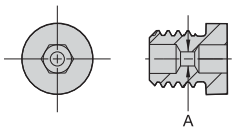
| order number | catalog number | A |
|---|---|---|
| **3400611** | **MS2191C00** | — |
| **3400612** | **MS2191C06** | .024 |
| **3400613** | **MS2191C08** | .032 |
| **3400616** | **MS2191C12** | .047 |
| **3400617** | **MS2191C14** | .055 |
| **3400618** | **MS2191C16** | .063 |
| **3400619** | **MS2191C18** | .071 |
| **3400620** | **MS2191C20** | .079 |

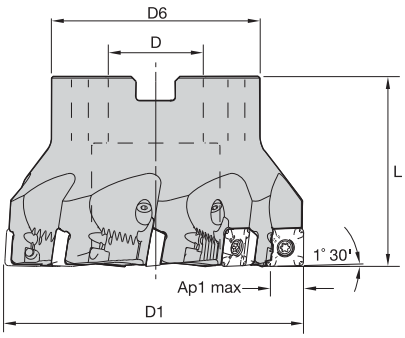
## Coolant Nozzle Key

| order number | catalog number | drive size |
|---|---|---|
| **1993552** | **THW2M** | 2 MM |

NOTE: Check the spare parts table for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter, which gives flexibility with coolant flow.

- Easy cutting.
- Four cutting edges.
- Consumes less power.
- Suitable for a wide variety of workpiece materials.
- Up to .433" stepover.
- Fast and easy insert indexing.
- Unique coolant delivery.
- Chip control when slotting.



## Shell Mills

| order number | catalog number | D1 | D | D6 | L | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3054849 | KSSZR200SD430C3A04 | 2.000 | .750 | 1.664 | 1.750 | .433 | 4 | 1.5° | 20450 | SD_T43_PD_N__Z | .66 |
| 3064755 | KSSZR200SD430M3A05 | 2.000 | .750 | 1.664 | 1.750 | .433 | 5 | 1.5° | 20450 | SD_T43_PD_N__Z | .72 |
| 3448592 | KSSZR250SD430C3A05 | 2.500 | .750 | 1.664 | 1.750 | .433 | 5 | .6° | 18290 | SD_T43_PD_N__Z | .98 |
| 3448913 | KSSZR250SD430M3A06 | 2.500 | .750 | 1.664 | 1.750 | .433 | 6 | .6° | 18290 | SD_T43_PD_N__Z | 1.03 |
| 3064493 | KSSZR300SD430C4A05 | 3.000 | 1.000 | 2.190 | 2.000 | .433 | 5 | .7° | 16700 | SD_T43_PD_N__Z | 1.94 |
| 3064902 | KSSZR300SD430F4A07 | 3.000 | 1.000 | 2.190 | 2.000 | .433 | 7 | .7° | 16700 | SD_T43_PD_N__Z | 1.97 |
| 3064602 | KSSZR300SD430M4A06 | 3.000 | 1.000 | 2.190 | 2.000 | .433 | 6 | .7° | 16700 | SD_T43_PD_N__Z | 1.96 |
| 3448914 | KSSZR400SD430C5A07 | 4.000 | 1.250 | 2.880 | 2.500 | .433 | 7 | .5° | 14460 | SD_T43_PD_N__Z | 4.23 |
| 3066674 | KSSZR400SD430F5A09 | 4.000 | 1.250 | 2.880 | 2.500 | .433 | 9 | .5° | 14460 | SD_T43_PD_N__Z | 4.41 |
| 3448915 | KSSZR400SD430M5A08 | 4.000 | 1.250 | 2.880 | 2.500 | .433 | 8 | .5° | 14460 | SD_T43_PD_N__Z | 4.34 |
| 3448916 | KSSZR400SD430C6A07 | 4.000 | 1.500 | 3.375 | 2.500 | .433 | 7 | .5° | 14460 | SD_T43_PD_N__Z | 4.51 |
| 3448918 | KSSZR400SD430F6A09 | 4.000 | 1.500 | 3.375 | 2.500 | .433 | 9 | .5° | 14460 | SD_T43_PD_N__Z | 4.72 |
| 3448917 | KSSZR400SD430M6A08 | 4.000 | 1.500 | 3.375 | 2.500 | .433 | 8 | .5° | 14460 | SD_T43_PD_N__Z | 4.64 |
| 3448920 | KSSZR500SD430M6A09 | 5.000 | 1.500 | 3.810 | 2.500 | .433 | 9 | .5° | 12940 | SD_T43_PD_N__Z | 7.40 |

## Spare Parts

| order number | D1 | insert screw | in. lbs. | Torx Plus wrench | coolant nozzle screw | T-handle hex wrench | coolant lock screw assembly | socket-head cap screw with coolant groove |
|---|---|---|---|---|---|---|---|---|
| 3054849 | 2.000 | MS2197 | 35 | DT15IP | MS2191C12 | THW2M | – | S445CG |
| 3064755 | 2.000 | MS2197 | 35 | DT15IP | – | THW2M | – | S445CG |
| 3448592 | 2.500 | MS2197 | 35 | DT15IP | – | THW2M | – | S445CG |
| 3448913 | 2.500 | MS2197 | 35 | DT15IP | – | THW2M | – | S445CG |
| 3064493 | 3.000 | MS2197 | 35 | DT15IP | – | THW2M | – | S458CG |
| 3064902 | 3.000 | MS2197 | 35 | DT15IP | MS2191C08 | THW2M | – | S458CG |
| 3064602 | 3.000 | MS2197 | 35 | DT15IP | – | THW2M | – | S458CG |
| 3448914 | 4.000 | MS2197 | 35 | DT15IP | – | THW2M | S2162C | – |
| 3448916 | 4.000 | MS2197 | 35 | DT15IP | – | THW2M | S2163C | – |
| 3066674 | 4.000 | MS2197 | 35 | DT15IP | – | THW2M | S2162C | – |
| 3448918 | 4.000 | MS2197 | 35 | DT15IP | – | THW2M | S2163C | – |
| 3448915 | 4.000 | MS2197 | 35 | DT15IP | – | THW2M | S2162C | – |
| 3448917 | 4.000 | MS2197 | 35 | DT15IP | – | THW2M | S2163C | – |
| 3448920 | 5.000 | MS2197 | 35 | DT15IP | – | THW2M | S2163C | – |

*(continued)*

*(Shell Mills — continued)*

## Coolant Screw Detail

| order number | catalog number | A |
|---|---|---|
| 3400611 | MS2191C00 | — |
| 3400612 | MS2191C06 | .024 |
| 3400613 | MS2191C08 | .032 |
| 3400616 | MS2191C12 | .047 |
| 3400617 | MS2191C14 | .055 |
| 3400618 | MS2191C16 | .063 |
| 3400619 | MS2191C18 | .071 |
| 3400620 | MS2191C20 | .079 |

## Coolant Nozzle Key

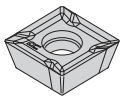
| order number | catalog number | drive size |
|---|---|---|
| 1993552 | THW2M | 2 MM |

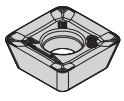
NOTE: Check the Spare Parts table for the coolant hole size that is incorporated in the cutters.
If you need an alternative, there are eight other variants to choose from to increase or decrease the pressure.
Example: MS2191C12 is a .047" (1,20mm) hole. All coolant nozzles are interchangeable with the original that is supplied with the cutter, which gives flexibility with coolant flow.

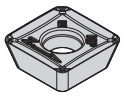
# Inserts

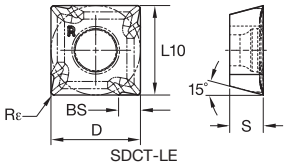
## Insert Selection Guide

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ← → | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | .E..GDZ | KC725M | .S..GDZ | KC725M | .E..HPZ | KC725M |
| P3–P4 | .S..GDZ | KCPK30 | .E..HPZ | KCPK30 | .S..HPZ | KCPK30 |
| P5–P6 | .S..GDZ | KCPK30 | – | – | – | – |
| M1–M2 | .E..GDZ | KC725M | .S..GDZ | KC725M | .E..HPZ | KC725M |
| M3 | .S..GDZ | KCPK30 | .E..HPZ | KCPK30 | .S..HPZ | KCPK30 |
| K1–K2 | .E..GDZ | KCPK30 | .S..GDZ | KCPK30 | .E..HPZ | KCPK30 |
| K3 | .S..GDZ | KCPK30 | .E..HPZ | KCPK30 | .S..HPZ | KCPK30 |
| N1–N2 | .F..LE | KC410M | .F..LE | KC410M | .F..LE | KC410M |
| N3 | .F..LE | KC410M | .F..LE | KC410M | .F..LE | KC410M |
| S1–S2 | .E..GDZ | KC725M | .S..GDZ | KC725M | .E..HPZ | KC725M |
| S3 | .S..GDZ | KC725M | .E..HPZ | KC725M | .S..HPZ | KC725M |
| S4 | .E..HPZ | KC725M | .S..HPZ | KC725M | – | – |
| H1 | – | – | – | – | – | – |

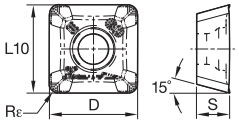

SDCT-LE


SDET-GDZ

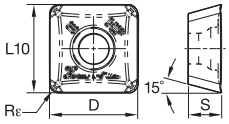

SDPT-HPZ



SDCT-LE



SDET-GDZ



SDPT-HPZ

● first choice
○ alternate choice

beyond

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | | | ○ | | ● | | ● | ● | |
| M | | | ● | ● | ● | | ○ | ○ | ○ |
| K | | | ○ | | | ● | ○ | | |
| N | | ● | | | | | | | |
| S | | | ● | ● | ● | | | | ● |
| H | | | | | | | | | |

- High positive rake insert.

## SDCT-LE

| catalog number | D | L10 | S | BS | Rε | hm | cutting edges | KC410M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDCT431PDFL8LE** | .500 | .500 | .188 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT431PDFR8LE** | .500 | .500 | .188 | .106 | .016 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT433PDFL8LE** | .500 | .500 | .188 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT433PDFR8LE** | .500 | .500 | .188 | .106 | .047 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT434FNLE** | .500 | .500 | .188 | – | .063 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT435FNLE** | .500 | .500 | .188 | – | .078 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT436FNLE** | .500 | .500 | .188 | – | .094 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT438FNLE** | .500 | .500 | .188 | – | .125 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT43PDFL8LE** | .500 | .500 | .188 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – |
| **SDCT43PDFR8LE** | .500 | .500 | .188 | .106 | .031 | .001 | 4 | ● | – | – | – | – | – | – | – |

- Precision ground insert.

## SDET-GDZ

| catalog number | D | L10 | S | BS | Rε | hm | cutting edges | KC410M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDET433PDENGDZ** | .500 | .500 | .188 | – | .047 | .003 | 4 | – | – | – | ● | – | ● | ● | – |
| **SDET433PDSNGDZ** | .500 | .500 | .188 | – | .047 | .005 | 4 | – | ● | – | ● | – | ● | ● | – |

- Pressed to size insert.

## SDPT-HPZ

| catalog number | D | L10 | S | BS | Rε | hm | cutting edges | KC410M | KC522M | KC525M | KC725M | KCK15 | KCPK30 | KCPM40 | KCSM30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SDPT433PDENHPZ** | .500 | .500 | .188 | – | .047 | .003 | 4 | – | – | – | ● | – | ● | ● | – |
| **SDPT433PDSNHPZ** | .500 | .500 | .188 | – | .047 | .006 | 4 | – | – | – | ● | – | ● | ● | – |



## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .F..LE | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | .002 | **.004** | .008 | .F..LE |
| .E..GDZ | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | .004 | **.010** | .016 | .E..GDZ |
| .S..GDZ | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | .004 | **.010** | .016 | .S..GDZ |
| .E..HPZ | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | .004 | **.010** | .016 | .E..HPZ |
| .S..HPZ | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | .004 | **.010** | .016 | .S..HPZ |

**NOTE: Use "Light Machining" values as starting feed rate.**
**Please see pages X22–X37 for recommended starting speeds.**

## Z-Axis

### Best Machining Practices

When finishing a workpiece, you sometimes have to use a Z-axis solution versus a conventional end mill solution to get the best results.

When the length-to-diameter ratio protrudes farther than 3:1, you will need to use a Z-axis solution. This is when the end mill starts to vibrate and the surface finish and noise are unacceptable.

When vibration occurs, the feed rates are compromised, which normally slows down the production of the workpiece.

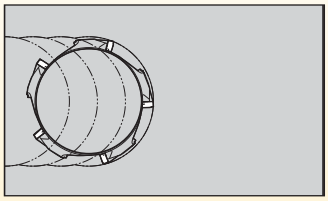
### Programming

At this point, there is very little software for this type of application on the market. We suggest that a simple macro is created for this type of application, which can be recalled and the “X” and “Y” movement changed.

The process can be repeated, so the cutter can be removed from the workpiece in the rapid (G00) movement. Tool life will be improved by not allowing the insert to rub on the retract path.

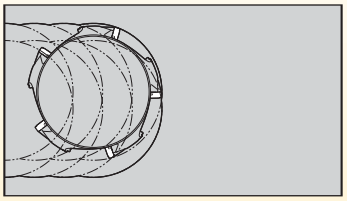
### Slotting

There are several differing ways to machine a slot in a component using the Z-axis cutter solution.



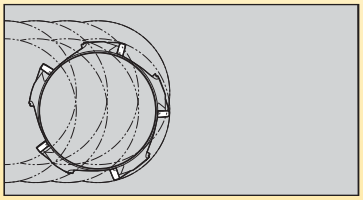
### Figure 1

This shows the typical way of machining a slot. The movements are feeding down and straight back up (Z+) in the same axis and will have a negative impact on the insert radii (cutting edge) that could lead to premature failure of the nose radii. When looking at the component, it will show the rapid travel in the Z+ direction. This will highlight the spiral of the insert/cutter operating at a high feed. It looks similar to an oil groove spiraling upwards.



### Figure 2

Using a cutter that is smaller than the slot width allows the insert/cutter to be removed from the material when (G00) rapid motion is retracting from the component. Because this type of cutter can be used across various types of machines, assume a 2.00" (50mm) diameter cutter is being used to machine a slot of 2.50" (63mm) wide on a vertical 3-axis machine.



### Figure 3

Align the cutter with the center of the slot on the component and define the stepover that’s required. Move the Y-axis into a position for the first cut, take the first pass to a depth in the Z-axis, and when it reaches the bottom of the slot, program a 2-axis move to retract the cutting edge for the workpiece.

The 2-axis move will move the Z-axis in a positive direction at 45° (.010") away from the component, and the Y-axis will move away from the workpiece by the same amount at the same angle. Now the cutter can be retracted from the component, and the insert will not rub on the retract move.

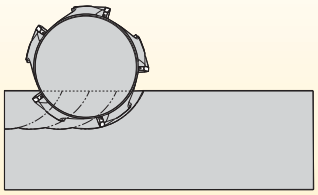
Move the cutter to the left of the slot to define the new position and make the cut. When reaching the base, a 3-axis move will need to be made. Again, the Z-axis will be in a positive direction at 45° (.010"), and the corresponding Y-axis will move away the same respective amount from the wall.

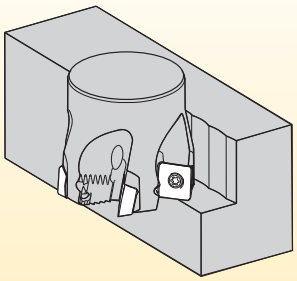
The insert/cutter has now moved away from the workpiece, and the rapid Z+ can take place. Repeat the process on the other side of the slot, remembering the X-axis move needs to be moving the other way.

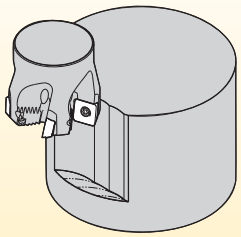
NOTE: When starting the process, it’s better to start at the center of the slot. After the slot has been defined, you no longer need to put the cutter on the center path. Passes from both sides create the slot width and enable clearance for the subsequent moves, so the insert/cutter can be moved away from the side walls of the material.

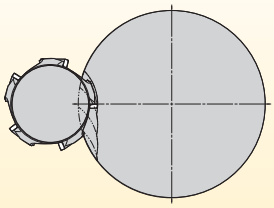
*(continued)*

## Z-Axis *(continued)*









### Linear Plunge Milling

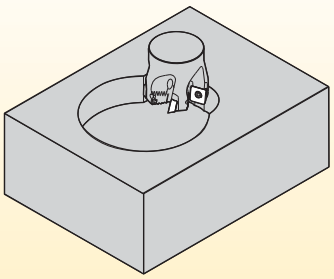
Entering the cutter along a parallel axis, the radial width of cut needs to be defined because the cutter might need to move away from the workpiece material.

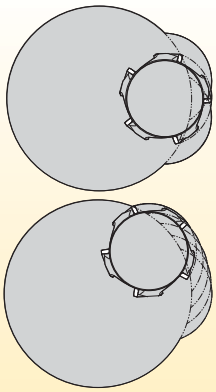
If the radial width of cut takes more than 60% of the cutter diameter, it is more difficult to remove the insert/cutter because the machine program wants to move the cutter upwards to (G00) Z+. When taking more than 60% of the cutter diameter, the material is enveloping the cutter and is difficult to remove because a cusp has been created.

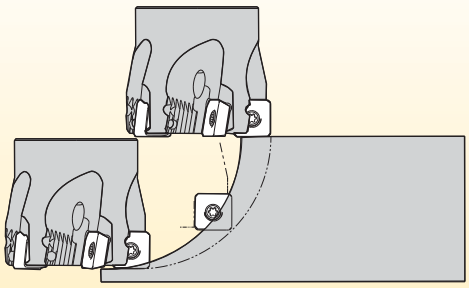
It is suggested to make the radial width of cut 50% of the cutter diameter to allow the insert/cutter to be removed without any problems.

### External Profiling

This artwork represents the typical application for this type of process. Move into the cut and follow the external profile of the workpiece. When moving the cutter back to the start position, it's always advisable to move the insert from contacting the workpiece. This should be done with a 2- or 3-axis move (use .010") at 0,25mm. All axes moving in a Z+ direction will stop the rubbing in the retract move.







### Internal Profiling

When taking the first pass of a depth, there is also a need to move the insert/cutter away from the material on the retract motion. Each of the passes that follow should adopt the same method on the retract move.

Follow the cutter path until the component has been finished.

### Machining Around a Radii

This artwork shows the cutter taking a larger radial width of cut. When moving down in the Z-axis, the insert could start to take a larger radial width of cut. Typical application could be the manufacture of a turbine blade from a rectangular piece of material. Always remember that it's advisable to move the insert/cutter away from the material on the retract motion.

# KCRA

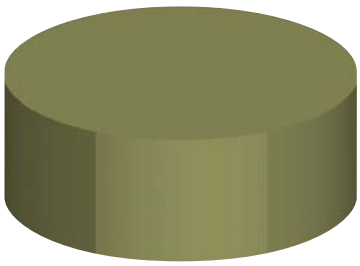
## Double-Sided Ceramic Round Insert

KCRA is our newest (patent pending) indexable milling ceramic round platform specifically engineered to maximize productivity while machining high-temperature alloys. Featuring double-sided inserts with increased tooth density, KCRA provides the highest Metal Removal Rate (MRR) with the most effective machining.

Kennametal ceramics dramatically increase your productivity when machining Ni- and Co-based alloys.

## Features and Benefits

- First choice for face and shoulder milling of high-temperature alloys.
- Higher metal removal rate due to fine-pitch cutters.
- Secure clamping system improves process stability and reliability.
- Effective air coolant feature. Better chip flow and increased insert tool life.



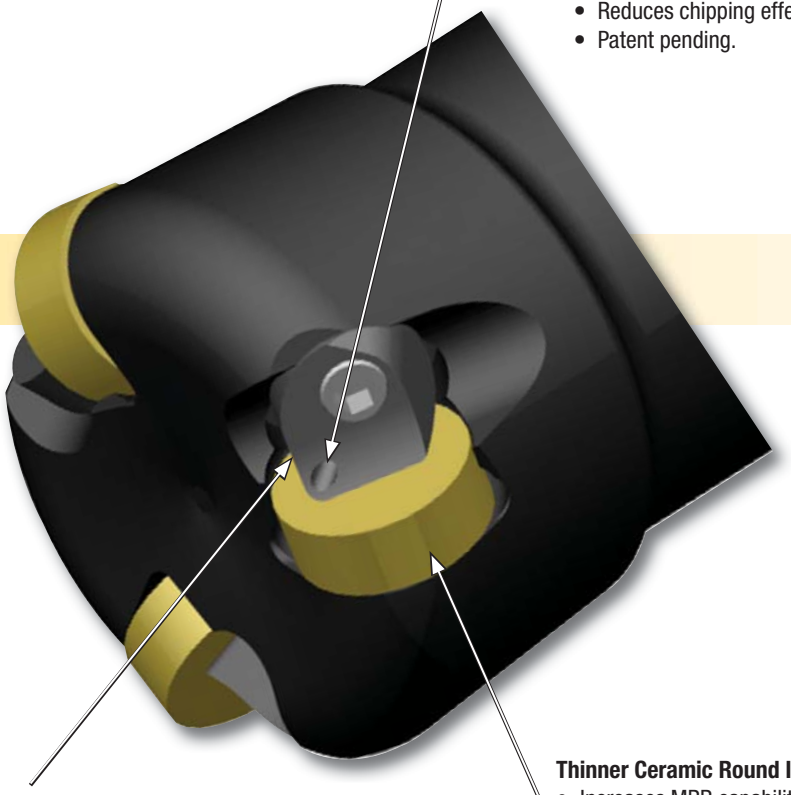
Flat-top geometry for roughing applications in Ni- and Co-based alloys.

**-EGN**
Lower cutting forces.

**-TGN**
Strongest cutting edge.

*Alternative for unstable situations.

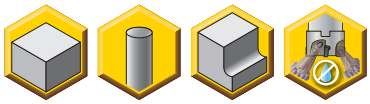
**Unique Air Coolant Feature**
- Improves chip flow.
- Reduces chipping effect on cutting edges.
- Patent pending.

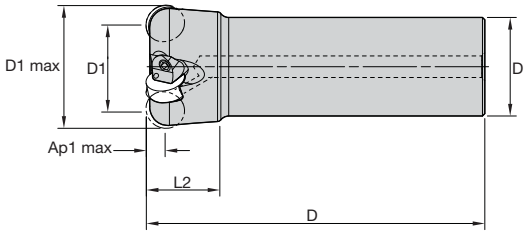


**Secure Clamping System**
- Improves stability.
- Increases process reliability.
- Facilitates insert change.

**Thinner Ceramic Round Inserts**
- Increases MRR capabilities.
- Reduces cutting forces.
- Improves cost per edge.

- First choice for face and shoulder milling high-temperature alloys.
- Higher material removal rate due to fine pitch cutters.
- Secure clamping system, improving process stability and reliability.
- Effective air coolant feature. Better chip flow and increased insert tool life.





## Cylindrical End Mills

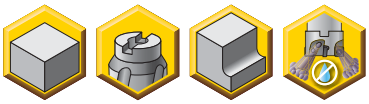
| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5703935** | **KCRA150RN4303C125L400** | 1.500 | 1.000 | 1.250 | 4.000 | .934 | .250 | 3 | 28700 | 1.32 | RNGN120400 |

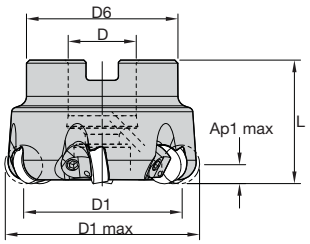
## Spare Parts

| D1 max | clamp screw | in. lbs. | Torx driver | wedge |
|---|---|---|---|---|
| 1.500 | **STCM25** | 29 | **MW25** | **KW1008** |

Copy Milling

- First choice for face and shoulder milling high-temperature alloys.
- Higher material removal rate due to fine pitch cutters.
- Secure clamping system, improving process stability and reliability.
- Effective air coolant feature. Better chip flow and increased insert tool life.





## Shell Mills

| order number | catalog number | D1 max | D1 | D | D6 | L | Ap1 max | Z | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5703936** | **KCRA200RN4304S075L175** | 2.000 | 1.500 | .750 | 1.654 | 1.750 | .250 | 4 | 23400 | .99 | RNGN120400 |
| **5703937** | **KCRA200RN4306S075L175** | 2.000 | 1.500 | .750 | 1.654 | 1.750 | .250 | 6 | 23400 | .94 | RNGN120400 |
| **5703938** | **KCRA250RN4306S075L175** | 2.500 | 2.000 | .750 | 1.750 | 1.750 | .250 | 6 | 20300 | 1.41 | RNGN120400 |
| **5703939** | **KCRA250RN4309S075L175** | 2.500 | 2.000 | .750 | 1.750 | 1.750 | .250 | 9 | 20300 | 1.34 | RNGN120400 |
| **5704050** | **KCRA300RN4308S100L200** | 3.000 | 2.500 | 1.000 | 2.750 | 2.000 | .250 | 8 | 18100 | 2.92 | RNGN120400 |
| **5704051** | **KCRA300RN4311S100L200** | 3.000 | 2.500 | 1.000 | 2.750 | 2.000 | .250 | 11 | 18100 | 2.82 | RNGN120400 |

## Spare Parts

| D1 max | socket-head cap screw | clamp screw | in. lbs. | Torx driver | wedge |
|---|---|---|---|---|---|
| 2.000 | **S446** | **STCM25** | 29 | **MW25** | **KW1008** |
| 2.500 | **S446** | **STCM25** | 29 | **MW25** | **KW1008** |
| 3.000 | **S459** | **STCM25** | 29 | **MW25** | **KW1008** |

## Insert Selection Guide

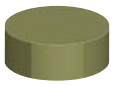
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance | | ⟷ | | toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | – | – | – | – | – | – |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | .EGN | KYS30 | **.EGN** | **KYS30** | .TGN | KYS30 |
| S3 | .EGN | KYSP30 | **.EGN** | **KYSP30** | .TGN | KYSP30 |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

## Indexable Inserts

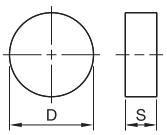
- -EGN geometry is the first choice for unstable situations and/or lower cutting forces.
- -TGN geometry has a stronger cutting edge.
- KYSP30 is the first choice for S3 group materials, Ni-based alloys.

● first choice
○ alternate choice

| | KYS30 | KYSP30 |
|---|---|---|
| P | | |
| M | | |
| K | | |
| N | | |
| S | ● | ● |
| H | | |



RNGN1204




RNGN1204

## RNGN43

| catalog number | D | S | KYS30 | KYSP30 |
|---|---|---|---|---|
| **RNGN43EGN** | .500 | .188 | ● | ● |
| **RNGN43TGN** | .500 | .188 | ● | ● |

NOTE: A — Use these tools with the appropriate equipment/machines. Machines have to be covered for safety reasons: Hot flowing chips and loud noises are involved, which is common during the milling process.
B — Use only air flow as coolant method.
C — Higher RPMs are involved; use balanced toolholder for higher tool life and safer operation.

## Recommended Starting Feeds [IPT]

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .EGN | .003 | **.004** | .005 | .003 | **.003** | .003 | .002 | **.002** | .003 | .002 | **.002** | .003 | .002 | **.002** | .003 | .EGN |
| .TGN | .005 | **.007** | .008 | .004 | **.005** | .006 | .003 | **.004** | .005 | .003 | **.004** | .005 | .003 | **.004** | .005 | .TGN |

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .EGN | .004 | **.004** | .005 | .003 | **.003** | .004 | .003 | **.003** | .003 | .002 | **.003** | .003 | .002 | **.003** | .003 | .EGN |
| .TGN | .006 | **.008** | .009 | .004 | **.006** | .007 | .004 | **.005** | .006 | .004 | **.005** | .005 | .003 | **.005** | .005 | .TGN |

### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .EGN | .005 | **.006** | .007 | .004 | **.004** | .005 | .003 | **.004** | .004 | .003 | **.003** | .004 | .003 | **.003** | .004 | .EGN |
| .TGN | .008 | **.010** | .012 | .006 | **.008** | .009 | .005 | **.007** | .008 | .005 | **.006** | .007 | .005 | **.006** | .007 | .TGN |

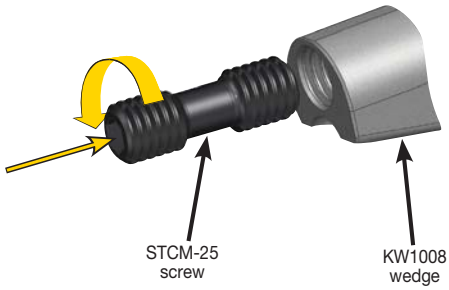
### At .031 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| .EGN | .007 | **.008** | .009 | .005 | **.006** | .007 | .005 | **.005** | .006 | .004 | **.005** | .006 | .004 | **.005** | .006 | .EGN |
| .TGN | .010 | **.014** | .016 | .008 | **.010** | .012 | .007 | **.009** | .010 | .006 | **.008** | .010 | .006 | **.008** | .010 | .TGN |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Insert Assembly Guide

| Safety Notes | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| Read all instructions carefully | Wear eye protection | Inspect and tighten fasteners regularly | Warning: Cutting hazard | Warning: Hot surfaces | Do not exceed maximum RPM |

| Assembly Instructions | |
|---|---|
| **1** Assemble STCM-25 screw to KW1008 wedge, 1 to 1 1/2 turns. | **2** Wedge/screw assembly. |
|  | |
| **3** Install wedge/screw assembly into cutter body, but maintain assembly gap for installing insert. | **4** Slide insert, RNGN12... into pocket and torque wedge/insert assembly to 3,5 Nm (31 in/lbs). Repeat for each pocket. |
| | |

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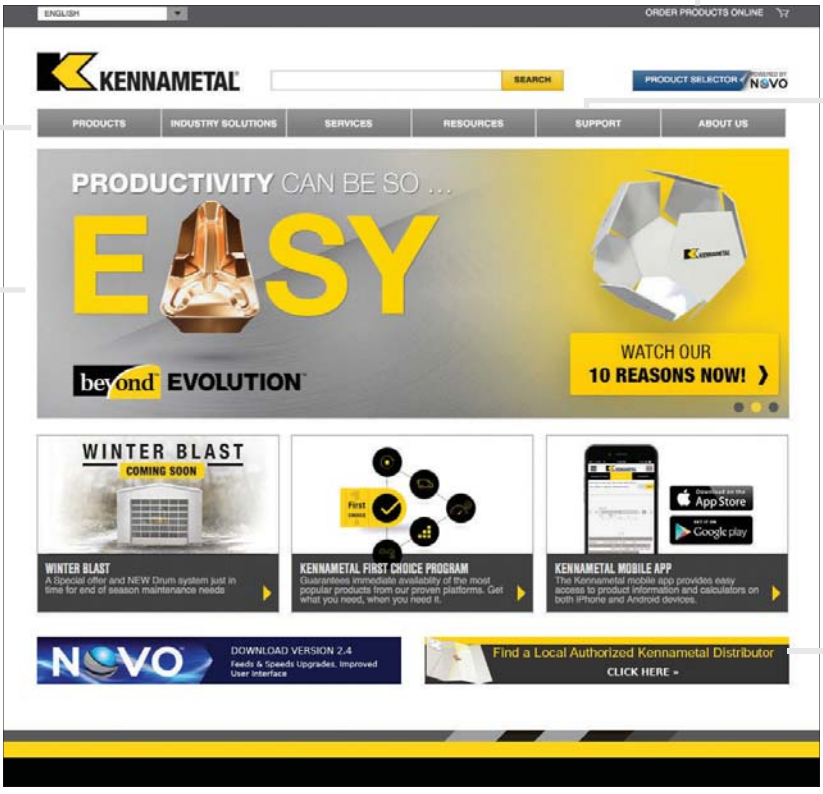


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# KIPR™

## Ceramic Milling Cutters

### Primary Application

The Kennametal ceramic milling platform has been specifically engineered to machine high-temperature alloys, PH series, stainless steel, and hardened materials. With excellent productivity through the massive reduction of machining time, Kennametal ceramics can run more than 10 times faster than comparable carbide grades.

## Features and Benefits

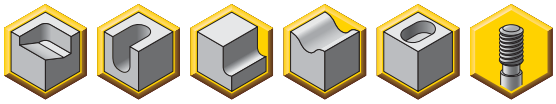
### Unbeatable Productivity

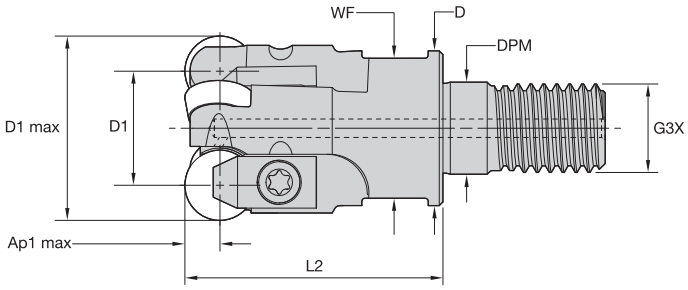
- Engineering to provide outstanding metal removal rates and productivity in nickel-based and/or cobalt-based alloys, stellites, stainless steel, and PH series through HSM.
- High axial and radial runout accuracy.
- Improved insert clearance and thickness tolerance to increase overall performance.
- New clamping system design provides higher spare part tool life and reliability and higher RPM.

### Usability and Offering

- Three grades and three insert sizes available to cover a wide range of applications.
- Wide diameter range with end mills and Screw-On cutters from diameter 0.625".
- High clearance on the cutters for superior ramping capacities.
- Through-coolant option in all the cutters. Only for air use.

- For machining high-temp alloys, PH stainless, stainless steels, and hardened materials.
- Excellent productivity through massive reduction of machining time.
- Face milling, pocketing, and ramping capabilities.
- Through-body coolant delivery for internal air supply only.





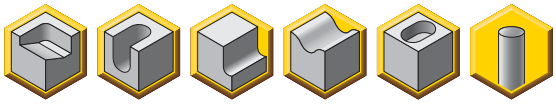
## Screw-On End Mills

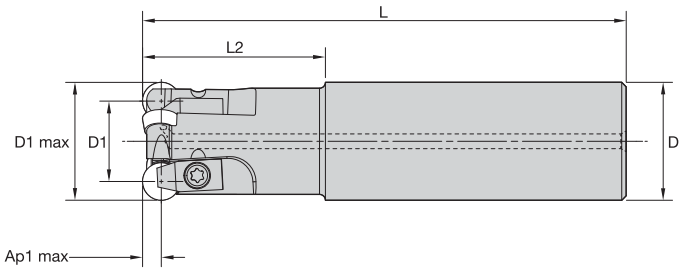
| order number | catalog number | D1 max | D1 | D | DPM | G3X | L2 | WF | Ap1 max | Z | max ramp angle | max RPM | lbs | insert 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3760369** | **KIPR100RP32M1203** | 1.000 | .625 | .827 | .492 | M12 | 1.250 | .709 | .188 | 3 | 8.0° | 20450 | .17 | RP_32_ |
| **3760370** | **KIPR125RP43M1603** | 1.250 | .750 | 1.142 | .669 | M16 | 1.500 | .866 | .250 | 3 | 2.5° | 21000 | .32 | RP_43_ |

## Spare Parts

| D1 max | clamp | clamp screw | in. lbs. | Torx driver | Torx Plus wrench |
|---|---|---|---|---|---|
| 1.000 | **KCI2** | **191.725** | 31 | **DT15** | **–** |
| 1.250 | **KCI3M** | **193.409** | 53 | **–** | **TTP20** |

- For machining high-temp alloys, PH stainless, stainless steels, and hardened materials.
- Excellent productivity through massive reduction of machining time.
- Face milling, pocketing, and ramping capabilities.
- Through-body coolant delivery for internal air supply only.





## Cylindrical End Mills

| order number | catalog number | D1 max | D1 | D | L | L2 | Ap1 max | Z | max ramp angle | max RPM | insert 1 | lbs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3759533** | **KIPR062RP21229** | .625 | .375 | .625 | 2.950 | 1.021 | .125 | 2 | 12.0° | 37400 | RP_2150_ | .21 |
| **3759534** | **KIPR075RP21332** | .750 | .500 | .750 | 3.200 | 1.192 | .125 | 3 | 10.0° | 34150 | RP_2150_ | .33 |
| **3759535** | **KIPR100RP32438** | 1.000 | .625 | 1.000 | 3.800 | 1.556 | .188 | 3 | 8.0° | 20450 | RP_32_ | .70 |
| **1873486** | **KIPR125RP43540** | 1.250 | .761 | 1.250 | 4.000 | 1.610 | .249 | 3 | 4.3° | 21000 | RP_43_ | 1.09 |
| **1775726** | **KIPR125RP43555** | 1.250 | .761 | 1.250 | 5.500 | 3.110 | .249 | 3 | 4.3° | 21000 | RP_43_ | 1.54 |
| **1775728** | **KIPR150RP43655** | 1.500 | 1.009 | 1.500 | 5.500 | 3.500 | .249 | 3 | 3.0° | 19500 | RP_43_ | 2.28 |

## Spare Parts

| D1 max | clamp | clamp screw | in. lbs. | Torx driver | Torx Plus wrench |
|---|---|---|---|---|---|
| .625 | **KCI1** | **191.924** | 17 | **DT9** | **–** |
| .750 | **KCI1** | **191.924** | 17 | **DT9** | **–** |
| 1.000 | **KCI2** | **191.725** | 31 | **DT15** | **–** |
| 1.250 | **KCI3M** | **193.409** | 55 | **–** | **TTP20** |
| 1.500 | **KCI3M** | **193.409** | 55 | **–** | **TTP20** |

## Insert Selection Guide

### RPG2150... High Temp

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ← | | | | → toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | ..E | KYSP30 | **..E** | **KYSP30** | ..E | KYSP30 |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | ..E | KYS30 | **..E** | **KYS30** | ..E | KYS30 |
| S3 | ..E | KYS30 | **..E** | **KYS30** | ..E | KYS30 |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

### RPG32... High Temp

| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ← | | | | → toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | ..E | KYSP30 | **..E** | **KYSP30** | ..E | KYSP30 |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | ..E | KYS30 | **..E** | **KYS30** | ..T | KYS30 |
| S3 | ..E | KYS30 | **..T** | **KYS30** | ..T | KYS30 |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |

### RPG43... High Temp

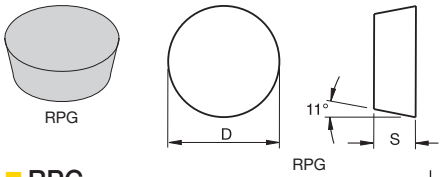
| Material Group | Light Machining (Light geometry) | | General Purpose | | Heavy Machining (Strong geometry) | |
|---|---|---|---|---|---|---|
| | wear resistance ← | | | | → toughness | |
| | Geometry | Grade | Geometry | Grade | Geometry | Grade |
| P1–P2 | – | – | – | – | – | – |
| P3–P4 | – | – | – | – | – | – |
| P5–P6 | ..E | KYSP30 | **..E** | **KYSP30** | ..E | KYSP30 |
| M1–M2 | – | – | – | – | – | – |
| M3 | – | – | – | – | – | – |
| K1–K2 | – | – | – | – | – | – |
| K3 | – | – | – | – | – | – |
| N1–N2 | – | – | – | – | – | – |
| N3 | – | – | – | – | – | – |
| S1–S2 | ..E | KYS30 | **..E** | **KYS30** | ..T | KYS30 |
| S3 | ..E | KYS30 | **..T** | **KYS30** | ..T | KYS30 |
| S4 | – | – | – | – | – | – |
| H1 | – | – | – | – | – | – |



- Two grades and three insert sizes with positive clearances for ramping.
- For machining high-temp alloys, PH stainless, stainless steels, and hardened materials.

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ○ | ○ |
| M | | |
| K | | |
| N | | |
| S | ● | ● |
| H | | |




## RPG

| catalog number | D | S | KYS30 | KYSP30 |
|---|---|---|---|---|
| **RPG2150E** | .250 | .094 | ● | ● |
| **RPG32E** | .375 | .125 | ● | ● |
| **RPG32T0420** | .375 | .125 | ● | – |
| **RPG43E** | .500 | .188 | ● | ● |
| **RPG43T0420** | .500 | .188 | ● | – |

NOTE: A — Use these tools with the appropriate equipment/machines. Machines have to be covered for safety reasons: Hot flowing chips and loud noise are involved, which is common during the milling process.
B — Use only air flow as coolant method.
C — Higher RPMs are involved; use balanced toolholder for higher tool life and safer operation.
D — Consider increasing the fz in hard machining when smaller Ap are applied.

## Recommended Starting Feeds [IPT] RPG2150..

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .005 | **.005** | .007 | .004 | **.004** | .005 | .003 | **.003** | .004 | .003 | **.003** | .004 | .003 | **.003** | .004 | ..E |

### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .005 | **.006** | .008 | .004 | **.004** | .006 | .004 | **.004** | .005 | .003 | **.004** | .005 | .003 | **.004** | .005 | ..E |

### At .031 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .007 | **.008** | .010 | .005 | **.006** | .008 | .005 | **.005** | .007 | .004 | **.005** | .006 | .004 | **.005** | .006 | ..E |

### At .016 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .010 | **.011** | .014 | .007 | **.008** | .010 | .006 | **.007** | .009 | .006 | **.007** | .008 | .006 | **.006** | .008 | ..E |

## Recommended Starting Feeds [IPT] RPG32..

### At .188 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .005 | **.005** | .007 | .004 | **.004** | .005 | .003 | **.003** | .004 | .003 | **.003** | .004 | .003 | **.003** | .004 | ..E |
| ..T | .007 | **.008** | .010 | .005 | **.006** | .008 | .004 | **.005** | .007 | .004 | **.005** | .006 | .004 | **.005** | .006 | ..T |

### At .094 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .005 | **.006** | .008 | .004 | **.004** | .006 | .004 | **.004** | .005 | .003 | **.004** | .005 | .003 | **.004** | .005 | ..E |
| ..T | .008 | **.009** | .012 | .006 | **.007** | .009 | .005 | **.006** | .008 | .005 | **.006** | .007 | .005 | **.006** | .007 | ..T |

### At .047 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .007 | **.008** | .010 | .005 | **.006** | .008 | .005 | **.005** | .007 | .004 | **.005** | .006 | .004 | **.005** | .006 | ..E |
| ..T | .010 | **.012** | .015 | .008 | **.009** | .011 | .007 | **.008** | .010 | .006 | **.007** | .009 | .006 | **.007** | .009 | ..T |

### At .023 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .010 | **.011** | .014 | .007 | **.008** | .010 | .006 | **.007** | .009 | .006 | **.007** | .008 | .006 | **.006** | .008 | ..E |
| ..T | .014 | **.017** | .021 | .010 | **.012** | .016 | .009 | **.011** | .014 | .008 | **.010** | .013 | .008 | **.010** | .012 | ..T |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.

## Recommended Starting Feeds [IPT] RPG43..

| Light Machining | General Purpose | Heavy Machining |
|---|---|---|

### At .250 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .005 | **.005** | .007 | .004 | **.004** | .005 | .003 | **.003** | .004 | .003 | **.003** | .004 | .003 | **.003** | .004 | ..E |
| ..T | .007 | **.010** | .011 | .005 | **.008** | .009 | .004 | **.007** | .007 | .004 | **.006** | .007 | .004 | **.006** | .007 | ..T |

### At .125 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .005 | **.006** | .008 | .004 | **.004** | .006 | .004 | **.004** | .005 | .003 | **.004** | .005 | .003 | **.004** | .005 | ..E |
| ..T | .008 | **.012** | .013 | .006 | **.009** | .010 | .005 | **.008** | .009 | .005 | **.007** | .008 | .005 | **.007** | .008 | ..T |

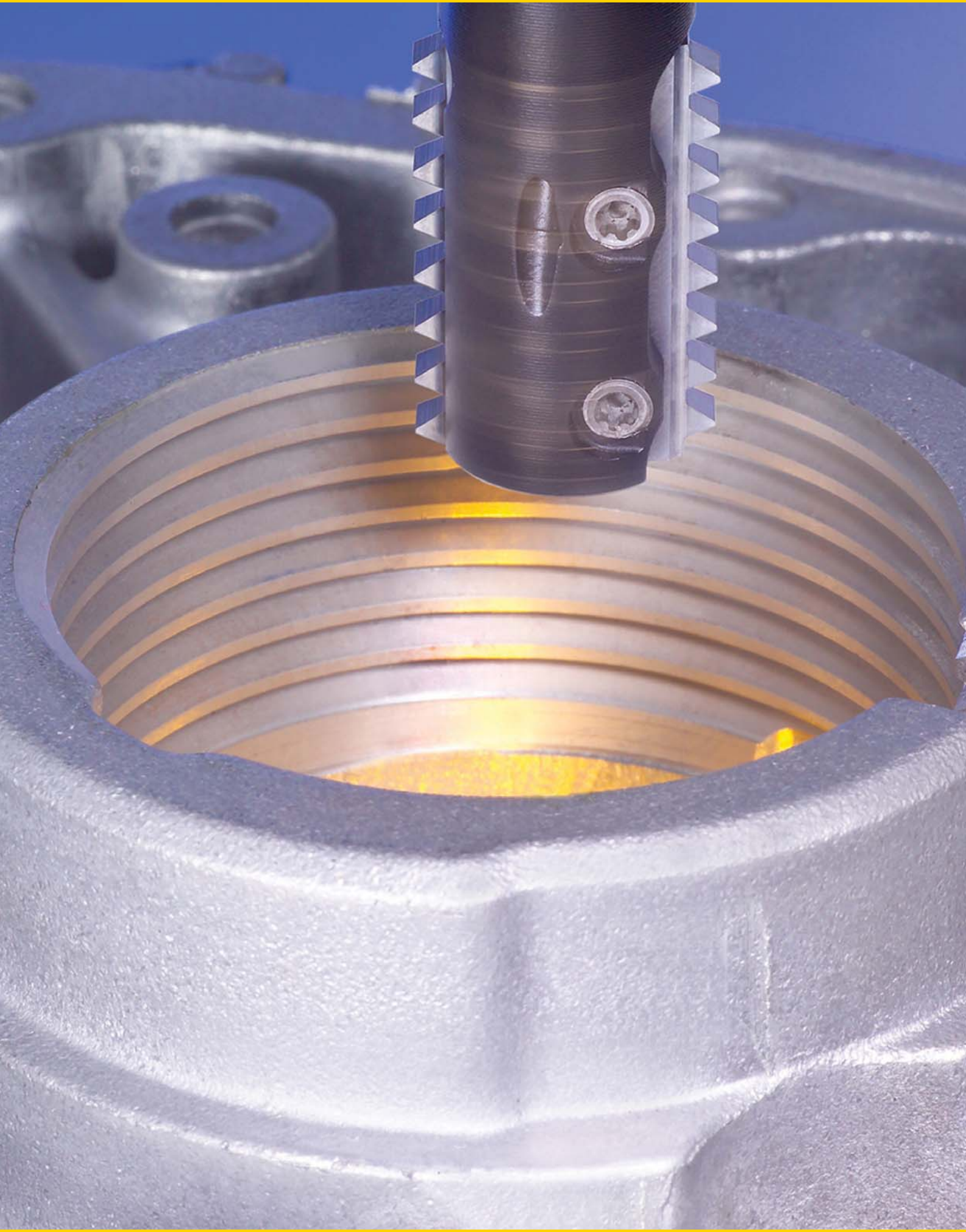
### At .063 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .007 | **.008** | .010 | .005 | **.006** | .008 | .005 | **.005** | .007 | .004 | **.005** | .006 | .004 | **.005** | .006 | ..E |
| ..T | .010 | **.016** | .017 | .008 | **.012** | .013 | .007 | **.010** | .011 | .006 | **.010** | .010 | .006 | **.009** | .010 | ..T |

### At .031 Axial Depth of Cut (ap)

| Insert Geometry | Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae) | | | | | | | | | | | | | | | Insert Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10% | | | 20% | | | 30% | | | 40% | | | 50–100% | | | |
| ..E | .010 | **.011** | .014 | .007 | **.008** | .010 | .006 | **.007** | .009 | .006 | **.007** | .008 | .006 | **.006** | .008 | ..E |
| ..T | .014 | **.022** | .024 | .010 | **.016** | .018 | .009 | **.014** | .015 | .008 | **.013** | .014 | .008 | **.013** | .014 | ..T |

NOTE: Use “Light Machining” values as starting feed rate.
Please see pages X22–X37 for recommended starting speeds.



# Indexable Milling • Indexable Thread Milling

**TM Series** ..... **W2–W27**

TM24 ..... W4–W8

TM25 ..... W10–W16

TM40 ..... W17–W22

TM41 ..... W24–W27

**KTMD U Series** ..... **W28–W37**

**TMS • Thread Milling System** ..... **W38–W47**

**Thread Milling • Application and Technical Information** ..... **W48–W55**

# TM Series

The latest Kennametal indexable thread milling tools deliver longer tool life and higher productivity while offering a comprehensive range of thread styles and sizes:

- TM24 Series — Small-bore threading applications with one cutting edge per insert.
- TM25 Series — Standard threading applications with two cutting edges per insert.
- TM40 Series — Long-thread threading applications with two cutting edges per insert.
- TM41 Series — Large-pitch threading applications with two cutting edges per insert.

## Features and Benefits

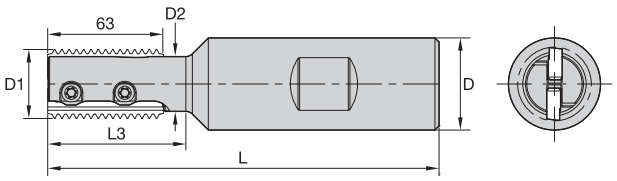
### Cutter Body Offering

- Number of flutes:
  - TM24: 1–2 per body
  - TM25: 2–8 per body
  - TM40: 3–8 per body
  - TM41: 2–6 per body
- Short and long toolholders for multiple applications.
- Cutters available in parallel Weldon® and conical Weldon holders.
- Effective through coolant for each flute.
- Better chip evacuation.

### Insert Offering

- Robust design.
- Inserts for ISO, UN, W, NPT, NPTF, and BSPT thread profiles.
- Pitch:
  - TM24: 32–10 TPI (0,50–2,50mm)
  - TM25: 20–8 TPI (1,00–3,00mm)
  - TM40: 32–10 TPI (1,00–3,00mm)
  - TM41: 8–4 TPI (3,00–6,00mm)
- Grades for most workpiece materials.
- Easy clamping systems.
- Fast indexing of inserts.

- .530–.630" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

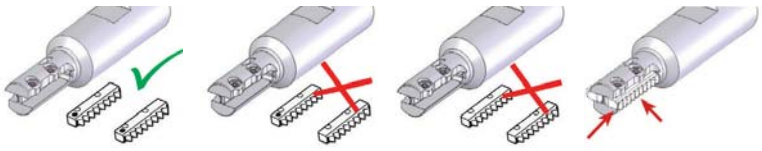


## Thread Mill • Weldon Shank • Parallel Threads

| order number | catalog number | D1 | D | D2 | L | L3 | Z | insert screw | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|
| **5593154** | **TM24D053L102Z1** | .530 | .750 | .420 | 3.270 | 1.020 | 1 | **TM25INSERTSCREW** | **DT8IP** |
| **5593155** | **TM24D059L118Z1** | .590 | .750 | .470 | 3.390 | 1.180 | 1 | **TM25INSERTSCREW** | **DT8IP** |
| **5593156** | **TM24D063L110Z2** | .630 | .750 | .490 | 3.310 | 1.100 | 2 | **TM25INSERTSCREW** | **DT8IP** |
| **5593157** | **TM24D063L142Z1** | .630 | .750 | .460 | 3.630 | 1.420 | 1 | **TM25INSERTSCREW** | **DT8IP** |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).
Through coolant is recommended, especially when D2 > 0.7 x nominal thread diameter.

| | | Thread Application per Toolholder min thread Ø | | | | | |
|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/UNEF/UNS | BSF | BSP(G) |
| **TM24D053L102Z1** | .530 | M16 x 2 | M14.5 x 0.5; M15 x 0.75; M15 x 1; M15 x 1.25; M16 x 1.5; M16 x 1.75 | – | 11/16–12UN; 5/8–14UNS; 5/8–16UN; 5/8–18UNF; 5/8–20UN; 5/8–24UNEF; 5/8–28UN; 5/8–32YB | 11/16–14; 3/4–12 | 3/8–19 |
| **TM24D059L118Z1** | .590 | M18 x 2.5 | M16 x 0.5; M17 x 0.75; M17 x 1; M17 x 1.25; M17 x 1.5; M18 x 1.75; M18 x 2 | 3/4–10 | 3/4–12UN; 3/4–14UNS; 1 1/16–16UN; 1 1/16–20UN; 1 1/16–24UNEF; 1 1/16–28UN; 1 1/16–32UN | 3/4–12 | – |
| **TM24D063L110Z2** | .630 | M20 x 2.5 | M17 x 0.5; M17 x 0.75; M18 x 1; M18 x 1.25; M18 x 1.5; M18 x 1.75; M19 x 2 | 3/4–10 | 3/4–12UN; 3/4–UNS; 3/4–16UN; 3/4–18UNS; 3/4–20UNEF; 11/16–24UNEF; 1 1/16–28UN; 1 1/16–32UN | 3/4–12 | – |
| **TM24D063L142Z1** | .630 | M20 x 2.5 | M17 x 0.5; M17 x 0.75; M18 x 1; M18 x 1.25; M18 x 1.5; M18 x 1.75; M19 x 2 | 3/4–10 | 3/4–12UN; 3/4–14UNS; 3/4–16UN; 3/4–18UNS; 3/4–20UNEF; 1 1/16–24UNEF; 1 1/16–28UN; 11/16–32UN | 3/4–12 | – |



Side with identification marks

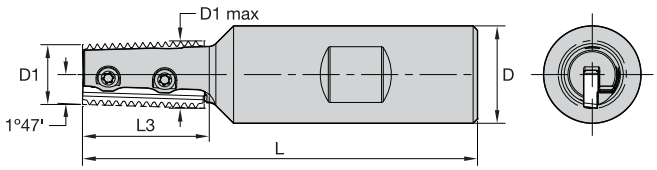
Always mount all inserts on the same side

Always mount all inserts on the same side

To mount insert correctly, push the insert toward the pocket walls*

* When not using an insert in each pocket, protect the pocket by using a TM24 blank insert.

- .550" cutting diameter.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

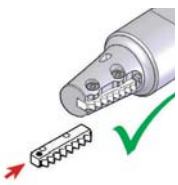


## Thread Mill • Weldon Shank • Conical Threads

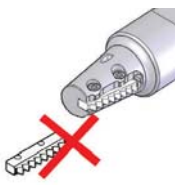
| order number | catalog number | D1 | D1 max | D | L | L3 | Z | insert screw | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|
| 5593158 | TMT24D055L102Z1 | .450 | .550 | .750 | 3.230 | 1.020 | 1 | TM25INSERTSCREW | DT8IP |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

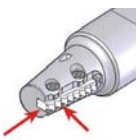
| | Thread Application per Toolholder min thread Ø | | | |
|---|---|---|---|---|
| toolholder | D1 max | NPT | NPTF | BSPT |
| TMT24D055L102Z1 | .550 | 3/8–18 | 3/8–18 | 3/8–19 |



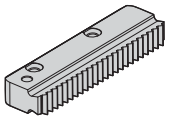
On Conical inserts, the identification mark must face up

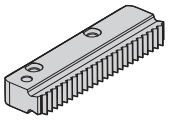


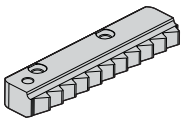
On Conical inserts, the identification mark must face up

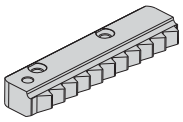


To mount insert correctly, push the insert toward the pocket walls


ISO Profiles

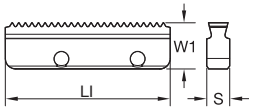

UN Profiles

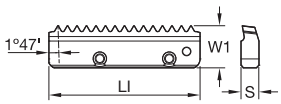

BSF and BSP Profiles


NPT Profiles

● first choice
○ alternate choice

| | | KC610M | KC635M |
|---|---|---|---|
| P | | ○ | ● |
| M | | | ● |
| K | | ● | |
| N | | ● | |
| S | | ○ | ● |
| H | | ● | ○ |



Conical Insert

## ISO Profiles • Internal

| catalog number | thread pitch mm | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM24N050ISO | 0,5 | .945 | .276 | .118 | 49 | ● | ● |
| TM24N075ISO | 0,75 | .945 | .276 | .118 | 33 | ● | ● |
| TM24N100ISO | 1,0 | .945 | .276 | .118 | 24 | ● | ● |
| TM24N150ISO | 1,5 | .945 | .276 | .118 | 16 | ● | ● |
| TM24N125ISO | 1,25 | .945 | .276 | .118 | 20 | ● | ● |
| TM24N175ISO | 1,75 | .945 | .276 | .118 | 14 | ● | ● |
| TM24N200ISO | 2,0 | .945 | .276 | .118 | 12 | ● | ● |
| TM24N250ISO | 2,5 | .945 | .276 | .118 | 10 | ● | ● |

## UN Profiles • Internal

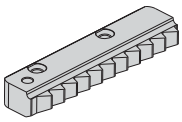
| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM24N10UN | 10 | .945 | .276 | .118 | 9 | ● | ● |
| TM24N12UN | 12 | .945 | .276 | .118 | 11 | ● | ● |
| TM24N14UN | 14 | .945 | .276 | .118 | 13 | ● | ● |
| TM24N16UN | 16 | .945 | .276 | .118 | 15 | ● | ● |
| TM24N18UN | 18 | .945 | .276 | .118 | 17 | ● | ● |
| TM24N20UN | 20 | .945 | .276 | .118 | 19 | ● | ● |
| TM24N24UN | 24 | .945 | .276 | .118 | 23 | ● | ● |
| TM24N28UN | 28 | .945 | .276 | .118 | 27 | ● | ● |
| TM24N32UN | 32 | .945 | .276 | .118 | 31 | ● | ● |

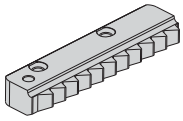
## BSF and BSP Profiles • Internal and External

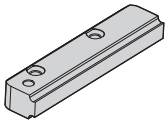
| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM24EN14BSF | 14 | .945 | .276 | .118 | 13 | ● | ● |
| TM24EN19BSF | 19 | .984 | .276 | .118 | 18 | ● | ● |

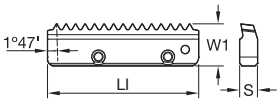
## NPT Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM24EN18NPT | 18 | .945 | .276 | .118 | 17 | ● | ● |

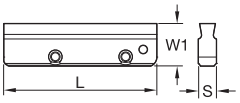

NPTF Profiles


BSPT Profiles


Blank Insert



Conical Insert



Blank Insert

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ○ | ● |
| M | | ● |
| K | ● | |
| N | ● | |
| S | ○ | ● |
| H | ● | ○ |

## NPTF Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| **TM24EN18NPTF** | 18 | .945 | .276 | .118 | 17 | ● | ● |

## BSPT Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| **TM24EN19BSPT** | 19 | .945 | .276 | .118 | 18 | ● | ● |

## Blank/Plug-In Insert • Internal and External

| catalog number | L | W1 | S |
|---|---|---|---|
| **TM24ENBLANK** | .945 | .276 | .118 |

## TM24 Inserts

| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.

# NOVO KNOWS CAD/CAM

With the addition of NOVO™ applications to your team, your CAD/CAM capabilities become much more accurate, streamlined, and productive.

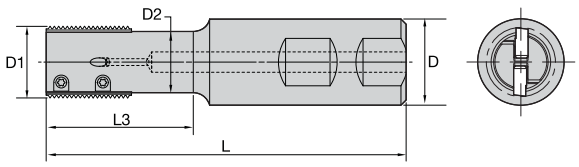
**Before NOVO:** The programmer would be in their CAD/CAM software, programming a part. Using the outdated method of finding a tool in a catalog, and then manually inputting the tooling information from the catalog into the CAD/CAM software.

The concern is that assumptions are made, and only partial tooling information is entered.

**With NOVO:** The powerful digital intelligence of NOVO applications not only help the programmer find the right tool for the metalcutting job, but also automatically integrates all the tooling data into a complete CAD/CAM solution. The integration of all the tooling data increases the viability of the part being programmed, and is delivered quickly — saving you time.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. **kennametal.com/novo**

- .670–2.047" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

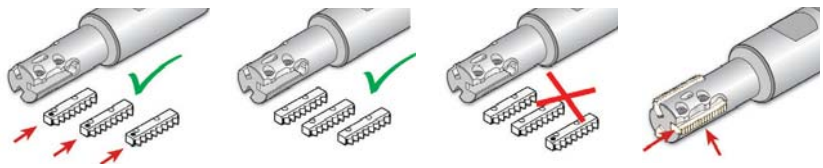


## Thread Mill • Weldon Shank • Parallel Threads

| order number | catalog number | D1 | D | D2 | L | L3 | Z | insert screw | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|
| 3030845 | TM25D17L26Z2 | .669 | .984 | .551 | 3.347 | 1.024 | 2 | TM25INSERTSCREW | DT8IP |
| 3030846 | TM25D17L36Z2 | .669 | .984 | .551 | 3.740 | 1.417 | 2 | TM25INSERTSCREW | DT8IP |
| 3030848 | TM25D20L37Z3 | .807 | .984 | .649 | 3.780 | 1.457 | 3 | TM25INSERTSCREW | DT8IP |
| 3030849 | TM25D20L44Z3 | .807 | .984 | .649 | 4.055 | 1.732 | 3 | TM25INSERTSCREW | DT8IP |
| 3030850 | TM25D22L43Z3 | .866 | .984 | .709 | 4.016 | 1.693 | 3 | TM25INSERTSCREW | DT8IP |
| 3030852 | TM25D22L55Z3 | .866 | .984 | .709 | 4.488 | 2.165 | 3 | TM25INSERTSCREW | DT8IP |
| 3031703 | TM25D30L55Z5 | 1.181 | .984 | 1.024 | 4.528 | 2.165 | 5 | TM25INSERTSCREW | DT8IP |
| 3031705 | TMC25D30L80Z4 | 1.181 | .984 | 1.024 | 5.512 | 3.150 | 4 | TM25INSERTSCREW | DT8IP |
| 5593142 | TMS25D36L34Z5 | 1.417 | .630 | 1.498 | 1.319 | — | 5 | TM25INSERTSCREW | DT8IP |
| 5593143 | TMS25D44L38Z6 | 1.732 | .866 | 1.575 | 1.496 | — | 6 | TM25INSERTSCREW | DT8IP |
| 5593141 | TMS25D52L40Z8 | 2.047 | 1.063 | 1.890 | 1.575 | — | 3 | TM25INSERTSCREW | DT8IP |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).
Kennametal thread mill software: TM – CNC Generator: **http://www.kennametal.com/en/resources/software.html**.

| | | | Thread Application per Toolholder min thread Ø | | | |
|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/UNEF/UNS | BSF |
| TM25D17L26Z2<br>TM25D17L36Z2 | .669 | M20 x 2.5 | M19 x 1; M19 x 1.5;<br>M20 x 2 | – | 7/8–10UNS; 13/16–12UN; 7/8–14UNF;<br>3/4–16UNF; 3/4–18UNS; 3/4–20UNEF | 7/8–11; 7/8–12;<br>7/8–14; 7/8–16 |
| TM25D20L37Z3<br>TM25D20L44Z3 | .807 | M24 x 3.0 | M22 x 1.; M23 x 1.5;<br>M23 x 2.; M23.5 x 2.5 | 1–8 | 15/16–9UN; 1.0–10UNS; 15/16–12UN;<br>1.0–14UNS; 15/16–16UN; 7/8–18UNS; 7/8–20UNEF | 1–11; 1–12;<br>1.14; 1.16 |
| TM25D22L43Z3<br>TM25D22L55Z3 | .866 | M27 x 3.0 | M24 x 1.; M24 x 1.5;<br>M25 x 2.; M25 x 2.5 | – | 11/16–8UN; 1.0–9UN; 1.0–10UNS; 1.0–12UNF;<br>1.0–14UNS; 1.0–16UN; 1.0–18UN; 15/16–20UNEF | 1–11; 1–12;<br>1–14; 1–16 |
| TM25D30L55Z5<br>TMC25D30L80Z4 | 1.181 | – | M32 x 1.; M32 x 1.5;<br>M33 x 2.; M33 x 2.5; M34 x 3 | – | 1 3/8–8UN; 1 3/8–9UN; 1 3/8–10UN; 1 5/16–12UN;<br>1 3/8–14UNS; 1 5/16–16UN; 1 5/16–18UNEF; 1 5/16–20UN | 1 3/8–11; 1 3/8–12;<br>1 3/8–14; 1 3/8–16 |



Side with identification marks

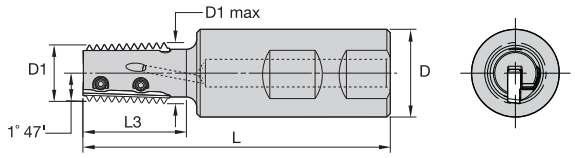
Side without identification marks

Always mount all inserts on the same side

To mount insert correctly, push the insert toward the pocket walls*

* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

- .670–1.100" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

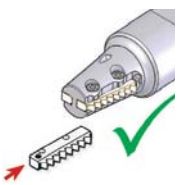


## Thread Mill • Weldon Shank • Conical Threads

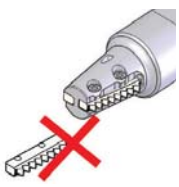
| order number | catalog number | D1 | D1 max | D | L | L3 | Z | insert screw | in. lbs. | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|---|
| **3031708** | **TMT25D067L110Z2** | .608 | .670 | 1.000 | 3.500 | 1.100 | 2 | **TM25INSERTSCREW** | 35 | **DT8IP** |
| **3031712** | **TMT25D087L170Z3** | .802 | .870 | 1.000 | 4.090 | 1.700 | 3 | **TM25INSERTSCREW** | 35 | **DT8IP** |
| **3031715** | **TMT25D110L170Z4** | 1.039 | 1.100 | 1.000 | 4.060 | 1.700 | 4 | **TM25INSERTSCREW** | 35 | **DT8IP** |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).
Kennametal thread mill software: TM – CNC Generator: **http://www.kennametal.com/en/resources/software.html**.

| Thread Application per Toolholder min thread Ø | | | | |
|---|---|---|---|---|
| toolholder | D1 max | NPT | NPTF | BSPT |
| **TMT25D17L26Z2** | .669 | 1/2–14; 3/4–14; 1–11.5; 2–11.5 | 1/2–14; 3/4–14; 1–11.5; 2–11.5 | 1/2–14; 3/4–14; 1–11; 1 1/4–11; 1 1/2–11; 2–11 |
| **TMT25D22L43Z3** | .866 | 3/4–14; 1–11.5; 2–11.5 | 3/4–14; 1–11.5; 2–11.5 | 3/4–14; 1–11; 1 1/4–11;1 1/2–11; 2–11; 2 1/2–11; 3–11; 4–11; 5–11; 6–11 |
| **TMT25D28L43Z4** | 1.102 | 1–11.5; 2–11.5 | 1–11.5; 2–11.5 | 1–11; 1 1/4–11; 1 1/2–11; 2–11; 2 1/2–11; 3–11; 4–11; 5–11; 6–11 |



On Conical inserts, the identification mark must face up

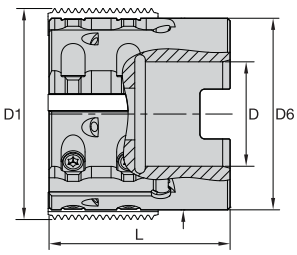


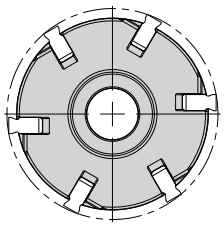
Side without identification marks

To mount insert correctly, push the insert toward the pocket walls*

* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

- 1.540–2.320" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



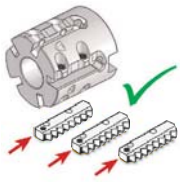
## Thread Mill • Shell Mill • Parallel Threads

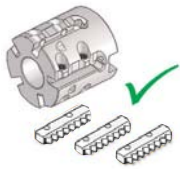
| order number | catalog number | D1 | D | D6 | L | Z | insert screw | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| 5593147 | TMS25D154L126Z5 | 1.540 | .500 | 1.382 | 1.260 | 5 | TM25INSERTSCREW | DT8IP | MS5007 |
| 5593146 | TMS25D193L138Z7 | 1.930 | .750 | 1.772 | 1.380 | 7 | TM25INSERTSCREW | DT8IP | MS5008 |
| 5593145 | TMS25D232L158Z9 | 2.320 | 1.000 | 2.169 | 1.580 | 9 | TM25INSERTSCREW | DT8IP | MS5006 |

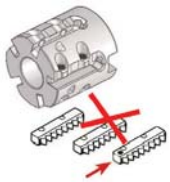
NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).
Kennametal thread mill software: TM – CNC Generator: **http://www.kennametal.com/en/resources/software.html**.

| | Thread Application per Toolholder min thread Ø | | | | |
|---|---|---|---|---|---|
| toolholder | D1 | ISO (fine) | UN/UNF/UNEF/UNS | BSW | BSP(G) |
| TMS25D154L126Z5 | 1.540 | M42 x 1; M42 x 1.5; M45 x 2; M45 x 3 | 1 11/16–12UNF; 1 3/4–14UNS; 1 5/8–16UN; 1 5/8–18UNEF; 1 5/8–20UN | 1 3/4–16; 1 3/4–12 | 1 1/2–11 |
| TMS25D193L138Z7 | 1.930 | M52 x 1; M55 x 1.5; M55 x 2; M55 x 3 | 2 1/8–12UN; 2 1/16–16UN; 2 1/8–20UN; 2 1/8–8UN; 2 1/4–10UNS; 2 1/4–14UNS; 2 1/4–18UNS | 2 1/4–16; 2 1/4–12 | 1 3/4–11 |
| TMS25D232L158Z9 | 2.320 | M64 x 1; M64 x 1.5; M64 x 2; M65 x 3 | 2 1/2–18UN; 2 1/2–20UN; 2 1/2–8UN; 2 1/2–12UN; 2 1/2–10UN; 2 1/2–14UN; 2 1/2–16UN | 2 1/2–16; 2 1/2–12 | 2 1/4–11 |




Side with identification marks

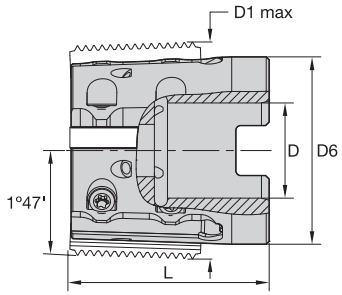

Side without identification marks

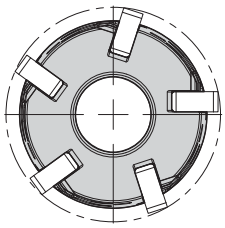

Always mount all inserts on the same side

To mount insert correctly, push the insert toward the pocket walls*

* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

- 1.478" cutting diameter.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



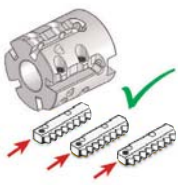



## Thread Mill • Shell Mill • Conical Threads

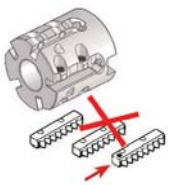
| order number | catalog number | D1 max | D | D6 | L | Z | insert screw | Torx Plus driver | socket-head cap screw |
|---|---|---|---|---|---|---|---|---|---|
| 5593148 | TMST25D154L126Z5 | 1.538 | .500 | 1.358 | 1.260 | 5 | TM25INSERTSCREW | DT8IP | MS5007 |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).
Kennametal thread mill software: TM – CNC Generator: **http://www.kennametal.com/en/resources/software.html**.

| Thread Application per Toolholder min thread Ø | | | | |
|---|---|---|---|---|
| toolholder | D1 | NPT | NPTF | BSPT |
| TMST25D154L126Z5 | 1.478 | 1 1/2–11.5; 2–11.5 | 1 1/2–11.5; 2–11.5 | 1 1/2–6 x 11 |



Side with identification marks



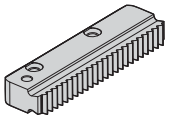
Always mount all inserts on the same side

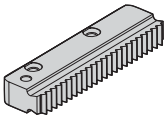
To mount insert correctly, push the insert toward the pocket walls*

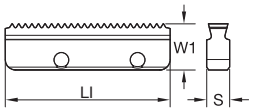
* When not using an insert in each pocket, protect the pocket by using a TM25 blank insert.

NOTE: On conical inserts the identification mark must be face up.

• ISO metric screw thread style.


ISO Profiles


UN Profiles




● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | | ○ | ● |
| M | | | ● |
| K | | ● | |
| N | | ● | |
| S | | ○ | ● |
| H | | ● | ○ |

## ISO Profiles • Internal

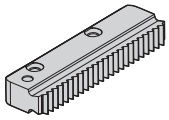
| catalog number | thread pitch mm | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| **TM25N300ISO** | 3 | .984 | .300 | .140 | 8 | ● | ● |
| **TM25N250ISO** | 2,5 | .984 | .300 | .140 | 10 | ● | ● |
| **TM25N200ISO** | 2 | .984 | .300 | .140 | 12 | ● | ● |
| **TM25N150ISO** | 1,5 | .984 | .300 | .140 | 16 | ● | ● |
| **TM25N100ISO** | 1 | .984 | .300 | .140 | 24 | ● | ● |

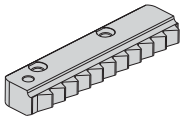
• Unified Thread Standard Style.

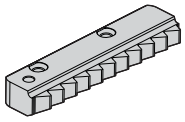
## UN Profiles • Internal

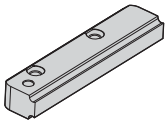
| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| **TM25N8UN** | 8 | .984 | .300 | .140 | 7 | ● | ● |
| **TM25N9UN** | 9 | .984 | .300 | .140 | 8 | ● | ● |
| **TM25N10UN** | 10 | .984 | .300 | .140 | 9 | ● | ● |
| **TM25N12UN** | 12 | .984 | .300 | .140 | 11 | ● | ● |
| **TM25N14UN** | 14 | .984 | .300 | .140 | 13 | ● | ● |
| **TM25N16UN** | 16 | .984 | .300 | .140 | 15 | ● | ● |
| **TM25N18UN** | 18 | .984 | .300 | .140 | 17 | ● | – |
| **TM25N20UN** | 20 | .984 | .300 | .140 | 19 | ● | ● |

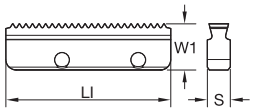
• British Standard Whitworth Thread Style.

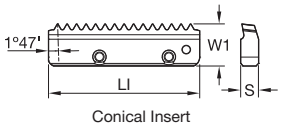

Whitworth Profiles


NPT Profiles

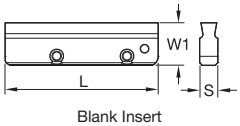

BSPT Profiles


Blank Insert



Conical Insert



Blank Insert

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ○ | ● |
| M | | ● |
| K | ● | |
| N | ● | |
| S | ○ | ● |
| H | ● | ○ |

## Whitworth Profiles • Internal/External

| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM25EN11W | 11 | .984 | .300 | .140 | 10 | ● | ● |
| TM25EN12W | 12 | .984 | .300 | .140 | 11 | ● | – |
| TM25EN14W | 14 | .984 | .300 | .140 | 13 | ● | ● |

• National Pipe Thread Taper Style.

## NPT Profiles • Internal/External

| catalog number | TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM25EN115NPT | 11.5 | .984 | .300 | .140 | 11 | ● | ● |
| TM25EN14NPT | 14 | .984 | .300 | .140 | 11 | ● | ● |

• British Standard Pipe Standard Thread Style.

## BSPT Profiles • Internal/External

| catalog number | internal TPI | LI | W1 | S | number of teeth | KC610M | KC635M |
|---|---|---|---|---|---|---|---|
| TM25EN11BSPT | 11.0 | .984 | .300 | .140 | 10 | ● | – |
| TM25EN14BSPT | 14.0 | .984 | .300 | .140 | 11 | ● | – |

## Blank Insert Form • Internal/External

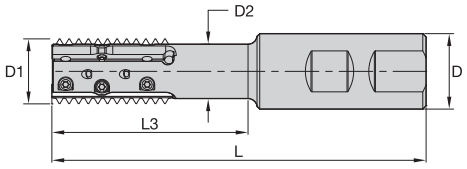
| catalog number | L | W1 | S |
|---|---|---|---|
| TM25BLANK | .988 | .220 | .140 |

## TM25 Inserts

| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.

- .870–1.180" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



## Thread Mill • Weldon Shank • Parallel Threads

| order number | catalog number | D1 | D | D2 | L | L3 | Z | insert screw | Torx Plus driver | screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 5593191 | TM40D087L169Z3 | .870 | 1.000 | .710 | 4.000 | 1.690 | 3 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593192 | TM40D087L256Z3 | .870 | 1.000 | .710 | 4.870 | 2.560 | 3 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593193 | TM40D118L215Z4 | 1.180 | 1.250 | 1.020 | 4.550 | 2.150 | 4 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593194 | TM40D118L315Z3 | 1.180 | 1.250 | 1.020 | 5.350 | 3.150 | 3 | TM25INSERTSCREW | DT8IP | MS9000 |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

| Thread Application per Toolholder<br>min thread Ø | | | | | | |
|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UN/UNF/UNEF/UNS | BSF | BSP(G) |
| TM40D087L169Z3 | .870 | M27 x 3 | M24 x 1; M24 x 1.5; M25 x 2; M25 x 2.5 | 1 11/16–8UN; 1–9UN; 1–10UNS; 1–12UNF; 1–14UNS; 1–16UN; 1–18UN; 15/16–20UNEF | 1–11; 1–12; 1–14; 1–16 | 3/4–14 |
| TM40D087L256Z3 | .870 | M27 x 3 | M24 x 1; M24 x 1.5; M25 x 2; M25 x 2.5 | 1 11/16–8UN; 1–9UN; 1–10UNS; 1–12UNF; 1–14UNS; 1–16UN; 1–18UN; 15/16–20UNEF | 1–11; 1–12; 1–14; 1–16 | 3/4–14 |
| TM40D118L215Z4 | 1.180 | – | M32 x 1; M32 x 1.5; M33 x 2; M33 x 2.5; M34 x 3 | 1 3/8–8UN; 1 3/8–9UN; 1 3/8–10UN; 15/16–12UN; 1 3/8–14UNS; 15/16UN; 15/16–18UNEF; 15/16–20UN | 1 3/8–11; 1 3/8–12; 1 3/8–14; 1 3/8–16 | 1–11 |
| TM40D118L315Z3 | 1.180 | – | M32 x 1; M32 x 1.5; M33 x 2; M33 x 2.5; M34 x 3 | 1 3/8–8UN; 1 3/8–9UN; 1 3/8–10UN; 15/16–12UN; 1 3/8–14UNS; 15/16UN; 15/16–18UNEF; 15/16–20UN | 1 3/8–11; 1 3/8–12; 1 3/8–14; 1 3/8–16 | 1–11 |

Side with identification marks

Side without identification marks

Always mount all inserts on the same side*

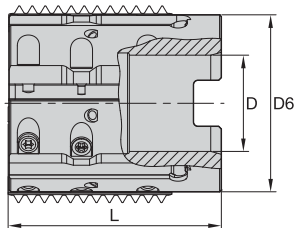
* When not using an insert in each pocket, protect the pocket by using a TM40 blank insert.

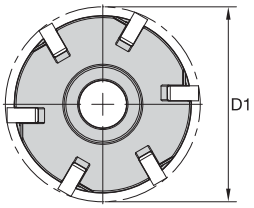
### 2 Step Clamping System

**Step 1.** Location Screw

**Step 2.** Clamping Screw (2)

- 1.930–2.320" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



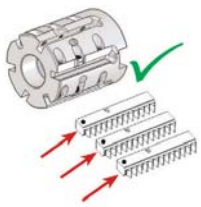



## Thread Mill • Shell Mill • Parallel Threads

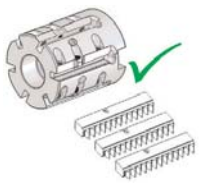
| order number | catalog number | D1 | D | D6 | L | Z | insert screw | Torx Plus driver | socket-head cap screw | screw |
|---|---|---|---|---|---|---|---|---|---|---|
| **5593195** | **TMS40D193L197Z7** | 1.930 | .750 | 1.770 | 1.970 | 7 | **TM25INSERTSCREW** | **DT8IP** | **MS5008** | **MS9000** |
| **5593196** | **TMS40D232L200Z9** | 2.320 | 1.000 | 2.170 | 2.000 | 9 | **TM25INSERTSCREW** | **DT8IP** | **MS5009** | **MS9000** |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

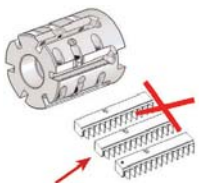
| Thread Application per Toolholder<br>min thread Ø | | | | | |
|---|---|---|---|---|---|
| **toolholder** | **D1** | **ISO (fine)** | **UN/UNF/UNEF/UNS** | **BSW** | **BSP(G)** |
| **TMS40D193L197Z7** | 1.930 | M52 x 1; M55 x 1.5; M55 x 2; M55 x 3 | 1 7/8–12UN; 1 13/16–16UN; 1 13/16–20UN; 1 15/16–8UN; 1 7/8–10UNS; 1 7/8–14UNS | 2 1/4–12; 2 1/4–16 | 1 3/4–11 |
| **TMS40D232L200Z9** | 2.320 | M64 x 1; M64 x 1.5; M64 x 2; M65 x 3 | 2 1/4–8UN; 2 1/4–10UN; 2 1/4–12UN; 2 1/4–14UN; 2–1/4–16UN; 2 1/4–18UN; 2 1/4–20UN | 2 1/2–12; 2 1/2–16 | 2 1/4–11 |



Side with identification marks



Side without identification marks



Always mount all inserts on the same side*

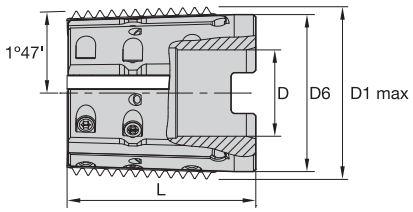
* When not using an insert in each pocket, protect the pocket by using a TM40 blank insert.

**2 Step Clamping System!**

**Step 1.** Location Screw

**Step 2.** Clamping Screw (2)

- 1.930" cutting diameter.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.

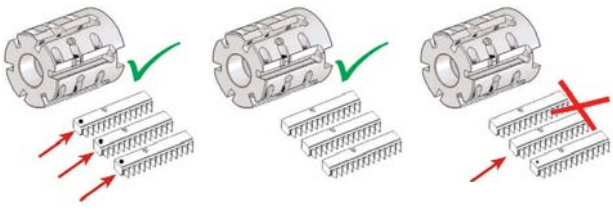


## Thead Mill • Shell Mill • Conical Threads

| order number | catalog number | D1 max | D | D6 | L | Z | insert screw | Torx Plus driver | socket-head cap screw | screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 5593197 | TMST40D193L197Z7 | 1.930 | .750 | 1.770 | 1.970 | 7 | TM25INSERTSCREW | DT8IP | MS5006 | MS9000 |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

| Thread Application per Toolholder min thread Ø | | | | |
|---|---|---|---|---|
| toolholder | D1 max | NPT | NPTF | BSPT |
| TMST40D193L197Z7 | 1.930 | 2 –11.5; 2 1/2–8 (and up) | 2–11.5; 2 1/2–8; 3/8 | 2–6 x 11 |



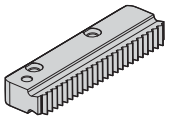
Side with identification marks | Side without identification marks | Always mount all inserts on the same side*

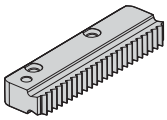
* When not using an insert in each pocket, protect the pocket by using a TM40 blank insert.

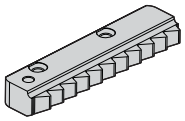
**2 Step Clamping System!**

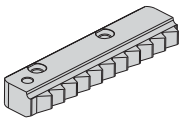
**Step 1.** Location Screw

**Step 2.** Clamping Screw (2)


ISO Profiles

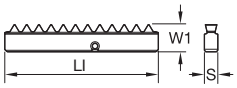

UN Profiles

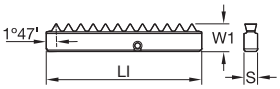

BSF and BSP Profiles


NPT Profiles

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ○ | ● |
| M | | ● |
| K | ● | |
| N | ● | |
| S | ○ | ● |
| H | ● | ○ |



Conical Inserts

## ISO Profiles • Internal

| catalog number | thread pitch mm | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM40N100ISO** | 1,0 | 1.575 | .278 | .137 | ● | ● |
| **TM40N150ISO** | 1,5 | 1.575 | .278 | .137 | ● | ● |
| **TM40N200ISO** | 2,0 | 1.575 | .278 | .137 | ● | ● |
| **TM40N250ISO** | 2,5 | 1.575 | .278 | .137 | ● | – |
| **TM40N300ISO** | 3,0 | 1.575 | .278 | .137 | ● | ● |

## UN Profiles • Internal

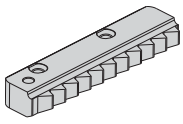
| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM40N8UN** | 8 | 1.575 | .278 | .138 | ● | ● |
| **TM40N9UN** | 9 | 1.575 | .278 | .137 | ● | – |
| **TM40N10UN** | 10 | 1.575 | .278 | .137 | ● | – |
| **TM40N12UN** | 12 | 1.575 | .278 | .137 | ● | ● |
| **TM40N14UN** | 14 | 1.575 | .278 | .137 | ● | – |
| **TM40N16UN** | 16 | 1.575 | .278 | .137 | ● | ● |
| **TM40N18UN** | 18 | 1.575 | .278 | .137 | ● | – |
| **TM40N20UN** | 20 | 1.575 | .278 | .137 | ● | ● |

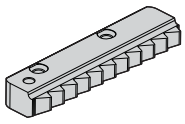
## BSF and BSP Profiles • Internal and External

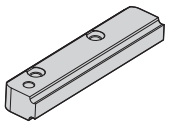
| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM40EN11BSF** | 11 | 1.575 | .278 | .138 | ● | ● |
| **TM40EN12BSF** | 12 | 1.575 | .278 | .138 | ● | – |
| **TM40EN14BSF** | 14 | 1.575 | .278 | .138 | ● | – |
| **TM40EN16BSF** | 16 | 1.575 | .278 | .138 | ● | – |

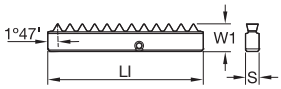
## NPT Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM40EN008NPT** | 8.0 | 1.575 | .287 | .138 | ● | ● |
| **TM40EN115NPT** | 11.5 | 1.575 | .287 | .138 | ● | – |

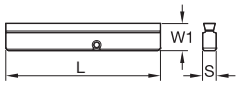

NPT Profiles


BSPT Profiles


Blank Insert



Conical Insert



Blank Insert

● first choice
○ alternate choice

| | | |
|---|---|---|
| P | ○ | ● |
| M | | ● |
| K | ● | |
| N | ● | |
| S | ○ | ● |
| H | ● | ○ |

## NPTF Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM40EN008NPTF** | 8.0 | 1.575 | .287 | .138 | ● | ● |
| **TM40EN115NPTF** | 11.5 | 1.575 | .287 | .138 | ● | – |

## BSPT Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM40EN011BSPT** | 11 | 1.575 | .287 | .138 | ● | ● |

## Blank/Plug-In Insert • Internal and External

| catalog number | L | W1 | S |
|---|---|---|---|
| **TM40ENBLANK** | 1.575 | .278 | .137 |

## TM40 Inserts

| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.

# Carbide Recycling

## Help preserve and protect our planet!

**It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.**

**By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.**

By using the Kennametal Carbide Recycling Program, you will receive:

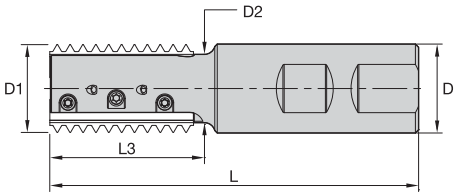
- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

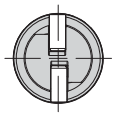
Program is not currently available in all geographical areas.
For more information, please visit **kennametal.com/carbiderecycling**.

KENNAMETAL®

**kennametal.com**

- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



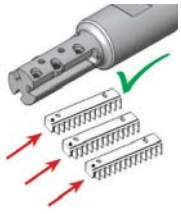



## Thread Mill • Weldon Shank • Parallel Threads

| order number | catalog number | D1 | D | D2 | L | L3 | Z | insert screw | Torx Plus driver | screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 5593177 | TM41D083L177Z1 | .835 | 1.000 | .630 | 4.130 | 1.770 | 1 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593178 | TM41D097L169Z2 | .970 | 1.000 | .760 | 4.130 | 1.690 | 2 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593179 | TM41D118L256Z3 | 1.180 | 1.250 | .953 | 5.000 | 2.560 | 3 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593180 | TM41D142L169Z5 | 1.420 | 1.250 | 1.110 | 4.130 | 1.690 | 5 | TM25INSERTSCREW | DT8IP | MS9000 |
| 5593181 | TM41D142L256Z4 | 1.420 | 1.250 | 1.110 | 4.980 | 2.560 | 4 | TM25INSERTSCREW | DT8IP | MS9000 |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

| | | Thread Application per Toolholder min thread Ø | | | | | | |
|---|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/UNEF/UNS | BSW/BSF | NPT | NPTF |
| TM41D083L177Z1 | .835 | M30 x 3.5; M36 x 4 | M28 x 3; M45 x 4 | 1 1/8–7; 1 3/8–6 | 1 1/8–8UN; 1 7/16–6UN | 1 3/8–8BSF; 1 1/4–7BSW | – | – |
| TM41D097L169Z2 | .970 | M30 x 3.5; M36 x 4 | M28 x 3; M45 x 4 | 1 1/8–7; 1 3/8–6 | 1 1/8–8UN; 1 7/16–6UN | 1 3/8–8BSF; 1 1/4–7BSW | – | – |
| TM41D118L256Z3 | 1.180 | M36 x 4; M42 x 4.5 | M34 x 3; M34 x 3.5; M45 x 4 | 1 3/8–6 | 1 3/8–8UN; 1 7/16–6UN | 1 3/8–8BSF; 1 3/4–7BSF; 1 1/2–6BSW | – | – |
| TM41D142L169Z5 | 1.420 | M42 x 4.5; M48 x 5; M56 x 5.5; M64 x 6 | M40 x 3; M40 x 3.5; M42 x 4; M70 x 6 | 1 3/4–5; 2–4.5; 2 1/2–4 | 1 5/8–8UN; 1 5/8–6UN | 1 5/8–8BSF; 1 3/4–7BSF; 1 7/8–6BSF | 2 1/2–8 | 2 1/2–8 |
| TM41D142L256Z4 | 1.420 | M42 x 4.5; M48 x 5; M56 x 5.5; M64 x 6 | M40 x 3; M40 x 3.5; M42 x 4; M70 x 6 | 1 3/4–5; 2–4.5; 2 1/2–4 | 1 5/8–8UN; 1 5/8–6UN | 1 5/8–8BSF; 1 3/4–7BSF; 1 7/8–6BSF | 2 1/2–8 | 2 1/2–8 |



Side with identification marks

Side without identification marks

Always mount all inserts on the same side*

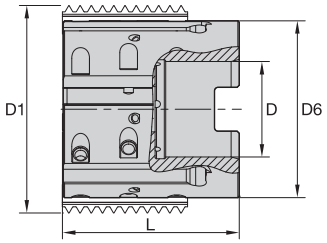
* When not using an insert in each pocket, protect the pocket by using a TM41 blank insert.

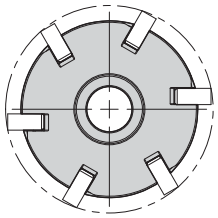
**2 Step Clamping System!**

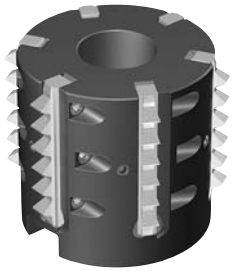
**Step 1.** Location Screw (2)

**Step 2.** Clamping Screw

- 2.090–2.480" cutting diameter range.
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



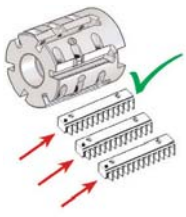


## Thread Mill • Shell Mill • Parallel Threads

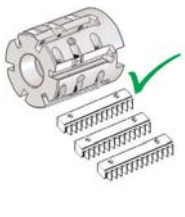
| order number | catalog number | D1 | D | D6 | L | Z | insert screw | Torx Plus driver | socket-head cap screw | screw |
|---|---|---|---|---|---|---|---|---|---|---|
| 5593182 | TMS41D210L200Z5 | 2.090 | .750 | 1.770 | 2.000 | 5 | TM25INSERTSCREW | DT8IP | MS5008 | MS9000 |
| 5593183 | TMS41D250L200Z6 | 2.480 | 1.000 | 2.170 | 2.000 | 6 | TM25INSERTSCREW | DT8IP | MS5009 | MS9000 |

NOTE: Torque value for insert screw is 35 in. lbs. (4 Nm).

| | Thread Application per Toolholder min thread Ø | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/UNEF/UNS | BSF | NPT | NPTF |
| TMS41D210L200Z5 | 2.090 | M64 x 6 | M58 x 4; M70 x 6 | 2 1/2–4 | 2 3/8–6UN; 2 3/8–8UN | 2 3/8–8; 2 1/2–6 | 2 1/2–8 | 2 1/2–8 |
| TMS41D250L200Z6 | 2.480 | – | M68 x 4; M70 x 6 | 3–4 | 2 3/4–6UN; 2 3/4–8UN | 2 3/4–8; 2 3/4–6 | 2 1/2–8 | 2 1/2–8 |



Side with identification marks



Side without identification marks

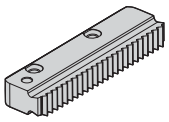
Always mount all inserts on the same side*

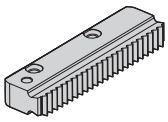
* When not using an insert in each pocket, protect the pocket by using a TM41 blank insert.

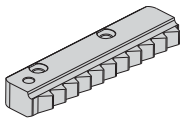
**2 Step Clamping System**

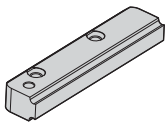
**Step 1.** Location Screw (2)

**Step 2.** Clamping Screw


ISO Profiles

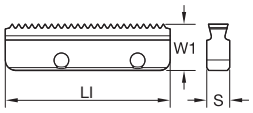

UN Profiles

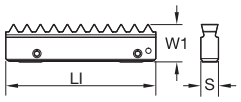

NPT Profiles


Blank Inserts

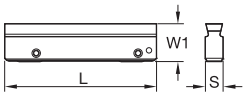
| | | | |
|---|---|---|---|
| P | ○ | ● |
| M | | ● |
| K | ● | |
| N | ● | |
| S | ○ | ● |
| H | ● | ○ |

● first choice
○ alternate choice



Conical Insert



Blank Inserts

## ISO Profiles • Internal

| catalog number | thread pitch mm | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM41N300ISO** | 3,0 | 1.614 | .392 | .187 | ● | ● |
| **TM41N350ISO** | 3,5 | 1.614 | .392 | .187 | ● | ● |
| **TM41N400ISO** | 4,0 | 1.614 | .392 | .187 | ● | ● |
| **TM41N450ISO** | 4,5 | 1.614 | .392 | .187 | ● | ● |
| **TM41N500ISO** | 5,0 | 1.614 | .392 | .187 | ● | ● |
| **TM41N550ISO** | 5,5 | 1.614 | .392 | .187 | ● | ● |
| **TM41N600ISO** | 6,0 | 1.614 | .392 | .187 | ● | ● |

## UN Profiles • Internal

| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM41N4UN** | 4 | 1.614 | .392 | .187 | ● | ● |
| **TM41N45UN** | 4.5 | 1.614 | .392 | .187 | ● | ● |
| **TM41N5UN** | 5 | 1.614 | .392 | .187 | ● | ● |
| **TM41N6UN** | 6 | 1.614 | .392 | .187 | ● | ● |
| **TM41N7UN** | 7 | 1.614 | .392 | .187 | ● | ● |
| **TM41N8UN** | 8 | 1.614 | .392 | .187 | ● | ● |

## NPT Profiles • Internal and External

| catalog number | TPI | LI | W1 | S | KC610M | KC635M |
|---|---|---|---|---|---|---|
| **TM41EN8NPT** | 8 | 1.614 | .392 | .187 | ● | ● |

## Blank/Plug-In Insert • Internal and External

| catalog number | L | W1 | S |
|---|---|---|---|
| **TM41ENBLANK** | 1.614 | .392 | .187 |

## TM41 Inserts

| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.

# KTMD U Series

## Primary Application

With a wide range of insert thread sizes and grades for most materials, KTMD U is a multiflute, single-point, high-productivity, and economical solution for milling threads in deep-hole applications.

## Features and Benefits

### Smooth Cutting Action

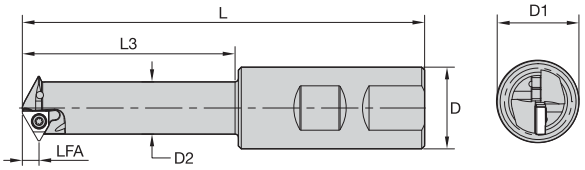
- Reduced load on the cutting edges due to single-point insert.
- Low cutting forces enable fast machining.
- Suitable for hard material applications.
- Wide range of applications, with partial profile insert (60°/55°).
- Pitch range 16–3 TPI (1,5–8mm).

### Cost-Effective Solution

- Up to three cutting edges per insert.
- Very high feed per tooth.
- Fast machining.
- Multiflute — up to 7 cutting edges (inserts).

### Comprehensive cutter bodies offering:

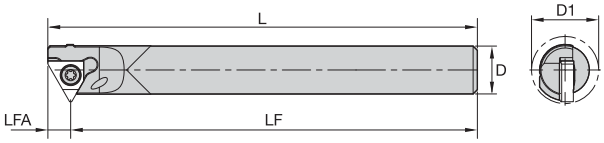
- Weldon®, steel, carbide, and shell mill cutters available.
- Long overhang capability.
- Through coolant capability.
- Diameter range 0.5–1.2" (2" with shell mills).
- Improved chip evacuation and cooling.



## Thread Mill • U Style • Weldon® Shank • 1/4" IC

| order number | catalog number | D1 | D | D2 | L | L3 | LFA | Z | max RPM | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5593105 | KTMDUWD058L157Z1 | .580 | .625 | .420 | 3.760 | 1.780 | .210 | 1 | 7970 | KTMDUSCREW1 | DT8 |
| 5593106 | KTMDUWD081L236Z2 | .810 | 1.000 | .630 | 4.920 | 2.570 | .210 | 2 | 6740 | KTMDUSCREW1 | DT8 |
| 5593107 | KTMDUWD091L276Z2 | .910 | 1.000 | .700 | 5.380 | 2.960 | .210 | 2 | 6380 | KTMDUSCREW1 | DT8 |
| 5593108 | KTMDUWD102L315Z3 | 1.020 | 1.000 | .800 | 5.790 | 3.360 | .210 | 3 | 6000 | KTMDUSCREW1 | DT8 |
| 5593120 | KTMDUWD122L374Z4 | 1.220 | 1.250 | 1.010 | 6.370 | 3.950 | .210 | 4 | 5500 | KTMDUSCREW1 | DT8 |

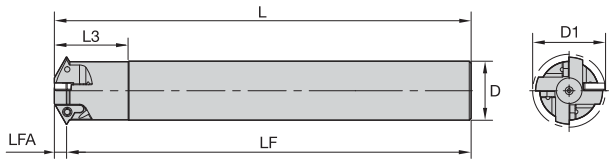
| Thread Application per Toolholder<br>min thread Ø | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/ UNEF/UNS | BSP (G) | Partial 55° | Trapez |
| KTMDUWD058L157Z1 | .580 | M18 x 2.5; M24 x 3.0 | M16 x 0.5; M16 x 0.75; M16 x 1.0; M17 x 1.25; M17 x 1.5; M17 x 2.0 | 3/4-10 | 5/8-32UN; 5/8-28UN; 5/8-27UNS; 11/16-24UN; 11/16-20UN; 11/16-16UN; 3/4-14UNS; 3/4-12UN | 3/8-19; 1/2-14; 1-11 | 11/16-14; 3/4-12; 7/8-11; 3/4-10; 7/8-9; 1-8; 1 1/8-7 | TR22 x 3; TR24 x 3 |
| KTMDUWD081L236Z2 | .810 | M24 x 3.0; M30 x 3.5 | M22 x 0.5; M22 x 0.75; M22 x 1.0; M23 x 1.25; M23 x 1.5; M23 x 2.0 | 1–8; 1 1/8–7; 1 3/8–6 | 7/8–32UN; 7/8–28UN; 7/8–27UNS; 7/8–24UNS; 7/8–20UNEF; 1/18UNS; 15/16–16UN; 1–14UNS; 15/16–12UN; 1–10UNS | 3/4–14; 1–11 | 1–26; 1–20; 1–16; 1–12; 1–10; 1 1/8–9; 1–8; 1 1/8–7 | (TR26–TR60 x 3) |
| KTMDUWD091L276Z2 | .910 | M27 x 3.0; M30 x 3.5; M36 x 4.0 | M24 x 0.5; M24 x 0.75; M25 x 1.0; M25 x 1.25; M26 x 1.5; M26 x 2.0; M27 x 2.5 | 1 1/8–7 | 1–32UN; 1–28UN; 1–27UNS; 1–24UNS; 1–20UNEF; 1–18UNS; 1–16UN; 1–14UNS; 1–12UNF; 1 1/8–10UNS; 1 1/8UN | 3/4–14; 1–11 | 1–26; 1–20; 1–16; 1 1/16–12; 1 1/8–9; 1 1/8–7 | – |
| KTMDUWD102L315Z3 | 1.020 | M30 x 3.5; M36 x 4.0 | M27 x 0.5; M27 x 0.75; M28 x 1.0; M28 x 1.25; M28 x 1.5; M29 x 2.0; M30 x 2.5; M30 x 3.0 | 1 1/4–7; 1 3/8–6 | 1 1/8–28UN; 1 1/8–24UNS; 1 1/8–20UN; 1 1/8–18UNEF; 1 1/8–16UN; 1 1/8–14UNS; 1 1/8–12UNF; 1 1/4–10UNS; 1 3/16–8UN | 7/8–14; 1–11 | 1 1/8–26; 1 1/8–20; 1 3/8–16; 1 3/8–12; 1 3/16–8; 1 1/4–7 | – |
| KTMDUWD122L374Z4 | 1.220 | M36 x 4.0 | M32 x 0.5; M32 x 0.75; M33 x 1.0; M33 x 1.25; M33 x 1.5; M34 x 2.0; M34 x 2.5; M35 x 3.0; M36 x 3.5 | 1 1/2–6 | 1 5/16–28UN; 1 3/8–24UNS; 1 5/16–20UN; 1 5/16–18UNEF; 1 5/16–16UN; 1 3/8–14UNS; 1 3/8–12UNF; 1 3/8–10UNS; 1 3/8–8UN | 1 1/8–11 | 1 3/8–26; 1 3/8–20; 1 3/8–16; 1 3/8–12; 1 7/16–8 | – |



## Thread Mill • U Style • Carbide Cylindrical Shank • 1/4" IC

| order number | catalog number | D1 | D | L | LF | LFA | Z | max RPM | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|
| 5593125 | KTMDUCD058L236Z1 | .600 | .438 | 4.720 | 4.510 | .210 | 1 | 7970 | KTMDUSCREW1 | DT8 |
| 5593126 | KTMDUCD068L256Z2 | .680 | .563 | 5.350 | 5.140 | .210 | 2 | 7380 | KTMDUSCREW1 | DT8 |
| 5593127 | KTMDUCD081L315Z2 | .810 | .625 | 5.300 | 5.090 | .210 | 2 | 6740 | KTMDUSCREW1 | DT8 |

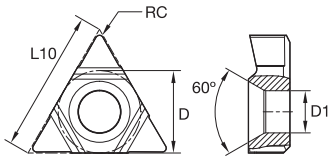
| Thread Application per Toolholder<br>min thread Ø | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/ UNEF/UNS | BSP (G) | Partial 55° | Trapez |
| KTMDUCD058L236Z1 | .600 | M18 x 2.5; M24 x 3.0 | M16 x 0.5; M16 x 0.75; M16 x 1.0; M17 x 1.25; M17 x 1.5; M17 x 2.0 | 3/4–10; 7/8–9; 1–8 | 5/8–32UN; 5/8–28UN; 5/8–27UNS; 11/16–28UNEF; 11/16–20UN; 11/16–16UN; 3/4–14UNS; 11/16–12UN | 1/2–14; 1–11 | 11/16–26; 11/16–20; 11/16–16; 11/16–14; 3/4–12; 7/8–11; 3/4–10; 7/8–9 | TR22 x 3; TR24 x3 |
| KTMDUCD068L256Z2 | .680 | M20 x 2.5; M22 x 2.5 | M21 x 2.0 | 7/8–9 | 7/8–10UNS; 13/16/12UN | – | – | – |
| KTMDUCD081L315Z2 | .810 | M24 x 3.0; M30 x 3.5 | M22 x 0.5; M22 x 0.75; M22 x 1.0; M23 x 1.25; M23 x 1.5; M23 x 2.0 | 1–8; 1 1/8–7; 1 3/8–6 | 7/8–32UN; 7/8–28UN; 7/8–27UNS; 7/8–24UNS; 7/8–20UNEF; 1–18UNS; 15–16UN; 1–14UNS; 15/16–12UN; 1–10UNS | 3/4–14; 1–11 | 1–26; 1–20; 1–16; 1–12 ; 1–10; 1 1/8–9; 1–8; 1 1/8–7 | (TR26–TR60) x 3 |

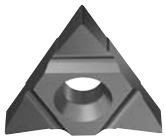


## Thread Mill • U Style • Steel Cylindrical Shank • 1/4" IC

| order number | catalog number | D1 | D | L | L3 | LF | LFA | Z | max RPM | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5593132 | KTMDUED091L300Z2 | .910 | .625 | 5.600 | 3.210 | 5.390 | .210 | 2 | 6340 | KTMDUSCREW1 | DT8 |
| 5593133 | KTMDUED102L415Z3 | 1.020 | .750 | 7.200 | 4.360 | 6.990 | .210 | 3 | 6000 | KTMDUSCREW1 | DT8 |
| 5593135 | KTMDUED122L452Z4 | 1.220 | 1.000 | 7.700 | 4.730 | 7.490 | .210 | 4 | 5500 | KTMDUSCREW1 | DT8 |

| Thread Application per Toolholder min thread Ø | | | | | | | |
|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/ UNEF/UNS | BSP (G) | Partial 55° |
| KTMDUED091L300Z2 | .910 | M27 x 3.0; M30 x 3.5; M36 x 4.0 | M24 x 0.5; M25 x 0.75; M25 x 1.0; M25 x 1.25 M26 x 1.5; M26 x 2.0; M27 x 2.5 | 1 1/8–7 | 1–32UN; 1–28UN; 1–27UN; 1–24UNS; 1–20UNEF; 1–18UNS; 1–16UN; 1–14UNS; 1 1/16–12UN; 1 1/8–10UNS; 1 1/8–8UN | 3/4–14; 1–11 | 1–26; 1–20; 1 1/8–16; 1 1/8–12; 1 1/8–9; 1 1/8–7 |
| KTMDUED102L415Z3 | 1.020 | M30 x 3.5; M36 x 4.0 | M27 x 0.5; M27 x 0.75; M28 x 1.0; M28 x 1.25; M28 x 1.5; M29 x 2.0; M30 x 2.5; M30 x 3.0 | 1 1/7–7; 1 3/8–6 | 1 1/8–28UN; 1 1/8–24UNS; 1 1/8–20UN; 1 1/8–18UNEF; 1 1/8–16UN; 1 1/8–14UNS; 1 1/8–16UN; 1 1/8–14UNS; 1 1/8–12UNF; 1 3/8–10UNS; 1 7/16–8UN | 3/4–14; 1–11 | 1 1/8–26; 1 1/8–20; 1 3/16–16; 1 3/16–12; 1 3/16–8; 1 1/4–7 |
| KTMDUED122L452Z4 | 1.220 | M36 x 4.0 | M32 x 0.5; M32 x 0.75; M33 x 1.0; M33 x 1.25; M33 x 1.5; M34 x 2.0; M34 x 2.5; M35 x 3.0; M36 x 3.5 | 1 1/2–6 | 1 5/16–28UN; 1 1/2–24UNS; 1 1/2–20UN; 1 1/2–18UNEF; 1 3/8–16UN: 1 3/8–14UNS; 1 3/8–12UNF; 1 3/8–10UNS; 1 7/16–8UN | 1 1/8–11 | 15/16–26; 15–16–20; 1 3/8–16; 1 3/8–12; 1 7/16–8 |



● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | | ● | ○ |
| M | | ○ | ● |
| K | | ● | |
| N | | ● | |
| S | | | ● |
| H | | ○ | ● |

## KTMD • 1/4" IC • Partial Profile 60°

| catalog number | Thread Pitch min | Thread Pitch max | TPI min | TPI max | D1 | D | L10 | RC | KC610M | KC635M |
|---|---|---|---|---|---|---|---|---|---|---|
| **KTMDU11L0515N60** | 1 | 2 | 16 | 48 | .128 | .250 | .433 | .002 | ● | ● |
| **KTMDU11L2025N60** | 2 | 3 | 9 | 12 | .103 | .250 | .433 | .004 | ● | ● |
| **KTMDU11L1520N60** | 2 | 2 | 12 | 16 | .128 | .250 | .433 | .002 | ● | ● |
| **KTMDU11L2540N60** | 3 | 4 | 6 | 10 | .128 | .250 | .433 | .006 | ● | ● |
| **KTMDU11L2525N60** | 3 | 3 | 10 | 10 | .082 | .250 | .433 | .004 | ● | ● |

NOTE: KTMDU11L2525N60 can only be used with holder KTMDUCD17L065Z2.

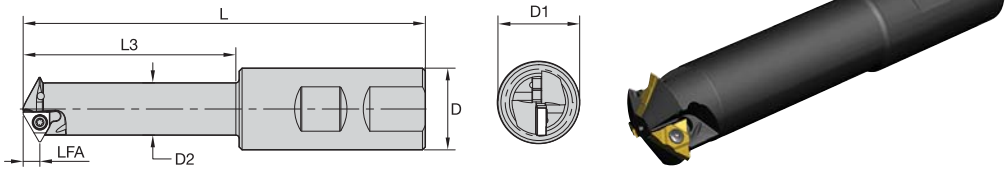
## KTMD • 1/4" IC • Partial Profile 55°

| catalog number | TPI min | TPI max | D1 | D | L10 | RC | KC610M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **KTMDU11L1107N55** | 7 | 11 | .128 | .250 | .433 | .009 | ● | ● |
| **KTMDU11L1612N55** | 12 | 16 | .128 | .250 | .433 | .003 | ● | ● |
| **KTMDU11L4816N55** | 16 | 48 | .128 | .250 | .433 | .004 | ● | ● |

## KTMD • 1/4" IC

| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

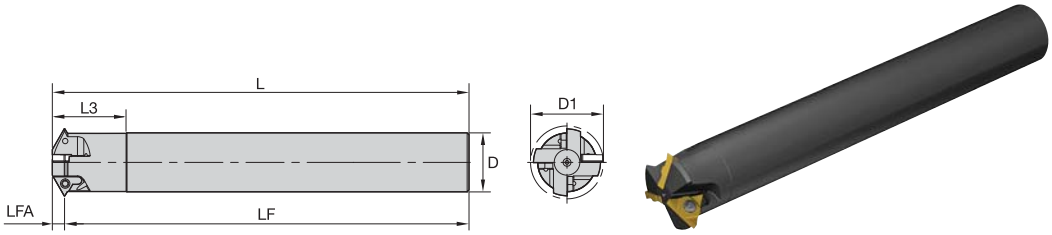
NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.




## Thread Mill • U Style • Weldon® Shank • 3/8" IC

| order number | catalog number | D1 | D | D2 | L | L3 | LFA | Z | max RPM | insert screw | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5593109** | **KTMDUWD144L374Z3** | 1.440 | 1.250 | 1.140 | 6.450 | 4.060 | .320 | 3 | 3680 | **KTMDUSCREW2** | **DT3IP** |
| **5593121** | **KTMDUWD165L472Z4** | 1.660 | 1.500 | 1.350 | 7.820 | 5.040 | .320 | 4 | 3430 | **KTMDUSCREW2** | **DT3IP** |

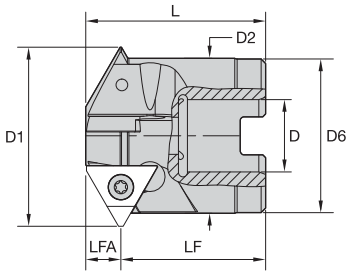
| | | Thread Application per Toolholder min thread Ø | | | | | |
|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/ UNEF/UNS | BSP(G) | Partial 55° |
| **KTMDUWD144L374Z3** | 1.440 | M42 x 4.5; M48 x 5.0; M56 x 5.5; M64 x 6.0 | M39 x 1.5; M39 x 2.0; M40 x 2.5; M41 x 3.0; M42 x 3.5; M42 x 4.0 | 1 3/4–5; 2–4.5; 2 1/2–4 | 1 9/16UN; 1 5/8UNS; 1 9/16–12UN; 1 5/8–10UNS; 1 5/8–8UN; 1 5/8–6UN | 1 1/4–11 | 1 5/8–16; 1 5/8–12; 1 5/8–8; 2 1/4–6; 1 3/4–5 |
| **KTMDUWD165L472Z4** | 1.660 | M48 x 5.0; M56 x 5.5; M64 x 6.0 | M45 x 1.5; M45 x 2.0; M46 x 2.5; M48 x 3.0; M48 x 3.5; M48x4.0 | 2–4.5; 2 1/2–4 | 1 3/4–16UN; 1 3/4–14UNS; 1 13/16–12UN; 1 13/16–8UN; 1 15/16–6UN | 1 1/2–11 | 1 7/8–16; 1 7/8–12; 1 7/8–8; 1 7/8–6; 2–4.5 |

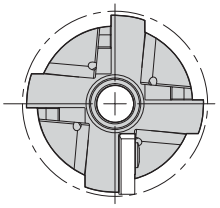



## Thread Mill • U Style • Steel Cylindrical Shank • 3/8" IC

| order number | catalog number | D1 | D | L | L3 | LF | LFA | Z | max RPM | insert screw | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5593134** | **KTMDUED144L512Z3** | 1.440 | 1.000 | 8.350 | 5.430 | 8.040 | .310 | 3 | 3680 | **KTMDUSCREW2** | **DT3IP** |

| | | Thread Application per Toolholder min thread Ø | | | | |
|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/ UNEF/UNS | BSP(G) | Partial 55° |
| **KTMDUED144L512Z3** | 1.4400 | M42.5 x 4.5; M48 x 5.0; M56 x 5.5; M64 x 6.0 | M39 x 1.5; M40 x 2.5; M41 x 3.0; M42 x 3.5; M42 x 4.0 | 1 3/4–5; 2–4.5; 2 1/2–4 | 1 9/16–16UN; 1 5/8–14UNS; 1 9/16–12UN; 1 5/8–10UNS; 1 5/8–8UN; 1 5/8–6UN | 1 1/4–11 | 1 5/8–16; 1 5/8–12; 1 5/8–8; 2 1/4–6; 1 3/4–5 |

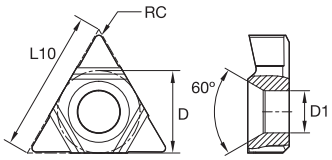


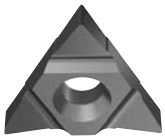



## Thread Mill • U Style • Shell Mill • 3/8" IC

| order number | catalog number | D1 | D | D2 | D6 | L | LF | LFA | Z | max RPM | insert screw | Torx Plus driver |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5593139 | KTMDUSD169L158Z4 | 1.653 | .500 | 1.350 | 1.339 | 1.580 | 1.268 | .310 | 4 | 3430 | KTMDUSCREW2 | DT3IP |
| 5593140 | KTMDUSD209L158Z5 | 2.046 | .750 | 1.756 | 1.740 | 1.580 | 1.268 | .299 | 5 | 3210 | KTMDUSCREW2 | DT3IP |

| Thread Application per Toolholder min thread Ø | | | | | | | |
|---|---|---|---|---|---|---|---|
| toolholder | D1 | ISO (coarse) | ISO (fine) | UNC | UN/UNF/ UNEF/UNS | BSP (G) | Partial 55° |
| KTMDUSD169L158Z4 | 1.6530 | M56 x 5.5; M64 x 6.0 | M45 x 1.5; M48 x 2.0; M48 x 3.0; M48 x 4.0 | 2–4.5; 2 1/2–4 | 1 13/16–16UN; 1 7/8–14UNS; 1 13/16–12UN; 1 7/8–10UNS; 1 7/8–8UN; 1 15/16–6UN | 1 1/2–11 | 1 7/8–16; 1 7/8–12; 1 7/8–8; 2 1/8–6; 2–4.5; 2 1/4–4 |
| KTMDUSD209L158Z5 | 2.0460 | M64 x 6.0 | M55 x 1.5; M56 x 2.0; M58 x 3.0; M58 x 4.0 | 2 1/2–4 | 2 1/4–16UN; 2 1/4–14UNS; 3 1/4–12UN; 2 1/4–10UNS; 2 1/4–8UN; 2 3/8–6UN | 2–11 | 2 1/4–16; 2 1/4–12; 3/8–8; 2 3/8–6; 3–5; 3 1/2–4.5 |



● first choice
○ alternate choice

| | | | |
|---|---|---|---|
| P | | ● | ○ |
| M | | ○ | ● |
| K | | ● | |
| N | | ● | |
| S | | | ● |
| H | | ○ | ● |

## KTMD • 3/8" IC • Partial Profile 60°

| catalog number | Thread Pitch min | Thread Pitch max | TPI min | TPI max | D1 | D | L10 | RC | KC610M | KC635M |
|---|---|---|---|---|---|---|---|---|---|---|
| **KTMDU16L1520N60** | 2 | 2 | 12 | 16 | .152 | .375 | .630 | .002 | ● | ● |
| **KTMDU16L2535N60** | 3 | 4 | 7 | 10 | .152 | .375 | .630 | .006 | ● | ● |
| **KTMDU16L4060N60** | 4 | 6 | 4 | 6 | .152 | .375 | .630 | .010 | ● | ● |

## KTMD • 3/8" IC • Partial Profile 55°

| catalog number | TPI min | TPI max | D1 | D | L10 | RC | KC610M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **KTMDU16L0604N55** | 5 | 6 | .152 | .375 | .630 | .011 | ● | ● |
| **KTMDU16L1107N55** | 7 | 11 | .152 | .375 | .630 | .009 | ● | ● |
| **KTMDU16L1612N55** | 12 | 16 | .152 | .375 | .630 | .003 | ● | – |

## KTMD • 3/8" IC

| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.

# TMS Series

## Primary Application

The TMS series, a Kennametal Thread Milling System, is a versatile thread milling product with proven solutions. This tool is specially designed for internal and external threading on most types of workpiece materials. The cutter body utilizes inserts with various profiles and pitches.

## Features and Benefits

Proven solution and versatile indexable thread milling product family.

### Comprehensive Offering of Cutter Bodies

- Standard Weldon®, Mini Weldon, long-thread Weldon, conical shank, and double-sided Weldon cutters are available.
- One tool is used for both right- and left-hand threads.
- All cutters have through coolant capability.

### Double-Sided Weldon Cutter Bodies

- Provides faster machining capabilities.
- Good surface finish.

### Inserts:

- Insert grades for most workpiece materials.
- Inserts for ISO, UN, BSPT, and NPT thread profiles.
- Indexable inserts.
- Economical and cost effective.
- Versatile application.

## Internal Threads • Insert and Holder Recommendations

| thread | tap hole fl (in) | indexable insert | largest milling cutter |
|---|---|---|---|
| M11 x 0,75 | .401 | STN10075ISO-I | 9X1R .. STN10M |
| M12 | .398 | STN10175ISO-I-C | 9X1R015B20-STN10C |
| M12 x 1,00 | .430 | STN10100ISO-I | 9X1R .. STN10M |
| M14 | .466 | STN11200ISO-I-C | 11X1R .. STN11N |
| M16 | .545 | STN11200ISO-I-C | 11X1R .. STN11N |
| M20 | .681 | STN16250ISO-I-C | 15X1R020B16-STN16C |
| M20 x 1,50 | .724 | STN11150ISO-I | 11X1R .. STN11N |
| M20 x 1,00 | .745 | STN11100ISO-I | 11X1R .. STN11N |
| M24 | .817 | STN22300ISO-I-C | 18X1R030B25-STN22C |
| M24 x 2,00 | .860 | STN16200ISO-I | 17X1R022B16-STN16N |
| M24 x 1,50 | .881 | STN11150ISO-I | 11X1R .. STN11N |
| M24 x 1,50 | .881 | STN16150ISO-I | 17X1R022B16-STN16N |
| M27 | .935 | STN22300ISO-I-C | 18X1R030B25-STN22C |
| M30 | 1.032 | STN27350ISO-I-C | 25X1R040B25-STN27C |
| M30 x 2,00 | 1.096 | STN16200ISO-I | 22X1R025B25-STN16L |
| M33 | 1.150 | STN27350ISO-I-C | 25X1R040B25-STN27C |
| M33 x 2,00 | 1.214 | STN16200ISO-I | 22X1R025B25-STN16L |
| M33 x 1,50 | 1.254 | STN16150ISO-I | 22X1R025B25-STN16L |
| M35 x 1,50 | 1.314 | STN16150ISO-I | 22X1R025B25-STN16L |
| M36 x 2,00 | 1.332 | STN16200ISO-I | 22X1R025B25-STN16L |
| M42 x 2,00 | 1.569 | STN27200ISO-I | 30X1R052B25-STN27N |
| M45 x 2,00 | 1.687 | STN27200ISO-I | 37X1R .. STN27N or L |
| M48 x 2,00 | 1.805 | STN27200ISO-I | 37X1R058B32-STN27N or L |
| M55 x 2,00 | 2.080 | STN27200ISO-I | 37X1R .. STN27N or L |
| M56 x 2,00 | 2.120 | STN27200ISO-I | 37X1R .. STN27N or L |
| M72 x 2,00 | 2.750 | STN27200ISO-I | 37X1R .. STN27N or L |



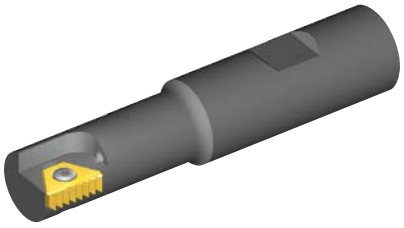
## Internal Threads • Insert and Holder Recommendations

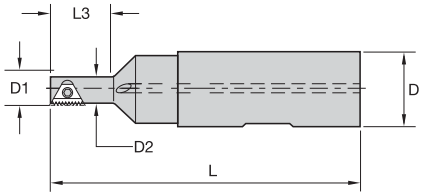
| thread | tap hole fl (in) | indexable insert | largest milling cutter |
|---|---|---|---|
| 9/16 - 18UNF | .502 | STN1018UN-I | 9X1R .. STN10M |
| 5/8 - 24UNEF | .580 | STN1124UN-I | 11X1R .. STN11N |
| 5/8 - 18UNF | .565 | STN1118UN-I | 11X1R .. STN11N |
| 3/4 - 20UNEF | .696 | STN1120UN-I | 11X1R .. STN11N |
| 3/4 - 16UNF | .682 | STN1116UN-I | 11X1R .. STN11N |
| 7/8 - 14UNF | .798 | STN1114UN-I | 11X1R .. STN11N |
| 1 - 16UN | .932 | STN1616UN-I | 18X1R030B25-STN22C |
| 1 - 12UNF | .910 | STN1612UN-I | 17X1R .. STN16N |
| 1 1/8 - 12UNF | 1.035 | STN1612UN-I | 22X1R .. STN16L |
| 1 1/4 - 12UNF | 1.160 | STN1612UN-I | 22X1R .. STN16L |
| 1 3/8 - 12UNF | 1.285 | STN1612UN-I | 22X1R .. STN16L |

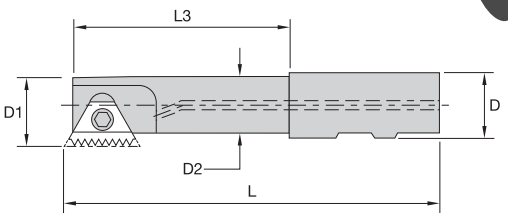
## Whitworth Pipe Thread (Internal) to DIN 259

| thread | tap hole fl (in) | indexable insert | largest milling cutter |
|---|---|---|---|
| R 5/8 | .811 | STN1614BSW | 17X1R022B16-STN16N |
| R 3/4 | .950 | STN1614BSW | 20X1R043B20-STN16N |
| R 7/8 | 1.098 | STN1614BSW | 22X1R025B25-STN16L |
| R 1 | 1.271 | STN1611BSW | 22X1R025B25-STN16L |

- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.






## Thread Mill • Mini

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1132616 | 9X1R012B12STN10M | .354 | .472 | .268 | 2.717 | .472 | 1 | 39935 | STN10 | SN7T | DT7 |
| 1191395 | 9X1R017B20STN10M | .354 | .787 | .280 | 3.307 | .669 | 1 | 39935 | STN10 | SN7T | DT7 |

## Thread Mill • Normal Shank • STN11

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1294964 | 11X1R012B12STN11N | .453 | .472 | .350 | 2.756 | .472 | 1 | 36825 | STN11 | SN2TPKG | DT8 |
| 1130302 | 11X1R020B20STN11N | .453 | .787 | .350 | 3.347 | .787 | 1 | 36825 | STN11 | SN2TPKG | DT8 |

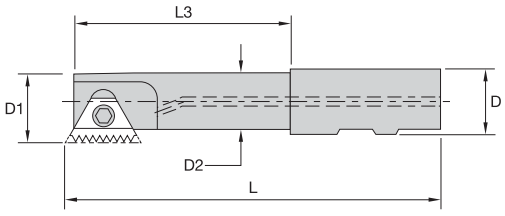
## Thread Mills • Normal Shank • STN16

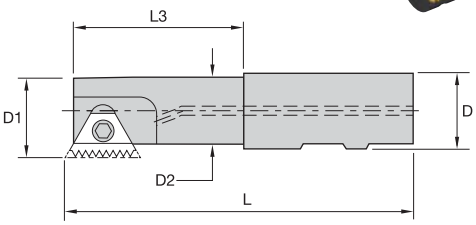
| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1130686 | 17X1R022B16STN16N | .669 | .630 | .535 | 3.543 | .866 | 1 | 25750 | STN16 | SN3TM | DT10 |
| 1130740 | 20X1R043B20STN16N | .787 | .787 | .654 | 3.740 | 1.693 | 1 | 23330 | STN16 | SN3TPKG | DT10 |

## Thread Mills • Normal Shank • STN27

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1130969 | 30X1R052B25STN27N | 1.181 | .984 | .945 | 4.331 | 2.047 | 1 | 12900 | STN27 | SN5TM | TT25 |
| 1131069 | 37X1R058B32STN27N | 1.457 | 1.260 | 1.063 | 4.724 | 2.283 | 1 | 11600 | STN27 | SN5TM | TT25 |

- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.




## Thread Mills • Normal Shank • STN.38

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1178986 | 35X1R055B32STNB38N | 1.378 | 1.260 | 1.221 | 4.528 | 2.165 | 1 | 11000 | STNB38 | SM7TPKG | TT30 |

## Thread Mill • Long Shank • STN16

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1130837 | 22X1R025B25STN16L | .866 | .984 | .732 | 4.921 | .984 | 1 | 22230 | STN16 | SN3TPKG | DT10 |

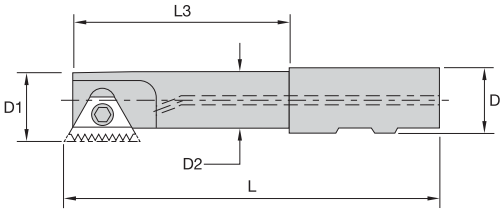
## Thread Mill • Long Shank • STN27

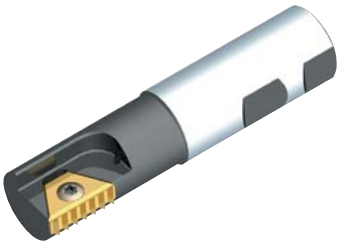
| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1130977 | 30X1R092B25STN27L | 1.181 | .984 | .945 | 5.906 | 3.622 | 1 | 12900 | STN27 | SN5TM | TT25 |
| 1131086 | 37X1R098B32STN27L | 1.457 | 1.260 | 1.221 | 6.299 | 3.858 | 1 | 11600 | STN27 | SN5TM | TT25 |

## Thread Mill • Long Shank • STN38

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 | insert screw | Torx wrench |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1566071 | 46X1R100B40STNB38L | 1.811 | 1.575 | 1.496 | 6.693 | 3.937 | 1 | 10000 | STNB38 | SM7TPKG | TT30 |

- Thread milling system.



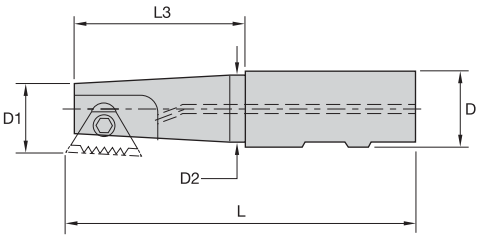



## Thread Mill • Internal Coarse Pitch Thread

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|
| **1176964** | **15X1R020B16STN16C** | .610 | .630 | .480 | 3.583 | – | 1 | 26550 | STN16___C |
| **1176967** | **25X1R040B25STN27C** | .984 | .984 | .748 | 3.858 | 1.575 | 1 | 22000 | STN27___C |

## Spare Parts

| D1 | insert screw | Nm | Torx driver | Torx wrench |
|---|---|---|---|---|
| .610 | **SN3TPKG** | 2,3 | **DT10** | – |
| .984 | **SN5TM** | 5,0 | – | **TT25** |



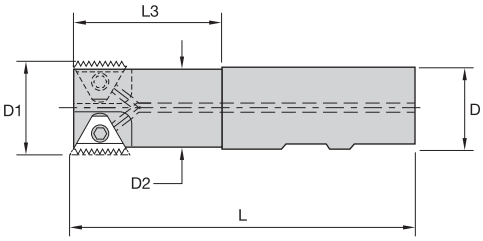
## Thread Mill • Tapered Shank • Right Hand

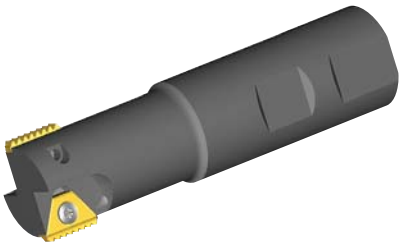
| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|
| **1176970** | **10X1R015B20STN11T** | .390 | .787 | .291 | 3.032 | .610 | 1 | 36500 | STN11 |
| **1132781** | **15X1R022B16STN16T** | .610 | .630 | .492 | 3.150 | .866 | 1 | 26550 | STN16 |
| **1135826** | **19X1R023B20STN16T** | .748 | .787 | .591 | 3.347 | .906 | 1 | 24350 | STN16 |

## Spare Parts

| D1 | insert screw | Nm | Torx driver |
|---|---|---|---|
| .390 | **SN2TPKG** | 1,7 | **DT8** |
| .610 | **SN3TPKG** | 2,3 | **DT10** |
| .748 | **SN3TM** | 2,3 | **DT10** |

- Cutting diameter ranges from .670–1.654".
- For internal and external threading on most types of workpiece materials.
- One tool is used for both right- and left-hand threads.
- All cutters have through-coolant capability.
- Utilizes inserts with various profiles and pitches.



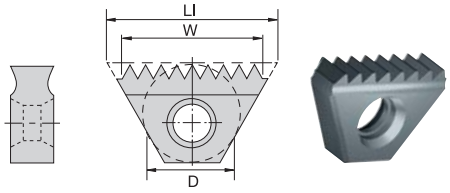



## Thread Mill • Double Insert

| order number | catalog number | D1 | D | D2 | L | L3 | Z | max RPM | insert 1 |
|---|---|---|---|---|---|---|---|---|---|
| **1280494** | **K067TM2RW075STN11D** | .670 | .750 | .537 | 3.420 | 1.340 | 2 | 30275 | STN11 |
| **1124019** | **26X2R043B25STN16D** | 1.024 | .984 | .886 | 3.937 | 1.693 | 2 | 20530 | STN16 |
| **1280517** | **K102TM2RW100STN16D** | 1.024 | 1.000 | .891 | 4.020 | 1.690 | 2 | 20530 | STN16 |
| **1131118** | **42X2R045B32STN27D** | 1.654 | 1.260 | 1.417 | 4.724 | 1.772 | 2 | 10900 | STN27 |
| **1280598** | **K165TM2RW125STN27D** | 1.654 | 1.250 | 1.417 | 4.650 | 1.770 | 2 | 10900 | STN27 |

## Spare Parts

| D1 | insert screw | Nm | Torx driver | Torx wrench |
|---|---|---|---|---|
| .670 | **SN2TPKG** | 2,0 | **DT8** | **–** |
| 1.024 | **SN3TPKG** | 2,3 | **DT10** | **–** |
| 1.654 | **SN5TM** | 5,0 | **–** | **TT25** |




● first choice
○ alternate choice

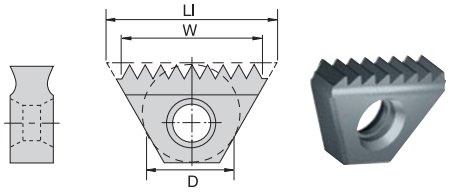
| | | KC610M | KC620M | KC635M |
|---|---|---|---|---|
| P | | ● | ○ | ○ |
| M | | ○ | ● | ● |
| K | | ● | | |
| N | | ● | | |
| S | | | ● | ● |
| H | | | ● | ● |

## Internal • UN Thread • Unified Thread Standard Style

| catalog number | TPI | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN1612UNI** | 12 | .375 | .630 | .580 | 7 | – | – | ● |
| **STN1114UNI** | 14 | .250 | .430 | .360 | 5 | – | – | ● |
| **STN1614UNI** | 14 | .375 | .630 | .570 | 8 | – | – | ● |
| **STN1116UNI** | 16 | .250 | .430 | .380 | 6 | – | – | ● |
| **STN1616UNI** | 16 | .375 | .630 | .560 | 9 | ● | – | – |
| **STN1018UNI** | 18 | .236 | .410 | .330 | 6 | – | – | ● |
| **STN1118UNI** | 18 | .250 | .430 | .390 | 7 | – | – | ● |
| **STN1120UNI** | 20 | .250 | .430 | .400 | 8 | – | – | ● |
| **STN1020UNI** | 20 | .236 | .410 | .350 | 7 | – | – | ● |
| **STN1124UNI** | 24 | .250 | .430 | .380 | 9 | – | – | ● |
| **STN1624UNI** | 24 | .375 | .630 | .580 | 14 | – | – | ● |
| **STN1627UNI** | 27 | .375 | .630 | .560 | 15 | – | – | ● |
| **STN1632UNI** | 32 | .375 | .630 | .590 | 9 | – | – | ● |

## External • UN Thread • Unified Thread Standard Style

| catalog number | TPI | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN1118UNE** | 18 | 1/4 | .430 | .390 | 7 | – | – | ● |
| **STN1614UNE** | 14 | 3/8 | .630 | .570 | 8 | – | – | ● |
| **STN1616UNE** | 16 | 3/8 | .630 | .560 | 9 | – | – | ● |
| **STN1620UNE** | 20 | 3/8 | .630 | .550 | 11 | – | – | ● |
| **STN1624UNE** | 24 | 3/8 | .630 | .580 | 14 | – | – | ● |




● first choice
○ alternate choice

| | | | | |
|---|---|---|---|---|
| P | | ● | ○ | ○ |
| M | | ○ | ● | ● |
| K | | ● | | |
| N | | ● | | |
| S | | | ● | ● |
| H | | | ● | ● |

## Internal • ISO Thread • ISO Metric Screw Thread Style

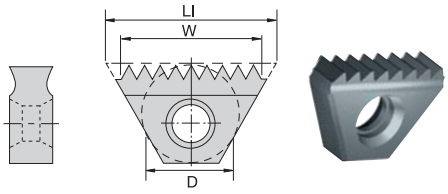
| catalog number | thread pitch mm | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN10075ISOI** | 0,750 | .236 | .410 | .380 | 13 | – | – | ● |
| **STN10100ISOI** | 1,000 | .236 | .410 | .350 | 9 | – | ● | ● |
| **STN10125ISOI** | 1,250 | .236 | .410 | .340 | 7 | – | – | ● |
| **STN10150ISOI** | 1,500 | .236 | .410 | .350 | 6 | – | – | ● |
| **STN11100ISOI** | 1,000 | .250 | .430 | .390 | 10 | – | – | ● |
| **STN11150ISOI** | 1,500 | .250 | .430 | .410 | 7 | – | – | ● |
| **STN16100ISOI** | 1,000 | .375 | .630 | .590 | 15 | – | – | ● |
| **STN16150ISOI** | 1,500 | .375 | .630 | .590 | 10 | – | – | ● |
| **STN16175ISOI** | 1,750 | .375 | .630 | .550 | 8 | – | – | ● |
| **STN16200ISOI** | 2,000 | .375 | .630 | .550 | 7 | – | – | ● |

## External • ISO Thread • ISO Metric Screw Thread Style • Coarse

| catalog number | thread pitch mm | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN22300ISOIC** | 3,000 | .500 | .870 | .700 | 6 | ● | – | – |
| **STN27350ISOIC** | 3,500 | .625 | 1.060 | .960 | 7 | ● | – | – |

## External • ISO Thread • ISO Metric Screw Thread Style

| catalog number | thread pitch mm | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN16150ISOE** | 1,500 | .375 | .630 | .590 | 10 | ● | ● | – |
| **STN27200ISOE** | 2,000 | .625 | 1.060 | .940 | 12 | ● | – | – |




● first choice
○ alternate choice

| | | KC610M | KC620M | KC635M |
|---|---|---|---|---|
| P | | ● | ○ | ○ |
| M | | ○ | ● | ● |
| K | | ● | | |
| N | | ● | | |
| S | | | ● | ● |
| H | | | ● | ● |

## BSW Thread • British Standard Whitworth Thread Style

| catalog number | TPI | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN1119BSW** | 19 | 1/4 | .430 | .370 | 7 | – | – | ● |
| **STN1614BSW** | 14 | 3/8 | .630 | .570 | 8 | ● | – | ● |
| **STN1612BSW** | 12 | 3/8 | .630 | .580 | 7 | – | – | ● |
| **STN1611BSW** | 11 | 3/8 | .630 | .550 | 6 | ● | – | ● |
| **STN2711BSW** | 11 | 5/8 | 1.060 | .910 | 10 | – | – | ● |

## NPS Thread • Nominal Pipe Size Style

| catalog number | TPI | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN16115NPS** | 11.5 | .375 | .630 | .520 | 6 | – | – | ● |
| **STN1614NPS** | 14 | .375 | .630 | .570 | 8 | – | – | ● |

## NPT Thread • National Pipe Thread Taper Style

| catalog number | TPI | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN1118NPT** | 18 | .250 | .430 | .390 | 7 | – | – | ● |
| **STN16115NPT** | 11.5 | .375 | .630 | .520 | 6 | – | – | ● |
| **STN1614NPT** | 14 | .375 | .630 | .570 | 8 | – | – | ● |

## NPTF Thread • ISO Metric Screw Thread Style

| catalog number | TPI | D | LI | W | number of teeth | KC610M | KC620M | KC635M |
|---|---|---|---|---|---|---|---|---|
| **STN1118NPTF** | 18 | .250 | .430 | .390 | 7 | – | – | ● |
| **STN16115NPTF** | 11.5 | .375 | .630 | .520 | 6 | – | – | ● |
| **STN1614NPTF** | 14 | .375 | .630 | .570 | 8 | – | – | ● |

NOTE: NPTF = Dry Seal
NPT and NPTF inserts possess right- and left-hand edges.
Must order left-hand bar for left-hand inserts.

## STN Series

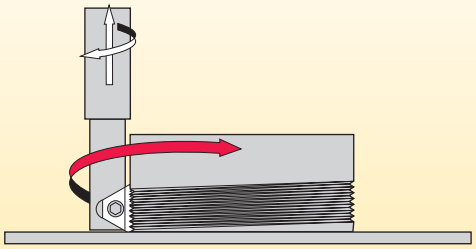
| materials | Brinell | surface speeds | | indexable inserts |
|---|---|---|---|---|
| steel | HB | KC610M | KC635M | feed fz (IPT) |
| P1 | 125 | 325–675 | 290–590 | .002–.008 |
| P2 | 180 | 290–550 | 290–520 | .002–.008 |
| P3 | 225 | 200–425 | 225–375 | .002–.008 |
| P4 | 250 | 250–490 | 250–500 | .002–.008 |
| P5 | 275 | 250–425 | 250–500 | .002–.006 |
| P6 | 325 | 225–350 | 200–325 | .002–.004 |
| stainless steel | | | | |
| M1 | 180 | 325–550 | 375–590 | .002–.004 |
| M2 | 250 | 225–450 | 325–450 | .002–.004 |
| M3 | 330 | 225–375 | 325–375 | .002–.004 |
| cast iron | | | | |
| K1 | 180 | 200–425 | 325–450 | .001–.003 |
| K2 | 220 | 200–390 | 250–325 | .002–.006 |
| K3 | 260 | 160–290 | 200–275 | .002–.004 |
| non-ferrous | | | | |
| N1 | 60–100 | 325–820 | – | .002–.010 |
| high-temp alloys | | | | |
| S1 | 200 | 65–140 | 65–130 | .002–.004 |
| S2 | 250 | 65–90 | 65–90 | .001–.002 |
| S3 | 280 | 50–65 | 50–65 | .001–.002 |
| S4 | 350 | 30–50 | 30–50 | .001–.002 |
| hardened steel | | | | |
| H1 | 55HRc | 65–140 | 65–140 | .0004–.001 |

NOTE: Use Kennametal thread mill software:
TM-CNC Generator for CNC Programming on our website under: **http://www.kennametal.com/en/resources/software.html**.

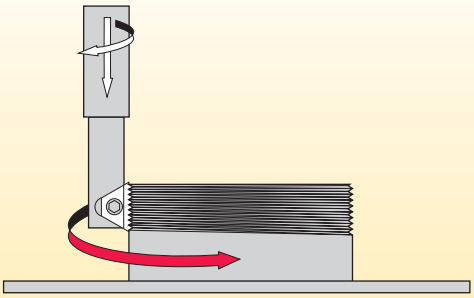
## The Following Are a Few Thread Milling Methods (Work Directions)

NOTE: Climb milling results in lower cutting forces, better chip development, higher thread surface quality, and longer insert life. Therefore, it should be used whenever possible. But, in the case of some hardened materials or when milling certain difficult-to-machine exotic materials, conventional milling may be preferred.

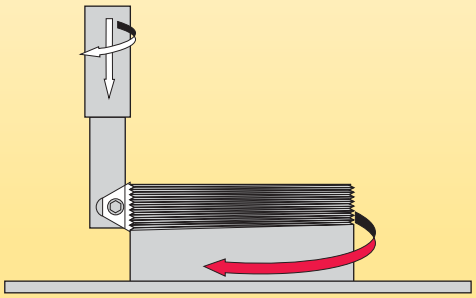
### Methods of External Thread Milling



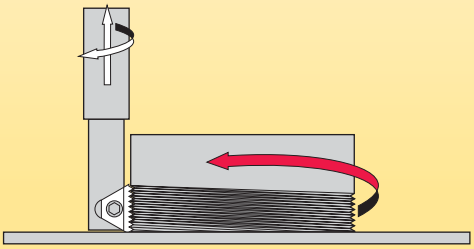
right-hand thread... conventional milling



left-hand thread... conventional milling

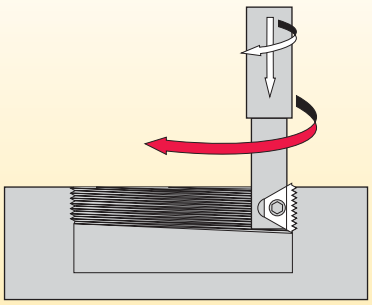


right-hand thread... climb milling

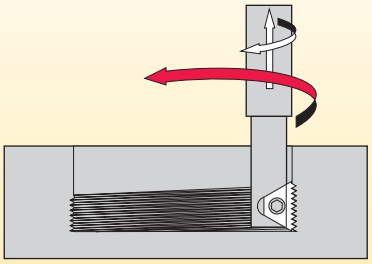


left-hand thread... climb milling

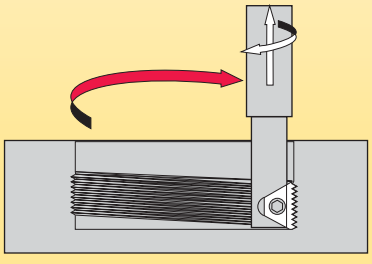
### Methods of Internal Thread Milling



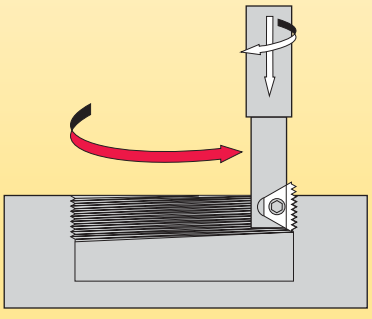
right-hand thread... conventional milling



left-hand thread... conventional milling



right-hand thread... climb milling



left-hand thread... climb milling

## Application Guidelines

- All thread milling inserts are full profile or cresting type.
- Inserts are designed to mill full thread depth in one revolution or pass.
- When machining difficult materials, two passes may be desired. A 60% thread depth on the first pass and a 40% thread depth on the second pass is recommended.
- Thread relief grooves in blind holes are not necessary.
- Thread milling large parts requires considerably less horsepower compared to other threading methods.
- Thread milling produces short chips compared to stringy chips of other threading methods.
- One holder is suitable for many different thread pitches.
- PVD-coated inserts provide maximum tool life for a wide variety of materials.

## Minimum Bore Diameters

UN-ISO-BSW

| cutter | TPI | 48 | 32 | 24 | 20 | 16 | 12 | 10 | 8 | 7 | 6 | 5.5 | 5 | 4.5 | 4.5 | 4 | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pitch mm | 0,5 | 0,75 | 1,0 | 1,25 | 1,5 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | – | 6,0 | – |
| | cutter diameter (D1) | minimum bore diameter (D) (inches) | | | | | | | | | | | | | | | |
| K035TM1RW050-STN10 | .35 | .374 | .394 | .421 | .449 | | | | | | | | | | | | |
| K045TM1RW050-STN11N | .45 | .472 | .492 | .520 | .547 | .571 | | | | | | | | | | | |
| K049TM1RW037LT11S | .49 | .512 | .531 | .559 | .587 | .610 | | | | | | | | | | | |
| K061TM1RW062-STN16T | .61 | .630 | .650 | .667 | .705 | .728 | .768 | | | | | | | | | | |
| K067TM2RW075-STN11D | .67 | .693 | .717 | .748 | .772 | .787 | .827 | | | | | | | | | | |
| K075TM1RW075-STN16T | .75 | .776 | .803 | .827 | .850 | .866 | .906 | | | | | | | | | | |
| K079TM1RW075-STN16N | .79 | .815 | .843 | .866 | .890 | .906 | .945 | | | | | | | | | | |
| K087TM1RW100-STN16L | .87 | .893 | .921 | .945 | .969 | .984 | 1.024 | | | | | | | | | | |
| K102TM2RW100-STN16D | 1.02 | 1.051 | 1.079 | 1.102 | 1.130 | 1.154 | 1.193 | | | | | | | | | | |
| K118TM1RW100-STN27N | 1.18 | 1.209 | 1.236 | 1.260 | 1.291 | 1.319 | 1.362 | 1.441 | 1.535 | 1.654 | 1.772 | 1.890 | | | | | |
| K146TM1RW125-STN27N | 1.46 | 1.496 | 1.520 | 1.555 | 1.591 | 1.614 | 1.654 | 1.732 | 1.830 | 1.929 | 2.047 | 2.185 | | | | | |
| K165TM2RW125-STN27D | 1.65 | 1.701 | 1.724 | 1.772 | 1.811 | 1.831 | 1.866 | 1.929 | 2.047 | 2.146 | 2.268 | 2.401 | | | | | |
| – | 1.38 (UN) | – | – | – | – | – | – | – | – | – | 1.969 | – | 1.843 | – | 1.756 | – | 2.228 |
| – | 1.38 (ISO) | – | – | – | – | – | – | – | – | – | 1.969 | 2.102 | 1.673 | 1.969 | – | 2.264 | – |
| – | 1.38 (BSW) | – | – | – | – | – | – | – | – | – | 1.961 | – | 1.831 | – | 1.866 | – | – |

## Cutting Data Recommendation

| workpiece material | Cutting Speed — vc SFM | feed rate per revolution (inch) |
|---|---|---|
| | KC635M | |
| carbon steels <187 HB | 300–700 | .004–.008 |
| carbon steels 187–220 HB | 300–500 | .004–.006 |
| alloy steel 200–250 HB | 200–425 | .004–.006 |
| alloy steel 250–325 HB | 150–300 | .004–.006 |
| stainless steel, austenitic <210 HB | 300–450 | .004–.006 |
| stainless steel, martensitic <321 HB | 250–350 | .002–.006 |
| stainless steel, ferritic <245 HB | 350–550 | .002–.004 |
| cast steel <140 HB | 350–550 | .002–.006 |
| cast steel 220–302 HB | 225–425 | .002–.004 |
| titanium alloys | 200–400 | .001–.003 |
| high-temperature (nickel and iron base) | 75–150 | .001–.002 |
| high-temperature (cobalt base) | 50–100 | .001–.002 |
| cast iron | 250–350 | .002–.006 |
| malleable iron | 250–400 | .001–.003 |

NOTE: Applications in this area may be machined with special inserts and cutter bodies. Quoted on request.

## Understanding Thread Milling

In order to perform a thread milling operation, a milling machine with three-axis control, capable of helical interpolation, is required. Helical interpolation is a CNC function producing tool movement along a helical path. This helical travel combines circular movement in one plane with a simultaneous linear motion in a plane perpendicular to the first. For example, the path from point A to point B (figure A) on the envelope of the cylinder combines a circular movement in the X and Y plane with a linear movement in the Z direction.

On most CNC systems, this function can be executed in two different ways:

- G02: helical interpolation in a clockwise direction
- G03: helical interpolation in a counterclockwise direction

The thread milling operation (figure B) consists of circular rotation of the tool about its own axis together with an orbiting motion along the bore or workpiece circumference.

During one such orbit, the tool will move vertically one pitch length. These movements, combined with the insert geometry, create the required thread form.

There are two acceptable ways of approaching the workpiece with the tool to initiate production of the thread:

1. Along a tangential arc.
2. Along a tangential straight line.

NOTE: Climb milling is preferred.

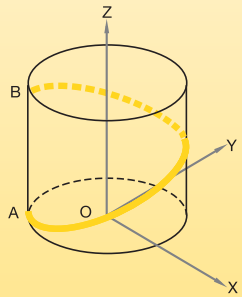
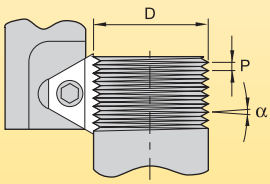



figure A




α - helix angle
D - external diameter
P - pitch

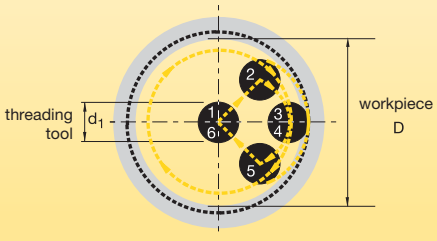
figure B

## Tangential Approach (Arc)

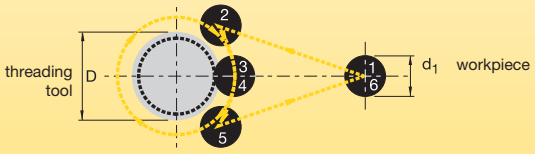
With this method, the tool enters and exits the workpiece smoothly. No marks are left on the workpiece and there is no vibration, even with harder materials.

Although it requires slightly more complex programming, this is the method recommended for machining the highest quality threads.

| | |
|---|---|
| **1–2:** | rapid approach |
| **2–3:** | tool entry along tangential arc with simultaneous feed along Z-axis |
| **3–4:** | helical movement during one full orbit (360°) |
| **4–5:** | tool exit along tangential arc with continuing feed along the Z-axis |
| **5–6:** | rapid return |



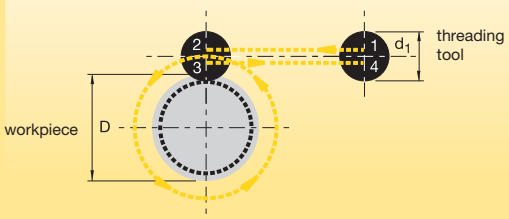

internal left-hand thread




external thread

## Tangential Approach (Line)

This method is very simple and has all of the advantages of the tangential arc method. However, it is applicable only to external threads.




| | |
|---|---|
| **1–2:** | radial entry with simultaneous feed along the Z-axis |
| **2–3:** | helical movement during one full orbit (360°) |
| **3–4:** | radial exit |

## Radial Approach

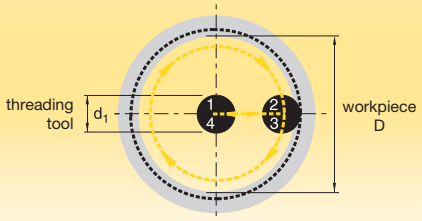
This radial approach is often considered the simplest. There are two characteristics worth noting about the radial approach:

a. A small vertical mark may be left at the entry (and exit) point. This is of no significance to the thread itself.

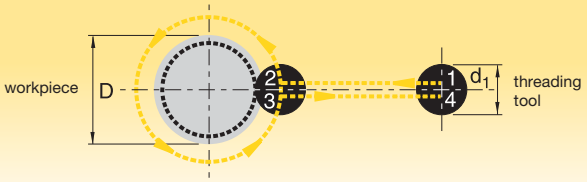
b. When using this method with very hard materials, there may be a tendency for the tool to vibrate as it approaches the full cutting depth.

| | |
|---|---|
| **1–2:** | radial entry |
| **2–3:** | helical movement during one full orbit (360°) |
| **3–4:** | radial exit |

NOTE: Radial feed during entry to the full profile depth should be only 1/3 of the subsequent circular feed.




**internal thread**




**external thread**

## Calculation of Feed Rates at the Cutting Edge

The first step is to calculate the tool feed rate at the cutting edge:

$$F_1 = fz \times Z \times n$$

$F_1$ = tool feed rate at the cutting edge (in/min)
fz = inch per tooth (feed rate)
Z = number of effective inserts in cutter
n = rotational speed (spindle RPM)

The rotational speed (RPM) is calculated by the following formula:

$$RPM = \frac{12 \times SFM}{\pi \times d_1}$$

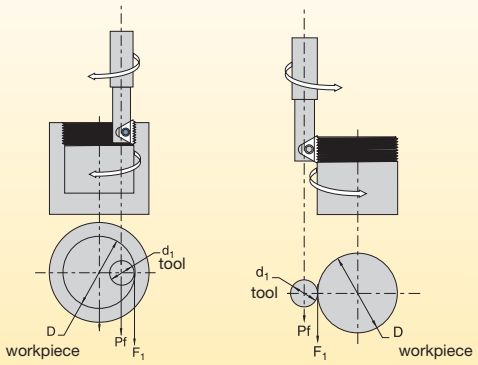
SFM = cutting speed, surface feet per minute
$d_1$ = cutter diameter, over insert
$\pi$ = 3.1416

## Calculation of Program Feed Rate

On most CNC machines, the feed rate required for programming is at the centerline of the tool. When dealing with linear tool movement, the feed rate at the cutting edge and the centerline are identical. With circular tool movement this is not the case. The following equations define the relationship between feed rates at the tool centerline.

$$P_1 = F_1 + \frac{(F_1 \times d_1)}{D}$$

$P_1$ = program feed rate (in/min)
D = major diameter (external thread)
D = minor diameter (internal thread)
$d_1$ = cutting diameter, over insert




external thread internal thread

**tool workpiece**

## Step-by-Step Thread Milling Example

**thread:** internal right hand 11/4 x 16 UN–2B–RH(21)

**material:** AISI 4140 (300 HB)

**thread diameters:** D (minimum bore dia.) = 1.182"

Do (nominal dia.) = 1.25"

thread length: .50"

For best thread quality, the cutter with the largest d1 (cutter diameter) should be used. This cutter diameter can be found in the table on page W49, as a function of pitch and minimum bore diameter "D". The result for the above example is that any cutter diameter 1.02" or smaller can be utilized.

A cutter with a smaller d1 will perform the thread milling operation in less time. The smaller d1 may result in less tool rigidity, so it should be used with caution on very tough materials.

**Find the appropriate normal-length shank cutter diameter on pages W40–W43. Use the minimum bore diameter table below for reference.**

| pitch (TPI) | 24 | 20 | 16 | 12 |
|---|---|---|---|---|
| pitch mm | 1,0 | 1,25 | 1,5 | 2,0 |
| cutter dia. $d_1$ | minimum bore diameter D | | | |
| .67 | .748 | .772 | .787 | .827 |
| .75 | .827 | .850 | .866 | .906 |
| .79 | .866 | .890 | .906 | .945 |

**Figure B: cutter selected: K079TMIRW075STN16N**
**outer dimensions: $d_1$ = .79, $R_t$ (radius of tool) = $d_1 \div 2$ = .395"**

## Choosing Insert Size

The insert IC is defined by the selected cutter (STN16).
Use the appropriate insert table on pages W44–W46.

| insert IC | a inch (mm) | pitch (TPI) | internal thread catalog number | b inch thread length (in) | number of teeth | grade KC610M | grade KC620M | external thread catalog number | b inch thread length (in) | number of teeth | grade KC610M | grade KC620M | cutter type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 32 | STN16 32UN-I | .59 | 19 | □ | □ | STN16 32UN-E | .59 | 19 | □ | □ | |
| | | 28 | STN16 28UN-I | .57 | 16 | ■ | ■ | STN16 28UN-E | .57 | 16 | □ | □ | |
| | | 27 | STN16 27UN-I | .56 | 15 | □ | ■ | STN16 27UN-E | .56 | 15 | ■ | □ | |
| | | 24 | STN16 24UN-I | .55 | 14 | □ | □ | STN16 24UN-E | .58 | 14 | ■ | □ | |
| 3/8 | .63 (16) | 20 | STN16 20UN-I | .55 | 11 | ■ | ■ | STN16 20UN-E | .55 | 11 | ■ | ■ | STN16 |
| | | 18 | STN16 18UN-I | .56 | 10 | ■ | ■ | STN16 18UN-E | .56 | 10 | ■ | ■ | |
| | | 16 | STN16 16UN-I | .56 | 9 | ■ | ■ | STN16 16UN-E | .56 | 9 | ■ | ■ | |
| | | 14 | STN16 14UN-I | .57 | 8 | ■ | ■ | STN16 14UN-E | .57 | 8 | ■ | ■ | |
| | | 13 | STN16 13UN-I | .54 | 7 | □ | □ | STN16 13UN-E | .54 | 7 | □ | □ | |
| | | 12 | STN16 12UN-I | .58 | 7 | ■ | ■ | STN16 12UN-E | .58 | 7 | ■ | ■ | □ |

insert selected: STN16 16UN-I

■ stock standard
□ non-stock standard

## Step-by-Step Thread Milling Example

**Calculate the feed rates:**

First, find the RPM.

$$RPM = \frac{12 \times SFM}{\pi \times d_1} = \frac{12 \times 500}{3.14 \times .79} = 2418 \text{ RPM}$$

**Next, calculate the feed rate at the insert cutting edge ($F_1$):**

(using the chosen feed per tooth of .004.)

$$F_1 = IPT \times nt \times RPM = .004 \times 1 \times 2418 = 9.67 \text{ in/min}$$

**Finally, calculate the feed rate at the cutter centerline ($F_2$):**

$$F_2 = \frac{F_1 \times (D - d_1)}{D} = \frac{9.67 \times (1.182 - .79)}{1.182} = 3.207 \text{ in/min}$$

**Select the thread milling method.**

Climb milling (preferred) see page W48.

**Calculate the radius of the tangential arc $R_e$:**

$$R_e = \frac{(R_i - C_L)^2 + R_0^2}{2R_0} = \frac{(.591 - .02)^2 + .625^2}{2 \times .625}$$

$$R_e = .573333 \text{ in.}$$

**Calculate the angle ($\beta$):**

$$\beta = 90° + \arcsin \frac{R_0 - R_e}{R_e}$$

$$\beta = 90° + \arcsin \frac{.625 - .573333}{.57333}$$

$$\beta = 90° + 5.17° = 95.17° = 95° 10'$$

**Calculate the movement along the Z-axis during the entry approach from point "A" to point "B" ($Z\alpha$).**
**(NOTE: P = pitch)**

$$Z\alpha = P \text{ (in)} \times \frac{\alpha°}{360°} = \frac{.0625}{4} = .0156 \text{ in, because } \alpha = 90°$$

**Calculate the "X" and "Y" values at the start of the entry approach.**

$$X = 0Y = -R_i + C_L = -.591 + .02 = -.571 \text{ in.}$$

**Define Z-axis location at the start of the entry approach.**
**(NOTE: L = length of thread)**

$$Z = -(L + Z\alpha) = -(.50 + .0156) = -.5156 \text{ in.}$$

**Define the starting point.**

$X_a = 0$

$Y_a = 0$

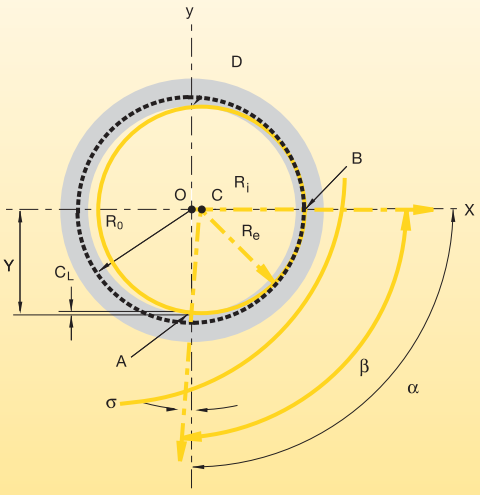
CNC Program (Fanuc 11M)

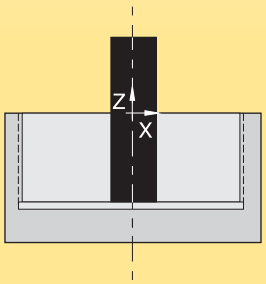
```
%
N10G90G00G57X0.000Y0.000
N20G43H10Z0.M3S2417
N30G91G00X0.Y0.Z–0.5156
N40G41D60X0.000Y–0.5710Z0.
N50G03X0.6250Y0.5710Z0.0156R0.5733F3.206
N60G03X0.Y0.Z0.0625I–0.625J0.
N70G03X–0.625Y0.5710Z0.0156R0.5733
N80G00G40X0.Y–0.5710Z0.
N90G49G57G00Z8.0M5
N100M30
%
```

$$R_i = \frac{D}{2} \qquad R_O = \frac{D_O}{2}$$

**D = minor diameter** **$D_O$ = nominal diameter**

**$\alpha$ 90°**



## Step-by-Step Thread Milling Example

**Appendix A**

**Derivation of Formulas for Internal Thread Milling**

$R_e$, β, and X can be found by a geometric analysis of the entry path.

This entry path is defined by the tool traveling along a circular path, with a radius of $R_e$ about the point C.

$$R_e = \frac{(R_i - C_L)^2 + R_o^2}{2R_o}$$

Triangle OAC enables us to simply solve for $R_e$.
Note that OAC is a right angle triangle, and that:

$OA = R_i - C_L$
$CA = R_e$
$OC = R_o - R_e$

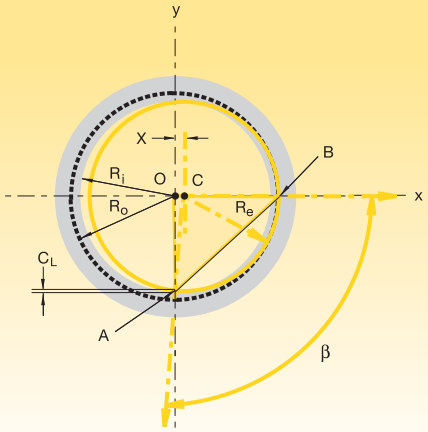
Pythagoras' law states: $OA^2 + OC^2 = AC^2$

Replacing actual values, we get:

$$(R_i - C_L)^2 + (R_o - R_e)^2 = R_e^2$$

Simplifying, we get:

$$R_e = \frac{(R_i - C_L)^2 + R_o^2}{2R_0}$$



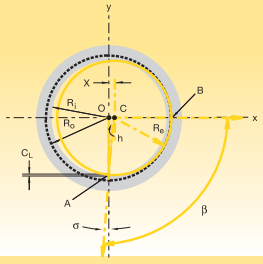

**Find the angle β.**

$\beta = 90° + \sigma$

$\sin \sigma = \frac{OC}{CA} = \frac{(R_o - R_e)}{R_e}$

$\sigma = \text{arc sin} \left(\frac{R_o - R_e}{R_e}\right)$

Therefore, $\beta = 90° + \text{arc sin} \left(\frac{R_o - R_e}{R_e}\right)$




**Appendix B**

**Derivation of Formulas for External Thread Milling**

$R_e$, β, and X can be found by a geometric analysis of the entry path.

This entry path is defined by the tool traveling along a circular path, with a radius of $R_e$ about the point C.

$$R_e = \frac{(R_o - C_L)^2 + R_i^2}{2R_i}$$

Triangle OAC enables us to simply solve for $R_e$.
Note that OAC is a right angle triangle, and that:

$OA = R_o - C_L$
$CA = R_e$
$OC = R_e - R_i$

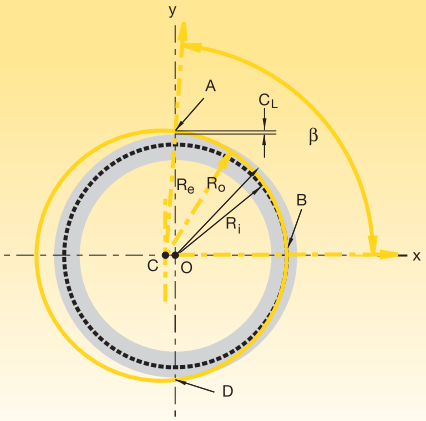
Pythagoras' law states: $OA^2 + OC^2 = AC^2$

Replacing actual values, we get:

$$(R_o - C_L)^2 + (R_e - R_i)^2 = R_e^2$$

Simplifying, we get:

$$R_e = \frac{(R_o - C_L)^2 + R_i^2}{2R_i}$$

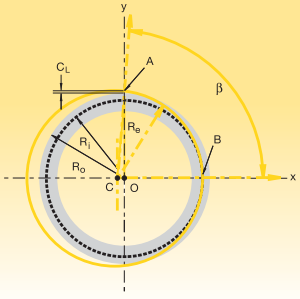



**Find the angle β.**

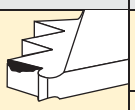
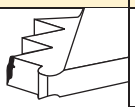
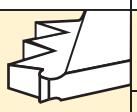
β can be easily found using the same triangle:

$\sin \beta = \frac{AO}{AC} = \frac{(R_o + C_L)}{R_e}$

$\beta = \text{arc sin} \left(\frac{R_o + C_L}{R_e}\right)$



## Thread Mill Troubleshooting

| problem | possible cause | solution |
|---|---|---|
| excessive insert flank wear  | • Cutting speed too high. | • Reduce cutting speed. |
| | • Chip is too thin. | • Increase feed rate. |
| | • Insufficient coolant. | • Increase coolant quantity/pressure. |
| chipping of cutting edge  | • Chip is too thick. | • Reduce feed rate.<br>• Use the tangential arc method of entrance.<br>• Increase RPM. |
| | • Vibration. | • Check rigidity. |
| material build-up on the cutting edge  | • Cutting speed too slow. | • Increase cutting speed. |
| | • Chip thickness too small. | • Increase feed rate. |
| chatter/vibration | • Feed rate is too high. | • Reduce the feed. |
| | • Profile is too deep (coarse pitch threads). | • Execute two passes, each with increased cutting depth.<br>• Execute two passes, each cutting only half the thread length. |
| | • Thread length is too long. | • Execute two passes, each cutting only half of the thread length. |
| insufficient thread accuracy | • Tool deflection. | • Reduce feed rate.<br>• Execute a zero cut. |

## Insert Tolerance Classes

| thread designation | standard designation | tolerance class |
|---|---|---|
| UN | ANSI B 1.174 | 2A/2B |
| UNJ | MIL-S-8879A | 3A/3B |
| ISO | R262 (DIN 13) | 6g/6H |
| NPT | USAS B2.1 : 1968 | standard NPT |
| NPTF | ANSI B 1.20.3-1976 | standard |
| BSW | B.S. 84 : 1956, DIN 259, ISO 228/1 : 1982 | medium class A |
| BSPT | B.S. 21 : 1985 | standard BSPT |
| ACME | ANSI B1/5 : 1988 | 3G |
| PG | DIN 40430 | standard |
| TR | DIN 103 | 7e/7H |

ORIGIN
ABS/0
mm
OFF
ON

# Indexable Milling • Technical Information • Recommended Starting Speeds


Overview Wrenches ..... X2–X3

Technical Information ..... X4–X20

Recommended Starting Speeds ..... X22–X37

NOTE: Kennametal screw drivers, bits, torque wrenches, and bit drivers can be ordered separately, if needed.

| drive size | 1/4" bit 25mm length | order number | 1/4" bit extended length | order number | screw driver | order number | Flag-Type Screw Driver | order number | Allen key | order number | T-Handle Screw Driver | order number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| hex 1,5 | – | – | – | – | 170.270 | **1126021** | – | – | 170.000 | **1138273** | – | – |
| hex 2,0 | – | – | – | – | 170.222 | **1191006** | – | – | 170.001 | **1138280** | – | – |
| hex 2,5 | 170.179 | **1138851** | – | – | 170.224 | **1138870** | – | – | 170.002 | **1138297** | – | – |
| hex 3,0 | 170.180 | **1150198** | BTQSW3L90 | **6205876** | 170.225 | **1138879** | – | – | 170.003 | **1138307** | THW3M | **2229285** |
| hex 3,5 | – | – | – | – | – | – | – | – | – | – | THW35M | **1931555** |
| hex 3,5/Torx 15,0 | – | – | – | – | – | – | FT1535 | **1021609** | – | – | – | – |
| hex 4,0/Torx 15,0 | – | – | – | – | – | – | FT154 | **1021611** | – | – | – | – |
| hex 4,0 | 170.181 | **1138857** | – | – | 170.226 | **1191007** | – | – | 170.004 | **1138315** | THW4M | **1931556** |
| hex 5,0 | – | – | – | – | – | – | – | – | 170.005 | **1138323** | 170.135 | **1138748** |
| hex 6,0 | – | – | – | – | – | – | – | – | 170.006 | **1138331** | 170.136 | **1138755** |
| hex 8,0 | – | – | – | – | 170.229 | **1191010** | – | – | 170.008 | **1135984** | – | – |
| hex 9,0 | – | – | – | – | – | – | – | – | 170.009 | **2272577** | – | – |
| hex 10,0 | – | – | – | – | – | – | – | – | – | – | – | – |
| hex 12,0 | – | – | – | – | – | – | – | – | – | – | – | – |
| hex 5/64 | – | – | – | – | – | – | – | – | – | – | KW078 | **1022575** |
| hex 3/32 | – | – | – | – | – | – | – | – | – | – | KW093 | **1022581** |
| hex 7/64 | – | – | – | – | – | – | – | – | – | – | KW109 | **1022537** |
| hex 1/8 | – | – | – | – | – | – | – | – | – | – | – | – |
| hex 5/32 | – | – | – | – | – | – | – | – | – | – | KW156 | **1022565** |
| hex 3/16 | – | – | – | – | – | – | – | – | – | – | KW187 | **1022579** |
| hex 7/32 | – | – | – | – | – | – | – | – | – | – | – | – |
| Torx 5 | – | – | – | – | – | – | FT5 | **1021589** | KT5 | **1099677** | – | – |
| Torx 6 | BT6 | **1962981** | – | – | DT6 | **1022463** | FT6 | **1126361** | KT6 | **1022691** | – | – |
| Torx 7 | BT7 | **1963853** | – | – | DT7 | **1022485** | FT7 | **1021591** | KT7 | **1022693** | – | – |
| Torx 8 | BT8 | **1963855** | – | – | DT8 | **1022487** | FT8 | **1021593** | KT8 | **1022695** | – | – |
| Torx 9 | BT9 | **1963854** | – | – | DT9 | **1022489** | FT9 | **1020533** | KT9 | **1022697** | – | – |
| Torx 10 | BT10 | **1963856** | – | – | DT10 | **1022491** | FT10 | **1099651** | KT10 | **1022699** | – | – |
| Torx 10/15 | – | – | – | – | – | – | FT1015 | **1099652** | – | – | – | – |
| Torx 15 | 170.182 | **2261642** | 170.177 | **1138829** | DT15 | **1022493** | FT15 | **1021605** | KT15 | **1022701** | TT15 | **1022315** |
| Torx 15 | – | – | BTQT15L90 | **6205877** | – | – | – | – | – | – | – | – |
| Torx 20 | 170.176 | **1138822** | BTQT20L90 | **6205878** | – | – | FT20 | **1021607** | KT20 | **1022703** | TT20 | **1022317** |
| Torx 25 | – | – | 170.259 | **1994579** | – | – | – | – | KT25 | **1022725** | TT25 | **1022519** |
| Torx 25 | – | – | BTQT25L90 | **6205879** | – | – | – | – | – | – | – | – |
| Torx 27 | 170.256 | **1984243** | 170.257 | **1985840** | – | – | – | – | KT27 | **1022727** | – | – |
| Torx 30 | – | – | – | – | – | – | – | – | KT30 | **1099676** | TT30 | **1022521** |
| Torx 40 | – | – | – | – | – | – | – | – | – | – | – | – |
| Torx 45 | – | – | – | – | – | – | – | – | KT45 | **1018227** | – | – |
| Torx Plus 7 | – | – | – | – | DT7IP | **3644073** | – | – | – | – | – | – |
| Torx Plus 8 | – | – | – | – | DT8IP | **2388424** | – | – | K8IP | **2388488** | TTP8 | **1931553** |
| Torx Plus 9 | – | – | – | – | DT9IP | **2269913** | – | – | K9IP | **1985786** | TTP9 | **1985792** |
| Torx Plus 10 | – | – | – | – | DT10IP | **2388425** | – | – | K10IP | **2388489** | TTP10 | **2504383** |
| Torx Plus 15 | – | – | BTQTP15L90 | **6205880** | DT15IP | **2269914** | – | – | K15IP | **1867353** | TTP15 | **1931554** |
| Torx Plus 20 | – | – | BTQTP20L90 | **6205891** | DT20IP | **2388427** | – | – | K20IP | **2388491** | TTP20 | **1994291** |
| Torx Plus 25 | BT25IP | **2244316** | BTQTP25L90 | **6205892** | DT25IP | **2269915** | – | – | K25IP | **2050113** | TTP25 | **4064258** |
| Torx Plus 27 | BT27IP | **2244317** | BTE27IP | **2244319** | – | – | – | – | K27IP | **1985787** | TTP27 | **1985793** |
| Torx Plus 30 | – | – | – | – | DT30IP | **2388426** | – | – | K30IP | **2388490** | – | – |

## Torque-Controlled Wrenches • 5.3–47.8 in. lbs. (0,6–5,4 Nm)

| Order Number | Catalog Number | Drive Size | Description |
|---|---|---|---|
| **3641463** | **DTQ0615** | – | Torque Control Wrench Handle 0.6–1.5 Nm |
| **3641464** | **DTQ1530** | – | Torque Control Wrench Handle 1.5–3.0 Nm |
| **3641465** | **DTQ3054** | – | Torque Control Wrench Handle 3.0–5.4 Nm |
| **3641466** | **BTQT6** | T6 | Blade for screw driver |
| **3641467** | **BTQT7** | T7 | Blade for screw driver |
| **3641468** | **BTQT8** | T8 | Blade for screw driver |
| **3641469** | **BTQT9** | T9 | Blade for screw driver |
| **3641470** | **BTQT10** | T10 | Blade for screw driver |
| **3641471** | **BTQT15** | T15 | Blade for screw driver |
| **3641472** | **BTQT20** | T20 | Blade for screw driver |
| **3641473** | **BTQT25** | T25 | Blade for screw driver |
| **3641474** | **BTQ6IP** | Torx Plus 6 | Blade for screw driver |
| **3641475** | **BTQ7IP** | Torx Plus 7 | Blade for screw driver |
| **3641476** | **BTQ8IP** | Torx Plus 8 | Blade for screw driver |
| **3641477** | **BTQ9IP** | Torx Plus 9 | Blade for screw driver |
| **3641478** | **BTQ10IP** | Torx Plus 10 | Blade for screw driver |
| **3641479** | **BTQ15IP** | Torx Plus 15 | Blade for screw driver |
| **3641481** | **BTQW3M** | hex 3mm | Blade for screw driver |
| **3641480** | **DTQCAP** | – | Cover Cap |

## Torque-Controlled Wrenches • 3.7–10.3 in. lbs. (5–14 Nm)

| Order Number | Catalog Number | Drive Size | Description |
|---|---|---|---|
| **6197561** | **DTQ50140** | hex 1/4" | T-handle torque wrench, adjustable 5–14 Nm |
| **6205876** | **BTQSW3L90** | hex 3mm | Bit Hex 3mm L = 90mm |
| **6205877** | **BTQT15L90** | T15 | Bit Torx 15 L = 90mm |
| **6205878** | **BTQT20L90** | T20 | Bit Torx 20 L = 90mm |
| **6205879** | **BTQT25L90** | T25 | Bit Torx 25 L = 90mm |
| **6205880** | **BTQTP15L90** | Torx Plus 15 | Bit Torx Plus 15 L = 90mm |
| **6205891** | **BTQTP20L90** | Torx Plus 20 | Bit Torx Plus 20 L = 90mm |
| **6205892** | **BTQTP25L90** | Torx Plus 25 | Bit Torx Plus 25 L = 90mm |

## Bit Adapter

| Order Number | Catalog Number | Drive Size | Description |
|---|---|---|---|
| **1963869** | **DRIVER** | hex 1/4" | Bit Adapter suitable for standard and extended length 1/4" drive bits |

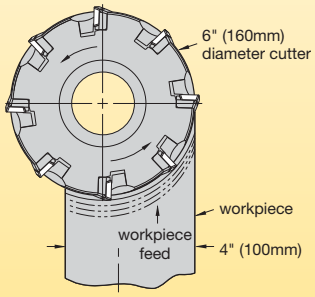
Workpiece dimensions determine the best face mill diameter to select.

Cutter-to-part width-of-cut ratio should be approximately 3:2 or 1 1/2 times the part width. For example, if the width of cut is 4" (100mm), choose a 6" (160mm) diameter cutter. If the width is extremely wide, select a cutter diameter that matches the spindle capacity and take multiple passes. For example, if the width of cut is 24" (610mm) and the machine has a standard #50 taper spindle, you should use an 8" (200mm) diameter cutter and take five passes, at slightly less than 5" (125mm) per pass, or four passes at 6" (160mm) per pass, depending on horsepower and rigidity.

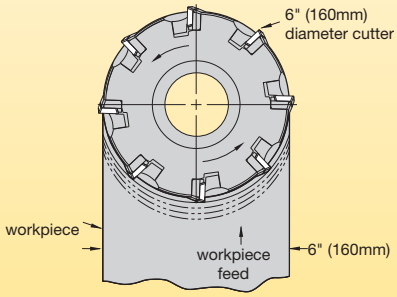
An undesirable situation is when the cutter diameter is about equal to the width of cut. The chip being formed at the entrance and exit of the cut will be very thin. The thin chips formed cannot carry away heat as well as thicker chips; therefore, the heat is transferred back into the insert causing premature edge failure. Work-hardening is also more likely to occur in the entry and exit area.

When the proper cutter diameter is not available, proper cutter positioning will provide positive results.

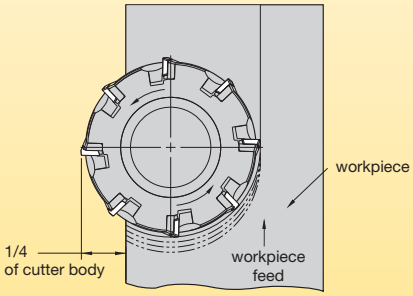
- Position cutter with approximately 1/4 of the cutter body outside the workpiece and make two passes.
- Produces negative angle of entry (desirable).
- Can result in longer tool life.




**desirable**



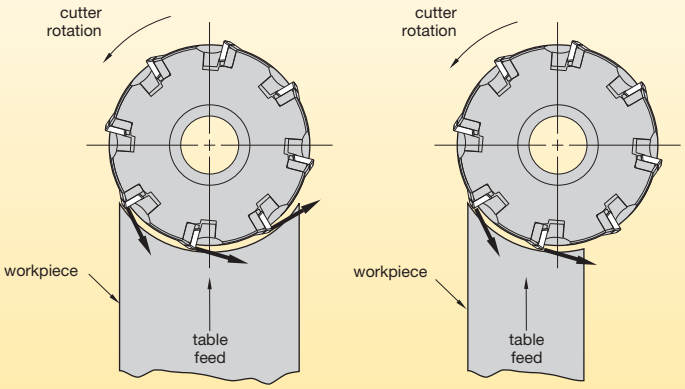

**undesirable**




**cutter position**

### Cutter Positioning/Cutting Forces

The cutting forces are constantly changing as the inserts move through the cut. We should understand that in changing the position of the cutter in relation to the workpiece, we can re-direct the cutting forces. This is important to ensure a safe operation based on fixture design, workpiece design, and workpiece considerations.



Pitch, or density, refers to the number of inserts in a cutter. Cutters can be classified as having either coarse, medium, or fine pitch. When designing a cutter, the engineer must take the depth of cut and feed per tooth into consideration. He then must provide the necessary chip clearance in the body so that the chip can pass without restricting its formation. For this reason, cutters designed for heavy metal removal have maximum chip clearance. This, therefore, restricts the number of inserts in the cutter, making it a coarse pitch cutter.

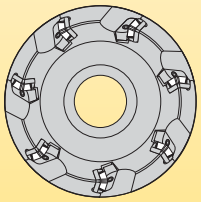
In medium pitch cutters, the chip clearance area in the body is usually slightly smaller than a coarse pitch cutter. And, in fine pitch cutters, the chip clearance is considerably less.

**Coarse pitch** is recommended for general purpose milling where adequate horsepower is available, and where maximum depth of cut is required.

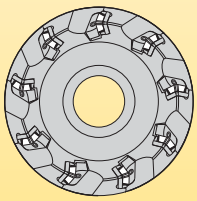
**Medium pitch** is recommended when moderate feed per insert is required, and where it is more advantageous to have more than one insert in the cut. Medium pitch also reduces entry shock and cutting pressure while maintaining feed rates.

**Fine pitch** is ideal when milling a severely interrupted surface such as a manifold block. Fine pitch cutters are capable of higher inch/mm per minute feed rates than medium or coarse pitch cutters. They also experience higher cutting forces and greater horsepower consumption than medium or coarse pitch cutters do.

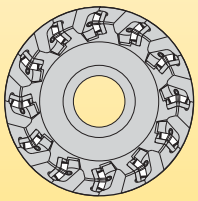
**Differential pitch** is a differential-pitch milling cutter with unequally spaced inserts. This configuration breaks up the harmonics that result from equally spaced inserts, greatly reducing the chance of vibration. Most cutters use this design regardless of the cutter pitch.



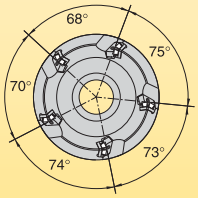
**coarse pitch**



**medium pitch**



**fine pitch**




**differential pitch**

## Lead Angles/Cutting Forces on Workpiece and Fixturing

Cutting forces produced during the milling process are constantly changing as the insert moves through the cut. Understanding the relationship of these forces will help ensure safe operation by preventing workpiece movement during the cut. For example, fixture design and clamp positioning are determined by the cutting forces produced in milling. Equally important is an understanding of the effect lead angle has on cutting force direction, actual chip thickness, and tool life.

### 0° Lead Angle

Advantages:

- When 90° shoulder is required.
- Can be a problem solver on thin wall workpieces.

Disadvantages:

- Highest radial cutting forces.
- High entry shock load.
- Increased chance of bur on insert exit side of part.

### 15° and 20° Lead Angle

Advantages:

- For general milling applications and relatively rigid conditions.
- Good relation of insert size and maximum depth of cut.
- Reduced entry shock load.

Disadvantages:

- Higher radial forces can cause problems in weak machine/workpiece/fixture conditions.

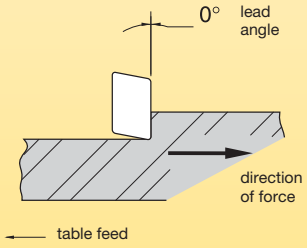
### 45° Lead Angle

Advantages:

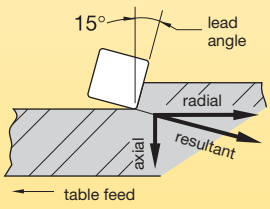
- Well-balanced axial and radial cutting forces.
- Less breakout on workpiece corner.
- Entry shock minimized.
- Less radial forces directed into spindle bearings.
- Higher feed rates possible.

Disadvantages:

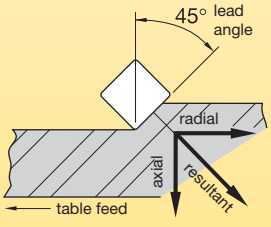
- Reduced maximum depth of cut due to lead angle.
- Larger body diameter can cause fixture clearance problems.




**0° lead**




**15° and 20° lead**




**45° lead**



*(continued)*

*(continued)*

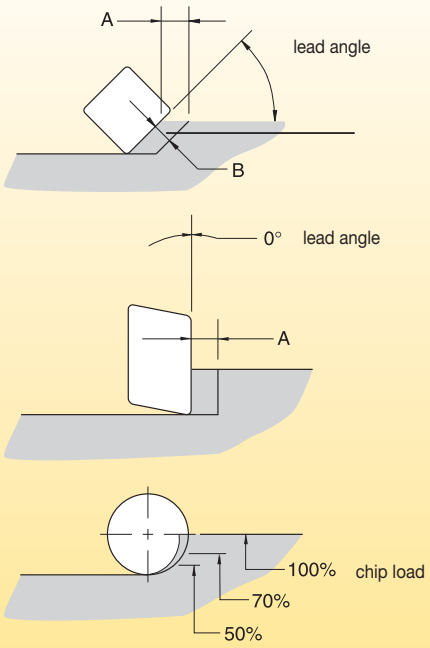
## Lead Angle/Chip Thickness

Chip thickness is affected by lead angle. The greater the lead angle, the thinner the chip will be since it's distributed over a greater length of the cutting edge. To achieve greater productivity and problem-free milling, use a lead angle cutter whenever possible.

| lead angle | feed per tooth | actual chip thickness "B" |
|---|---|---|
| 0° | A | A |
| 15° | A | .96 x A |
| 20° | A | .94 x A |
| 30° | A | .86 x A |
| 45° | A | .707 x A |

**example:**

| | | |
|---|---|---|
| 0° | .010" (0,25mm) | .010" (0,25mm) |
| 15° | .010" (0,25mm) | .0096" (0,25mm) |
| 20° | .010" (0,25mm) | .0094" (0,24mm) |
| 30° | .010" (0,25mm) | .0086" (0,22mm) |
| 45° | .010" (0,25mm) | .0071" (0,18mm) |



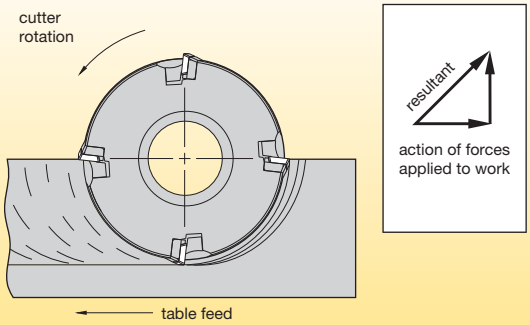

On round inserts, the chip load and lead angle vary with the depth of cut.

**lead angle/chip thickness**

## Conventional Milling

For many years, it was common practice to mill against the direction of the feed due to the use of high-speed steel cutters and an absence of backlash-eliminating devices. The milling procedure became known as conventional, or up-milling.

In conventional milling, friction and rubbing occur as the insert enters into the cut, resulting in chip welding and heat dissipation into the insert and workpiece. Resultant forces in conventional milling are against the direction of the feed. Work-hardening is also likely to occur.

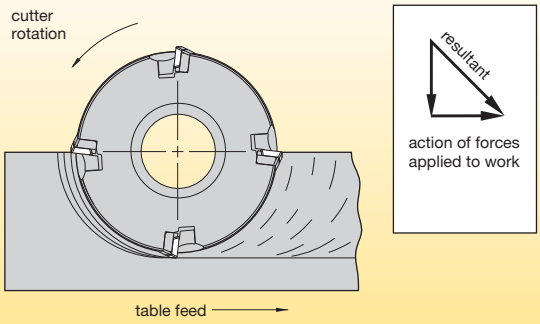



**conventional milling**

## Climb Milling (preferred)

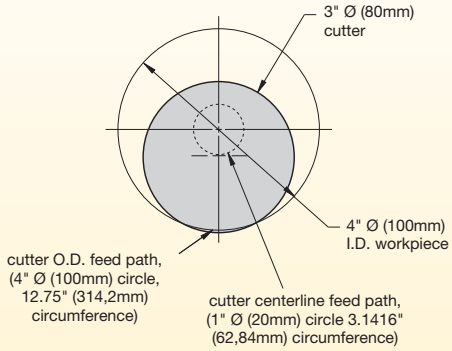
Climb milling is normally recommended. The insert enters the workpiece material with some chip load and produces a chip that thins as it exits the cut. This reduces the heat by dissipating it into the chip. Work-hardening is minimized.

Climb milling forces tend to push the workpiece toward the fixture and in the direction of the feed. Climb milling is preferred over conventional milling in most situations.




**climb milling**

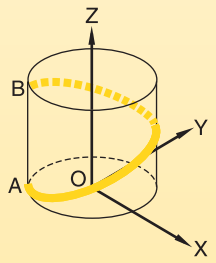
**Circular Interpolation:** Consists of a cutter rotating about its own axis while traveling in an orbiting motion about an I.D. or O.D. workpiece circumference without any vertical shift during the operation. This orbiting movement utilizes the "X" and "Y" axis.



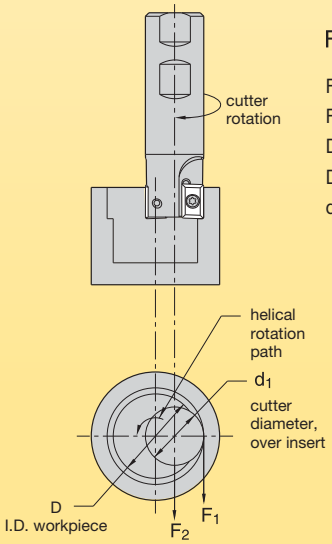

**I.D. circular interpolation**

**Helical Interpolation:** This application requires a milling machine with three-axis control capability. The operation consists of a cutter rotating about its own axis together in an orbiting motion about an ID or OD workpiece circumference in the "X" and "Y" plane. The circular movement about the "X" and "Y" plane, with a simultaneous linear movement in the Z-axis plane (which is perpendicular to the "X" and "Y" plane), creates the helical movement. For example, the path from point A to point B on the envelope of the cylinder combines a circular movement in the "X" and "Y" plane with a linear movement in the "Z" direction. On most CNC systems, this function can be executed in two different ways:

- GO2: helical interpolation in a clockwise direction.
- GO3: helical interpolation in a counterclockwise direction.



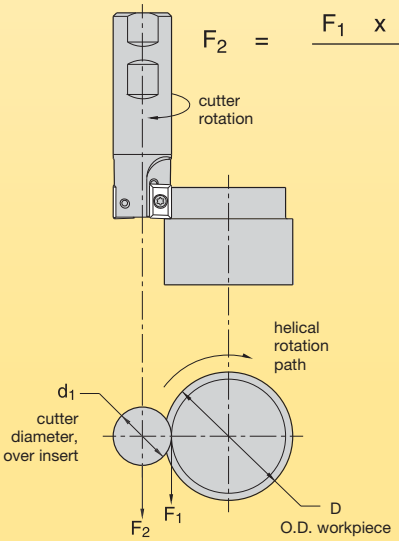

**helical interpolation**



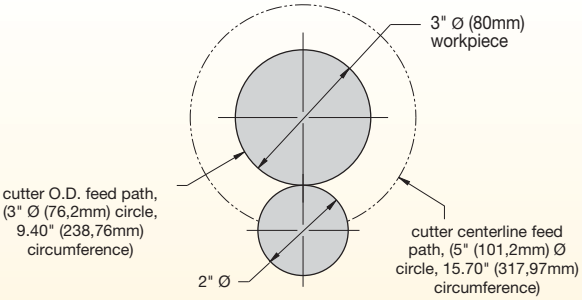

**inside diameter (I.D.) helical interpolation**

$$F_2 = \frac{F_1 \times (D - d_1)}{D}$$

$F_1$ = tool feed rate at the cutting edge (in./min.)
$F_2$ = tool centerline feed rate (in./min.)
D = O.D. workpiece diameter
D = I.D. workpiece diameter
$d_1$ = cutter diameter, over insert




**outside diameter (O.D.) helical interpolation**




**O.D. circular interpolation**

**Calculation of Feed Rate for Circular and Helical Interpolation:** On most CNC machines, the feed rate required for programming contour (circular or helical) milling is calculated based on the centerline of the tool. When dealing with linear tool movement, the feed rate at the cutting edge and centerline are identical, but with circular tool movement, this is not the case.

**Calculate Feed Rate at the Cutting Edge:** First calculate the tool feed rate at the cutting edge with the following formula.

$F_1 = fz \times z \times n$

$F_1$ = tool feed rate at the cutting edge (in./min.)

$f_z$ = inch per tooth (chip load)

z = number of effective inserts in the cutter

n = revolutions per minute

**Calculation of the Feed Rate at the Tool Centerline:** Use the following equations to define the relationship between feed rates at the cutting edge and at the tool centerline.

$$F_2 = \frac{F_1 \times (d_1 + D)}{D}$$

*(continued)*

*(continued)*

In I.D. contour applications, you will find the tool centerline feed is always less than the cutting edge feed rate.

### Example for I.D.

D = 4" (100mm) I.D. workpiece

$d_1$ = 3" (80mm) cutter diameter

fz = .008 IPT (0,2 mm/tooth)

n = 637 RPM

z = 7 effective inserts

### 1. Calculate feed rate at the cutting edge.

$F_1 = f_2 \times z \times n$

$F_1$ = .008 x 7 x 637 = 35.7 in./min (0.2 x 7 x 637 = 892 mm/min)

### 2. Calculate feed rate at the tool centerline.

$$F_2 = \frac{F_1 \times (D - d_1)}{D}$$

$$F_2 = \frac{35.7 \times (4.0 - 3.0)}{4.0} = 8.9 \text{ in./min}$$

$$F_2 = \frac{892 \times (100 - 80)}{100} = 178 \text{ mm/min}$$

To have ($F_1$) 35.7 in/min (892 mm/min) at the cutting edge feed rate, we must program the machine tool for ($F_2$) 8.9 in/min (178 mm/min) at the tool centerline feed rate. This is a difference of approximately 75% less feed than the cutting edge feed rate ($F_1$).

In O.D. contour applications, you will find the tool centerline feed rate is always larger than the cutting edge feed rate.

### Example for O.D.

D = 5" (125mm) O.D. workpiece

$d_1$ = 2" (50mm) cutter diameter

$f_z$ = .008 IPT (0,2 mm/tooth)

n = 955 RPM

z = 5 effective teeth

### 1. Calculate feed rate at the cutting edge.

$F_1 = f_2 \times z \times n$

$F_1$ = .008 x 5 x 955 = 38.2 in./min (0.2 x 5 x 955 = 955 mm/min)

### 2. Calculate feed rate at the tool centerline.

$$F_2 = \frac{F_1 \times (d_1 + D)}{D}$$

$$F_2 = \frac{38.2 \times (2 + 5)}{5} = 53.5 \text{ in./min}$$

$$F_2 = \frac{955 \times (50 + 125)}{125} = 1{,}337 \text{ mm/min}$$

To have ($F_1$) 38.2 in/min (955 mm/min) at the cutting edge feed rate, we must program the machine tool for ($F_2$) 53.5in/min (1,337 mm/min) at the tool centerline feed rate. This translates to an increase of about 40% more feed rate than the cutting edge feed rate ($F_1$).

### Large Surfaces

Interpolating with a smaller cutter may be faster than using a large diameter cutter. Also, keep the cutter in contact with the workpiece rather than exiting and re-entering.

### Maximize Metal Removal Rate

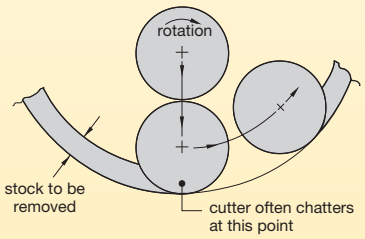
Concentrate on Metal Removal Rate (MRR), not just on higher SFM (cutting speeds). Increasing spindle speed without increasing chip load will not improve MRR. However, by doubling fz, MRR does increase and horsepower consumption only increases by approximately 50%.

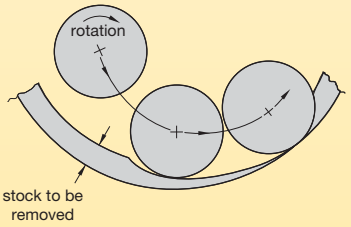
### Preset

Use cutter preset areas for proper setting of cutters rather than indexing cutters at the machine, if possible.

### Ramp In and Out

As shown below, ramping gradually into the cut will provide greater tool life. Also, by keeping the cutter constantly moving when entering and exiting the cut, dwell marks will be eliminated on the workpiece.

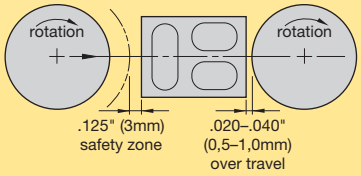



### Safety and Over Travel

Program the milling cutter to rapid advance up to the part, within a range of .125" (3mm) before engaging the workpiece. This allows the machine to reach its proper operating parameters before actual chip making begins.

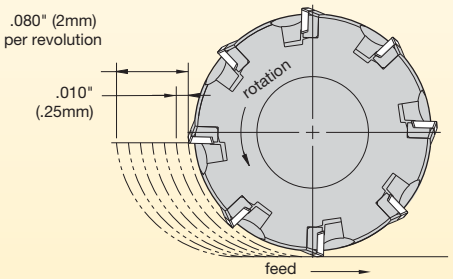
Rapid advance to the next cutting location, when the cutter is .020" (0,5mm) to .040" (1mm) past the edge of the part. If the spindle has built-in tilt or programmed runout, the cutter can be advanced to the next cutting location while the back half of the cutter is still over the finished milled surface.



| to find | given | formula |
|---|---|---|
| Vc | D<br>n | $Vc = \frac{\pi \times D \times n}{12}$ |
| n | D<br>Vc | $n = \frac{12 \times Vc}{\pi \times D}$ |
| Vf | fz<br>n<br>z | **Vf = fz x z x n** |
| fz | z<br>Vf<br>n | $fz = \frac{Vf}{2 \times n}$ |

| given | calculated |
|---|---|
| D = 6" cutter diameter<br>Z = 8 teeth in cutter<br>Vc = 600 SFM<br>fz = .010 IPT | $n = \frac{12 \times 600}{3.1416 \times 6} = 382$<br>**Vf (IPM) = .010 x 8 x 382 = 30.6** |

| legend |
|---|
| Vc = surface feed per minute |
| n = revolutions per minute |
| D = cutter diameter |
| Vf = feed (inch per minute) |
| fz = inch per tooth (chip load) |
| z = number of effective teeth or inserts in cutter |
| $\pi$ = 3.1416 |

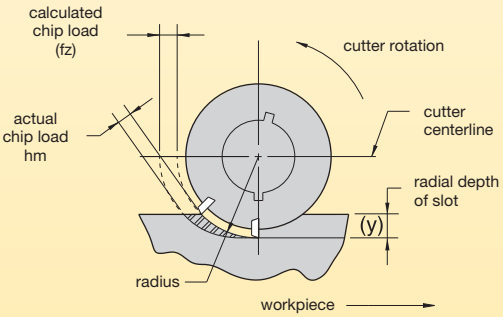


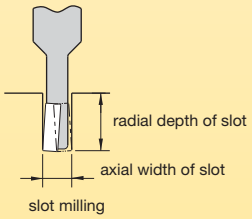

## Slotting or Periphery Milling

True or actual chip load on the cutting edge of the insert is equal to the programmed chip load only when 50% or more of the cutter's diameter is engaged in the cut (lead angle not considered). Anything less than half the diameter of the cutter means that the actual chip load is reduced by some percentage. The smaller the radial depth of cut, the greater the decrease in actual chip load.

It's very important to maintain a chip load which is great enough to ensure heat dissipation and prevent work hardening. A sufficient chip load will also create stability between the cutter and the workpiece.

The formulas shown below are used to determine the programmed chip load, or feed rate necessary to obtain the desired load on the insert cutting edge as it enters the workpiece. These formulas should be applied whenever an arbor mounted slotting cutter is being used, or when less than half the diameter of a face mill or end mill is engaged in the cut. The lighter the radial depth of cut, the more important it becomes to apply these productivity formulas.




## Productivity Formulas

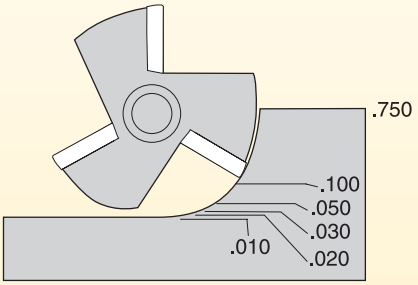
$$\text{chip load (fz)} = \frac{\left(\frac{\sqrt{(\text{dia.} - y) \times (y)}}{\text{radius}}\right) \times \left(\frac{vf}{n}\right)}{z}$$

**or**

$$F = \frac{n \times z \times fz}{\left(\frac{\sqrt{(\text{dia.} - y) \times (y)}}{\text{radius}}\right)}$$

Operations such as **periphery milling with a light radial depth of cut or slotting with an arbor mounted cutter** require a calculation for feed rate compensation to maintain the proper chip load on the insert edge at entry into the cut. The calculated chip load and actual chip load can be dramatically different, depending on the radial depth and the cutter diameter. For instance, the actual chip load on entry for a 3/4" diameter cutter taking a .010" radial depth cut is only 23% of the calculated chip load. It is not uncommon to encounter built-up edge, work-hardening, or chatter problems if the following formula is not applied. Minimal cutter runout is critical to obtaining an equal chip load on each flute of the cutter too. A side benefit to applying this formula is increased productivity as feed rates can increase dramatically.

| radial depth of cut | actual chip load (IPT) | feed required (IPM) to maintain .004 IPT | increase |
|---|---|---|---|
| .750 | .0040 | 5.5 | 0% |
| .100 | .0020 | 11.5 | 109% |
| .050 | .0014 | 15.3 | 178% |
| .030 | .0011 | 19.6 | 256% |
| .020 | .0009 | 23.9 | 335% |
| .010 | .0006 | 33.8 | 515% |




1.5" B end mill – 6 flutes
90 SFM 230 RPM
.004 IPT 5.5 IPM

## Formulas — Horsepower

### Metal Removal Rate

The Metal Removal Rate (MRR) calculation is a good basis for determining metalcutting efficiency.

MRR = doc x woc x F = cu. inches/min.

### Horsepower Consumption

Milling cutters can consume significant amounts of horsepower. Very often it is the lack of horsepower that is the limiting factor when deciding on a particular operation. On applications where large diameter cutters or heavy stock removal is necessary, it's advantageous to first calculate the necessary horsepower requirements.

NOTE: Spindle efficiency "E" varies from 75 to 90%.

(E = .75 to .90)

A suitable formula for calculating horsepower ($HP_c$) at the cutter is:

$$HP_c = \frac{MRR}{K}$$

**example:**
width of cut . . . . 1.64"
depth of cut . . . . .200
feed . . . . . 19.5 IPM
4140 220 HB . . . . . "K" factor 1.56

MRR = .200 x 1.64 x 19.5 = 6.4 cu. in/mi

$$HPc = \frac{6.4}{1.56} = 4.1 \text{ HP at the cutter}$$

For horsepower at the motor ($HP_m$), use formula:

$$HPm = \frac{HPc}{E} \qquad HPm = \frac{4.1}{.8} = 5.1$$

In determining horsepower consumption, "K" factors must be used. The "K" factor is a power constant that represents the number of cubic inches of metal per minute that can be removed by one horsepower.

NOTE: "K" factors vary depending on the hardness of the material.

## "K" Factors

| workpiece material | hardness | "K" factor |
|---|---|---|
| steels, and wrought and cast irons (plain carbon alloy steels, and tool steels) | 85–200 | 1.64 |
| | 201–253 | 1.56 |
| | 254–286 | 1.28 |
| | 287–327 | 1.10 |
| | 328–371 | .88 |
| | 372–481 | .69 |
| | 482–560 | .59 |
| | 561–615 | .54 |
| precipitation hardening stainless steels | 150–450 | 1.27–.42 |
| cast irons (gray, ductile, and malleable) | 150–175 | 2.27 |
| | 110–190 | 2.0 |
| | 176–200 | 1.89 |
| | 201–250 | 1.52 |
| | 251–300 | 1.27 |
| | 301–320 | 1.19 |
| stainless steels, and wrought and cast irons (ferritic, austenitic, and martensitic) | 135–275 | 1.54–.76 |
| | 286–421 | .74–.50 |
| titanium | 250–375 | 1.33–.87 |
| high-temperature alloys, nickel, cobalt base | 200–360 | .83–.48 |
| iron base | 180–320 | .91–.53 |
| nickel alloys | 80–360 | .91–.53 |
| aluminum alloys | 30–150 (500 kg) | 6.25–3.33 |
| magnesium alloys | 40–90 (500 kg) | 10.0–6.67 |
| copper | 150 | 3.33 |
| copper alloys | 100–150 | 3.33 |
| | 151–243 | 2.0 |

Over the past 50 years, Metal Removal Rates (MRR) and power constants have served as the conventional values used to calculate horsepower. Although this is a relatively common method of calculating horsepower, a more accurate method has been developed when milling with high shear cutters. This new approach utilizes the following information:

1. calculating tangential force ($F_t$)
2. ultimate material strength
3. cross-sectional area of the chip
4. number of inserts in the cut
5. machinability factor
6. tool wear factor
7. calculating torque
8. calculating horsepower at cutter
9. calculating horsepower at motor

## Tangential Force, Torque, and Horsepower Calculations in Face Milling with High Shear Milling Cutters

### 1. Calculation of tangential force (ft. lbs.)

Calculation of tangential force is important since it produces torque at the spindle and accounts for the greatest portion of machining power at the cutting tool. Using this tangential force formula is a quick way to determine the approximate forces that fixtures, part wall sections, or spindle bearings will endure. Tangential force is calculated with the following formula:

$$F_t = S \times A \times Z_c \times C_m \times C_w \text{ (N)}$$

where: S = ultimate strength of the work material (psi)
A = cross-sectional area of the chip removed by the milling insert ($in^2$)
$Z_c$ = number of inserts in cut
$C_m$ = machinability factor
$C_w$ = tool wear factor

### 2. Ultimate material strength (psi)

The approximate relationship between the ultimate material strength and hardness of the most commonly used work materials such as steels, irons (for example: gray cast iron), titanium alloys (Ti – 6Al – 4V), and aluminum alloys (2024, 5052) can be expressed by the empirical formula:

$$S = 500 \times HB \text{ (psi)}$$

Where HB = Brinell hardness numbers obtained, primarily, at the 3000-kgf load. When testing soft metals such as aluminum alloys, the 500-kgf load is used. Hardness obtained at the 500-kgf load should be converted into the hardness equivalent of the 3000-kgf load by using the load factor of 1.15.
For example, 130 HB at the 500-kgf load is equivalent to 150 HB at the 3000-kgf load (130 x 1.15 = 150). If hardness is given in Rockwell "B" or Rockwell "C" numbers, see the Material Listing Overview on pages Y210-Y211.

### 3. Cross-sectional area of the chip (A)

Cross-sectional area of the chip (Fig. 1) is defined by:

where: A = d f ($in^2$, or $mm^2$)
d = axial depth of cut (in, or mm)
fz = feed per tooth (in, or mm)

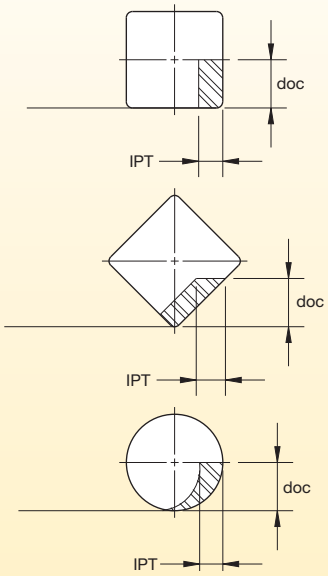



**Figure 1: Cross-sectional area of the chip and insert's shape**

### 4. Number of inserts in cut (Zc)

The number of inserts in the cut (simultaneously engaged with work material) depends on the number of inserts in the cutter "Z" and the engagement angle ($\alpha$). This relationship is shown by the formula:

$$Z_c = \frac{Z \times \alpha^\circ}{360^\circ}$$

The engagement angle depends on the width of cut "W" and cutter diameter "D". This angle is found from the geometry of figure 2 (formulas to calculate engagement angle and the number of inserts in the cut at any width of cut are given in the appendix on page X20.

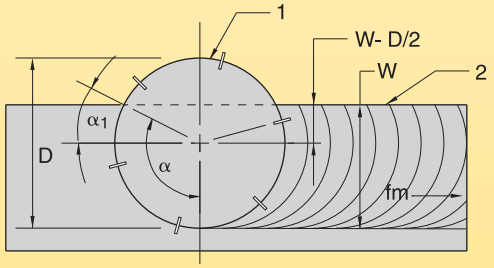



**Figure 2: Schematic for calculating the number of inserts in cut**

1 = milling cutter
2 = workpiece
$\alpha$ = engagement angle
$\alpha_1$ = the angle between cutter centerline and cutter radius to the peripheral point of exit or entry
W = width of cut (woc)
D = cutter diameter
fm = workpiece feed motion

(continued)

*(continued)*

If the width of cut equals cutter diameter (W/D = 1.0), the engagement angle $\alpha = 180°$ and $Z_c = \frac{Z \times 180°}{360°} = 0.5Z$.

If the width of cut is equal to half of the cutter diameter (W/D = 0.5), the engagement angle $\alpha = 90°$ and $Z_c = \frac{Z \times 90°}{360°} = 0.25Z$.

The values of $Z_c$ depending on the given W/D ratios, are shown in table 1.

**Table 1**

| W/D | .88 | .80 | .75 | .67 | .56 | .38 | .33 | .19 | .125 |
|---|---|---|---|---|---|---|---|---|---|
| $Z_c$ | .38Z | .35Z | .33Z | .30Z | .27Z | .21Z | .20Z | .14Z | .12Z |

### 5. Machinability factor ($C_m$)

Machinability factor is used to indicate degree of difficulty in machining various workpiece materials. Table 2 shows machinability factor values for some of the most common workpiece materials.

**Table 2**

| workpiece material | $C_m$ W/D≤.67 | .67<W/D<1.0 | W/D=1.0 |
|---|---|---|---|
| carbon and alloy steels | 1.0 | 1.15 | 1.3 |
| stainless steel | 2.0 | 2.15 | 2.3 |
| gray cast iron | 1.0 | 1.15 | 1.3 |
| titanium alloys | 1.0 | 1.20 | 1.4 |
| aluminum alloys | 1.0 | 1.05 | 1.1 |

The values of $C_m$ are based on milling tests with a torque dynamometer at different cutting conditions. It has been found that machinability factor depends on type of work material and the ratio of radial width of cut to cutter diameter (W/D).

This ratio determines the uniformity of the chip thickness. When W/D = 1.0, the chip at the point of entry starts off at zero thickness. It increases to a maximum thickness at the centerline of the cutter, and thins off to zero again at the point of exit. This type of cut generates maximum friction at the cutting edge, and machinability factor reaches its maximum value. The optimal cutting conditions are obtained when W/D = 2/3 = .67. The thickness of the chip is practically uniform, the friction is minimal, and machinability factor decreases to its minimum value.

More extensive testing will determine machinability factors for a larger variety of work materials and improve the accuracy for calculating tangential force and power consumption.

### 6. Tool wear factor ($C_w$)

For milling with sharp cutting tools (short time operation), tool wear factor $C_w = 1.0$. For a longer operation (before the inserts are indexed), the following tool wear factors are considered:

- light face milling $C_w = 1.1$
- general face milling $C_w = 1.2$
- heavy-duty face milling $C_w = 1.3$

### 7. Calculation of torque (ft. lbs.)

The torque "T" generated by tangential force is calculated using the following formula:

$T = F_t \times D/2$ (in.-lb.)

where D = cutter diameter inch

### 8. Calculating horsepower ($HP_c$ or $HP_m$)

The machining power at the cutter (sharp edges) is calculated by either of these two formulas:

$$HP_c = \frac{F_t \times SFM}{33{,}000}$$

or

$$HP_c = \frac{T \times RPM}{63{,}000}$$

where SFM = peripheral cutting speed (SFM)
RPM = spindle speed (RPM)
33,000 and 63,000 = conversion factors

### 9. The required power at the motor is calculated using the following formula ($HP_m$):

$$HP_m = \frac{HP_c}{E}$$

where E = machine tool efficiency factor (E = .75–.90)

NOTE: Spindle efficiency varies from 75–90%.

*(continued)*

*(continued)*

### Example for Calculating Horsepower

**given values:**

milling cutter KSSISR – 492 – SE443 – 45 – 06:

| | |
|---|---|
| effective diameter | D = 4.92". |
| number of inserts | Z = 6 |

workpiece material:
alloy steel AISI 4140
hardness 220 HB

**machining conditions:**

| | |
|---|---|
| spindle speed | n = 349 |
| cutting speed | Vc = 450 |
| machine feed rate | F = 19.5 |
| inch per tooth (chip load) | fz = .008" |
| axial depth of cut | doc = .200" |
| radial width of cut | woc = 1.64" |
| W/D ratio | W/D = .33 |

### Step-By-Step Calculations

#### 1. Calculating tangential force

1.1 ultimate strength of the workpiece material
S = 500 x HB = 500 x 220 = 110,000 psi

1.2 cross-sectional area of the chip
$A = doc \times IPT = .200 \times .008 = .0016\ in.^2$

1.3 number of inserts in cut:
width of cut-to-diameter ratio (w/d)
W/D = 1.64 / 4.92 = .33 (See Table 1, page X12).
Now use $Z_c$ value shown in Table 1 under .33.
$Z_c = .20 \times Z = .20 \times 6 = 1.2$ inserts in cut.

NOTE: Z = number of inserts in cutter.

1.4 tangential force
$F_t = S \times A \times Z_c \times C_m \times C_w$
$F_t = 110{,}000 \times .0016 \times 1.2 \times 1.1 \times 1.1 = 256$ lbs.

NOTE: $C_m = 1.1$ and $C_w = 1.1$

#### 2. Calculating torque at the cutter

$$T = (F_t \times D)/2 = \frac{256 \times 4.92}{2} = 630\ in.\text{-}lb.$$

#### 3. Calculating horsepower

- At the cutter...reference formulas in paragraph 8 on page X12.

$$HP_c = \frac{F_t \times SFM}{33{,}000} = \frac{256 \times 450}{33{,}000} = 3.5\ hp$$

or

$$HP_c = \frac{T \times RPM}{63{,}000} = \frac{630 \times 349}{63{,}000} = 3.5\ hp$$

- At the motor...reference formula in paragraph 9 on page X12.
- Where E = machine tool efficiency factor (E = .75 to .90).

$$HP_m = \frac{HP_c}{E} = \frac{3.5}{.8} = 4.4\ hp$$

Surface finish may be an important specification on a machined part. Finishes produced by indexable insert cutters usually range from 0.80–3.2 (32–150) Ra. This broad range can be affected by several variables such as work material, machine rigidity, spindle alignment, fixturing, insert nose geometry, insert wear, cutting feed and speed, heat-generated chip welding, and chatter.

Good finishes will result when you use the right combination of cutter geometry, insert style, and cutting speeds and feeds for the material being milled. It is also important to have the part adequately fixtured, and the machine properly maintained.

Figure 1 illustrates that finer finishes can be obtained by using a larger corner radius, flat, or wiper on the insert. This tends to wipe out or reduce feed marks. In addition to the corner geometry of the insert, it is important to correctly set each insert relative to the other inserts. For example, if all of the inserts have the same corner geometry, and are set in the cutter body to a face height of approximately .001" (0,025mm) relative to each other, the finish produced will be better than if the inserts were set to within .003" (0,07mm).

Improved finishes can also be obtained by increasing speeds and reducing feeds. Be aware, however, that increased speed also increases cutting temperatures, and may reduce insert edge life.

Finish will not necessarily be the same on all areas of the milled surface. Figure 2 shows that the Ra finish will be lower on the area where the feed marks are close to each other, and higher where feed marks are farther apart.

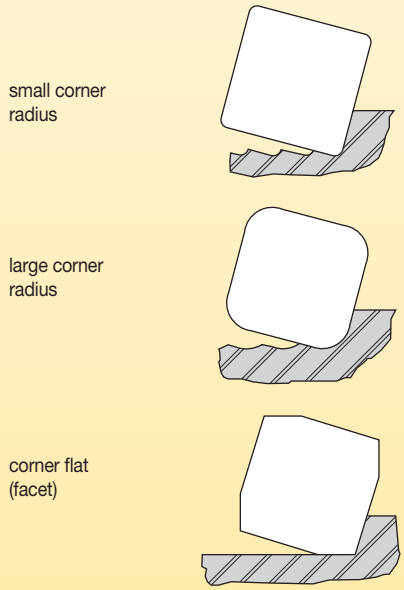



**Figure 1: Larger insert corner radii or flats produce finer milling finishes.**

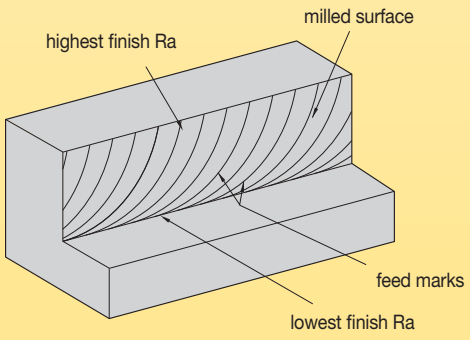



**Figure 2: Quality of Ra finish corresponds to the distance between feed marks.**

In figure 3, the Ra value will be lower near the outside diameter of the cut where the feed marks are at their closest, and higher at the center where the feed marks are farthest apart. Peaks produced are highest at the center of the cutter as it is positioned in the cut, and lowest at the outside diameter of the cutter, as illustrated below in figures 3 and 4.

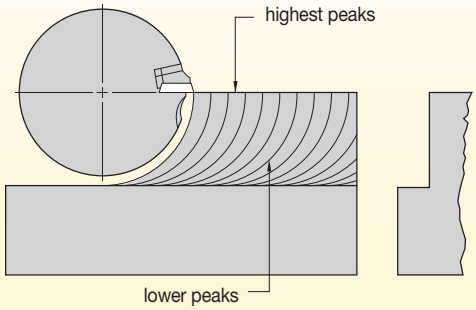



**Figure 3: Ra finish is higher at the widest feed marks.**

Both finish and flatness are affected by feed marks. A taper will be produced from the high peaks down to the low peaks.

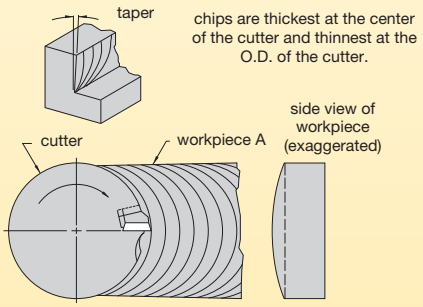



**Figure 4: A taper is produced from the high peaks to the low ones.**

Flatness also affects part tolerance. This effect is more predominant in side milling both sides of a part as shown in figure 5.

An obvious solution to obtaining a more consistent and improved surface finish with a minimum of taper is to reduce or flatten the peaks between feed marks. This can be done by introducing an insert with a corner configuration capable of wiping out or reducing these peaks. Shown in figure 5 is an exaggerated change in part width due to flatness and taper.

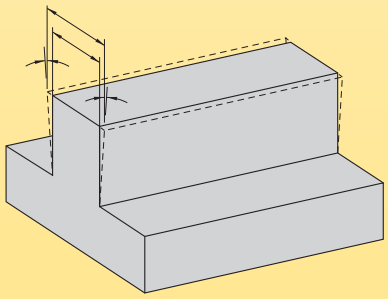


**Figure 5: Flatness affects part tolerance more when milling both sides of a part.**

*(continued)*

*(continued)*

Figures 6 and 7 compare the feed marks produced with a nose radius insert to those produced with a wiper insert. A wiper insert with a large radius for wiping out or reducing peaks (figure 7) has been effective in producing finishes below 3.2 (100) Ra. Figures 6 and 7 show the wiper insert is designed to "top off" the peaks of the feed marks. An improved surface finish, surface flatness, and reduced taper will result.

Wiper inserts are normally set at .001–.0015" (0,025–0,04mm) above the highest positioned insert in the cutter to ensure a good wiping action. Kennametal wiper inserts are typically designed to fit into any pocket in the cutter body. This means one or more wiper inserts can be used. Interchangeable wipers can be used to share the load on the periphery of the cut in feed per tooth.

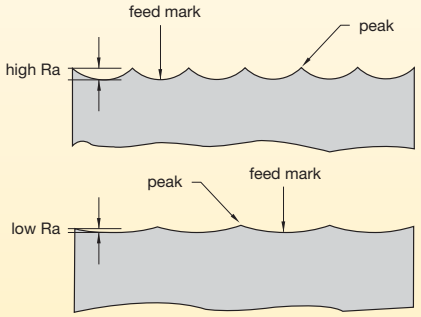



**Figure 6: Peaks produced with a standard radii insert (top) compared to those produced with a large radius wiper insert (bottom).**

## Poor Surface Finish

| cause | solution |
|---|---|
| cutter runout | Check for high insert, dirt in the pockets, or dirty spindle and cutter mounting face. Also, look for burrs on the cutter and damaged cutter pocket. |
| worn or chipped insert | Index insert. |
| feed per revolution exceeding flat on wiper | Reduce feed rate or install wiper with greater effective insert facet width. |
| wiper insert is set too high | Set the wiper insert .001–.0015" (0,025–0,04mm) above highest insert. |
| chatter | Check rigidity of machine and table fixturing. Check arbor and spindle, adjust feed rates, adjust RPM, or reduce cut width. Consider cutter with fewer pockets. |

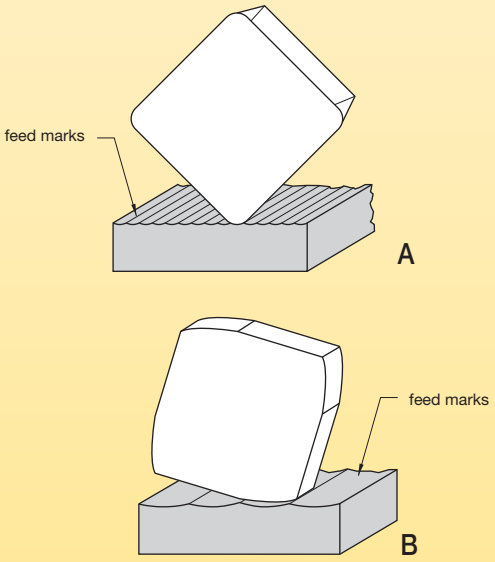



**Figure 7: Feed marks produced with a nose radius insert (A) compared to marks produced with a wiper insert (B).**



*(continued)*

*(continued)*

### Measuring Finish Produced in a Milling Operation

Do not rely on your eye or fingernail to determine surface finish. Fingernails are about 25 times as thick as the stylus tip of a surface measuring instrument. They will skid across surface peaks, missing the valleys. Use a surface measuring instrument since the appearance of the surface finish may be deceiving. For example, reflected light on a uniformly milled surface pattern will look smoother than a random pattern. Also, a shiny surface will appear smoother than a dull surface.

Placement of the measuring device in a specific area on the milled surface will affect the reading. Also, a surface finish measured perpendicular to the feed direction is better than measuring parallel to the feed direction. This is usually the case regardless of workpiece condition and material (see figure 8).

Changing the cut-off width of the surface measuring instrument will affect the Ra value of the measurement.

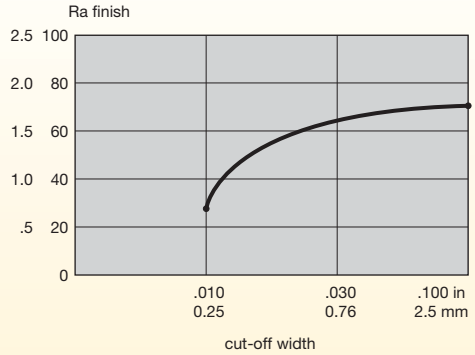



**Figure 10: Finish quality is directly proportional to the cut-off width.**

### Surface Profile Record

Figure 9 shows the variation in roughness created by increasing the cut-off width on the instrument. The greater the cut-off, (see figure 9), the higher the Ra finish. For example, figure 10 illustrates that a .010" (0,25mm) cut-off width will produce a .6 (25) Ra finish; whereas, a .100" (0,76mm) cut-off width will produce a 2.0 (75) Ra finish.

Also, figure 10 demonstrates that most measuring devices are provided with .010" (0,25mm), .030" (0,76mm), and .100" (2,54mm) cut-offs. In most cases, the .030" (0,76mm) width cut-off is preferred.

Figure 11 shows the standard surface symbols specifying maximum and minimum roughness, waviness, and lay, which is the direction in which the measurement is taken.

### Preferred Method

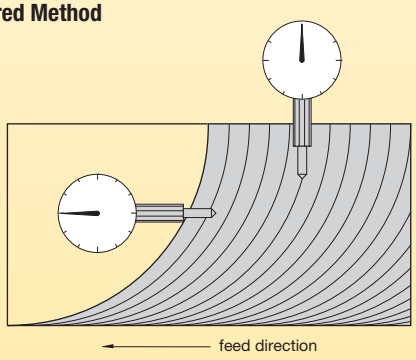



**Figure 8: Measuring surface finish**

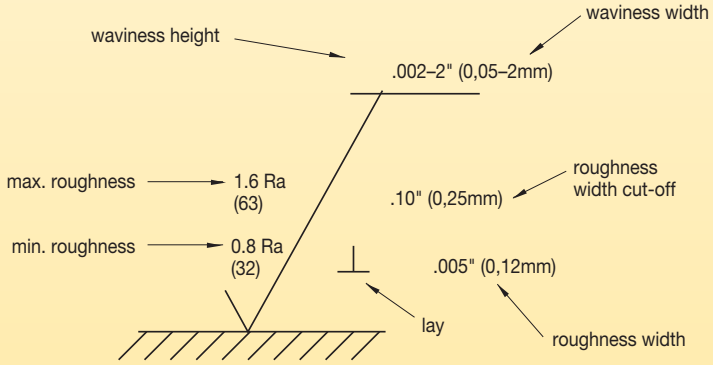



**Figure 11: Standard surface symbols**

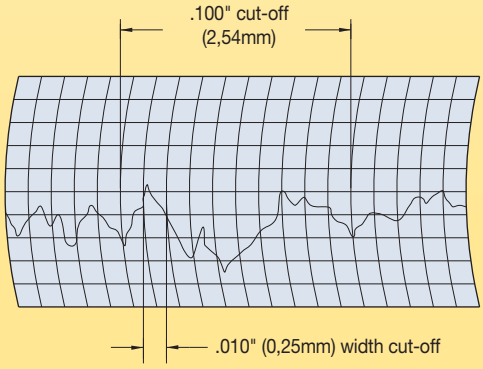



**Figure 9: Increasing the cut-off width creates a variation in roughness.**

### Troubleshooting Introduction

Troubleshooting should be performed in a sequential method to identify and solve your milling problems. These problems can be recognized as premature insert edge failure, part appearance, machine noise or vibration, and the cutter's appearance. Successful troubleshooting requires that we correctly identify the problem, then take the necessary corrective action one step at a time. The five key areas of concern are:

1. cutting tool material (grade)
2. cutter/adapter
3. machine
4. workpiece
5. set-up/fixturing

This section will discuss possible causes and will recommend corrective actions for each of the five areas listed. Remember, if more than one step is taken concurrently, the real cause of the problem may never be discovered. Always perform one corrective measure at a time.

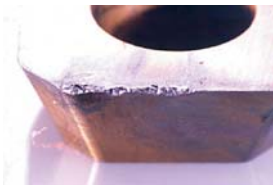
## Edge Condition Problems and Solutions

### Chipping:

Appears like normal flank wear to the untrained eye. Actually, normal flank wear lands have a fine, smooth wear pattern, while a land formed by chipping has a saw-toothed, uneven surface. If chipping is not detected soon enough, it may be perceived as depth-of-cut notching.

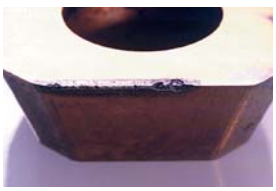
Chipping can also be caused by recutting of chips. A good example of this would be a slotting operation where chip clearance or chip gullet space does not allow the chips to evacuate cleanly. In this instance, packing of the chips also occurs.

In most cases, by changing to a stronger grade and/or to a different edge preparation such as a larger hone or T-land, or from a 90° (0°) cutter geometry to a lead angle cutter geometry, will resolve the problem.

| problem | cause | solution |
|---|---|---|
| chipping  | • chatter | • Check system rigidity for proper part clamping.<br>• Correct worn gibs/bearings.<br>• Check for improper cutter mounting. |
| | • edge prep | • Use largest hone or T-land possible. |
| | • grade | • Use a tougher grade. |
| | • built-up edge | • Increase speed. |
| | • feed | • Reduce feed per tooth. |
| | • recutting chips | • Choose cutter geometry with correct pitch for chip clearance.<br>• Use air blast or coolant to remove chips. |

### Depth-of-cut notching:

Appears when chipping or localized wear at the depth-of-cut line on the rake face and flank of the insert occurs. Notching is primarily caused by the condition of the workpiece material. Material conditions prone to depth-of-cut notch include: an abrasive workpiece skin of scale, abrasive properties of high-temperature alloys like Inconel®, a work-hardened outer layer resulting from a previous machining operation, or heat-treated material above 55 HRC.

| problem | cause | solution |
|---|---|---|
| depth-of-cut notching  | • cutter geometry | • Change to a lead angle cutter. |
| | • grade | • Use a more wear-resistant grade of carbide. |
| | • feed | • Reduce feed per tooth. |
| | • speed | • Reduce speed. |
| | • edge-prep | • Use honed or T-land inserts. |
| | • programming | • Vary depth of cut on very abrasive materials. |

### Thermal cracks:

These cracks run perpendicular to the insert's cutting edge and are caused by the extreme temperature variations involved in milling. In one revolution of a milling cutter, the insert starts to cut and the temperature quickly rises as the insert enters the cut. The varying chip thickness also changes the temperature throughout the cut. When the insert comes out of the cut, air or coolant flow rapidly cools the insert before it re-enters the cut.

These temperature variations create heat stresses in the insert which can result in thermal cracks. To the untrained eye, advanced thermal cracking could appear as chipping.

| problem | cause | solution |
|---|---|---|
| thermal cracks | • speed and feed | • Reduce cutting edge temperature by reducing the cutting speed and possibly the feed per tooth. |
| | • coolant | • Shut off coolant. |
| | • grade | • Use coated grade designed for wet milling. |

### Built-up edge:

This condition involves the adhesion of layers of workpiece material to the top surface of the insert. Hardened pieces of the adhered material periodically break free, leaving an irregularly shaped depression along the cutting edge. This causes damage to the part and insert. Cutting forces also will be increased due to built-up edge.

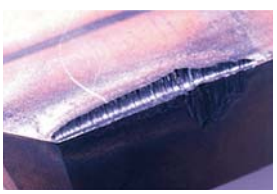
| problem | cause | solution |
|---|---|---|
| built-up edge | • speed | • Increase SFM. |
| | • feed | • Increase feed per tooth. |
| | • coolant | • Use mist or flood coolant to avoid chips sticking to the insert when machining stainless steel and aluminum alloys. |
| | • grade | • Use sharp edge PVD inserts. |
| | | • Higher speeds require diamond-tipped inserts or diamond-coated inserts on certain non-ferrous alloys. |
| | • edge-prep | • Use sharp edge, positive rake PVD inserts, or polished inserts. |

### Crater wear:

A relatively smooth, regular depression is produced on the insert's rake face. Crater wear occurs in two ways:

1. Material adhering to the insert's top surface is dislodged, carrying away minute fragments of the top surface of the insert.
2. Frictional heat builds up from the flow of chips over the top surface of the insert. Eventually, this heat buildup softens the insert behind the cutting edge and removes minute particles of the insert until a crater forms.

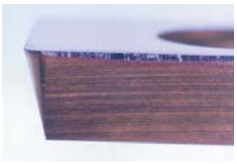
Crater wear is rarely encountered in milling, but can appear when machining certain steel and cast iron alloys. If crater wear becomes severe, there is a risk that the cutting edge will break, destroying the insert.

| problem | cause | solution |
|---|---|---|
| crater wear  | • grade | • Use a more wear-resistant grade. |
| | • speed | • Reduce cutting speed. |
| | • edge-prep | • Use smaller T-land or increase feed to proper range for T-land. |

### Flank wear:

Uniform flank wear is the preferred method of insert failure because it can be predicted. Excessive flank wear increases cutting forces and contributes to poor surface finish. When wear occurs at an unacceptable rate or becomes unpredictable, the key elements that must be investigated are speed, feed, grade, and insert/cutter geometry.

NOTE: Inserts should be indexed for roughing applications when flank wear reaches .015–.020" (0,38–0,50mm). For finish applications, inserts should be indexed once flank wear reaches 0.01–0.015" (0,25–0,38mm), if not sooner.

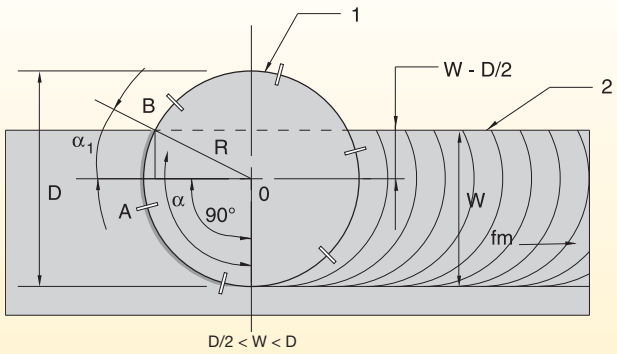
| problem | cause | solution |
|---|---|---|
| flank wear  | • speed | • Check this area first. Recalculate SFM (Vc) to assure correctness.<br>• Speed should be reduced without changing feed per tooth. |
| | • feed | • Increase feed per tooth (feed should be high enough to avoid the pure rubbing, which occurs with small chip thickness). |
| | • grade | • Use more wear-resistant grade.<br>• Change to a coated grade if you are now using an uncoated grade. |
| | • insert geometry | • Inspect insert to determine if proper style is being used in the cutter. |

### Multiple factors:

When wear, chipping, thermal cracking, and breakage occur at once, the machine operator must look beyond the normal feed, speed, and depth-of-cut adjustments to find the root cause of the problem. Speed, feed, and depth-of-cut parameters should be re-examined for accuracy, but the system's rigidity should also be closely inspected for loose or worn parts as well.

| problem | cause | solution |
|---|---|---|
| multiple factors | • system rigidity | • Check system for loose cutter mounting.<br>• Improve fixture and cutter rigidity.<br>• Check for worn hardware or improper insert installation.<br>• Reduce the gauge length of the cutter and arbor assembly. |
| | • feed | • Reduce feed rate to relieve cutting forces. |
| | • cutter geometry | • If possible, use a lead angle cutter to redirect cutting forces away from the insert nose. |
| | • insert/grade | • If possible, use a larger nose radius.<br>• Use T-land insert.<br>• Use a tougher grade of carbide. |

## Appendix • Engagement Angle and Number of Inserts in Cut

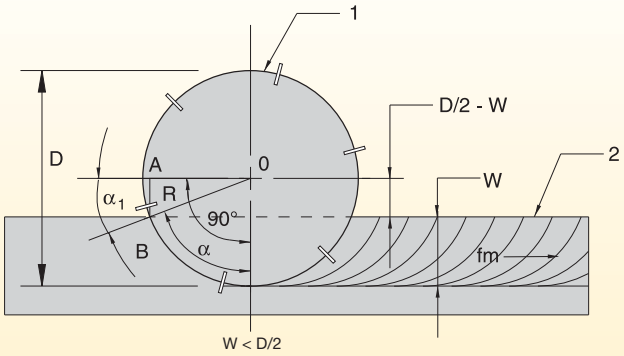



$$Z_c = \frac{Z \times \alpha^\circ}{360^\circ} \qquad \alpha = 90^\circ + \alpha_1$$

$$\sin \alpha_1 = \frac{AB}{OB} = \frac{W - D/2}{D/2} = \frac{2(W - D/2)}{D} = \frac{2W - D}{D};$$

$$\alpha_1 = \arcsin \frac{2W - D}{D};$$

$$Z_c = \frac{Z\left(90^\circ + \arcsin \frac{2W - D}{D}\right)}{360^\circ}$$




$$Z_c = \frac{Z \times \alpha^\circ}{360^\circ} \qquad \alpha = 90^\circ - \alpha_1$$

$$\sin \alpha_1 = \frac{AB}{OB} = \frac{D/2 - W}{D/2} = \frac{2(D/2 - W)}{D} = \frac{D - 2W}{D};$$

$$\alpha_1 = \arcsin \frac{D - 2W}{D}$$

$$Z_c = \frac{Z\left(90^\circ - \arcsin \frac{D - 2W}{D}\right)}{360^\circ}$$

D = cutter diameter
W = width of cut (woc)
$\alpha$ = engagement angle
$\alpha_1$ = angle between cutter centerline and cutter radius to the peripheral point of exit or entry
Z = number of inserts in cutter
$Z_c$ = number of inserts in cut

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| | |
|---|---|
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| Denmark | English | 808 89298 | na.techsupport@kennametal.com |
| Finland | English | 0800 919412 | na.techsupport@kennametal.com |
| France | French | 080 5540 367 | eu.techsupport@kennametal.com |
| Germany | German | 0800 0006651 | eu.techsupport@kennametal.com |
| India | English | 1 800 103 5227 | in.techsupport@kennametal.com |
| Israel | English | 1809 449889 | na.techsupport@kennametal.com |
| Italy | Italian | 800 916561 | eu.techsupport@kennametal.com |
| Japan | English | 03 3820 2855 | ap-kmt.techsupport@kennametal.com |
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| Mexico | Spanish | 1800 253 0758 | na.techsupport@kennametal.com |
| Netherlands | English | 0800 0201 130 | eu.techsupport@kennametal.com |
| New Zealand | English | 0800 450 941 | ap-kmt.techsupport@kennametal.com |
| Norway | English | 800 10080 | na.techsupport@kennametal.com |
| Poland | Polish | 0080 04411887 | eu.techsupport@kennametal.com |
| Russia (landline) | Russian | 8800 5556394 | eu.techsupport@kennametal.com |
| Russia (cell phone) | Russian | +7 8005556394 | eu.techsupport@kennametal.com |
| Singapore | English | 1800 6221031 | ap-kmt.techsupport@kennametal.com |
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| Sweden | English | 020799246 | na.techsupport@kennametal.com |
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| Thailand | English | 1800 4417820 | ap-kmt.techsupport@kennametal.com |
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| USA | English | 800 835 3668 | na.techsupport@kennametal.com |

Numbers shown only serve the originating country listed.

## Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

| Material Group | | GH1 | | | GH2 | | | K110M | | | K115M | | | K313 | | | KBK50 | | | KC410M* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | 1150 | **855** | 525 | 985 | **720** | 475 | 510 | **475** | 460 | 720 | **590** | 475 | 755 | **675** | 590 | 3935 | **2625** | 1970 | – | – | – |
| | 2 | 970 | **720** | 475 | 855 | **625** | 410 | 460 | **410** | 395 | 590 | **475** | 360 | – | – | – | 3935 | **2625** | 1970 | – | – | – |
| | 3 | 785 | **625** | 460 | 720 | **575** | 395 | 395 | **360** | 310 | 360 | **295** | 230 | – | – | – | 3935 | **2625** | 1970 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
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| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KC422M* | | | KC505M | | | KC510M | | | KC515M | | | KC520M | | | KC522M | | | KC524M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | 1085 | **970** | 855 | – | – | – | 1295 | **1115** | 1065 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 1015 | **900** | 785 | – | – | – | 1085 | **950** | 785 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 900 | **785** | 675 | – | – | – | 1000 | **855** | 690 | – | – | – |
| | 4 | – | – | – | 1180 | **870** | 705 | 970 | **785** | 675 | 785 | **675** | 525 | – | – | – | 885 | **720** | 590 | – | – | – |
| | 5 | – | – | – | 1180 | **870** | 705 | – | – | – | 675 | **525** | 410 | – | – | – | 720 | **675** | 590 | – | – | – |
| | 6 | – | – | – | 1150 | **785** | 625 | – | – | – | 525 | **410** | 360 | – | – | – | 655 | **490** | 395 | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | 1085 | **900** | 785 | – | – | – | 805 | **705** | 655 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 900 | **720** | 525 | – | – | – | 720 | **625** | 510 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 720 | **590** | 475 | – | – | – | 560 | **475** | 375 | – | – | – |
| K | 1 | – | – | – | 755 | **675** | 590 | 1165 | **1050** | 950 | 1445 | **1085** | 720 | 1065 | **970** | 855 | 900 | **805** | 720 | 1475 | **1050** | 755 |
| | 2 | – | – | – | 690 | **605** | 525 | 900 | **805** | 755 | 1085 | **855** | 590 | 820 | **755** | 690 | 705 | **625** | 590 | 1280 | **805** | 625 |
| | 3 | – | – | – | 460 | **375** | 295 | 770 | **690** | 625 | 475 | **360** | 230 | 690 | **625** | 575 | 590 | **525** | 475 | 985 | **720** | 510 |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
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| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | 870 | **675** | 560 | 625 | **510** | 360 | 560 | **395** | 310 | – | – | – | 475 | **360** | 280 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

Technical Information

*Recommended for wet machining only.

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NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

*(continued)*

## Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

| Material Group | | KC525M | | | KC530M | | | KC725M | | | KC735M | | | KCK15 | | | KCK20 | | | KCPK30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 870 | **785** | 705 | 900 | **785** | 675 | 1015 | **900** | 855 | 510 | **475** | 395 | – | – | – | – | – | – | 1790 | **1560** | 1460 |
| | 2 | 705 | **625** | 590 | 785 | **675** | 525 | 870 | **755** | 625 | 475 | **425** | 410 | – | – | – | – | – | – | 1100 | **1000** | 900 |
| | 3 | 625 | **590** | 560 | 675 | **590** | 525 | 785 | **675** | 560 | 425 | **395** | 360 | – | – | – | – | – | – | 1000 | **900** | 805 |
| | 4 | 560 | **510** | 475 | 590 | **525** | 475 | 705 | **590** | 475 | 395 | **360** | 310 | – | – | – | – | – | – | 755 | **690** | 625 |
| | 5 | 590 | **560** | 510 | 525 | **475** | 410 | 590 | **525** | 475 | 360 | **310** | 295 | – | – | – | – | – | – | 1015 | **900** | 820 |
| | 6 | 510 | **475** | 425 | 410 | **360** | 295 | 510 | **395** | 310 | 310 | **295** | 280 | – | – | – | – | – | – | 625 | **525** | – |
| M | 1 | 590 | **560** | 510 | 900 | **720** | 590 | 675 | **590** | 525 | 410 | **360** | 310 | – | – | – | – | – | – | 805 | **720** | 605 |
| | 2 | 510 | **475** | 425 | 590 | **475** | 410 | 605 | **510** | 425 | 375 | **330** | 295 | – | – | – | – | – | – | 720 | **625** | 560 |
| | 3 | 360 | **310** | 280 | 475 | **410** | 360 | 460 | **395** | 310 | 280 | **230** | – | – | – | – | – | – | – | 575 | **510** | 460 |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | 1655 | **1510** | 1345 | 1150 | **1000** | 855 | 1165 | **1050** | 950 |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | 1310 | **1165** | 1085 | 900 | **785** | 690 | 920 | **820** | 755 |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | 1100 | **985** | 900 | 755 | **675** | 575 | 770 | **690** | 625 |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KCPM40 | | | KCSM30 | | | KCSM40 | | | KD1400* | | | KD1410* | | | KD1415* | | | KD1425* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1165 | **1015** | 970 | 1460 | **1265** | 1180 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 985 | **855** | 705 | 1200 | **1065** | 870 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 900 | **770** | 625 | 1115 | **950** | 770 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 805 | **675** | 525 | 985 | **805** | 655 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | 675 | **605** | 525 | 805 | **755** | 655 | 675 | **575** | 475 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | 590 | **460** | 360 | 720 | **560** | 425 | 590 | **425** | 310 | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | 770 | **675** | 605 | 885 | **785** | 720 | 820 | **675** | 560 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 690 | **590** | 490 | 805 | **705** | 575 | 705 | **575** | 475 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 510 | **460** | 360 | 605 | **525** | 410 | 575 | **425** | 330 | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | 525 | **395** | 295 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

*(continued)*

## Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

| Material Group | | KTPK20 | | | KY3500 | | | KYS30 | | | KYSP30 | | | MP91M | | | SC3025 | | | SC6525 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1445 | **1180** | 1000 | – | – | – | – | – | – | – | – | – | 1360 | **970** | 560 | – | – | – | 1460 | **1000** | 560 |
| | 2 | 885 | **755** | 625 | – | – | – | – | – | – | – | – | – | 1200 | **855** | 475 | – | – | – | 1280 | **885** | 475 |
| | 3 | 805 | **675** | 575 | – | – | – | – | – | – | – | – | – | 1065 | **755** | 410 | – | – | – | 1150 | **785** | 410 |
| | 4 | 590 | **510** | 425 | – | – | – | – | – | – | – | – | – | 805 | **575** | 310 | – | – | – | 820 | **575** | 310 |
| | 5 | 820 | **690** | 575 | – | – | – | 2985 | **2395** | 1790 | 2985 | **2395** | 1790 | – | – | – | – | – | – | 625 | **475** | 310 |
| | 6 | 510 | **410** | – | – | – | – | 2985 | **2395** | 1790 | 2985 | **2395** | 1790 | – | – | – | – | – | – | 560 | **395** | 230 |
| M | 1 | 950 | **770** | 655 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 785 | **705** | 560 |
| | 2 | 855 | **720** | 590 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 755 | **625** | 475 |
| | 3 | 625 | **525** | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 575 | **510** | 360 |
| K | 1 | 900 | **770** | 625 | 3165 | **2870** | 2560 | – | – | – | – | – | – | 1445 | **1000** | 575 | 1560 | **1085** | 590 | 1540 | **1065** | 575 |
| | 2 | 720 | **590** | 510 | 2495 | **2245** | 2085 | – | – | – | – | – | – | 1115 | **785** | 460 | 1310 | **900** | 475 | 1200 | **820** | 460 |
| | 3 | 590 | **510** | 410 | – | – | – | – | – | – | – | – | – | 1015 | **720** | 410 | 1085 | **755** | 410 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | 2640 | **2165** | 1675 | 2640 | **2165** | 1675 | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | 2640 | **2165** | 1675 | 2640 | **2165** | 1675 | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | 3840 | **3135** | 2395 | 3840 | **3135** | 2395 | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | 410 | **310** | 195 | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | 375 | **280** | 165 | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | SP4019 | | | SP6519 | | | X400 | | | X500 | | | X700 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1245 | **900** | 560 | 1165 | **855** | 510 | 1015 | **755** | 475 | 1065 | **785** | 510 | – | – | – |
| | 2 | 1085 | **785** | 475 | 1015 | **755** | 460 | 900 | **675** | 410 | 950 | **705** | 460 | – | – | – |
| | 3 | 970 | **690** | 410 | 900 | **655** | 395 | 785 | **590** | 375 | 820 | **605** | 395 | – | – | – |
| | 4 | 755 | **525** | 310 | 690 | **490** | 295 | 590 | **425** | 280 | 625 | **475** | 295 | – | – | – |
| | 5 | 590 | **425** | 280 | 560 | **410** | 280 | – | – | – | 510 | **395** | 280 | 525 | **410** | 280 |
| | 6 | 510 | **360** | 195 | 475 | **330** | 195 | – | – | – | 425 | **310** | 195 | 460 | **330** | 195 |
| M | 1 | 1100 | **785** | 475 | 1065 | **770** | 460 | – | – | – | 985 | **720** | 460 | 1015 | **755** | 460 |
| | 2 | 985 | **705** | 425 | 920 | **675** | 410 | – | – | – | 870 | **625** | 395 | 900 | **675** | 410 |
| | 3 | 785 | **575** | 360 | 770 | **560** | 330 | – | – | – | 705 | **510** | 310 | 755 | **560** | 330 |
| K | 1 | 1295 | **950** | 575 | 1165 | **870** | 560 | – | – | – | 1015 | **870** | 675 | – | – | – |
| | 2 | 1000 | **720** | 460 | 950 | **690** | 425 | – | – | – | 870 | **705** | 510 | – | – | – |
| | 3 | 920 | **675** | 410 | 870 | **625** | 395 | – | – | – | 675 | **560** | 395 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | 395 | **295** | 195 | – | – | – | 375 | **280** | 180 | – | – | – | – | – | – |
| | 2 | 360 | **260** | 165 | – | – | – | 310 | **230** | 130 | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

## Inch • Shoulder Milling, Slotting, and Thread Mills

| Material Group | | GH1 | | | GH2 | | | K110M | | | K115M | | | K313 | | | KBK50 | | | KC410M* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | 950 | **705** | 445 | 820 | **605** | 395 | 425 | **395** | 375 | 605 | **490** | 395 | 625 | **560** | 490 | 3280 | **2180** | 1640 | – | – | – |
| | 2 | 805 | **605** | 395 | 705 | **525** | 345 | 375 | **345** | 330 | 490 | **395** | 295 | – | – | – | 3280 | **2180** | 1640 | – | – | – |
| | 3 | 655 | **525** | 375 | 605 | **475** | 330 | 330 | **295** | 260 | 295 | **245** | 195 | – | – | – | 3280 | **2180** | 1640 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KC422M* | | | KC505M | | | KC510M | | | KC515M | | | KC520M | | | KC522M | | | KC524M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | 900 | **805** | 705 | – | – | – | 1085 | **935** | 885 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 855 | **755** | 655 | – | – | – | 900 | **785** | 655 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 755 | **655** | 560 | – | – | – | 835 | **705** | 575 | – | – | – |
| | 4 | – | – | – | 985 | **720** | 590 | 805 | **655** | 560 | 655 | **560** | 445 | – | – | – | 740 | **605** | 490 | – | – | – |
| | 5 | – | – | – | 985 | **720** | 590 | – | – | – | 560 | **445** | 345 | – | – | – | 605 | **560** | 490 | – | – | – |
| | 6 | – | – | – | 950 | **655** | 525 | – | – | – | 445 | **345** | 295 | – | – | – | 540 | **410** | 330 | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | 900 | **755** | 655 | – | – | – | 675 | **590** | 540 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 755 | **605** | 445 | – | – | – | 605 | **525** | 425 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 605 | **490** | 395 | – | – | – | 460 | **395** | 310 | – | – | – |
| K | 1 | – | – | – | 625 | **560** | 490 | 970 | **870** | 785 | 1200 | **900** | 605 | 885 | **805** | 705 | 755 | **675** | 605 | 1230 | **870** | 625 |
| | 2 | – | – | – | 575 | **510** | 445 | 755 | **675** | 625 | 900 | **705** | 490 | 690 | **625** | 575 | 590 | **525** | 490 | 1065 | **675** | 525 |
| | 3 | – | – | – | 375 | **310** | 245 | 640 | **575** | 525 | 395 | **295** | 195 | 575 | **525** | 475 | 490 | **445** | 395 | 820 | **605** | 425 |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | 720 | **560** | 460 | 525 | **425** | 295 | 460 | **330** | 260 | – | – | – | 395 | **295** | 230 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

*(continued)*

## Inch • Shoulder Milling, Slotting, and Thread Mills

| Material Group | | KC525M | | | KC530M | | | KC725M | | | KC735M | | | KCK15 | | | KCK20 | | | KCPK30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 720 | **655** | 590 | 755 | **655** | 560 | 855 | **755** | 705 | 425 | **395** | 330 | – | – | – | – | – | – | 1495 | **1295** | 1215 |
| | 2 | 590 | **525** | 490 | 655 | **560** | 445 | 720 | **625** | 525 | 395 | **360** | 345 | – | – | – | – | – | – | 920 | **835** | 755 |
| | 3 | 525 | **490** | 460 | 560 | **490** | 445 | 655 | **560** | 460 | 360 | **330** | 295 | – | – | – | – | – | – | 835 | **755** | 675 |
| | 4 | 460 | **425** | 395 | 490 | **445** | 395 | 590 | **490** | 395 | 330 | **295** | 260 | – | – | – | – | – | – | 625 | **575** | 525 |
| | 5 | 490 | **460** | 425 | 445 | **395** | 345 | 490 | **445** | 395 | 295 | **260** | 245 | – | – | – | – | – | – | 855 | **755** | 690 |
| | 6 | 425 | **395** | 360 | 345 | **295** | 245 | 425 | **330** | 260 | 260 | **245** | 230 | – | – | – | – | – | – | 525 | **445** | – |
| M | 1 | 490 | **460** | 425 | 755 | **605** | 490 | 560 | **490** | 445 | 345 | **295** | 260 | – | – | – | – | – | – | 675 | **605** | 510 |
| | 2 | 425 | **395** | 360 | 490 | **395** | 345 | 510 | **425** | 360 | 310 | **280** | 245 | – | – | – | – | – | – | 605 | **525** | 460 |
| | 3 | 295 | **260** | 230 | 395 | **345** | 295 | 375 | **330** | 260 | 230 | **195** | – | – | – | – | – | – | – | 475 | **425** | 375 |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | 1380 | **1265** | 1115 | 950 | **835** | 705 | 970 | **870** | 785 |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | 1100 | **970** | 900 | 755 | **655** | 575 | 770 | **690** | 625 |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | 920 | **820** | 755 | 625 | **560** | 475 | 640 | **575** | 525 |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KCPM40 | | | KCSM30 | | | KCSM40 | | | KD1400* | | | KD1410* | | | KD1415* | | | KD1425* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 970 | **855** | 805 | 1215 | **1050** | 985 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 820 | **705** | 590 | 1000 | **885** | 720 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 755 | **640** | 525 | 935 | **785** | 640 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 675 | **560** | 445 | 820 | **675** | 540 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | 560 | **510** | 445 | 675 | **625** | 540 | 560 | **475** | 395 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | 490 | **375** | 295 | 605 | **460** | 360 | 490 | **360** | 260 | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | 640 | **560** | 510 | 740 | **655** | 605 | 690 | **560** | 460 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 575 | **490** | 410 | 675 | **590** | 475 | 590 | **475** | 395 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 425 | **375** | 295 | 510 | **445** | 345 | 475 | **360** | 280 | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | 445 | **330** | 245 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for wet machining only.

*(continued)*

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

Technical Information

*(continued)*

## Inch • Shoulder Milling, Slotting, and Thread Mills

| Material Group | | KTPK20 | | | KY3500 | | | KYS30 | | | KYSP30 | | | MP91M | | | SC3025 | | | SC6525 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1200 | **985** | 835 | – | – | – | – | – | – | – | – | – | 1130 | **805** | 460 | – | – | – | 1215 | **835** | 460 |
| | 2 | 740 | **625** | 525 | – | – | – | – | – | – | – | – | – | 1000 | **705** | 395 | – | – | – | 1065 | **740** | 395 |
| | 3 | 675 | **560** | 475 | – | – | – | – | – | – | – | – | – | 885 | **625** | 345 | – | – | – | 950 | **655** | 345 |
| | 4 | 490 | **425** | 360 | – | – | – | – | – | – | – | – | – | 675 | **475** | 260 | – | – | – | 690 | **475** | 260 |
| | 5 | 690 | **575** | 475 | – | – | – | 2495 | **2000** | 1495 | 2495 | **2000** | 1495 | – | – | – | – | – | – | 525 | **395** | 260 |
| | 6 | 425 | **345** | – | – | – | – | 2495 | **2000** | 1495 | 2495 | **2000** | 1495 | – | – | – | – | – | – | 460 | **330** | 195 |
| M | 1 | 785 | **640** | 540 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 655 | **590** | 460 |
| | 2 | 705 | **605** | 490 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 625 | **525** | 395 |
| | 3 | 525 | **445** | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 475 | **425** | 295 |
| K | 1 | 755 | **640** | 525 | 2640 | **2395** | 2135 | – | – | – | – | – | – | 1200 | **835** | 475 | 1295 | **900** | 490 | 1280 | **885** | 475 |
| | 2 | 605 | **490** | 425 | 2085 | **1870** | 1740 | – | – | – | – | – | – | 935 | **655** | 375 | 1100 | **755** | 395 | 1000 | **690** | 375 |
| | 3 | 490 | **425** | 345 | – | – | – | – | – | – | – | – | – | 855 | **605** | 345 | 900 | **625** | 345 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | 2200 | **1805** | 1395 | 2200 | **1805** | 1395 | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | 2200 | **1805** | 1395 | 2200 | **1805** | 1395 | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | 3200 | **2610** | 2000 | 3200 | **2610** | 2000 | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | 345 | **260** | 165 | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | 310 | **230** | 130 | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | SP4019 | | | SP6519 | | | X400 | | | X500 | | | X700 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1035 | **755** | 460 | 970 | **705** | 425 | 855 | **625** | 395 | 885 | **655** | 425 | – | – | – |
| | 2 | 900 | **655** | 395 | 855 | **625** | 375 | 755 | **560** | 345 | 785 | **590** | 375 | – | – | – |
| | 3 | 805 | **575** | 345 | 755 | **540** | 330 | 655 | **490** | 310 | 690 | **510** | 330 | – | – | – |
| | 4 | 625 | **445** | 260 | 575 | **410** | 245 | 490 | **360** | 230 | 525 | **395** | 245 | – | – | – |
| | 5 | 490 | **360** | 230 | 460 | **345** | 230 | – | – | – | 425 | **330** | 230 | 445 | **345** | 230 |
| | 6 | 425 | **295** | 165 | 395 | **280** | 165 | – | – | – | 360 | **260** | 165 | 375 | **280** | 165 |
| M | 1 | 920 | **655** | 395 | 885 | **640** | 375 | – | – | – | 820 | **605** | 375 | 855 | **625** | 375 |
| | 2 | 820 | **590** | 360 | 770 | **560** | 345 | – | – | – | 720 | **525** | 330 | 755 | **560** | 345 |
| | 3 | 655 | **475** | 295 | 640 | **460** | 280 | – | – | – | 590 | **425** | 260 | 625 | **460** | 280 |
| K | 1 | 1085 | **785** | 475 | 970 | **720** | 460 | – | – | – | 855 | **720** | 560 | – | – | – |
| | 2 | 835 | **605** | 375 | 785 | **575** | 360 | – | – | – | 720 | **590** | 425 | – | – | – |
| | 3 | 770 | **560** | 345 | 720 | **525** | 330 | – | – | – | 560 | **460** | 330 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | 330 | **245** | 165 | – | – | – | 310 | **230** | 150 | – | – | – | – | – | – |
| | 2 | 295 | **215** | 130 | – | – | – | 260 | **195** | 115 | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

## Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

| Material Group | | GH1 | | | GH2 | | | K110M | | | K115M | | | K313 | | | KBK50 * | | | KC410M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | 920 | **685** | 420 | 790 | **575** | 380 | 410 | **380** | 370 | 575 | **470** | 380 | 605 | **540** | 470 | 3150 | **2100** | 1575 | – | – | – |
| | 2 | 775 | **575** | 380 | 685 | **500** | 330 | 370 | **330** | 315 | 470 | **380** | 290 | – | – | – | 3150 | **2100** | 1575 | – | – | – |
| | 3 | 630 | **500** | 370 | 575 | **460** | 315 | 315 | **290** | 250 | 290 | **235** | 185 | – | – | – | 3150 | **2100** | 1575 | – | – | – |
| N | 1 | 3780 | **2940** | 1260 | 3780 | **2980** | 1260 | 1590 | **1495** | 1415 | 1155 | **870** | 575 | 2510 | **2190** | 1890 | – | – | – | 3830 | **3400** | 3135 |
| | 2 | 3780 | **2940** | 1260 | 3780 | **2980** | 1260 | 1290 | **1155** | 1010 | 775 | **575** | 470 | – | – | – | – | – | – | 3400 | **3135** | 2890 |
| | 3 | 2785 | **2585** | 930 | 2785 | **2295** | 930 | 1290 | **1155** | 1010 | 775 | **575** | 470 | – | – | – | – | – | – | 3400 | **3135** | 2890 |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | 235 | **185** | 145 | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KC422M | | | KC505M | | | KC510M | | | KC515M | | | KC520M | | | KC522M | | | KC524M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | 870 | **775** | 685 | – | – | – | 1035 | **890** | 850 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 810 | **720** | 630 | – | – | – | 870 | **760** | 630 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 720 | **630** | 540 | – | – | – | 800 | **685** | 550 | – | – | – |
| | 4 | – | – | – | 945 | **695** | 565 | 775 | **630** | 540 | 630 | **540** | 420 | – | – | – | 710 | **575** | 470 | – | – | – |
| | 5 | – | – | – | 945 | **695** | 565 | – | – | – | 540 | **420** | 330 | – | – | – | 575 | **540** | 470 | – | – | – |
| | 6 | – | – | – | 920 | **630** | 500 | – | – | – | 420 | **330** | 290 | – | – | – | 525 | **390** | 315 | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | 870 | **720** | 630 | – | – | – | 645 | **565** | 525 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 720 | **575** | 420 | – | – | – | 575 | **500** | 410 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 575 | **470** | 380 | – | – | – | 450 | **380** | 300 | – | – | – |
| K | 1 | – | – | – | 605 | **540** | 470 | 930 | **840** | 760 | 1155 | **870** | 575 | 850 | **775** | 685 | 720 | **645** | 575 | 1180 | **840** | 605 |
| | 2 | – | – | – | 550 | **485** | 420 | 720 | **645** | 605 | 870 | **685** | 470 | 655 | **605** | 550 | 565 | **500** | 470 | 1025 | **645** | 500 |
| | 3 | – | – | – | 370 | **300** | 235 | 615 | **550** | 500 | 380 | **290** | 185 | 550 | **500** | 460 | 470 | **420** | 380 | 790 | **575** | 410 |
| N | 1 | 3385 | **2980** | 2755 | – | – | – | 2020 | **1795** | 1650 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 2980 | **2755** | 2390 | – | – | – | 1825 | **1680** | 1550 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 2980 | **2755** | 2390 | – | – | – | 1825 | **1680** | 1550 | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 130 | **105** | 80 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 130 | **105** | 80 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 155 | **130** | 80 | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 225 | **155** | 105 | – | – | – |
| H | 1 | – | – | – | 695 | **540** | 450 | 500 | **410** | 290 | 450 | **315** | 250 | – | – | – | 380 | **290** | 225 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for dry machining only.

*(continued)*

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

*(continued)*

## Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

| Material Group | | KC525M | | | KC530M | | | KC725M | | | KC735M | | | KCK15 | | | KCK20 | | | KCPK30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 695 | **630** | 565 | 720 | **630** | 540 | 810 | **720** | 685 | 410 | **380** | 315 | – | – | – | – | – | – | 1430 | **1250** | 1170 |
| | 2 | 565 | **500** | 470 | 630 | **540** | 420 | 695 | **605** | 500 | 380 | **340** | 330 | – | – | – | – | – | – | 880 | **800** | 720 |
| | 3 | 500 | **470** | 450 | 540 | **470** | 420 | 630 | **540** | 450 | 340 | **315** | 290 | – | – | – | – | – | – | 800 | **720** | 645 |
| | 4 | 450 | **410** | 380 | 470 | **420** | 380 | 565 | **470** | 380 | 315 | **290** | 250 | – | – | – | – | – | – | 605 | **550** | 500 |
| | 5 | 470 | **450** | 410 | 420 | **380** | 330 | 470 | **420** | 380 | 290 | **250** | 235 | – | – | – | – | – | – | 810 | **720** | 655 |
| | 6 | 410 | **380** | 340 | 330 | **290** | 235 | 410 | **315** | 250 | 250 | **235** | 225 | – | – | – | – | – | – | 500 | **420** | – |
| M | 1 | 470 | **450** | 410 | 720 | **575** | 470 | 540 | **470** | 420 | 330 | **290** | 250 | – | – | – | – | – | – | 645 | **575** | 485 |
| | 2 | 410 | **380** | 340 | 470 | **380** | 330 | 485 | **410** | 340 | 300 | **265** | 235 | – | – | – | – | – | – | 575 | **500** | 450 |
| | 3 | 290 | **250** | 225 | 380 | **330** | 290 | 370 | **315** | 250 | 225 | **185** | – | – | – | – | – | – | – | 460 | **410** | 370 |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | 1325 | **1210** | 1075 | 920 | **800** | 685 | 930 | **840** | 760 |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | 1050 | **930** | 870 | 720 | **630** | 550 | 735 | **655** | 605 |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | 880 | **790** | 720 | 605 | **540** | 460 | 615 | **550** | 500 |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | 185 | **170** | 155 | – | – | – | 105 | **90** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 185 | **170** | 155 | – | – | – | 105 | **90** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 155 | **145** | 130 | – | – | – | 145 | **105** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 185 | **155** | 130 | 210 | **155** | 145 | 170 | **145** | 90 | – | – | – | – | – | – | – | – | – | 210 | **155** | 105 |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KCPM40 | | | KCSM30 | | | KCSM40 | | | KD1400 | | | KD1410 | | | KD1415 | | | KD1425 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 930 | **810** | 775 | 1170 | **1010** | 945 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 790 | **685** | 565 | 960 | **850** | 695 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 720 | **615** | 500 | 890 | **760** | 615 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 645 | **540** | 420 | 790 | **645** | 525 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | 540 | **485** | 420 | 645 | **605** | 525 | 540 | **460** | 380 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | 470 | **370** | 290 | 575 | **450** | 340 | 470 | **340** | 250 | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | 615 | **540** | 485 | 710 | **630** | 575 | 655 | **540** | 450 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 550 | **470** | 390 | 645 | **565** | 460 | 565 | **460** | 380 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 410 | **370** | 290 | 485 | **420** | 330 | 460 | **340** | 265 | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | 2390 | **5195** | 12810 | 12625 | **11035** | 9425 | 12625 | **11035** | 9425 | 2390 | **5195** | 12810 |
| | 2 | – | – | – | – | – | – | – | – | – | 2390 | **5195** | 12810 | 5040 | **4710** | 4410 | 5040 | **4710** | 4410 | 2390 | **5195** | 12810 |
| | 3 | – | – | – | – | – | – | – | – | – | 1210 | **1600** | 1865 | 5040 | **4710** | 4410 | 5040 | **4710** | 4410 | 1210 | **1600** | 1865 |
| S | 1 | 130 | **105** | 90 | 145 | **130** | 90 | 130 | **105** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 130 | **105** | 90 | 145 | **130** | 90 | 130 | **105** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 155 | **130** | 90 | 170 | **145** | 90 | 155 | **130** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 210 | **155** | 105 | 225 | **185** | 130 | 185 | **155** | 90 | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | 420 | **315** | 235 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

*(continued)*

## Inch • Face Milling, Contour Milling, Profiling, and Die & Mold

| Material Group | | KTPK20 | | | KY3500 | | | KYS30* | | | KYSP30* | | | SC3025 | | | SC6525 | | | SP4019 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 1155 | **945** | 800 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 1170 | **800** | 450 | 995 | **720** | 450 |
| | 2 | 710 | **605** | 500 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 1025 | **710** | 380 | 870 | **630** | 380 |
| | 3 | 645 | **540** | 460 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 920 | **630** | 330 | 775 | **550** | 330 |
| | 4 | 470 | **410** | 340 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 655 | **460** | 250 | 605 | **420** | 250 |
| | 5 | 655 | **550** | 460 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 500 | **380** | 250 | 470 | **340** | 225 |
| | 6 | 410 | **330** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 450 | **315** | 185 | 410 | **290** | 155 |
| M | 1 | 760 | **615** | 525 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 630 | **565** | 450 | 880 | **630** | 380 |
| | 2 | 685 | **575** | 470 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 605 | **500** | 380 | 790 | **565** | 340 |
| | 3 | 500 | **420** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 460 | **410** | 290 | 630 | **460** | 290 |
| K | 1 | 720 | **615** | 500 | 2530 | **2295** | 2050 | – | **–** | – | – | **–** | – | 1250 | **870** | 470 | 1230 | **850** | 460 | 1035 | **760** | 460 |
| | 2 | 575 | **470** | 410 | 1995 | **1795** | 1670 | – | **–** | – | – | **–** | – | 1050 | **720** | 380 | 960 | **655** | 370 | 800 | **575** | 370 |
| | 3 | 470 | **410** | 330 | – | **–** | – | – | **–** | – | – | **–** | – | 870 | **605** | 330 | – | **–** | – | 735 | **540** | 330 |
| N | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 9120 | **5195** | 1260 |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 9120 | **5195** | 1260 |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 7310 | **4120** | 930 |
| S | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 195 | **145** | 80 |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 155 | **130** | 80 |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 185 | **145** | 80 |
| | 4 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 265 | **185** | 120 |
| H | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 315 | **235** | 155 |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 290 | **210** | 130 |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |

| Material Group | | SP6519 | | | X400 | | | X500 | | | X700 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 930 | **685** | 410 | 810 | **605** | 380 | 850 | **630** | 410 | – | **–** | – |
| | 2 | 810 | **605** | 370 | 720 | **540** | 330 | 760 | **565** | 370 | – | **–** | – |
| | 3 | 720 | **525** | 315 | 630 | **470** | 300 | 655 | **485** | 315 | – | **–** | – |
| | 4 | 550 | **390** | 235 | 470 | **340** | 225 | 500 | **380** | 235 | – | **–** | – |
| | 5 | 450 | **330** | 225 | – | **–** | – | 410 | **315** | 225 | 420 | **330** | 225 |
| | 6 | 380 | **265** | 155 | – | **–** | – | 340 | **250** | 155 | 370 | **265** | 155 |
| M | 1 | 850 | **615** | 370 | – | **–** | – | 790 | **575** | 370 | 810 | **605** | 370 |
| | 2 | 735 | **540** | 330 | – | **–** | – | 695 | **500** | 315 | 720 | **540** | 330 |
| | 3 | 615 | **450** | 265 | – | **–** | – | 565 | **410** | 250 | 605 | **450** | 265 |
| K | 1 | 930 | **695** | 450 | – | **–** | – | 810 | **695** | 540 | – | **–** | – |
| | 2 | 760 | **550** | 340 | – | **–** | – | 695 | **565** | 410 | – | **–** | – |
| | 3 | 695 | **500** | 315 | – | **–** | – | 540 | **450** | 315 | – | **–** | – |
| N | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| S | 1 | 170 | **130** | 80 | – | **–** | – | 155 | **105** | 80 | 155 | **130** | 80 |
| | 2 | 155 | **105** | 65 | – | **–** | – | 145 | **105** | 65 | 145 | **105** | 65 |
| | 3 | 170 | **130** | 80 | – | **–** | – | 155 | **130** | 80 | 170 | **130** | 80 |
| | 4 | 250 | **185** | 120 | – | **–** | – | 235 | **170** | 105 | 235 | **170** | 120 |
| H | 1 | – | **–** | – | 300 | **225** | 145 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | 250 | **185** | 105 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |

*Recommended for dry machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

## Inch • Shoulder and Slotting Cutters, Thread Mills

| Material Group | | GH1 | | | GH2 | | | K110M | | | K115M | | | K313 | | | KBK50 * | | | KC410M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | 760 | **565** | 355 | 655 | **485** | 315 | 340 | **315** | 300 | 485 | **390** | 315 | 500 | **450** | 390 | 2625 | **1745** | 1310 | – | – | – |
| | 2 | 645 | **485** | 315 | 565 | **420** | 275 | 300 | **275** | 265 | 390 | **315** | 235 | – | – | – | 2625 | **1745** | 1310 | – | – | – |
| | 3 | 525 | **420** | 300 | 485 | **380** | 265 | 265 | **235** | 210 | 235 | **195** | 155 | – | – | – | 2625 | **1745** | 1310 | – | – | – |
| N | 1 | 3150 | **2455** | 1050 | 3150 | **2480** | 1050 | 1325 | **1250** | 1180 | 960 | **720** | 485 | 2090 | **1825** | 1575 | – | – | – | 3190 | **2835** | 2610 |
| | 2 | 3150 | **2455** | 1050 | 3150 | **2480** | 1050 | 1075 | **960** | 840 | 645 | **485** | 390 | – | – | – | – | – | – | 2835 | **2610** | 2400 |
| | 3 | 2325 | **2150** | 775 | 2325 | **1915** | 775 | 1075 | **960** | 840 | 645 | **485** | 390 | – | – | – | – | – | – | 2835 | **2610** | 2400 |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | 195 | **155** | 120 | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KC422M | | | KC505M | | | KC510M | | | KC515M | | | KC520M | | | KC522M | | | KC524M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | 720 | **645** | 565 | – | – | – | 870 | **750** | 710 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 685 | **605** | 525 | – | – | – | 720 | **630** | 525 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 605 | **525** | 450 | – | – | – | 670 | **565** | 460 | – | – | – |
| | 4 | – | – | – | 790 | **575** | 470 | 645 | **525** | 450 | 525 | **450** | 355 | – | – | – | 590 | **485** | 390 | – | – | – |
| | 5 | – | – | – | 790 | **575** | 470 | – | – | – | 450 | **355** | 275 | – | – | – | 485 | **450** | 390 | – | – | – |
| | 6 | – | – | – | 760 | **525** | 420 | – | – | – | 355 | **275** | 235 | – | – | – | 430 | **330** | 265 | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | 720 | **605** | 525 | – | – | – | 540 | **470** | 430 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | 605 | **485** | 355 | – | – | – | 485 | **420** | 340 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | 485 | **390** | 315 | – | – | – | 370 | **315** | 250 | – | – | – |
| K | 1 | – | – | – | 500 | **450** | 390 | 775 | **695** | 630 | 960 | **720** | 485 | 710 | **645** | 565 | 605 | **540** | 485 | 985 | **695** | 500 |
| | 2 | – | – | – | 460 | **410** | 355 | 605 | **540** | 500 | 720 | **565** | 390 | 550 | **500** | 460 | 470 | **420** | 390 | 850 | **540** | 420 |
| | 3 | – | – | – | 300 | **250** | 195 | 510 | **460** | 420 | 315 | **235** | 155 | 460 | **420** | 380 | 390 | **355** | 315 | 655 | **485** | 340 |
| N | 1 | 2820 | **2480** | 2295 | – | – | – | 1680 | **1495** | 1380 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 2480 | **2295** | 1995 | – | – | – | 1525 | **1405** | 1290 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 2480 | **2295** | 1995 | – | – | – | 1525 | **1405** | 1290 | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 105 | **90** | 65 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 105 | **90** | 65 | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 130 | **105** | 65 | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 185 | **130** | 90 | – | – | – |
| H | 1 | – | – | – | 575 | **450** | 370 | 420 | **340** | 235 | 370 | **265** | 210 | – | – | – | 315 | **235** | 185 | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

*Recommended for dry machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

*(continued)*

## Inch • Shoulder and Slotting Cutters, Thread Mills

| Material Group | | KC525M | | | KC530M | | | KC725M | | | KC735M | | | KCK15 | | | KCK20 | | | KCPK30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 575 | **525** | 470 | 605 | **525** | 450 | 685 | **605** | 565 | 340 | **315** | 265 | – | – | – | – | – | – | 1195 | **1035** | 970 |
| | 2 | 470 | **420** | 390 | 525 | **450** | 355 | 575 | **500** | 420 | 315 | **290** | 275 | – | – | – | – | – | – | 735 | **670** | 605 |
| | 3 | 420 | **390** | 370 | 450 | **390** | 355 | 525 | **450** | 370 | 290 | **265** | 235 | – | – | – | – | – | – | 670 | **605** | 540 |
| | 4 | 370 | **340** | 315 | 390 | **355** | 315 | 470 | **390** | 315 | 265 | **235** | 210 | – | – | – | – | – | – | 500 | **460** | 420 |
| | 5 | 390 | **370** | 340 | 355 | **315** | 275 | 390 | **355** | 315 | 235 | **210** | 195 | – | – | – | – | – | – | 685 | **605** | 550 |
| | 6 | 340 | **315** | 290 | 275 | **235** | 195 | 340 | **265** | 210 | 210 | **195** | 185 | – | – | – | – | – | – | 420 | **355** | – |
| M | 1 | 390 | **370** | 340 | 605 | **485** | 390 | 450 | **390** | 355 | 275 | **235** | 210 | – | – | – | – | – | – | 540 | **485** | 410 |
| | 2 | 340 | **315** | 290 | 390 | **315** | 275 | 410 | **340** | 290 | 250 | **225** | 195 | – | – | – | – | – | – | 485 | **420** | 370 |
| | 3 | 235 | **210** | 185 | 315 | **275** | 235 | 300 | **265** | 210 | 185 | **155** | – | – | – | – | – | – | – | 380 | **340** | 300 |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | 1105 | **1010** | 890 | 760 | **670** | 565 | 775 | **695** | 630 |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | 880 | **775** | 720 | 605 | **525** | 460 | 615 | **550** | 500 |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | 735 | **655** | 605 | 500 | **450** | 380 | 510 | **460** | 420 |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | 155 | **145** | 130 | – | – | – | 90 | **80** | 65 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 155 | **145** | 130 | – | – | – | 90 | **80** | 65 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 130 | **120** | 105 | – | – | – | 120 | **90** | 65 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 155 | **130** | 105 | 170 | **130** | 120 | 145 | **120** | 80 | – | – | – | – | – | – | – | – | – | 170 | **130** | 90 |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| Material Group | | KCPM40 | | | KCSM30 | | | KCSM40 | | | KD1400 | | | KD1410 | | | KD1415 | | | KD1425 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 775 | **685** | 645 | 970 | **840** | 790 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 655 | **565** | 470 | 800 | **710** | 575 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 605 | **510** | 420 | 750 | **630** | 510 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 540 | **450** | 355 | 655 | **540** | 430 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | 450 | **410** | 355 | 540 | **500** | 430 | 450 | **380** | 315 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | 390 | **300** | 235 | 485 | **370** | 290 | 390 | **290** | 210 | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | 510 | **450** | 410 | 590 | **525** | 485 | 550 | **450** | 370 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 460 | **390** | 330 | 540 | **470** | 380 | 470 | **380** | 315 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 340 | **300** | 235 | 410 | **355** | 275 | 380 | **290** | 225 | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | 1995 | **4330** | 10670 | 10525 | **9200** | 7850 | 10525 | **9200** | 7850 | 1995 | **4330** | 10670 |
| | 2 | – | – | – | – | – | – | – | – | – | 1995 | **4330** | 10670 | 4200 | **3925** | 3675 | 4200 | **3925** | 3675 | 1995 | **4330** | 10670 |
| | 3 | – | – | – | – | – | – | – | – | – | 1010 | **1340** | 1550 | 4200 | **3925** | 3675 | 4200 | **3925** | 3675 | 1010 | **1340** | 1550 |
| S | 1 | 105 | **90** | 80 | 120 | **105** | 80 | 105 | **90** | 65 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | 105 | **90** | 80 | 120 | **105** | 80 | 105 | **90** | 65 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | 130 | **105** | 80 | 145 | **120** | 80 | 130 | **105** | 65 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | 170 | **130** | 90 | 185 | **155** | 105 | 155 | **130** | 80 | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | 355 | **265** | 195 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

*(continued)*

## Inch • Shoulder and Slotting Cutters, Thread Mills

| Material Group | | KTPK20 | | | KY3500 * | | | KYS30* | | | KYSP30* | | | SC3025 | | | SC6525 | | | SP4019 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 960 | **790** | 670 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 970 | **670** | 370 | 830 | **605** | 370 |
| | 2 | 590 | **500** | 420 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 850 | **590** | 315 | 720 | **525** | 315 |
| | 3 | 540 | **450** | 380 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 760 | **525** | 275 | 645 | **460** | 275 |
| | 4 | 390 | **340** | 290 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 550 | **380** | 210 | 500 | **355** | 210 |
| | 5 | 550 | **460** | 380 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 420 | **315** | 210 | 390 | **290** | 185 |
| | 6 | 340 | **275** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 370 | **265** | 155 | 340 | **235** | 130 |
| M | 1 | 630 | **510** | 430 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 525 | **470** | 370 | 735 | **525** | 315 |
| | 2 | 565 | **485** | 390 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 500 | **420** | 315 | 655 | **470** | 290 |
| | 3 | 420 | **355** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 380 | **340** | 235 | 525 | **380** | 235 |
| K | 1 | 605 | **510** | 420 | 2110 | **1915** | 1710 | – | **–** | – | – | **–** | – | 1035 | **720** | 390 | 1025 | **710** | 380 | 870 | **630** | 380 |
| | 2 | 485 | **390** | 340 | 1670 | **1495** | 1390 | – | **–** | – | – | **–** | – | 880 | **605** | 315 | 800 | **550** | 300 | 670 | **485** | 300 |
| | 3 | 390 | **340** | 275 | – | **–** | – | – | **–** | – | – | **–** | – | 720 | **500** | 275 | – | **–** | – | 615 | **450** | 275 |
| N | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 7600 | **4330** | 1050 |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 7600 | **4330** | 1050 |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 6090 | **3440** | 775 |
| S | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 165 | **120** | 65 |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 135 | **105** | 60 |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 155 | **120** | 70 |
| | 4 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 220 | **155** | 95 |
| H | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 265 | **195** | 130 |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | 235 | **170** | 105 |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |

| Material Group | | SP6519 | | | X400 | | | X500 | | | X700 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | 775 | **565** | 340 | 685 | **500** | 315 | 710 | **525** | 340 | – | **–** | – |
| | 2 | 685 | **500** | 300 | 605 | **450** | 275 | 630 | **470** | 300 | – | **–** | – |
| | 3 | 605 | **430** | 265 | 525 | **390** | 250 | 550 | **410** | 265 | – | **–** | – |
| | 4 | 460 | **330** | 195 | 390 | **290** | 185 | 420 | **315** | 195 | – | **–** | – |
| | 5 | 370 | **275** | 185 | – | **–** | – | 340 | **265** | 185 | 355 | **275** | 185 |
| | 6 | 315 | **225** | 130 | – | **–** | – | 290 | **210** | 130 | 300 | **225** | 130 |
| M | 1 | 710 | **510** | 300 | – | **–** | – | 655 | **485** | 300 | 685 | **500** | 300 |
| | 2 | 615 | **450** | 275 | – | **–** | – | 575 | **420** | 265 | 605 | **450** | 275 |
| | 3 | 510 | **370** | 225 | – | **–** | – | 470 | **340** | 210 | 500 | **370** | 225 |
| K | 1 | 775 | **575** | 370 | – | **–** | – | 685 | **575** | 450 | – | **–** | – |
| | 2 | 630 | **460** | 290 | – | **–** | – | 575 | **470** | 340 | – | **–** | – |
| | 3 | 575 | **420** | 265 | – | **–** | – | 450 | **370** | 265 | – | **–** | – |
| N | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| S | 1 | 145 | **105** | 60 | – | **–** | – | 125 | **90** | 60 | 135 | **105** | 60 |
| | 2 | 125 | **90** | 55 | – | **–** | – | 115 | **90** | 55 | 120 | **90** | 55 |
| | 3 | 145 | **105** | 65 | – | **–** | – | 130 | **105** | 65 | 140 | **105** | 65 |
| | 4 | 210 | **155** | 95 | – | **–** | – | 190 | **145** | 90 | 195 | **145** | 95 |
| H | 1 | – | **–** | – | 250 | **185** | 120 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | 210 | **155** | 90 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |

*Recommended for dry machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

## Inch • Extra Fine Pitch Cutters from Platforms Mill 16™, HexaCut™, KSSR™ • Dry Machining

| Material Group | | KC514M | | | KC524M | | | KCK15 | | | KCK20 | | | KCPK30 | | | KY3500 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| M | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| K | 1 | 900 | **590** | 425 | 1410 | **1000** | 720 | 1050 | **690** | 475 | 1050 | **690** | 475 | 920 | **820** | 755 | 3035 | **2770** | 2460 |
| | 2 | 705 | **510** | 360 | 1215 | **785** | 590 | 785 | **575** | 395 | 785 | **575** | 395 | 755 | **675** | 590 | 2395 | **2165** | 2000 |
| | 3 | 590 | **425** | 360 | 950 | **705** | 510 | 690 | **475** | 375 | 690 | **475** | 375 | 605 | **560** | 510 | – | – | – |
| N | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| S | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H | 1 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

## Inch • Extra Fine Pitch Cutters from Platforms Mill 16™, HexaCut™, KSSR™ • Wet Machining

| Material Group | | KC514M | | | KC524M | | | KCK15 | | | KCK20 | | | KCPK30 | | | KY3500* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 4 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 5 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 6 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| M | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| K | 1 | 720 | **470** | 340 | 1130 | **800** | 575 | 840 | **550** | 380 | 840 | **550** | 380 | 735 | **655** | 605 | – | **–** | – |
| | 2 | 565 | **410** | 290 | 970 | **630** | 470 | 630 | **460** | 315 | 630 | **460** | 315 | 605 | **540** | 470 | – | **–** | – |
| | 3 | 470 | **340** | 290 | 760 | **565** | 410 | 550 | **380** | 300 | 550 | **380** | 300 | 485 | **450** | 410 | – | **–** | – |
| N | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| S | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 4 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| H | 1 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – | – | **–** | – |

*Recommended for dry machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

Wet

## Inch • High Speed Cutting • Face Milling, Round Insert, Profiling, Chamfer, and Die & Mold

| Material Group | | GH1 | | | GH2 | | |
|---|---|---|---|---|---|---|---|
| P | 1 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |
| | 4 | – | **–** | – | – | **–** | – |
| | 5 | – | **–** | – | – | **–** | – |
| | 6 | – | **–** | – | – | **–** | – |
| M | 1 | – | – | – | – | – | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |
| K | 1 | 920 | **685** | 420 | 790 | **575** | 380 |
| | 2 | 775 | **575** | 380 | 685 | **500** | 330 |
| | 3 | 630 | **500** | 370 | 575 | **460** | 315 |
| N | 1 | 9610 | **5430** | 1260 | 8650 | **4960** | 1260 |
| | 2 | 9610 | **5430** | 1260 | 8650 | **4960** | 1260 |
| | 3 | 7690 | **4315** | 930 | 6720 | **3830** | 930 |
| S | 1 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |
| | 4 | – | **–** | – | – | **–** | – |
| H | 1 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |

NOTE: FIRST choice starting speeds are in bold type.
As the average chip thickness increases, the speed should be decreased.

*(continued)*

Dry

Wet

## Inch • High Speed Cutting • Shoulder and Slotting Cutters, Thread Mills

| Material Group | | GH1 | | | GH2 | | |
|---|---|---|---|---|---|---|---|
| P | 1 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |
| | 4 | – | **–** | – | – | **–** | – |
| | 5 | – | **–** | – | – | **–** | – |
| | 6 | – | **–** | – | – | **–** | – |
| M | 1 | – | – | – | – | – | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |
| K | 1 | 760 | **565** | 355 | 655 | **485** | 315 |
| | 2 | 645 | **485** | 315 | 565 | **420** | 275 |
| | 3 | 525 | **420** | 300 | 485 | **380** | 265 |
| N | 1 | 8005 | **4530** | 1050 | 7205 | **4135** | 1050 |
| | 2 | 8005 | **4530** | 1050 | 7205 | **4135** | 1050 |
| | 3 | 6405 | **3595** | 775 | 5605 | **3190** | 775 |
| S | 1 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |
| | 4 | – | **–** | – | – | **–** | – |
| H | 1 | – | **–** | – | – | **–** | – |
| | 2 | – | **–** | – | – | **–** | – |
| | 3 | – | **–** | – | – | **–** | – |

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Dry

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| 1956692 | SEF750812RSS125 | I25 |
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| 1956755 | SEF9371010RSS150 | I25 |
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| 1957227 | A4SML200417 | C123 |
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|---|---|---|
| 1959664 | B977A05600 KC7315 | G135 |
| 1959665 | B977A03300 KC7315 | G134 |
| 1959666 | B977A06900 KC7315 | G135 |
| 1960078 | B977A14900 KC7315 | G137 |
| 1960079 | B977A15100 KC7315 | G137 |
| 1961106 | B976A09700 KC7315 | G136 |
| 1961108 | B966A03200 KC7315 | G130 |
| 1962982 | CT15 | B291–292 |
| 1963407 | DFR200R4WD32M | J12 |
| 1963863 | QC21 | B265 |
| 1967470 | SN7T | W40 |
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| 1971763 | B977A08900 KC7315 | G136 |
| 1972376 | B966A13200 KC7315 | G132 |
| 1974209 | SPHX090310R20 KC7215 | J115 |
| 1974252 | S411 | B285 |
| 1975006 | B977A05200 KC7315 | G135 |
| 1980539 | BGHX15L504PCFRGG K110M | S125 |
| 1981264 | BGHX15L508PCFRGG K110M | S125 |
| 1981758 | BGHX15L515PCFRGG K110M | S125 |
| 1981759 | BGHX15L515PCFRGG KC510M | S125 |
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| 1982316 | DFT030304HP KMF | J101 |
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| 1983310 | 3.42807R081 KC7215 | I30 |
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| 1985784 | KMSP315IP | B59, B87, B92, B113, B131, B150–151, B154, B163 |
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| 1986773 | B976A06200 KC7315 | G135 |
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| 1989347 | A4M50L0314M | C138 |
| 1989348 | A4M50R0314M | C138 |
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| 1992822 | B105A04600 K10 | G24 |
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| 1993392 | KSEM146R1WN20F45M | H85–86 |
| 1993403 | KSEM181R1WN25F45M | H85–86 |
| 1993404 | KSEM221R1WN25F45M | H85–86 |
| 1993405 | KSEM261R1WN32F45M | H85–86 |
| 1993406 | KSEM281R1WN32F45M | H85–86 |
| 1993407 | KSEM301R1WN32F45M | H85–86 |
| 1993408 | KSEM321R1WD50F45M | H85–86 |
| 1993409 | KSEM361R1WD50F45M | H85–86 |
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| XDLT120512ERD411 X500 | V22 |
| XDLW090408SRD SC3025 | V16 |
| XDLW090408SRD SC6525 | V16 |
| XDLW090408SRD X400 | V16 |
| XDLW090408SRD X500 | V16 |
| XDLW120508SRD SC3025 | V23 |
| XDLW120508SRD X400 | V23 |
| XDLW120508SRD X500 | V23 |
| XDPT090408ERD41 KCSM40 | V15 |
| XDPT090408ERD41 SC6525 | V15 |
| XDPT090408ERD41 SP6519 | V15 |
| XDPT090408ERD41 X500 | V15 |
| XDPT090412ERD411 KCSM40 | V15 |
| XDPT090412SRGP KC522M | V16 |
| XDPT090412SRGP KC725M | V16 |
| XDPT090412SRGP KCPK30 | V16 |
| XDPT090412SRGP KCPM40 | V16 |
| XDPT120508ERD41 KCSM40 | V22 |
| XDPT120508ERD41 SC6525 | V22 |
| XDPT120508ERD41 SP6519 | V22 |
| XDPT120508ERD41 X500 | V22 |
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| XDPT120515SRGP KC522M | V23 |
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| XDPW090412SRD KCPM40 | V15 |
| XDPW120515SRD KC510M | V23 |
| XDPW120515SRD KC522M | V23 |
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| XELW160512SRD X400 | V28 |
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| XEPT160516ERD41 KC522M | V28 |
| XEPT160516ERD41 KCPK30 | V28 |
| XEPT160516ERD41 KCPM40 | V28 |
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| XNGJ535ANSNGD3W KC725M | S21 |
| XNGJ535ANSNGD3W KCK15 | S21 |
| XNGJ535ANSNGD3W KCPK30 | S21 |
| XNGJ535ANSNGD3W KCSM40 | S21 |
| XNXF43ZNENLDW KCK15 | S90 |
| XNXF43ZNENW KY3500 | S90 |
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| XPLT060308ERD41 SP6519 | V7 |
| XPLT060308ERD41 X400 | V7 |
| XPLT060308ERD41 X500 | V7 |
| XPNT050522RF SP6519 | V115 |
| XPNT06062515RF SP6519 | V115 |
| XPNT080832RF SP6519 | V115 |
| XPNT101043RF SP6519 | V115 |
| XPNT121254RF SP6519 | V115 |
| XPNT161654RF SP6519 | V115 |
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| XPPW060310SRD KC510M | V7 |
| XPPW060310SRD KC522M | V7 |
| XPPW060310SRD KCPK30 | V7 |
| XPPW060310SRD KCPM40 | V7 |
| XRDA0375Y4CUC KCPM15 | 049 |
| XRDA0375Y4CUE KCPM15 | 049 |
| XRDA0500Y5CUB KCPM15 | 049 |
| XRDA0500Y5CUC KCPM15 | 049 |
| XRDA0500Y5CUE KCPM15 | 049 |
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| XRDA0625Y6CUE KCPM15 | 049 |
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| ZDET16M508FR721 GH1 | T100 |
| ZDET16M512FR721 GH1 | T100 |
| ZDET16M516FR721 GH1 | T100 |
| ZDET16M520FR721 GH1 | T100 |
| ZDET16M525ER721 GH1 | T100 |
| ZDET16M525FR721 GH1 | T100 |
| ZDET16M530ER721 GH1 | T100 |
| ZDET16M530FR721 GH1 | T100 |
| ZDET16M532FR721 GH1 | T100 |
| ZDET16M540ER721 GH1 | T100 |
| ZDET16M540FR721 GH1 | T100 |
| ZDET16M550FR721 GH1 | T100 |
| ZDET16M560FR721 GH1 | T100 |
| ZDET16M5PDFR721 GH1 | T100 |


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For page references A–E, please see Volume I • Turning Tools Catalog.

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## Turning Icons

| | | | | |
|---|---|---|---|---|
| Shank: KM-TS™ (ISO 26622) | Shank: KM4X™ | Shank: VDI Shank | DIN Number 69880 | Through Coolant |
| Through Coolant: 100 bar | Through Coolant: 1500 psi | Through Coolant: 80 bar | Through Coolant: 1200 psi | ISO: 26622 |
| ISO: 10889 | Turning | Profiling | Facing | Face Grooving |
| Chamfering | Back Boring | Threading | Grooving | Cut-Off |
| I.D. Turning | I.D. Chamfering | I.D. Facing | I.D. Grooving | I.D. Face Grooving |
| Deep Grooving | I.D. Internal Threading | | | |

## Holemaking Icons

| | | | | |
|---|---|---|---|---|
| Countersinking/ Stroke Chamfering | Taper Drilling | Counterboring | Drilling | Drilling: Inclined Entry |
| Drilling: Inclined Exit | Drilling: Exit Offset | Drilling: Flat Bottom | Drilling: Stacked Plates | Drilling: Convex |
| Drilling: Blind Hole | Drilling: Concave | Drilling: Chain | Drilling: Cross Hole | Drilling: Half Cylinder |
| Drilling: Corner Drilling 45° | Reaming: Through Hole | Reaming: Blind Hole | Reaming: Through Cross | Reaming: Blind and Cross Holes |
| Reaming: Interrupted Cut | Drilling Depth: 1 x D | Drilling Depth: 3 x D | Drilling Depth: 5 x D | Drilling Depth: 8 x D |
| Drilling Depth: 10 x D | Drilling Depth: 12 x D | Drilling Depth: 7 x D | Drilling Depth: 4 x D | Drilling Depth: 1.5 x D |

*(continued)*

*(Holemaking Icons — continued)*

| | | | | |
|---|---|---|---|---|
| Corner Style: Corner Chamfer | Corner Style: Square End | Shank: Cylindrical Plain | Shank: Cylindrical Plain ≤h6 | Shank: Cylindrical Weldon® |
| Shank: Cylindrical Whistle Notch | Shank: Cylindrical Whistle Notch 2° | Shank: Cylindrical with Flat | SK Shank: Rübig | Shank: SK BT JIS B 6339 |
| Shank: SK CAT(CV) ANSI B5.50 | Shank: SK DV DIN 69871 | Shank: Cylindrical Whistle Notch with Drive and Flange | Shank: Cylindrical with Flat and Flange | KM™ Shank |
| Shank: HSK DIN 69893 | Shank: HSK DIN 69893 Form A | Shank: KM-TS™ (ISO 26622) | Shank: KM-XMZ | Shank: ER |
| Helix Angle: 0° | Helix Angle: 15° | Helix Angle: 30° | Tip Angle: 118° | Tip Angle: 130° |
| Balance (G 6.3/25,000) | Balance (G 6.3/10,000) | Balance (G 6.3/6,000) | Balance (G 16/20,000) | DIN Number 6537 |
| DIN Number 6535 | DIN Number 69893 | DIN Number 69090-3 | Drilling: No Coolant | Through Coolant: Radial: Drilling |
| Through Coolant: Radial: Reaming | Through Coolant: Radial: Indexable Drilling | Flood Coolant: Drilling | Through Coolant: MQL (Minimum Quantity Lubricant): Drilling | Through Coolant: Axial: Drilling |
| Through Coolant: Axial: Reaming | Through Coolant: Coolant Entry AD | Through Coolant: Coolant Entry AD/B | Tool Dimensions: 2 Flute/2 Margin/ Coolant | Tool Dimensions: 2 Flute/2 Margin/ No Coolant |
| Tool Dimensions: 2 Flute/3 Margin/ Coolant | Tool Dimensions: 2 Flute/4 Margin/ Coolant | Tool Dimensions: 2 Flute/4 Margin/ No Coolant | Tool Dimensions: 2 Flute/4 Margin/ X/Coolant | Tool Dimensions: 3 Flute/3 Margin/ Coolant |
| Tool Dimensions: 3 Flute/3 Margin/ No Coolant | Tool Dimensions: Flute Configuration: 2 | Tool Dimensions: Flute Configuration: 3 | Tool Dimensions: Flute Configuration: 4 | |

## Tapping Icons

| | | | | |
|---|---|---|---|---|
| Countersinking/ Stroke Chamfering | Drilling: Flat Bottom | Drilling: Blind | Tapping: Through Hole | Tapping: Blind Hole |
| Tapping: Pipe Thread | Threading: Through Hole | HSS: High-Speed Steel | HSS-E: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness | HSS-E-PM: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness (PM = Powder Metal Steel) |
| HM: (Carbide) | Drilling Depth: 2 x D | Chamfer Form (3–4) | Chamfer Form B (3.5–5.5) | Chamfer Form C (2–3) |
| Chamfer Form D (3.5–5) | Chamfer Form E (1.5–2) | Chamfer Form (3–5) | Chamfer Form (2.5–3.5) | Chamfer Form (1–2) |
| Tapping Helix Angle: 0° | Tapping Helix Angle: 10° | Tapping Helix Angle: 15° | Tapping Helix Angle: L15° | Tapping Helix Angle: 25° |
| Tapping Helix Angle: 42° | Tapping Helix Angle: 45° | Multipurpose Taps: Spiral Point | Tension/ Compression | DIN Number 371 |
| DIN Number 374 | DIN Number 376 | DIN Number 5156 | DIN Number 2174 | DIN ANSI |
| Through Coolant: Radial: Tapping | Flood Coolant: Tapping | Through Coolant: Axial: Tapping | Manufacturer's Specs: ISO 2 | Manufacturer's Specs: ISO 3 |
| Manufacturer's Specs: JIS | Class of Fit: 2B | Class of Fit: 3B | Class of Fit: 6H | Class of Fit: 6HX |
| Class of Fit: 6G | Class of Fit: 2BX | Class of Fit: 3BX | Unified Fine Thread | Unified Course Thread |
| American Tapered Pipe Thread for Threads with Dryseal Material | American Tapered Pipe Thread for Threads without Dryseal Material | American National Standards Institute | American Standard Straight Pipe Thread | American Standard Straight Pipe Thread Dryseal |
| Whitworth Pipe Thread | Unified Course Thread: J Profile | Unified Fine Thread: J Profile | ISO Metric Coarse Thread | ISO Metric Fine Thread |

## Solid End Milling Icons

| | | | | |
|---|---|---|---|---|
| Face Milling | Plunge Milling | Plunge Milling: Ball Nose | Ramping: Blank | Ramping: Up to 2° |
| Ramping: Up to 3° | Slotting: Ball Nose | Slotting: Ball Nose with AP Dimension | Slotting: Square End | Slotting: Square End with AP Dimension |
| Trochoidal Milling | Trochoidal Milling: Ball Nose | Side Milling/ Shoulder Milling: Ball Nose | Side Milling/ Shoulder Milling: Ball Nose with AE/AP Dimensions | Side Milling/ Shoulder Milling: Square End |
| Side Milling/ Shoulder Milling: Square End with AE/AP Dimensions | Side Milling/ Shoulder Milling: Eased Chamfer | Side Milling/ Shoulder Milling: Eased Chamfer with AE/AP Dimensions | Side Milling/ Shoulder Milling: Fine Finishing | Side Milling/ Shoulder Milling: Fine Finishing with AE/AP Dimensions |
| Side Milling/ Shoulder Milling: Finishing | Side Milling/ Shoulder Milling: Finishing with AE/AP Dimensions | Side Milling/ Shoulder Milling: Thin Wall Solid End Milling | Side Milling/ Shoulder Milling: Radius | Side Milling/ Shoulder Milling: Radius with AE/AP Dimensions |
| 3D Profiling | 3D Profiling with AE/AP Dimensions | 3D Profiling with Square End Mill | Corner Style: Ball Nose | Corner Style: Corner Chamfer |
| Corner Style: Corner Radius | Corner Style: Square End | Corner Style: Torus | Corner Style: Taper Ball Nose | Shank: Cylindrical Plain |
| Shank: Cylindrical Weldon® | Shank: SK BT JIS B 6339 | Shank: HSK: CAT: Drawbar Thread: 5/8–11 UNC | Shank: HSK A/ DIN69893 | Shank: Safe-Lock™ ≤h6 |
| Shank: Safe-Lock™ | Shank: PSC Shank | Duo-Lock™ Connection | Helix Angle: 0° | Helix Angle: 15° |
| Helix Angle: 20° | Helix Angle: 25° | Helix Angle: 30° | Helix Angle: 35° | Helix Angle: 37° |
| Helix Angle: 38° | Helix Angle: 40° | Helix Angle: 45° | Helix Angle: 50° | Helix Angle: 43° |
| Helix Angle: 36° | Helix Angle: 35°/38° | Helix Angle: 37°/39° | Balance (G 2.5/25,000) | Through Coolant |

*(continued)*

*(Solid End Milling Icons — continued)*

| | | | | |
|---|---|---|---|---|
| Through Coolant: Axial: Solid End Mill | Tool Dimensions: Flute Configuration: X (Variable) | Tool Dimensions: Flute Configuration: 2 | Tool Dimensions: Flute Configuration: 3 | Tool Dimensions: Flute Configuration: 4 |
| Tool Dimensions: Flute Configuration: 5 | Tool Dimensions: Flute Configuration: 6 | Tool Dimensions: Flute Configuration: 12 | ISO 26622 | |

## Indexable Milling Icons

| | | | | |
|---|---|---|---|---|
| Counterboring | Spiral Circular | Drilling | Face Milling | Helical Milling |
| Plunge Milling | Plunge Milling: Ball Nose | Ramping: Blank | Slotting: Ball Nose | Slotting: Side |
| Slotting: Side with AE/AP Dimensions | Slotting: Side Milling: Ball Nose | Slotting: Square End | Slotting: T | Slotting: T with AP Dimension |
| Side Milling/ Shoulder Milling: Ball Nose | Side Milling/ Shoulder Milling: Bottom Shouldering | Side Milling/ Shoulder Milling: Square End | Side Milling/ Shoulder Milling: Eased Chamfer | Slotting: Shoulder Profiling |
| Slotting: Shoulder | 3D Profiling | 3D Profiling with Square End Mill | PCD Tool | Pocketing |
| Shank: Cylindrical Plain | Shank: Cylindrical Weldon® | Shank: Cylindrical Weldon 2 Flat | Shank: Screw-On | SK Shank: R8 |
| Shank: SK BT JIS B 6339 | Shank: SK CAT(CV) ANSI B5.50 | Shank: HSK DIN 69893 | Shell Mill Shank | Milling: Through Coolant |
| Axial: Nozzle | Through Coolant: Pressurized Air Coolant: Radial: Indexable Milling | | | |

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K Cast Iron
N Non-Ferrous
S High-Temp Alloys
H Hardened Materials
C CFRP Materials

| material group | description | content | tensile strength RM (MPa)* | hardness (HB) | hardness (HRC) | material number |
|---|---|---|---|---|---|---|
| P0 | Low-Carbon Steels, Long Chipping | C <0,25% | <530 | <125 | – | A36, 1008, 1010, 1018 through 1029; 1108, 1117 |
| P1 | Low-Carbon Steels, Short Chipping, Free Machining | C <0,25% | <530 | <125 | – | 10L18, 1200 Series, 1213, 12L14 |
| P2 | Medium- and High-Carbon Steels | C >0,25% | >530 | <220 | <25 | 1035, 1045, 10L45, 1050, 10L50, 1080, 1137, 1144, 11L44, 1525, 1545, 1572 |
| P3 | Alloy Steels and Tool Steels | C >0,25% | 600–850 | <330 | <35 | 1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T |
| P4 | Alloy Steels and Tool Steels | C >0,25% | 850–1400 | 340–450 | 35–48 | 1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T |
| P5 | Ferritic, Martensitic, and PH Stainless Steels | – | 600–900 | <330 | <35 | 15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series |
| P6 | High-Strength Ferritic, Martensitic, and PH Stainless Steels | – | 900–1350 | 350–450 | 35–48 | 15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series |
| M1 | Austenitic Stainless Steel | – | <600 | 130–200 | – | 200 Series, 301, 302, 304, 304L, 309 |
| M2 | High-Strength Austenitic Stainless and Cast Stainless Steels | – | 600–800 | 150–230 | <25 | 310, 316, 316L, 321, 347, 384 ASTM Cast XM-1, XM-5, XM-7, XM-21 |
| M3 | Duplex Stainless Steel | – | <800 | 135–275 | <30 | 323, 329, F55, 2205, S329000 |
| K1 | Gray Cast Iron | – | 125–500 | 120–290 | <32 | class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000 |
| K2 | Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI) | – | <600 | 130–260 | <28 | 60-40-18, 65-45-12, 80-55-06; SAE J434: D4018, D4512, D5506; ASTM A47: Grade 32510, 35018; SAE J158: Grade M3210, M4504, M5003, M5503, M7002; ASTMA842: Grade 250, 300, 350, 400, 450 |
| K3 | High-Strength Ductile Irons and Austempered Ductile Iron (ADI) | – | >600 | 180–350 | <43 | ASTM A536:100-70-03, 120-90-02, SAE J434: D7003, SAE J158: Grade M8501AST A897: 125-80-10, 150-100-7, 175-125-4, 200-150-1, 230-185 |
| N1 | Wrought Aluminum | – | – | – | – | 2025, 5050, 7050, 1000, 2017 |
| N2 | Low-Silicon Aluminum Alloys and Magnesium Alloys | Si <12,2% | – | – | – | 2024, 6061, 7075 |
| N3 | High-Silicon Aluminum Alloys and Magnesium Alloys | Si >12,2% | – | – | – | – |
| N4 | Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100 | – | – | – | – | C81500 |
| N5 | Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass | – | – | – | – | – |
| N6 | Carbon, Graphite Composites, CFRP | – | – | – | – | Graphite, CFK, CFRP |
| N7 | Metal Matrix Composites (MMC) | – | – | – | – | C63000 |
| S1 | Iron-Based, Heat-Resistant Alloys | – | 500–1200 | 160–260 | 25–48 | A-286, INCOLOY® 800 Series, A608, A567, Discaloy™, INVAR®, N-155, 16-25-6, 19-9 DL; Cast: ASTM A-297, A-351, A-567, A-608 |
| S2 | Cobalt-Based, Heat-Resistant Alloys | – | 1000–1450 | 250–450 | 25–48 | Haynes® 25 (L605), Haynes 188, J-1570, Stellite, AiResist 213; Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52 |
| S3 | Nickel-Based, Heat-Resistant Alloys | – | 600–1700 | 160–450 | <48 | Astroloy™, Hastelloy® B/C/ C-276 /X, INCONEL® 600 and 700 Series, IN102, INCOLOY 900 Series, Rene 41, Waspalloy, Monel®, K-500, MAR-M20, NIMONIC®, UDIMET® |
| S4 | Titanium and Titanium Alloys | – | 900–1600 | 300–400 | 33–48 | Pure: Ti 98.8, Ti 98.9,Ti 99.9; Alloyed: Ti 5Al-2.5Sn, Ti6Al-4V, Ti6Al-2Sn-4Zr-2Mo, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al |
| H1 | Hardened Materials | – | – | – | 44–48 | Tool Steel H10, H11, H13, D2, D3, 4340, P20 |
| H2 | Hardened Materials | – | – | – | 48–55 | Tool Steel H10, H11, H13, D2, D3, 4340, P20 |
| H3 | Hardened Materials | – | – | – | 56–60 | Tool Steel H10, H11, H13, D2, D3, 4340, P20 |
| H4 | Hardened Materials | – | – | – | >60 | Tool Steel H10, H11, H13, D2, D3, 4340, P20 |
| C1 | CFRP, CFRP/CFRP | – | – | – | – | – |
| C2 | CFRP/Non-Ferrous | – | – | – | – | – |
| C3 | CFRP/High-Temp | – | – | – | – | – |
| C4 | CFRP/Stainless Steel | – | – | – | – | – |
| C5 | CFRP/Non-Ferrous/High-Temp | – | – | – | – | – |

| | | | | | |
|---|---|---|---|---|---|
| P | Steel | N | Non-Ferrous | H | Hardened Materials |
| M | Stainless Steel | S | High-Temp Alloys | C | CFRP Materials |
| K | Cast Iron | | | | |

| material group | description | content | tensile strength RM (MPa)* | hardness (HB) | hardness (HRC) | material number |
|---|---|---|---|---|---|---|
| P0 | Low-Carbon Steels, Long Chipping | C <0,25% | <530 | <125 | – | – |
| P1 | Low-Carbon Steels, Short Chipping, Free Machining | C <0,25% | <530 | <125 | – | C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38 |
| P2 | Medium- and High-Carbon Steels | C >0,25% | >530 | <220 | <25 | ST52, S355JR, C35, GS60, Cf53 |
| P3 | Alloy Steels and Tool Steels | C >0,25% | 600–850 | <330 | <35 | 16MnCr5, Ck45, 21CrMoV5-7, 38SMn28 |
| P4 | Alloy Steels and Tool Steels | C >0,25% | 850–1400 | 340–450 | 35–48 | 100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12 |
| P5 | Ferritic, Martensitic, and PH Stainless Steels | – | 600–900 | <330 | <35 | 100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12 |
| P6 | High-Strength Ferritic, Martensitic, and PH Stainless Steels | – | 900–1350 | 350–450 | 35–48 | X102CrMo17, G-X120Cr29 |
| M1 | Austenitic Stainless Steel | – | <600 | 130–200 | – | X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12 |
| M2 | High-Strength Austenitic Stainless and Cast Stainless Steels | – | 600–800 | 150–230 | <25 | X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20 |
| M3 | Duplex Stainless Steel | – | <800 | 135–275 | <30 | X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4 |
| K1 | Gray Cast Iron | – | 125–500 | 120–290 | <32 | GG15, GG25, GG30, GG40, GTW40 |
| K2 | Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI) | – | <600 | 130–260 | <28 | GGG40, GTS35 |
| K3 | High-Strength Ductile Irons and Austempered Ductile Iron (ADI) | – | >600 | 180–350 | <43 | GGG60, GTW55, GTS65 |
| N1 | Wrought Aluminum | – | – | – | – | AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, ALMgSiPb |
| N2 | Low-Silicon Aluminum Alloys and Magnesium Alloys | Si <12,2% | – | – | – | GAlSiCu4, GDAlSi10Mg |
| N3 | High-Silicon Aluminum Alloys and Magnesium Alloys | Si >12,2% | – | – | – | G-ALSi12, G-AlSi17Cu4, G-AlSi21CuNiMg |
| N4 | Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100 | – | – | – | – | CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn |
| N5 | Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass | – | – | – | – | Lexan®, Hostalen™, Polystyrol, Makrolon® |
| N6 | Carbon, Graphite Composites, CFRP | – | – | – | – | CFK, GFK |
| N7 | Metal Matrix Composites (MMC) | – | – | – | – | – |
| S1 | Iron-Based, Heat-Resistant Alloys | – | 500–1200 | 160–260 | 25–48 | X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20 |
| S2 | Cobalt-Based, Heat-Resistant Alloys | – | 1000–1450 | 250–450 | 25–48 | Haynes® 188, Stellite® 6,21,31 |
| S3 | Nickel-Based, Heat-Resistant Alloys | – | 600–1700 | 160–450 | <48 | INCONEL® 690, INCONEL 625, Hastelloy®, NIMONIC® 75 |
| S4 | Titanium and Titanium Alloys | – | 900–1600 | 300–400 | 33–48 | Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2 |
| H1 | Hardened Materials | – | – | – | 44–48 | GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400 |
| H2 | Hardened Materials | – | – | – | 48–55 | – |
| H3 | Hardened Materials | – | – | – | 56–60 | – |
| H4 | Hardened Materials | – | – | – | >60 | – |
| C1 | CFRP, CFRP/CFRP | – | – | – | – | – |
| C2 | CFRP/Non-Ferrous | – | – | – | – | – |
| C3 | CFRP/High Temp | – | – | – | – | – |
| C4 | CFRP/Stainless Steel | – | – | – | – | – |
| C5 | CFRP/Non-Ferrous/High-Temp | – | – | – | – | – |

## P0 Workpiece Materials Listing • Steel • P0

*P0 Low-Carbon Steels, Long Chipping* *Content: C <.25%* *Tensile Strength RM (MPa)*: <530* *Hardness (HB): <125*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1013 | USt 34-1 | – | – | G10130 | – | – | – | 1233 | – | – | 1.0055 | – |
| 1010 | C 10 | 045 M 10 | S 10 C | G10100 | C 10 | XC 10 | C 10 | – | – | – | 1.0301 | – |
| 1008 | DD 11 ( StW 22) | HR 3 | SPHD | – | DD 11 | 1 C | – | – | – | – | 1.0332 | – |
| 1020 | C 22 | 050 A 20 | S 22 C | G10200 | 1 C 22 | C 20 | C 20 | 1450 | – | – | 1.0402 | – |
| 1025 | C 25 | 070 M 26 | S 22 C | G10250 | 1 C 25 | C 25 | C 25 | – | – | – | 1.0406 | – |
| 1012 | B 500 H | – | S 12 C | G10120 | B 500 B | XC 12 | B 500 B | 1332 | – | – | 1.0439 | – |
| 1018 | C16.8 | 080 A 17 | – | G10180 | – | – | – | – | – | – | 1.0453 | – |
| 1108 | 10 S 20 | 210 M 15 | – | G 11080 | 10 S 20 | 10 F 1 | CF 10 S 20 | – | – | – | 1.0721 | – |
| 1010 | Ck 10 | 040 A 10 | S 10 C | G10100 | 2 C 10 | XC 10 | C 10 | 1265 | – | – | 1.1121 | – |
| 1022 | 20 Mn 5 | 120 M 19 | SMn 420 | G 10220 | 20 Mn 5 | 20 M 5 | G 22 Mn 3 | – | – | – | 1.1133 | – |
| 1015 | Ck 15 | 080 M 15 | S 15 C | G 10150 | 2 C 15 | XC 15 | C 15 | 1370 | – | – | 1.1141 | – |
| 1021 | 22 B 2 | – | SWRCHB 220 | G10210 | C 22 BE 69 | 21 B 3 | – | – | – | – | 1.5508 | – |
| – | PS 275 TM | S 275 M | – | – | S 275 M | S 275 M | S 275 M | – | – | – | 1.8818 | – |
| – | DI-MC 355 B | – | – | – | S 355 M | E 355 | S 355 M | – | – | – | 1.8823 | – |
| – | DI-MC 420 B | S 420 M | – | – | S 420 M | E 420 | S 420 M | – | – | – | 1.8825 | – |
| – | S 460 M | S 460 M | – | – | S 460 M | E460; S460M | S460M | – | – | – | 1.8827 | – |
| – | BTStE 355 TM | S 355 ML | – | – | S 355 ML | E 355 | S 355 ML | – | – | – | 1.8834 | – |
| – | BTStE 420 TM | S 420 MI | – | – | S 420 ML | E 420 | S 420 ML | – | – | – | 1.8836 | – |
| – | St E 320-3Z | – | – | – | S 320 GD + ZA | – | – | – | – | – | 1.0250 | – |

## P1 Workpiece Materials Listing • Steel • P1

*P1 Low-Carbon Steels, Short Chipping, Free Machining* *Content: C <.25%* *Tensile Strength RM (MPa)*: <530* *Hardness (HB): <125*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | R St 34-2/ S 205 G2T | 34/20CR | – | K02502 | – | – | – | – | – | – | 1.0034 | – |
| – | St 33 | HR 15 | SS 330 | K01400 | – | A 33 | Fe 320 | – | – | – | 1.0035 | – |
| A 570 Gr. 33 | USt 37-2 | 4360-40 B | SS 34 | K 02502 | S 235 JR G1 | E 24-2 | Fe 360 BFU | 1311 | – | – | 1.0036 | – |
| – | St 37-2 | HS 37/23 | STKR 400 | K02702 | S 235 JR | E 28-2 | Fe 430 C | 1412 | – | – | 1.0037 | – |
| A 570 Gr. 36 | R St 37-2/S235 JRG2 | 4260-40 C | SS 34 | K 02502 | S235 JR G 2 | E 24-2 NE | Fe 360 BFN | 1312 | – | – | 1.0038 | – |
| – | S 235 JRH | S 235 JRH | – | – | S235JRH | E 24-2 | S 235 JRH | – | – | – | 1.0039 | – |
| – | R St 42-1 | – | – | K02507 | – | – | – | – | – | – | 1.0077 | – |
| – | S235J2G3/Fe 360 D1 | S 235 J 2 G 3 | – | K01501 | S 235 J2 G3 | E 24-4 | S 235 J2G3 | 1313 | – | – | 1.0161 | – |
| – | C 10 Pb | – | – | – | C 10 GPb | – | – | – | – | – | 1.0302 | – |
| – | QSt 32-3 | – | SWRCH6R | – | CB 4 FF KD | – | CB 4 F U | – | – | – | 1.0303 | – |
| – | St 35.8 | – | STPT 38 | K01201 | – | – | – | – | – | – | 1.0305 | – |
| – | St 37-2 | 360 | STKM 12 A | K02504 | S 235 JR | E 24-2 | Fe 360 | 1412 | – | – | 1.0308 | – |
| – | C10D | – | SWRM 10 | – | C 10 D | FM 10 | C 10 D | – | – | – | 1.0310 | – |
| – | C12D | – | SWRM 12 | – | C 12 D | – | C 12 D | – | – | – | 1.0311 | – |
| – | R St 15 | FeP05 | – | – | Fe P05 | FeP05 | FeP05 | – | – | – | 1.0312 | – |
| – | D 6-2 | 0 1 5 A 03 | SWRM 6 | G10050 | C 4 D | – | 3 CD 5 | – | – | – | 1.0314 | – |
| – | St 37.8 | – | STB 35 | – | – | – | Fe 37 | – | – | – | 1.0315 | – |
| – | St 13 | CR 3 | SPCD | – | – | – | – | – | – | – | 1.0333 | – |
| – | D D 13 (StW 24) | H S 3 | SPHE | – | D D 13 | 3C | – | – | – | – | 1.0335 | – |
| – | USt 4/DC 04 G | – | – | – | D C 04 G 1 | – | – | – | – | – | 1.0336 | – |
| – | Ro St 4/DC 04 GT | – | – | – | DC 04 GT | – | – | – | – | – | 1.0337 | – |
| – | St 4 | DC 04/FeP04 | SPCE | – | Fe P04 | Fe 14 | DC04/FeP04 | – | – | – | 1.0338 | – |
| – | DC01Cu | – | – | – | DC 01 Cu | – | – | – | – | – | 1.0344 | – |
| – | RR St 3 | CR 3 | SPCD | – | Fe P03 | F 13 | DC 03/FeP 03 | – | – | – | 1.0347 | – |
| – | U H I/P 195GH | – | SGV 480 | – | P 195 Gh | – | – | – | – | – | 1.0348 | – |
| – | St 14 Cu 3 | – | – | – | DC 04 Cu | – | – | – | – | – | 1.0354 | – |
| – | – | 3 CR | – | – | D D 12 | D D 12 | – | – | – | – | 1.0398 | – |
| 1015 | C 15 | 080 M 15 | S 15 C | G10170 | C 15 | C 12 | C 15 | 1350 | – | – | 1.0401 | – |
| – | LSt 45.8 | – | – | – | C 16 | – | C 16 | – | – | – | 1.0407 | – |
| – | C15D | – | SWRM 15 | – | C 15 D | FM 15 | C 15 D | – | – | – | 1.0413 | – |
| – | C20D | – | SWRM 20 | – | C 20 D | FM 20 | C 20 D | – | – | – | 1.0414 | – |
| – | C26D | – | SWRH 27 | – | C 26 D | FM 26 | C 26 D | – | – | – | 1.0415 | – |
| – | C18D | – | SWRM 17 | – | C 18 D | FM 18 | C 18 D | – | – | – | 1.0416 | – |
| – | RSt 44-2 | 440 | – | G10160 | – | – | – | – | – | – | 1.0419 | – |
| – | P265 NB | – | SG 295 | – | P 265 NB | BS 2 | – | – | – | – | 1.0423 | – |
| – | P 265 GH | 151-400 | SG 30 | K02801 | P 265 GH | A42CP | P 265 GH | 1430 | – | – | 1.0425 | – |
| – | C 22.3 | – | – | – | C 22 G 1 | – | – | – | – | – | 1.0427 | – |
| – | BSt 420 S | – | – | – | Fe B 400 | – | – | – | – | – | 1.0428 | – |
| – | C 21 | – | SFVC 1 | K03504 | P 305 GH | – | – | – | – | – | 1.0432 | – |
| – | GS-45 | A1 | SC 450 | J03001 | GE 230 | E23-45M | – | 1305 | – | – | 1.0446 | – |
| – | TStE 275 (S 275 NL) | 40EE | – | – | S 275 NL | S 275 NL | S 275 NL | – | – | – | 1.0491 | – |
| – | St 42.8 | – | STPT 42 | – | – | – | Fe 42 | – | – | – | 1.0498 | – |
| – | S 335 N (StE 355) | 50 E | – | – | S 355 N | E 355 | S 355 N | 2134 | – | – | 1.0545 | – |
| – | S 355 NL (TStE 355) | 50 E E | – | – | S 355 NL | E 355 | S 355 N L | 2135 | – | – | 1.0546 | – |
| – | R 7 S 6/C 7 RG 2 | – | – | – | C 7 RG 2 | – | – | – | – | – | 1.0709 | – |
| B1112 | 9 S 20 | 220 M 07 | SUM 21 | G 11120 | – | – | CF 9 S 22 | – | – | – | 1.0711 | – |
| 1213 | 9 SMn 28/11 SMn 30 | 230 M 07 | SUM 22 | G 12130 | 11 SMn 28 | S 250 | CF 9 SMn 28 | 1912 | – | – | 1.0715 | – |
| 12L13 | 9 SMnPb 28 | – | SUM 22 L | G 12134 | 11 SMnPb 28 | S 250 Pb | CF 9 SMnPb 28 | 1914 | – | – | 1.0718 | – |
| – | 15 S 22/15 S 20 | En32M | SUM 32 | – | 15 S 22 | – | – | 1922 | – | – | 1.0723 | – |
| – | 15 SMn 13 | 15 SMn 13 | – | – | 15 SMn 13 | 15 SMn 13 | – | – | – | – | 1.0725 | – |
| 1215 | 9 SMn 36/11 S Mn 37 | 240 M 07 | SUM 25 | G 12150 | 11 SMn 37 | S 300 | CF 9 SMn 36 | – | – | – | 1.0736 | – |
| 12L14 | 9 SMnPb 36/11 SMnPb 37 | – | – | G 12144 | 11 SMnPb 37 | S 300 Pb | CF 9 SMnPb 36 | 1926 | – | – | 1.0737 | – |
| – | 11 SMnPbTe 37 | 11 SMn 37 | – | – | 11 SMn 37 | – | – | – | – | – | 1.0738 | – |
| – | 15 SPb 20/15 SPb 22 | – | – | – | 15 SPb 22 | – | – | – | – | – | 1.0753 | – |
| – | 36 SMn 14 | 36SMn14 | – | – | 36SMn14 | 36SMn14 | – | – | – | – | 1.0764 | – |
| – | C10D2 | – | – | – | C 10 D 2 | FM 10 | C 10 D 2 | – | – | – | 1.1114 | – |
| – | Cq 10 (C 10 C) | – | SWRCH 10 K | – | C 10 KD | – | – | – | – | – | 1.1122 | – |
| – | C15D2 | – | – | – | C 15 D 2 | FM 15 | C 15 D 2 | – | – | – | 1.1126 | – |
| – | C 18D2 | – | – | – | C 18 D 2 | FM 18 | C 18 D 2 | – | – | – | 1.1129 | – |

*(continued)*

## P1 Workpiece Materials Listing • Steel • P1 *(continued)*

*P1 Low-Carbon Steels, Short Chipping, Free Machining* *Content: C <.25%* *Tensile Strength RM (MPa)*: <530* *Hardness (HB): <125*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | GS-16 Mn 5 | – | – | – | G 17 Mn 5 | G 17 Mn 5 | G17Mn5 | – | – | – | 1.1131 | – |
| – | C20D2 | – | – | – | C 20 D 2 | FM 20 | C20D 2 | – | – | – | 1.1137 | – |
| – | C26D2 | – | – | – | C 26 D 2 | FM 26 | C26D 2 | – | – | – | 1.1139 | – |
| – | GC 16 E/GS-Ck 16 | – | – | – | GC 16 E | – | – | – | – | – | 1.1142 | – |
| – | C 16 E | C 16 E | – | – | C 16 E | XC 18 | – | – | – | – | 1.1148 | – |
| – | Cm 22 | 070 M 20 | C 22 R (3 C 22) | – | 3 C 22 | XC 18 u | C 22 R | – | – | – | 1.1149 | – |
| – | Ck 22 | 050 A 20 | S 22 C | G10230 | 2 C 22 | XC 25 | C 20 | – | – | – | 1.1151 | – |
| – | Cq 22 | – | SWRCH20K | – | C 21 KD | – | CB 20 FF | – | – | – | 1.1152 | – |
| – | Ck 25 | 070 M 26 | S 25 C | G10250 | 2 C 25 | XC 25 | C 25 | – | – | – | 1.1158 | – |
| – | C2D1 | – | – | – | C 2 D 1 | – | C 2 D 1 | – | – | – | 1.1185 | – |
| – | 19 MnVS 6 | – | – | – | 19 MnVS 6 | – | – | – | – | – | 1.1301 | – |
| – | PS 275 TM | S 275 M | – | – | S 275 M | S 275 M | S 275 M | – | – | – | 1.8818 | – |
| – | DI-MC 355 B | – | – | – | S 355 M | E 355 | S 355 M | – | – | – | 1.8823 | – |
| – | DI-MC 420 B | S 420 M | – | – | S 420 M | E 420 | S 420 M | – | – | – | 1.8825 | – |
| – | S 460 M | S 460 M | – | – | S 460 M | E460;S460M | S460M | – | – | – | 1.8827 | – |
| – | BTStE 355 TM | S 355 ML | – | – | S 355 ML | E 355 | S 355 ML | – | – | – | 1.8834 | – |
| – | BTStE 420 TM | S 420 MI | – | – | S 420 ML | E 420 | S 420 ML | – | – | – | 1.8836 | – |
| – | S 235 J 0 W (Allwesta 360) | S 235 J 0 W | SMA 400 BW | – | S 235 JO W | S 235 J 0 W | – | – | – | – | 1.8958 | – |
| – | S 355 J 0 W (Allwesta 510) | WR 50 B | SMA 490 BW | – | S 235 JO W | E24W-3 | S 235 J0 W | – | – | – | 1.8959 | – |
| – | WTSt 37-2/S235JRW | WR 50 B | SMA 41 A | K11538 | S 235 JR W | E 24 W-2 | – | – | – | – | 1.8960 | – |
| – | WTSt 37-3 | WR 50 C | SMA 50 A | – | S 235 J2 W | S 235 J 2 W | Fe 360 D FF | – | – | – | 1.8961 | – |
| – | USt 42-2 | – | SS 41 | – | – | HS 18-0-2-10 | – | – | – | – | 1.0040 | – |
| – | St 37-2 | – | – | – | S 235 JRC | E 24-2 | S 235 JRC | – | – | – | 1.0120 | – |
| – | S 235 JR G1F | – | – | – | S 235 JRG 1 F | – | – | – | – | – | 1.0160 | – |
| – | St 12 | DC 01/Fe P01 | SPCC | – | Fe P01 | DC 01/fe P01 | DC 01/FeP0 1 | – | – | – | 1.0330 | – |
| – | GS-38 | A1 | – | – | GE 200 | 230-400M | – | 1306 | – | – | 1.0420 | – |
| – | GS-20 Mn 5 | – | SMnC 420 | H15220 | – | – | – | – | – | – | 1.1120 | – |
| – | G 20 Mn 5 | – | – | – | G 20 Mn 5 | – | G 20 Mn 5 | – | – | – | 1.6220 | – |

## P2 Workpiece Materials Listing • Steel • P2

*P2 Medium- and High-Carbon Steels* *Content: C >.25%* *Tensile Strength RM (MPa)*: >530* *Hardness (HB): <220 (HRC): <25*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | S 355 JR | En 50 B | SM 490 YA | – | S 1207 | E36-2 | Fe 510 BFN | – | – | – | 1.0045 | – |
| 1035 | C 35 | 060 A 35 | S 35 C | G 10350 | 1 C 35 | CC 35 | C 35 | 1550 | – | – | 1.0501 | – |
| 1045 | GS-C 45 | 080 M 46 | S 45 C | G10450 | 1 C 45 | CC 45 | C 45 | 1650 | – | – | 1.0503 | – |
| 1040 | C 40 | 080 M 40 | S 40 C | G 10 400 | 1 C 40 | C 40 | C 40 | – | – | – | 1.0511 | – |
| 1046 | S 355 K 2 G 4 Cu | – | – | G10460 | S 355 K2 G4 Cu | – | – | – | – | – | 1.0519 | – |
| 1030 | C30 | 080 M 30 | SUP 7 | G 10 300 | 1 C 30 | C C 32 | C 30 | – | – | – | 1.0528 | – |
| 1055 | C 55 | 070 M 55 | S 55 C | J05000 | 1 C 55 | C 55 | C 55 | 1655 | – | – | 1.0535 | – |
| 1551 | C 50 Pb | – | – | G15510 | C 50 G Pb | – | – | – | – | – | 1.0542 | – |
| – | GS-60 | A3 | – | – | GE 300 | 320-560M | C 45 | 1606 | – | – | 1.0558 | – |
| 1037 | 36 Mn4 | 170 H 36 | – | G10370 | – | – | – | – | – | – | 1.0561 | – |
| – | PSt 52-3 ( S 355 J2 G3 F) | – | – | – | S 355 J2 G3 F | – | FE 510 C | – | – | – | 1.0572 | – |
| – | S 355 J2H (RoSt 52-3) | 50D | – | – | S355J2H | – | S355J2H | – | – | – | 1.0576 | – |
| 1060 | C 60 | 080 A 62 | S 60 C-CSP | G 10600 | 1 C 60 | AF 70 C 55 | C 60 | – | – | – | 1.0601 | – |
| 1070 | C 67 | CS 70 | S 70 C -CSP | G10700 | 1 CS 67 | C 68 | C 67 | – | – | – | 1.0603 | – |
| 1074 | C 75 | CS 80 | – | G10740 | 1 CS 75 | C 75 | C 75 | – | – | – | 1.0605 | – |
| 1059 | C58D | – | S 58 C | G10590 | C 58 D | FM 58 | C 58 D | – | – | – | 1.0609 | – |
| 1075 | C76D | – | – | G10750 | C 76 D | FM 76 | C 76 D | – | – | – | 1.0614 | – |
| 1080 | C86D | CS 80 | – | G10860 | C 86 D | FM 86 | C 86 D | – | – | – | 1.0616 | – |
| 1095 | C92D | 95 CS | – | G10950 | C 92 D | – | C 92 D | – | – | – | 1.0618 | – |
| 1110 | U 10 S 10 | – | SUM 12 | G11100 | – | – | – | – | – | – | 1.0702 | – |
| 11L08 | 10 SPb 20 | – | – | G 11084 | 10 SPb 20 | 10 Pb F 2 | CF 10 SPb 20 | – | – | – | 1.0722 | – |
| 1140 | 35 S 20 | 212 M 36 | – | G 11400 | 35 S 20 | 35 MF 4 | – | 1957 | – | – | 1.0726 | – |
| 1146 | 45 S 20 | 212 M 44 | – | G 11460 | 45 S 20 | 45 MF 4 | – | 1973 | – | – | 1.0727 | – |
| 1151 | 60 S 20 | – | – | G11510 | 60 S 20 | 60 MF 4 | – | – | – | – | 1.0728 | – |
| 1141 | 36 Mn 6 | 212 M 36 | S Mn 443 | G 11410 | – | – | – | – | – | – | 1.1127 | – |
| 1039 | 40 Mn 4 | 150 M 36 | – | G10390 | – | 35 M 5 | – | – | – | – | 1.1157 | – |
| 1536 | 34 Mn 5 | En15B | SS 55 | G15360 | – | – | – | – | – | – | 1.1166 | – |
| 1030 | Cq 35 | – | F.1133 ( C 35 DF) | G 10300 | C 35 KD | – | CB 35 | – | – | – | 1.1172 | – |
| 1034 | Ck 34 | 080 M 34 | S 34 C | G 10340 | 2 C 34 | – | C 34 | – | – | – | 1.1173 | – |
| 1038 H | Ck 38 | – | – | G 10380 | – | XF 38 | – | – | – | – | 1.1176 | – |
| 1030 | Ck 30 | 080 M 30 | S 30 C | G 10300 | 2 C 30 | XC 32 | C 30 | – | – | – | 1.1178 | – |
| 1034 | Ck 35 | 080 M 36 | S 35 C | G 10340 | 2 C 35 | XC 38 H1 | C 35 | 1572 | – | – | 1.1181 | – |
| 1035 | Cf 35 | 060 A 35 | S 35 C | G 10350 | C 35 G | XC 38 TS | C 35 | 1572 | – | – | 1.1183 | – |
| 1040 | Ck 40 | 080 A 40 | S 40 C | G 10400 | 2 C 40 | XC 42 H1 | C 40 | – | – | – | 1.1186 | – |
| 1045 | Cf 45 | 060 A 47 | S 45 C | G10450 | C 45 G | XC 42 TS | C 43 | 1672 | – | – | 1.1193 | – |
| 1055 | Ck 55 | 070 M 55 | S 55 C | G10550 | 2 C 55 | XC 55 H1 | C 55 | 1655 | – | – | 1.1203 | – |
| 1050 | Ck 50 | 080 M 50 | S 50 C | G10500 | 2 C 50 | XC 48 H1 | C 50 | 1674 | – | – | 1.1206 | – |
| 1055 | Cm 55 | 070 M 55 | – | G 10550 | 3 C 55 | XC 55 H1 | C 55 R | – | – | – | 1.1209 | – |
| 1053 | Ck 53 | En43C | S 53 C | G 10530 | – | – | – | – | – | – | 1.1210 | – |
| 1050 | Cf 53 | 060 A 57 | S 50 C | G 10500 | C 53 G | XC 48 TS | C 48 | 1674 | – | – | 1.1213 | – |
| 1060 | Ck 60 | 060 A 62 | S 58 C | G 10640 | 2 C 60 | XC 60 | C 60 | 1678 | – | – | 1.1221 | – |
| 1552 | 52 Mn 5 | – | – | G15520 | – | – | – | – | – | – | 1.1226 | – |
| 1065 | FD (Federstahldraht) | 095 A 65 | – | G10650 | C 68 D | – | – | – | – | – | 1.1230 | – |
| 1070 | Ck 67 | 060 A 67 | S 70 C-CSP | G 10700 | C 67 S | XC 68 | C 70 | 1770 | – | – | 1.1231 | – |
| 1069 | Ck 68 | – | – | G10690 | C 70 D | – | – | – | – | – | 1.1234 | – |
| 1080 | Ck 75 | 060 A 78 | C 75 | G 10800 | C 75 S | XC 75 | C 75 | 1774 | – | – | 1.1248 | – |
| – | Cf 70 | – | – | – | C 70 G | XC 70 | – | – | – | – | 1.1249 | – |
| 1090 | Ck 85 | – | SK 5 -CSP | G 10900 | C 85 S | XC 90 | C 90 | – | – | – | 1.1269 | – |
| 1085 | 90 Mn 4 | 080 A 83 | SUP4 | G 10850 | – | – | – | – | – | – | 1.1273 | – |
| 1095 | Ck 101 | 060 A 96 | SUP_4 | G 10950 | C 100 S | XC 100 | C 100 | 1870 | – | – | 1.1274 | – |
| 1050 | C 50 | 080 M 50 | S 50 C | G 10 500 | 1 C 50 | C 50 | C 50 | 1674 | – | – | 1.0540 | – |
| – | St 52-3 G | 4360-50 B | SM 50 YB | – | S 355 J 2 G 3 | E 36-3 | Fe 510 B | 2132 | – | – | 1.0570 | – |
| 1078 | C78D | – | SWRH 77 B | G10780 | C 78 D | FM 78 | C 78 D | – | – | – | 1.0620 | – |
| 1035 | Cm 35 | 080 M 36 | – | G 10350 | 3 C 35 | 38 H1 k | C 35 R | 1572-03 | – | – | 1.1180 | – |
| 1566 | 66 Mn 4 | – | – | G15660 | – | – | – | – | – | – | 1.1260 | – |
| 1084 | C 85 W | – | SK 5 | G10840 | C 90 U | Y3 90 | – | – | – | – | 1.1830 | – |

NOTE: For legend, see page Y237.

## P3 Workpiece Materials Listing • Steel • P3

*P3 Alloy Steels and Tool Steels* *Content: C >.25%* *Tensile Strength RM (MPa)*: 600–850* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1330 | GS-30 Mn 5 | 120 M 36 | SMn 433 H; SCMn 2 | K13300 | – | 35 M 5 | – | 1330 | – | – | 1.1165 | – |
| 1330 | 28 Mn 6 | 150 M 28 | SCMn 1 | G 13300 | 28 Mn 6 | 35 M 5 | C 28 Mn | – | – | – | 1.1170 | – |
| 1335 | 36 Mn 5 | 150 M 36 | SMn 438(H) | G13350 | – | 40 M 5 | – | 2120 | – | – | 1.1167 | – |
| 1345 | StSch 90 C/GP 280 GH | – | – | G13450 | GP 280 GH | GP 280 GH | GP 280 GH | – | – | – | 1.0625 | – |
| 1513 | P265 | HR 40/30 | – | G15130 | – | 12 M 5 | – | – | – | – | 1.0424 | – |
| 4142 | 43 CrMo 4 | – | – | G41420 | – | 43 Cr Mo 4 | – | – | – | – | 1.3563 | – |
| 4147 | 48 CrMo 4 | 817 M 40 | SNC 836 | H41470 | – | 48 CrMo 4 | – | – | – | – | 1.3565 | – |
| 4419 | GS-22 Mo 4 | 243-430 | SCPH 11 | G44190 | G 20 Mo 5 | G20Mo5 | G 22 Mo 5 | – | – | – | 1.5419 | – |
| 4520 | 16 Mo 5 | 1503-245-420 | SBC 690 | K11522 | – | – | 16 Mo 5 | – | – | – | 1.5423 | – |
| 5015 | 15 Cr 3 | 523 M15 | SCr 415 H | G50150 | 15 Cr 2 | 12 C 3 | – | – | – | – | 1.7015 | – |
| 5046 | 44 Cr 2 | – | – | H50460 | 46 Cr 1 KD | 44 Cr 2 | – | – | – | – | 1.3561 | – |
| 5115 | 16 MnCr 5 | 527 M 17 | SCR 415 | G 51150 | 16 MnCr 5 KD | 16 MC 5 | 16 MnCr 5 | 2173 | – | – | 1.7131 | – |
| 5117 | 17 Cr 3 | 17 Cr 3 | – | G51170 | (15 Cr 2 KD) | 18 C 3 | – | – | – | – | 1.7016 | – |
| 5130 | 28 Cr 4 | 530 A 30 | – | G51300 | 28 Cr 4 | 30 CD 4 | – | – | – | – | 1.7030 | – |
| 5140 | 41 Cr 4 | 530 M 40 | SCr 440 H | G51400 | 41 Cr 4 | 42 C 4 | 41 Cr 4 | – | – | – | 1.7035 | – |
| 5140 | 42 Cr 4 | 530 A 40 | SCr 440 | – | 40 NiCrMo 3 | 42 C 4 TS | 40 NiCrMo 3 | 2245 | – | – | 1.7045 | – |
| 9255 | 51 Si 7 | 250 A 53 | – | G92550 | – | 51 S 7 | 48 Si 7 | 2090 | – | – | 1.0903 | – |
| 9255 | 55 Si 7 | 250 A 53 | SKH 1; SKT 4 | G92550 | 55 NiCrMoV 7 | 55 S 7 | 55 Si 8 | 2085 | – | – | 1.0904 | – |
| 9260 | 60 Si 7 | 251 A 60 | – | G92600 | 60 Si 7 | 60 S 7 | 60 Si 7 | – | – | – | 1.5027 | – |
| 9262 | 60 SiCr 7 | 250 A 61 | SUP 7 | G92620 | 60 SiCr 8 | 60 SC 7 | 60 SiCr 8 | – | – | – | 1.0961 | – |
| 9262 | 60 SC 7 | – | – | G92620 | 60 SiCr 8 | 61 SC 7 | 60 SiCr 8 | – | – | – | 1.5092 | – |
| 9262 | 60 SiCr 7 | – | – | – | 60 SiCr 8 | – | – | – | – | – | 1.7108 | – |
| 15B21 H | 19 MnB 4 | 170 H 20 | SWRCHB 420 | H15211 | 19 MnB 4 | 20 MB 5 | – | – | – | – | 1.5523 | – |
| 15B21 H | 20 MnB 5 | – | SWRCHB 620 | – | 20 MnB 5 | 20 MnB 5 | 20 MnB 5 | – | – | – | 1.5530 | – |
| 50B40 | 37 CrB 1 | 120 M 36 | SMnC 3 H | H50401 | 38 Cr 2 | – | 35 CB 1 | – | – | – | 1.7007 | – |
| 5130 H | 34 Cr 4 | 530 A 32 | SCr 430 H | G51300 | 34 Cr 4 KD | 32 C 4 | 34 Cr 4 KB | – | – | – | 1.7033 | – |
| 5132 H | 37 Cr 4 | 530 A 36 | SCr 435 H | G51320 | 37 Cr 4 | 38 C 4 | 36 CrMn 4 | – | – | – | 1.7034 | – |
| A 204 Gr. A | 15 Mo 3 | 1501-240 | STFA 12 | K11820 | 16 Mo 3 | 15 D3 | 16 Mo 3 KW | 2912 | – | – | 1.5415 | – |
| A 350-LF 5 | 10 Ni 14 | 503 | SL 3 N 26 | K31718 | 12 Ni 14 | 12Ni14 | 18 Ni 14 KT | – | – | – | 1.5637 | – |
| A 387 Gr. 12 Cl. 2 | 16 CrMo 4 4 | – | – | K11564 | – | – | A 18 CrMo 4 5 KW | – | – | – | 1.7337 | – |
| A 570 Gr. 36 | St 37-3 | 4360-40 C | – | K01501 | S 235 J2 G3 | Fe 360 D1(2); E 24-3 | Fe 360 D1(2) | 1312 | – | – | 1.0116 | – |
| A 570 Gr. 40 | St 44-2 | 4360-43 B | SM 41 B | K 02502 | S 275 JR | E 28-2 | Fe 430 BFN | 1412 | – | – | 1.0044 | – |
| A 570 Gr. 50 | St 50-2 | 4360-50 B | SS 50 | – | E 295 | A 50-2 | Fe 490 | 2172 | – | – | 1.0050 | – |
| A 573 Gr. 70 | St 44-3 | 4360-43 C | SM 41 B | – | Fe 430 D1(2); S 275 J2 G3 (4) | Fe 430 D1(2); E 28-4 | Fe 430 D FF | 1414 | – | – | 1.0144 | – |
| A 633 Gr. C | St E 355 | P 355 N | SM 50 YB | K12000 | P 355 N | E 355 R/FP | Fe E 355 KG | 2132 | – | – | 1.0562 | – |
| A 633 Gr. E | St E 420 | S 420 N | SM 50 C | K02002 | FeE 420 KGN | E 420-I | Fe E 420 KG | 2143 | – | – | 1.8902 | – |
| A 633 Gr. E | St E 460 | P 460 N | SM 53 B | K02900 | P 460 N | E 460-I | Fe E 460 KG | 2143 | – | – | 1.8905 | – |
| A-6 | C 67 W | – | – | T30106 | – | Y1 70 | – | – | – | – | 1.1744 | – |
| E 52100 | 100 Cr 6 | 535 A 99 | SUJ 2 | G52986 | 100 Cr 6 | 100 C 6 | 100 Cr 6 | 2258 | – | – | 1.3505 | – |
| O 2 | 90 MnCrV 8 | BO 2 | – | T31502 | 90 Mn V 8 | 90 MV 8 | 90 MnVCr 8 KU | – | – | – | 1.2842 | – |
| P21 | 90 Cr 3 | – | – | T51621 | – | – | – | – | – | – | 1.2056 | – |
| P3 | 10 NC 6 | – | – | T51603 | 15 NiCr 6 | 10 NC 6 | – | – | – | – | 1.5713 | – |
| P6 | 15 NiCr 14 | – | SNC 22 | T51606 | – | 10 NC 12 | – | – | – | – | 1.2735 | – |
| T 8 | C 80 W2 | BW 1B | SKC 3 | T12008 | – | Y1 80 | C 80 KU | – | – | – | 1.1625 | – |
| W 108 | C 80 W1 | – | – | T72301 | C 80 U | Y1 90 | C 80 KU | 1880 | – | – | 1.1525 | – |
| W 110 | C 105 W1 | B W 1 A | – | T72301 | C 105 U | Y 105 | C 100 KU | 1880 | – | – | 1.1545 | – |
| W 112 | C 125 W | – | – | – | C 125 U | – | – | – | – | – | 1.1563 | – |
| W 112 | C 125 W | – | SK 2 | T72301 | C 120 U | Y2 120 | C 120 KU | – | – | – | 1.1663 | – |
| W 210 | 100 V 1 | BW 2 | SKS 43 | T72302 | 100 V 2 | Y1 105 V | 102 V 2 KU | – | – | – | 1.2833 | – |
| – | St 50-1 | – | – | – | – | – | – | – | – | – | 1.0052 | – |
| – | S 235 JO/ Fe 360 C | En 40C | – | – | S 235 JO | E24-3 | Fe 360 CFN | – | – | – | 1.0114 | – |
| – | QSt 37-3 | – | SWRCH 12R | – | – | – | – | – | – | – | 1.0123 | – |
| – | S 275 J0 | En43C; S275J0 | – | – | S 275 J0/ Fe 430 C | S 275 J0; E 28-3 | S275J0; Fe430CFN | – | – | – | 1.0143 | – |
| – | S 275 J2 G4/ Fe 430 D 2 | S 275 J2 G4 | – | – | S 275 J2 G4 | E28-4; S 275 J2 G4 | S 275 J2 G4 | 1414 | – | – | 1.0145 | – |
| – | Ro St 44-2 | 43C | – | – | S 275 J0 H | – | S 275 J0 H | – | – | – | 1.0149 | – |
| – | St 37.0 | – | STPG 38 | – | P 235 T1 | – | – | – | – | – | 1.0254 | – |
| – | C9D | – | SWRM 8 | – | C 9 D | FM 9 | C 9 D | – | – | – | 1.0304 | – |
| – | C7D | C 7 D | SWRM 8 | G10060 | C 7 D | FM 8 | C 7 D | – | – | – | 1.0313 | – |
| – | P235 GH | P 235 GH | SPV 50 | K02503 | P 235 GH | A 37 CP | Fe E 235 | 1330 | – | – | 1.0345 | – |
| – | C 25 Pb | – | – | – | C 25 GPb | – | – | – | – | – | 1.0411 | – |
| – | L 245 MB | 430 | – | K03006 | L 245 MB | L 245 MB | – | – | – | – | 1.0418 | – |
| – | P310 NB | 224-410 | SG 325 | K02100 | P280GH | BS 2 | P 275 N | 2103 | – | – | 1.0426 | – |
| – | L 290 MB | – | – | – | L290MB | L 290 MB | – | – | – | – | 1.0429 | – |
| – | H III/P285NH | – | Sm 38 | – | P 285 NH | – | – | – | – | – | 1.0435 | – |
| – | P310 NB | 224-430 | SG 325 | K02100 | P305GH | P 275 N | P 275 N | 2103 | – | – | 1.0436 | – |
| – | A St 41 | P 275 N | STK 400 | K02100 | S 275 N | BS 3 | P 275 N | 2103 | – | – | 1.0437 | – |
| – | B 500 A | – | SD 490 | – | B 500 A | – | B 500 A | – | – | – | 1.0438 | – |
| – | H IV/P295NH | – | SG 37 | K03102 | – | – | Fe 460-2 KW | – | – | – | 1.0445 | – |
| – | StE 240.7 | – | – | – | L 245 NB | L 245 NB | – | – | – | – | 1.0457 | – |
| – | TStE 255 | – | – | K11535 | – | – | – | – | – | – | 1.0463 | – |
| – | 15 Mn 3 Al | – | – | – | C 14 GAl | – | – | – | – | – | 1.0468 | – |
| – | 19 Mn 6/P 355 GH | P 355 GH | SGV 46 | K03300 | P355GH | A 52 CP | Fe E355-2 | 2101 | – | – | 1.0473 | – |
| – | 17 Mn 4/P 295 GH | 224-460B | SG 37 | K03501 | P 295 GH | A 48 CP | Fe E 295 | 2102 | – | – | 1.0481 | – |
| – | 19 Mn 5 | 224-460 | SG 37 | K 03102 | – | A 52 CP; AP; FP | Fe 460- 2 KW | – | – | – | 1.0482 | – |
| – | L 290 AG | – | – | – | L290GA | TS E 290 | – | – | – | – | 1.0483 | – |
| – | L 290 NB | – | – | – | L290NB | L 290 NB | – | – | – | – | 1.0484 | – |
| – | 21 Mn 6 | – | – | K12320 | – | – | – | – | – | – | 1.0485 | – |
| – | St E 285 | P 275 N | SM 41 A | K 01802 | P 275 N | P 275 N | Fe E 285 KG | – | – | – | 1.0486 | – |
| – | W St E 285 | P 275 N | – | K 01802 | P 275 NH | P 275 N | Fe E 285 KW | – | – | – | 1.0487 | – |
| – | T St E 285 | P 275 NL 1 | SLA 235 A | K 01803 | P 275 NL 1 | P 275 NL 1 | Fe E 285 KT | – | – | – | 1.0488 | – |
| – | H 300/ZSt E 300 | H280LA | – | – | H 280 LA | E 280 C | – | – | – | – | 1.0489 | – |
| – | S 275 NH | S 275 NH | – | – | S 275 NH | – | S 275 NH | – | – | – | 1.0493 | – |
| – | S 275 NLH | S275NLH | – | – | S 275 NLH | – | S275NLH | – | – | – | 1.0497 | – |
| – | C 35 Pb/C 35 GPb | – | – | – | C 35 Pb | – | – | – | – | – | 1.0502 | – |
| – | St E 315/P 315N | – | SM 50 A | K11506 | P 315 N | – | Fe E 315 KG | – | – | – | 1.0505 | – |
| – | W St E 315 | – | SNC 1 | K02404 | P 315 NH | – | Fe E 315 KW | 2107 | – | – | 1.0506 | – |
| – | St 55 | – | STKM 16A | – | – | – | Fe 540 | – | – | – | 1.0507 | – |
| – | T St E315 | – | SLA 325 A | K02404 | P 315 NL | – | – | 2106 | – | – | 1.0508 | – |
| – | C 40 Pb | – | – | – | C 40 G Pb | – | – | – | – | – | 1.0512 | – |
| – | C38D | – | SWRH 37 | – | C 38 D | FM 38 | C 38 D | – | – | – | 1.0516 | – |
| – | C48D | – | SWRH 48 | – | C 48 D | FM 48 | C 48 D | – | – | – | 1.0517 | – |
| – | C56D | – | – | – | C 56 D | FM 56 | C 56 D | – | – | – | 1.0518 | – |
| – | S 355 NH | S 355 NH | – | – | S 355 NH | – | S 355 NH | – | – | – | 1.0539 | – |
| – | C42D | – | SWRH 42 B | – | C 42 D | FM 42 | C 42 D | – | – | – | 1.0541 | – |
| – | S 355 JO H | 50 C | – | – | S 355 JO H | – | S 355 JO H | – | – | – | 1.0547 | – |
| – | ZStE 340/ H 340 | H 320 L A | – | – | H 320 LA | E 315 C | – | – | – | – | 1.0548 | – |
| – | S 335 NLH | 50 EE | – | – | S 355 N LH | – | S 355 N L H | – | – | – | 1.0549 | – |
| – | S 355 JO | En 50 C; S 355 JO | SM 520 M | – | S 355 JO | S 355 JO; E 36-3 | S 355 JO; Fe 510 C FN | – | – | – | 1.0553 | – |
| – | GS-70 | 50 C | – | – | S 355 JO C | E 36-3 | Fe 510 C | – | – | – | 1.0554 | – |



*(continued)*

## P3 Workpiece Materials Listing • Steel • P3 *(continued)*

*P3 Alloy Steels and Tool Steels* *Content: C >.25%* *Tensile Strength RM (MPa)*: 600–850* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | ZStE 420/H 420 | 46/40HR, HS, CS | – | – | H 400 LA | H 400 LA | – | – | – | – | 1.0556 | – |
| – | P355 NB | – | SG 365 | – | P 355 NB | BS 4 | – | – | – | – | 1.0557 | – |
| – | W St E 355 | P 355 NH | – | K01600 | P 355 NH | P 355 NH | Fe E 355 KW | – | – | – | 1.0565 | – |
| – | T St E355 | P 355 NL1 | SLA 37 | – | P 355 NL1 | P 355 NL1 | Fe E 355 KT | – | – | – | 1.0566 | – |
| – | P355 QH1 | P 355 QH | – | – | P 355 QH | P 355 QH | – | – | – | – | 1.0571 | – |
| – | S 355 J 2 G 4 | S 355 J 2 G 4 | – | – | S 355 J 2 G 4 | S 355 J 2 G 4 | S 355 J 2 G 4 | – | – | – | 1.0577 | – |
| – | L 360 MB | – | – | – | L 360 MB | L 360 MB | – | – | – | – | 1.0578 | – |
| – | St 52.4 | – | STS 49 | – | – | – | – | – | – | – | 1.0581 | – |
| – | L 360 NB/StE 360.7 | – | – | – | L360NB | L 360 NB | – | – | – | – | 1.0582 | – |
| – | S 355 J 2 G 3 Cu/St 52-3 Cu3 | – | – | – | S 355 J2 G3 Cu + CR | – | – | – | – | – | 1.0585 | – |
| – | C50D | – | – | – | C 50 D | FM 50 | C 50 D | – | – | – | 1.0586 | – |
| – | QSt 52-3 Cu 3 | – | – | – | S 355 J2 G3 Cu C | – | – | – | – | – | 1.0587 | – |
| – | D 53-2 | – | SWRH 52 B | – | C 52 D | FM 52 | C 52 D | – | – | – | 1.0588 | – |
| – | S 355 J 2 G 4 Cu | – | – | – | S 355 J2 G4 Cu | – | – | – | – | – | 1.0592 | – |
| – | S355k2G3/Fe 510 DD1 (MULTIST) | S 355 K 2 G 3 | SM 520 C | K02505 | S 355 K 2 G 3 | E36-4 | S 355 K 2 G 3 | – | – | – | 1.0595 | – |
| – | S355K2G4/Fe 510 DD 2 (MULTIST) | S 355 K 2 G 4 | – | – | S 355 K 2 G 4 | S 355 K 2 G 4 | S 355 K 2 G 4 | – | – | – | 1.0596 | – |
| – | C62D | – | SWRH 62 B | – | C 62 D | FM 62 | C 62 D | – | – | – | 1.0611 | – |
| – | C66D | – | – | – | C 66 D | FM 66 | C 66 D | – | – | – | 1.0612 | – |
| – | C68D | – | SWRH 67 B | – | C 68 D | FM 68 | C 68 D | – | – | – | 1.0613 | – |
| – | C70D | – | – | – | C 70 D | FM 70 | C 70 D | – | – | – | 1.0615 | – |
| – | C72D | – | SWRH 72 B | – | C 72 D | FM 72 | C 72 D | – | – | – | 1.0617 | – |
| – | GS-C 25 | – | SCPH 1 | – | GP 240 GH | GP 240 GH | GP 240 Gh | – | – | – | 1.0619 | – |
| – | C80D | – | – | – | C 80 D | FM 80 | C 80 D | – | – | – | 1.0622 | – |
| – | C82D | – | SWRH 82 B | – | C 82 D | FM 82 | C 82 D | – | – | – | 1.0626 | – |
| – | 35 SPb 20 | 35 SPb 20 | – | – | 35 SPb 20 | 35 SPb 20 | – | – | – | – | 1.0756 | – |
| – | 45 SPb 20 | – | – | – | 46 SPb 20 | – | – | – | – | – | 1.0757 | – |
| – | 38 SMnPb 28 | 38 SMnPb 28 | – | – | 38 SMnPb 28 | 38 SMnPb 28 | – | – | – | – | 1.0761 | – |
| – | 44 SMn 28 | 44 SMn 28 | – | – | 44 SMn 28 | 44 SMn 28 | – | – | – | – | 1.0762 | – |
| – | 44 SMnPb 28 | 44 SMnPb 28 | – | – | 44 SMnPb 28 | 44 SMnPb 28 | – | – | – | – | 1.0763 | – |
| – | 36 SMnPb 14 | 36 SMnPb 14 | – | – | 36 SMnPb 14 | 36 SMnPb 14 | – | – | – | – | 1.0765 | – |
| – | QSt E 690 TM (S 700 MC) | – | – | – | S 700 MC | S 690 MC | S 700 MC | – | – | – | 1.0966 | – |
| – | QSt E 260 N 7 S 260 NC | – | AE 275 NC | – | S 260 NC | – | S 260 NCX | – | – | – | 1.0971 | – |
| – | QSt E 300 TM/S 315 MC | 43 F35 HR, HS, CS | – | – | S 315 MC | E 315 D | S 315 MC | – | – | – | 1.0972 | – |
| – | QSt E 300 N 7/ S 315 NC | – | AE 340 NC | – | S 315 NC | – | S 315 NC | – | – | – | 1.0973 | – |
| – | QSt E340 TM | HR 40/30 | – | – | S 340 MC | E 335 D | – | – | – | – | 1.0974 | – |
| – | QSt E340 N | – | – | – | S 340 NC | – | Fe E 355 TD | – | – | – | 1.0975 | – |
| – | QSt E 360TM | – | – | – | S 355 MC | E 355 D | Fe E 355 TM | – | – | – | 1.0976 | – |
| – | QSt E360 N | – | – | – | S 355 NC | – | Fe E 355 TD | – | – | – | 1.0977 | – |
| – | QSt E380 TM | – | – | – | S 380 MC | E 390 D | – | – | – | – | 1.0978 | – |
| – | QSt E380 N | – | – | – | S 380 NC | – | Fe E 380 TD | – | – | – | 1.0979 | – |
| – | QSt E420 TM | HR 50 F 45 | – | – | S 420 MC | E 430 D | Fe E 420 TM | – | – | – | 1.0980 | – |
| – | QSt E 420 N | – | – | – | S 420 NC | – | Fe E 420 TD | – | – | – | 1.0981 | – |
| – | QSt E 460 TM | 50/45 HR | – | – | S 460 MC | E 445 D | – | – | – | – | 1.0982 | – |
| – | QSt E 460 N | – | – | – | S 460 NC | – | Fe E 460 TD | – | – | – | 1.0983 | – |
| – | QSt E500 TM | – | – | – | S 500 MC | E 490 D | Fe E 490 TM | 2662 | – | – | 1.0984 | – |
| – | QSt E500 N | – | – | – | S 500 NC | – | – | – | – | – | 1.0985 | – |
| – | QSt E550 TM | 60/55 HS | – | – | S 550 MC | E 560 D | Fe E 560 TM | – | – | – | 1.0986 | – |
| – | QSt E550 N | – | – | – | S 550 NC | – | – | – | – | – | 1.0987 | – |
| – | EStE 285 | P 275 NL 2 | STK 400 | – | P 275 NL 2 | P 275 NL 2 | P 275 NL 2 | – | – | – | 1.1104 | – |
| – | EStE 315 | – | – | – | S 315 NL 1 | – | – | – | – | – | 1.1105 | – |
| – | EStE 355 | P 355 NL 2 | STK 500 | – | P 355 NL 2 | P 355 NL 2 | P 355 NL 2 | – | – | – | 1.1106 | – |
| – | C5D2 | – | – | – | C 5 D 2 | FM 6 | C 5 D 2 | – | – | – | 1.1111 | – |
| – | C8D2 | – | – | – | C 8 D 2 | FM 8 | C 8 D 2 | – | – | – | 1.1113 | – |
| – | C 10 E W/RSD 11 | – | – | – | C 10 EW | – | – | – | – | – | 1.1115 | – |
| – | C32D2 | – | – | – | C 32 D 2 | FM 32 | C 32 D 2 | – | – | – | 1.1143 | – |
| – | C36D2 | – | – | – | C 36 D 2 | FM 36 | C 36 D 2 | – | – | – | 1.1145 | – |
| – | C40D2 | – | – | – | C 40 D 2 | FM 40 | C 40 D 2 | – | – | – | 1.1153 | – |
| – | C42D2 | – | – | – | C 42 D 2 | FM 42 | C 42 D 2 | – | – | – | 1.1154 | – |
| – | C46D2 | – | – | – | C 46 D 2 | FM 46 | C46D 2 | – | – | – | 1.1162 | – |
| – | C 25 R | C 25 R | – | – | C 25 R | C 25 R | C 25 R | – | – | – | 1.1163 | – |
| – | C48D2 | – | – | – | C 48 D 2 | FM 48 | C48 D 2 | – | – | – | 1.1164 | – |
| – | 20 Mn 6 | 150 M 19 | – | – | – | 20 M 5 | 20 Mn 6 | – | – | – | 1.1169 | – |
| – | C50D2 | – | – | – | C 50 D 2 | FM 50 | C50D 2 | – | – | – | 1.1171 | – |
| – | C 30 R | C 30 R | C 30 R ( 3 C 30) | – | C 30 R | C 30 R | C 30 R | – | – | – | 1.1179 | – |
| – | C3D1 | – | – | – | C 3 D 1 | – | C 3 D 1 | – | – | – | 1.1187 | – |
| – | C40R/Cm 40 | C 40 R | – | – | C 40 R | C 40 R | C 40 | – | – | – | 1.1189 | – |
| – | Ck 45 | 080 M 46 | S 45 C | – | 2 C 45 | XC 42 | C 40 | 1672 | – | – | 1.1191 | – |
| – | Cq 45 | – | SWRCH45K | – | C 45 KD | – | – | – | – | – | 1.1192 | – |
| – | C 45 R | 080 M 46 | S 50 C | – | C 45 R | XC 48 H1u | C 45 R | 1672 | – | – | 1.1201 | – |
| – | C52D2 | – | – | – | C 52 D 2 | FM 52 | C 52 D 2 | – | – | – | 1.1202 | – |
| – | C 53 R/Cm 53 | – | – | – | C 53 R | – | – | – | – | – | 1.1205 | – |
| – | C 10 R | C 10 R | – | – | C 10 R | C 10 R | – | – | – | – | 1.1207 | – |
| – | C 16 R | C 16 R | – | – | C 16 R | C 16 R | – | – | – | – | 1.1208 | – |
| – | C58D2 | – | – | – | C 58 D 2 | FM 58 | C 58 D 2 | – | – | – | 1.1212 | – |
| – | C62D2 | – | – | – | C 62 D 2 | FM 62 | C 62 D 2 | – | – | – | 1.1222 | – |
| – | Cm 60 | C 60 R | – | – | 3 C 60 | C 60 R | C 60 R | – | – | – | 1.1223 | – |
| – | C60D2 | – | – | – | C 60 D 2 | FM 60 | C 60 D 2 | – | – | – | 1.1228 | – |
| – | C68D2 | – | – | – | C 68 D 2 | FM 68 | C 68 D 2 | – | – | – | 1.1232 | – |
| – | C66D2 | – | – | – | C 66 D 2 | FM 66 | C 66 D 2 | – | – | – | 1.1236 | – |
| – | C50R | C 50 R | – | – | C 50 R | FM 50 | C 50 R | – | – | – | 1.1241 | – |
| – | C72D2 | – | – | – | C 72 D 2 | FM 72 | C 72 D 2 | – | – | – | 1.1242 | – |
| – | C70D2 | – | – | – | C 70 D 2 | FM 70 | C 70 D 2 | – | – | – | 1.1251 | – |
| – | C78D2 | – | – | – | C 78 D 2 | FM 78 | C 78 D 2 | – | – | – | 1.1252 | – |
| – | C76D2 | – | – | – | C 76 D 2 | FM 76 | C 76 D 2 | – | – | – | 1.1253 | – |
| – | C80D2 | – | – | – | C 80 D 2 | FM 80 | C 80 D 2 | – | – | – | 1.1255 | – |

NOTE: For legend, see page Y237.

*(continued)*

## P3 Workpiece Materials Listing • Steel • P3 *(continued)*

*P3 Alloy Steels and Tool Steels* *Content: C >.25%* *Tensile Strength RM (MPa)*: 600–850* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | C82D2 | – | – | – | C 82 D 2 | FM 82 | C 82 D 2 | – | – | – | 1.1262 | – |
| – | C86D2 | – | – | – | C 86 D 2 | FM 86 | C 86 D 2 | – | – | – | 1.1265 | – |
| – | C88D2 | – | – | – | C 88 D 2 | – | C 88 D 2 | – | – | – | 1.1272 | – |
| – | C92D2 | – | – | – | C 92 D 2 | – | C 92 D 2 | – | – | – | 1.1282 | – |
| – | C98D2 | – | – | – | C 98 D 2 | – | C 98 D 2 | – | – | – | 1.1283 | – |
| – | 46 MnVS 6 | – | – | – | 46 MnVS 6 | – | – | – | – | – | 1.1304 | – |
| – | C 90 U | – | – | – | C90U | – | – | – | – | – | 1.1535 | – |
| – | 85 Cr 1 | – | – | – | – | Y1 100 C 2 | – | – | – | – | 1.2004 | – |
| – | 140 Cr 3 | – | SKS 8 | – | 140 Cr 2 | Y2 140 C | – | – | – | – | 1.2008 | – |
| – | 21 MnCr 5 | – | SCR 420 H | – | 21 MnCr 5 | 20 NC 5 | – | – | – | – | 1.2162 | – |
| – | 40 CrMnNiMo 8 6 4 | – | – | – | 40 CrMnNiMo 8-6-4 | – | – | – | – | – | 1.2738 | – |
| – | 16 CrNiMo 6 | 820A16 | – | – | – | 16 NCD 6 | 16NiCrMo6 | – | – | – | 1.3531 | – |
| – | 100 CrMn 7 3 | – | – | – | 100 CrMnMo 7 | 100 CD 7 | – | – | – | – | 1.3536 | – |
| – | 100 CrMo 7 | – | SUS 4 | K19965 | 100 CrMo 7 | 100 CD 7 | 100CrMo7 | – | – | – | 1.3537 | – |
| – | 100 CrMnMo 8 | – | – | – | – | 100 CrMnMo 8 | – | – | – | – | 1.3539 | – |
| – | 46 Si 7 | – | – | – | 45 Si | 46 S 7 | – | – | – | – | 1.5024 | – |
| – | 55 Si 7 | 250 A 53 | – | G92550 | 56 Si 7 | 55 S 7 | 55 Si 8 | 2085 | – | – | 1.5026 | – |
| – | 37 MnSi 5 | – | – | – | – | 38 MS 5 | – | F.130.A | – | – | 1.5122 | – |
| – | 15 MnMoV 4 5 | – | – | – | 15 MnMoV 4-5 | 15 MDV 4.05 | – | – | – | – | 1.5402 | – |
| – | 11 MnMo 4 5 | – | – | K11123 | 11 MnMo 45 KE | – | – | – | – | – | 1.5425 | – |
| – | 13 MnMo 6 5 | – | – | K11424 | 11 MnMo 65 KE | – | – | – | – | – | 1.5426 | – |
| – | 35 B 2 | – | SWRCHB 237 | – | C 35 B | 35 B 3 | – | – | – | – | 1.5511 | – |
| – | 24 Ni 8 | – | SCPL 21 | J22501 | G 9 Ni 10 | 22 N 8 | G9Ni10 | – | – | – | 1.5633 | – |
| – | 10 NiCr 5 4 | 10NiCr5-4 | – | – | 10 NiCr 5-4 | 10 NiCr 5-4 | – | – | – | – | 1.5805 | – |
| – | 18 MnMoNi 5 5 | – | – | – | 18 MnMoNi 5-5 | – | – | – | – | – | 1.6308 | – |
| – | 20 MnMoNi 4 5 | – | SQV 2 B | K12539 | 20 MnMoNi 4-5 | – | – | – | – | – | 1.6311 | – |
| – | 15 MnCrMoNiV 5 3 | – | – | – | 15 MnCrMoNiV 5-3 | – | – | – | – | – | 1.6920 | – |
| – | 17 CrS 3 | 17 CrS3 | – | – | 17 CrS 3 | 17 CrS 3 | – | – | – | – | 1.7014 | – |
| – | 28 CrS 4 | – | – | – | 28CrS4 | 28CrS4 | – | – | – | – | 1.7036 | – |
| – | 34 CrS 4 | 34 CrS 4 | – | – | 34 CrS 4 | 34 CrS 4 | 34 CrS 4 | – | – | – | 1.7037 | – |
| – | 41 CrS 4 | 41 CrS 4 | – | – | 41 CrS 4 | 41 CrS 4 | 41 CrS 4 | 2245 | – | – | 1.7039 | – |
| – | 38 Cr 4 | – | – | – | 38 Cr 4 | – | 38 Cr 4 | – | – | – | 1.7043 | – |
| – | 16 CrMo 4 | 18 CrMo4 | SCM 418 H | – | 18 CrMo 4 | 15 CD 3.5 | 18 CrMo 4 | – | – | – | 1.7242 | – |
| – | 12 CrMo 11 10 | – | – | – | – | – | – | – | – | – | 1.7305 | – |
| – | 22 CrMoS 3 5 | – | – | – | 22 CrMoS 3-5 | 22 CrMoS 3-5 | – | – | – | – | 1.7333 | – |
| – | 12 CrMo 19 5 | 3606-625 | SCMV 6 | K41545 | X 12 CrMo 5 | Z 10 CD 5.05 | 16 CrMo 20 5 | – | – | – | 1.7362 | – |
| – | X 7 CrMo 6 1 | B 5 | – | S50281 | CM 5-IG | – | – | – | – | – | 1.7373 | – |
| – | 51 CrMoV 4 | – | – | – | 51 CrMoV 4 | 51 CDV 4 | 51 CrMoV 4 | – | – | – | 1.7701 | – |
| – | 21 CrMoV 5 7 | – | – | K14073 | 21 CrmoV 5-7 | 20 CDV 5.07 | – | – | – | – | 1.7709 | – |
| – | 20 CrMoVTiB 4 10 | – | – | – | 20 CrMoVTiB 4-10 | 20 CrMoVTiB 4-10 | – | – | – | – | 1.7729 | – |
| – | PS 275 TMK | S 275 ML | – | – | S 275 ML | S 275 ML | S 275 ML | – | – | – | 1.8819 | – |
| – | S 500 M | – | – | – | S 500 m | – | – | – | – | – | 1.8829 | – |
| – | BTStE 460 TM | S 460 ML | – | – | S 460 ML | E 460 | S 460 ML | – | – | – | 1.8838 | – |
| – | S 500 ML | – | – | – | S 500 ML | – | – | – | – | – | 1.8839 | – |
| – | S 275 MH | – | – | – | S 275 MH | – | S 275 MH | – | – | – | 1.8843 | – |
| – | S 275 MLH | – | – | – | S 275 MLH | – | S 275 MLH | – | – | – | 1.8844 | – |
| – | S 355 MH | – | – | – | S 355 MH | – | S 355 MH | – | – | – | 1.8845 | – |
| – | S 355 MLH | – | – | – | S 355 MLH | – | S 355 MLH | – | – | – | 1.8846 | – |
| – | S 420 MH | – | – | – | S 420 MH | – | S 420 MH | – | – | – | 1.8847 | – |
| – | S 420 MLH | – | – | – | S 420 MLH | – | S 420 MLH | – | – | – | 1.8848 | – |
| – | S 460 MH | – | – | – | S 460 MH | – | S 460 MH | – | – | – | 1.8849 | – |
| – | StE 460 | S 460 N | – | – | S 460 N | E 460 | S 460N | – | – | – | 1.8901 | – |
| – | TStE 460 | S 460 L | – | – | S 460 NL | E460 | S 460 NL | – | – | – | 1.8903 | – |
| – | S 550 Q | – | – | – | S 550 Q | E 550 | S 550 Q | – | – | – | 1.8904 | – |
| – | S 460 Q | 55 F | – | – | S 460 Q | E 460 | S 460 Q | – | – | – | 1.8908 | – |
| – | S 420 NL/TStE 420 | S 420 NL | STK 540 | K02002 | S 420 NL | E 420 T-I | Fe E 420 KT | – | – | – | 1.8912 | – |
| – | S 620 Q | – | – | – | S 620 Q | E 620 | S 620 Q | – | – | – | 1.8914 | – |
| – | T St E 460/P460NL1 | P 460 NL 1 | – | K02900 | P 460 NL1 | E 460 T-I | Fe E 460 KT | – | – | – | 1.8915 | – |
| – | S 460 QL1 | 55 F | – | – | S 460 QL 1 | – | – | – | – | – | 1.8916 | – |
| – | T St E 500 | – | – | K02001 | – | E 500 T-I | – | – | – | – | 1.8917 | – |
| – | EStE 460/P460NI2 | P 460 NL 2 | – | – | P 460 NL 2 | P 460 NL 2 | P 460 NL 2 | – | – | – | 1.8918 | – |
| – | EStE 500/S500NL1 | – | – | – | S 500 NL 1 | – | – | – | – | – | 1.8919 | – |
| – | TStE 690 VA/S690G1QL | – | – | – | S 690 G 1 QL | – | – | – | – | – | 1.8920 | – |
| – | TStE 690 VB/S690G2QL | – | – | K11646 | S 690 G 2 QL | – | – | – | – | – | 1.8921 | – |
| – | S 690 G 4 QL/TStE 690 VC | – | – | – | S 690 G 4 QL | – | – | – | – | – | 1.8922 | – |
| – | S 590 QL/TStE 590 V | – | – | – | S 590 QL | – | – | – | – | – | 1.8923 | – |
| – | S 500 Q (StE 500 V) | – | – | – | S 500 Q | E 500 | S 500 Q | 2614 | – | – | 1.8924 | – |
| – | S 890 QL 1 (EStE 90 V) | – | – | – | S 890 QL 1 | – | – | – | – | – | 1.8925 | – |
| – | S 690 QL (TStE 690 V) | – | SHY 685 NS | – | S 690 QL | – | – | – | – | – | 1.8928 | – |
| – | S 690 Q/StE 690 V | – | SHY 685 N | – | S 690 Q | E 690 | S 690 Q | – | – | – | 1.8931 | – |
| – | WSt E 420/P420NH | S 420 NL | STK 540 | K02002 | S 420 NL | S 420 NL | Fe E 420 KW | – | – | – | 1.8932 | – |
| – | S 960 QL/TStE 960 V | – | – | – | S 960 QL | – | – | – | – | – | 1.8933 | – |
| – | WSt E 460/P460NH | P 460 NH | – | K02900 | P 460 NH | P 460 NH | Fe E 460 KW | – | – | – | 1.8935 | – |
| – | S 960 Q | – | – | – | S 960 Q | E 960 T-II | S 960 Q | – | – | – | 1.8941 | – |
| – | S 355 J 0 WP | WR 50 A | – | – | S 355 J0 WP | E 36 W-A3 | S 355 J0 WP | – | – | – | 1.8945 | – |
| – | S 355 J 2 WP | S 355 J 2 WP | – | – | S 355 J2 WP | E36W-A4 | S 355 J2 WP | – | – | – | 1.8946 | – |
| – | L 415 QB | – | – | – | L 415 QB | L 415 QB | – | – | – | – | 1.8947 | – |
| – | L 360 QB | – | – | – | L 360 QB | L 360 QB | – | – | – | – | 1.8948 | – |
| – | L 450 QB | – | – | – | L 450 QB | L 450 QB | – | – | – | – | 1.8952 | – |
| – | S 460 NH ( FGS 47) | – | – | – | S 460 NH | – | S 460 NH | – | – | – | 1.8953 | – |
| – | L 485 QB | – | – | – | L 485 QB | L 485 QB | – | – | – | – | 1.8955 | – |
| – | S 460 NLH/FG S 47 | – | – | – | S 460 NLH | – | S460NLH | – | – | – | 1.8956 | – |
| – | L 555 QB | – | – | – | L 555 QB | L 555 QB | – | – | – | – | 1.8957 | – |
| – | 9 CrNiCuP 3 2 4 | WR 50 A | SPA-H | K11430 | – | – | – | – | – | – | 1.8962 | – |
| – | WTSt 52-3 | WR 50 C | SMA 58 W | K11430 | S 355 J 2 G 1 W | E 36 W-A2 | – | – | – | – | 1.8963 | – |
| – | S 355 J 2 G 2 W | S 355 J 2 G 2 W | – | – | S 355 J 2 G 2 W | S 355 J 2 G 2 W | S 355 J 2 G 2 W | – | – | – | 1.8965 | – |

*(continued)*

## P3 Workpiece Materials Listing • Steel • P3 *(continued)*

*P3 Alloy Steels and Tool Steels* *Content: C >.25%* *Tensile Strength RM (MPa)*: 600–850* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | S 355 K 2 G 1 W | S 355 K 2 G 1 W | SMA 490 CW | – | S 355 K2 G1 W | S 355 K2 G1 W | S 355 K 2 G 1 W | – | – | – | 1.8966 | – |
| – | S 355 K 2 G 2 W | S 355 K 2 G 2 W | – | – | S 355 K2G2W | S 355 K 2 G 2 W | S 355 K 2 G 2 W | – | – | – | 1.8967 | – |
| – | QStE 600 TM/S 600 MC | – | – | – | S 600 MC | E 620 D | S 600 MC | – | – | – | 1.8969 | – |
| – | StE 415..7/L 415 NB | – | – | – | L 415 NB | L 415 NB | – | – | – | – | 1.8972 | – |
| – | StE 415.7 TM/L 415 MB | – | – | – | L 415 MB | L 415 MB | – | – | – | – | 1.8973 | – |
| – | S 700 MC (QStE 690 TM) | – | – | – | S 700 MC | E 690 D | S 700 MC | – | – | – | 1.8974 | – |
| – | L 450 MB/StE 445.7 TM | – | – | – | L 450 MB | L 450 MB | – | – | – | – | 1.8975 | – |
| – | S 650 MC (QStE 650 TM) | – | – | – | S 650 MC | E 620 D | S 650 MC | – | – | – | 1.8976 | – |
| – | L 485 MB/StE 480.7 TM | – | – | – | L 485 MB | L 485 MB | – | – | – | – | 1.8977 | – |
| – | StE 550.7 TM/L 555 MB | – | – | – | L 555 MB | L 555 MB | – | – | – | – | 1.8978 | – |
| – | St 60-2 | 4360-55 E | SM 58 | – | E 335 | A 60-2 | Fe 60-2 | 1650 | – | – | 1.0060 | – |
| – | St 70-2 | E 360 | – | – | E 360 | A 70-2 | Fe 70-2 | 1655 | – | – | 1.0070 | – |
| – | C4D | – | – | – | C 4 D | FM 5 | C 4 D | – | – | – | 1.0300 | – |
| – | C 22 8 | – | – | – | P 250 GH | – | – | – | – | – | 1.0460 | – |
| – | H 260/ZSt E 260 | H 240 LA | – | – | H 240 LA | E 240 C | – | – | – | – | 1.0480 | – |
| – | C32D | – | SWRH 32 | K02701 | C 32 D | FM 32 | C 32 D | – | – | – | 1.0530 | – |
| – | ZStE 380/H 380 | H 360 L A | – | – | H 360 LA | E 355 C | – | – | – | – | 1.0550 | – |
| – | C60D | – | – | – | C 60 D | FM 60 | C 60 D | – | – | – | 1.0610 | – |
| – | 38 SMn 28 | 38 SMn 28 | – | – | 38 SMn 28 | 38 SMn 28 | – | – | – | – | 1.0760 | – |
| – | QSt E 260 TM/5260 MC | – | – | – | S 260 MC | 41 S 7 | Fe E 275 TM | – | – | – | 1.0970 | – |
| – | C3D2 | – | – | – | C 3 D 2 | FM 5 | C 3 D 2 | – | – | – | 1.1110 | – |
| – | C38D2 | – | – | – | C 38 D 2 | FM 38 | C 38 D 2 | – | – | – | 1.1150 | – |
| – | C 42 E Al/Ck 42 Al | – | – | – | S 355 G15 | – | – | – | – | – | 1.1190 | – |
| – | C56D2/D 55-2 | – | – | – | C 56 D 2 | FM 56 | C 56 D 2 | – | – | – | 1.1220 | – |
| – | C 70 W1 | – | – | – | CT 70 | C 70 E 2 U | C 70 K U | – | – | – | 1.1520 | – |
| – | C 45 W | – | – | – | C 45 U | Y3 42 | – | – | – | – | 1.1730 | – |
| – | C 60 W | – | SK 7 | – | – | Y3 55 | – | – | – | – | 1.1740 | – |
| – | 100 CrMn 6 | – | – | K19195 | 100 CrMn 6 | 100 CM 6 | – | – | – | – | 1.3520 | – |
| – | 28 B 2 | – | SWRCHB 26 | – | C 30 B | 20 B 3 | – | – | – | – | 1.5510 | – |
| – | St E 380 | – | SM 50 B | – | S 380 N | – | Fe E 390 KG | – | – | – | 1.8900 | – |
| – | TStE 380/S380NL | – | – | – | S 380 NL | – | Fe E 390 KT | 2117 | – | – | 1.8910 | – |
| – | S 890 Q | – | – | – | S 890 Q | S 890 Q | S 890 Q | – | – | – | 1.8940 | – |
| – | 46 Si 7 | – | – | – | 45 Si | 46 S 7 | – | – | – | – | 1.5024 | – |
| – | 55 Si 7 | 250 A 53 | – | G92550 | 56 Si 7 | 55 S 7 | 55 Si 8 | 2085 | – | – | 1.5026 | – |
| – | 37 MnSi 5 | – | – | – | – | 38 MS 5 | – | F.130.A | – | – | 1.5122 | – |
| – | 15 MnMoV 4 5 | – | – | – | 15 MnMoV 4-5 | 15 MDV 4.05 | – | – | – | – | 1.5402 | – |
| – | 11 MnMo 4 5 | – | – | K11123 | 11 MnMo 45 KE | – | – | – | – | – | 1.5425 | – |
| – | 13 MnMo 6 5 | – | – | K11424 | 11 MnMo 65 KE | – | – | – | – | – | 1.5426 | – |
| – | 35 B 2 | – | SWRCHB 237 | – | C 35 B | 35 B 3 | – | – | – | – | 1.5511 | – |
| – | 24 Ni 8 | – | SCPL 21 | J22501 | G 9 Ni 10 | 22 N 8 | G9Ni10 | – | – | – | 1.5633 | – |
| – | 10 NiCr 5 4 | 10NiCr5-4 | – | – | 10 NiCr 5-4 | 10 NiCr 5-4 | – | – | – | – | 1.5805 | – |
| – | 18 MnMoNi 5 5 | – | – | – | 18 MnMoNi 5-5 | – | – | – | – | – | 1.6308 | – |
| – | 20 MnMoNi 4 5 | – | SQV 2 B | K12539 | 20 MnMoNi 4-5 | – | – | – | – | – | 1.6311 | – |
| – | 15 MnCrMoNiV 5 3 | – | – | – | 15 MnCrMoNiV 5-3 | – | – | – | – | – | 1.6920 | – |
| – | 17 CrS 3 | 17 CrS3 | – | – | 17 CrS 3 | 17 CrS 3 | – | – | – | – | 1.7014 | – |
| – | 28 CrS 4 | – | – | – | 28CrS4 | 28CrS4 | – | – | – | – | 1.7036 | – |
| – | 34 CrS 4 | 34 CrS 4 | – | – | 34 CrS 4 | 34 CrS 4 | 34 CrS 4 | – | – | – | 1.7037 | – |
| – | 41 CrS 4 | 41 CrS 4 | – | – | 41 CrS 4 | 41 CrS 4 | 41 CrS 4 | 2245 | – | – | 1.7039 | – |
| – | 38 Cr 4 | – | – | – | 38 Cr 4 | – | 38 Cr 4 | – | – | – | 1.7043 | – |
| – | 16 CrMo 4 | 18 CrMo4 | SCM 418 H | – | 18 CrMo 4 | 15 CD 3.5 | 18 CrMo 4 | – | – | – | 1.7242 | – |
| – | 12 CrMo 11 10 | – | – | – | – | – | – | – | – | – | 1.7305 | – |
| – | 22 CrMoS 3 5 | – | – | – | 22 CrMoS 3-5 | 22 CrMoS 3-5 | – | – | – | – | 1.7333 | – |
| – | 12 CrMo 19 5 | 3606-625 | SCMV 6 | K41545 | X 12 CrMo 5 | Z 10 CD 5.05 | 16 CrMo 20 5 | – | – | – | 1.7362 | – |
| – | X 7 CrMo 6 1 | B 5 | – | S50281 | CM 5-IG | – | – | – | – | – | 1.7373 | – |
| – | 51 CrMoV 4 | – | – | – | 51 CrMoV 4 | 51 CDV 4 | 51 CrMoV 4 | – | – | – | 1.7701 | – |
| – | 21 CrMoV 5 7 | – | – | K14073 | 21 CrmoV 5-7 | 20 CDV 5.07 | – | – | – | – | 1.7709 | – |
| – | 20 CrMoVTiB 4 10 | – | – | – | 20 CrMoVTiB 4-10 | 20 CrMoVTiB 4-10 | – | – | – | – | 1.7729 | – |
| – | PS 275 TMK | S 275 ML | – | – | S 275 ML | S 275 ML | S 275 ML | – | – | – | 1.8819 | – |
| – | S 500 M | – | – | – | S 500 m | – | – | – | – | – | 1.8829 | – |
| – | BTStE 460 TM | S 460 ML | – | – | S 460 ML | E 460 | S 460 ML | – | – | – | 1.8838 | – |
| – | S 500 ML | – | – | – | S 500 ML | – | – | – | – | – | 1.8839 | – |
| – | S 275 MH | – | – | – | S 275 MH | – | S 275 MH | – | – | – | 1.8843 | – |
| – | S 275 MLH | – | – | – | S 275 MLH | – | S 275 MLH | – | – | – | 1.8844 | – |
| – | S 355 MH | – | – | – | S 355 MH | – | S 355 MH | – | – | – | 1.8845 | – |
| – | S 355 MLH | – | – | – | S 355 MLH | – | S 355 MLH | – | – | – | 1.8846 | – |
| – | S 420 MH | – | – | – | S 420 MH | – | S 420 MH | – | – | – | 1.8847 | – |
| – | S 420 MLH | – | – | – | S 420 MLH | – | S 420 MLH | – | – | – | 1.8848 | – |
| – | S 460 MH | – | – | – | S 460 MH | – | S 460 MH | – | – | – | 1.8849 | – |
| – | StE 460 | S 460 N | – | – | S 460 N | E 460 | S 460N | – | – | – | 1.8901 | – |
| – | TStE 460 | S 460 L | – | – | S 460 NL | E460 | S 460 NL | – | – | – | 1.8903 | – |
| – | S 550 Q | – | – | – | S 550 Q | E 550 | S 550 Q | – | – | – | 1.8904 | – |
| – | S 460 Q | 55 F | – | – | S 460 Q | E 460 | S 460 Q | – | – | – | 1.8908 | – |
| – | S 420 NL/TStE 420 | S 420 NL | STK 540 | K02002 | S 420 NL | E 420 T-I | Fe E 420 KT | – | – | – | 1.8912 | – |
| – | S 620 Q | – | – | – | S 620 Q | E 620 | S 620 Q | – | – | – | 1.8914 | – |
| – | T St E 460/P460NL1 | P 460 NL 1 | – | K02900 | P 460 NL1 | E 460 T-I | Fe E 460 KT | – | – | – | 1.8915 | – |
| – | S 460 QL1 | 55 F | – | – | S 460 QL 1 | – | – | – | – | – | 1.8916 | – |
| – | T St E 500 | – | – | K02001 | – | E 500 T-I | – | – | – | – | 1.8917 | – |
| – | EStE 460/P460NI2 | P 460 NL 2 | – | – | P 460 NL 2 | P 460 NL 2 | P 460 NL 2 | – | – | – | 1.8918 | – |
| – | EStE 500/S500NL1 | – | – | – | S 500 NL 1 | – | – | – | – | – | 1.8919 | – |
| – | TStE 690 VA/S690G1QL | – | – | – | S 690 G 1 QL | – | – | – | – | – | 1.8920 | – |
| – | TStE 690 VB/S690G2QL | – | – | K11646 | S 690 G 2 QL | – | – | – | – | – | 1.8921 | – |
| – | S 690 G 4 QL/TStE 690 VC | – | – | – | S 690 G 4 QL | – | – | – | – | – | 1.8922 | – |
| – | S 590 QL/TStE 590 V | – | – | – | S 590 QL | – | – | – | – | – | 1.8923 | – |
| – | S 500 Q (StE 500 V) | – | – | – | S 500 Q | E 500 | S 500 Q | 2614 | – | – | 1.8924 | – |
| – | S 890 QL 1 (EStE 90 V) | – | – | – | S 890 QL 1 | – | – | – | – | – | 1.8925 | – |
| – | S 690 QL (TStE 690 V) | – | SHY 685 NS | – | S 690 QL | – | – | – | – | – | 1.8928 | – |
| – | S 690 Q/StE 690 V | – | SHY 685 N | – | S 690 Q | E 690 | S 690 Q | – | – | – | 1.8931 | – |

NOTE: For legend, see page Y237.

*(continued)*

## P3 Workpiece Materials Listing • Steel • P3 *(continued)*

*P3 Alloy Steels and Tool Steels* *Content: C >.25%* *Tensile Strength RM (MPa)*: 600–850* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | WSt E 420/P420NH | S 420 NL | STK 540 | K02002 | S 420 NL | S 420 NL | Fe E 420 KW | – | – | – | 1.8932 | – |
| – | S 960 QL/TStE 960 V | – | – | – | S 960 QL | – | – | – | – | – | 1.8933 | – |
| – | WSt E 460/P460NH | P 460 NH | – | K02900 | P 460 NH | P 460 NH | Fe E 460 KW | – | – | – | 1.8935 | – |
| – | S 960 Q | – | – | – | S 960 Q | E 960 T-II | S 960 Q | – | – | – | 1.8941 | – |
| – | S 355 J 0 WP | WR 50 A | – | – | S 355 J0 WP | E 36 W-A3 | S 355 J0 WP | – | – | – | 1.8945 | – |
| – | S 355 J 2 WP | S 355 J 2 WP | – | – | S 355 J2 WP | E36W-A4 | S 355 J2 WP | – | – | – | 1.8946 | – |
| – | L 415 QB | – | – | – | L 415 QB | L 415 QB | – | – | – | – | 1.8947 | – |
| – | L 360 QB | – | – | – | L 360 QB | L 360 QB | – | – | – | – | 1.8948 | – |
| – | L 450 QB | – | – | – | L 450 QB | L 450 QB | – | – | – | – | 1.8952 | – |
| – | S 460 NH (FGS 47) | – | – | – | S 460 NH | – | S 460 NH | – | – | – | 1.8953 | – |
| – | L 485 QB | – | – | – | L 485 QB | L 485 QB | – | – | – | – | 1.8955 | – |
| – | S 460 NLH/FG S 47 | – | – | – | S 460 NLH | – | S460NLH | – | – | – | 1.8956 | – |
| – | L 555 QB | – | – | – | L 555 QB | L 555 QB | – | – | – | – | 1.8957 | – |
| – | 9 CrNiCuP 3 2 4 | WR 50 A | SPA-H | K11430 | – | – | – | – | – | – | 1.8962 | – |
| – | WTSt 52-3 | WR 50 C | SMA 58 W | K11430 | S 355 J 2 G 1 W | E 36 W-A2 | – | – | – | – | 1.8963 | – |
| – | S 355 J 2 G 2 W | S 355 J 2 G 2 W | – | – | S 355 J 2 G 2 W | S 355 J 2 G 2 W | S 355 J 2 G 2 W | – | – | – | 1.8965 | – |
| – | S 355 K 2 G 1 W | S 355 K 2 G 1 W | SMA 490 CW | – | S 355 K2 G1 W | S 355 K2 G1 W | S 355 K 2 G 1 W | – | – | – | 1.8966 | – |
| – | S 355 K 2 G 2 W | S 355 K 2 G 2 W | – | – | S 355 K2G2W | S 355 K 2 G 2 W | S 355 K 2 G 2 W | – | – | – | 1.8967 | – |
| – | QStE 600 TM/S 600 MC | – | – | – | S 600 MC | E 620 D | S 600 MC | – | – | – | 1.8969 | – |
| – | StE 415..7/L 415 NB | – | – | – | L 415 NB | L 415 NB | – | – | – | – | 1.8972 | – |
| – | StE 415.7 TM/L 415 MB | – | – | – | L 415 MB | L 415 MB | – | – | – | – | 1.8973 | – |
| – | S 700 MC (QStE 690 TM) | – | – | – | S 700 MC | E 690 D | S 700 MC | – | – | – | 1.8974 | – |
| – | L 450 MB/StE 445.7 TM | – | – | – | L 450 MB | L 450 MB | – | – | – | – | 1.8975 | – |
| – | S 650 MC (QStE 650 TM) | – | – | – | S 650 MC | E 620 D | S 650 MC | – | – | – | 1.8976 | – |
| – | L 485 MB/StE 480.7 TM | – | – | – | L 485 MB | L 485 MB | – | – | – | – | 1.8977 | – |
| – | StE 550.7 TM/L 555 MB | – | – | – | L 555 MB | L 555 MB | – | – | – | – | 1.8978 | – |
| – | St 60-2 | 4360-55 E | SM 58 | – | E 335 | A 60-2 | Fe 60-2 | 1650 | – | – | 1.0060 | – |
| – | St 70-2 | E 360 | – | – | E 360 | A 70-2 | Fe 70-2 | 1655 | – | – | 1.0070 | – |
| – | C4D | – | – | – | C 4 D | FM 5 | C 4 D | – | – | – | 1.0300 | – |
| – | C 22 8 | – | – | – | P 250 GH | – | – | – | – | – | 1.0460 | – |
| – | H 260/ZSt E 260 | H 240 LA | – | – | H 240 LA | E 240 C | – | – | – | – | 1.0480 | – |
| – | C32D | – | SWRH 32 | K02701 | C 32 D | FM 32 | C 32 D | – | – | – | 1.0530 | – |
| – | ZStE 380/H 380 | H 360 L A | – | – | H 360 LA | E 355 C | – | – | – | – | 1.0550 | – |
| – | C60D | – | – | – | C 60 D | FM 60 | C 60 D | – | – | – | 1.0610 | – |
| – | 38 SMn 28 | 38 SMn 28 | – | – | 38 SMn 28 | 38 SMn 28 | – | – | – | – | 1.0760 | – |
| – | QSt E 260 TM/5260 MC | – | – | – | S 260 MC | 41 S 7 | Fe E 275 TM | – | – | – | 1.0970 | – |
| – | C3D2 | – | – | – | C 3 D 2 | FM 5 | C 3 D 2 | – | – | – | 1.1110 | – |
| – | C38D2 | – | – | – | C 38 D 2 | FM 38 | C 38 D 2 | – | – | – | 1.1150 | – |
| – | C 42 E Al/Ck 42 Al | – | – | – | S 355 G15 | – | – | – | – | – | 1.1190 | – |
| – | C56D2/D 55-2 | – | – | – | C 56 D 2 | FM 56 | C 56 D 2 | – | – | – | 1.1220 | – |
| – | C 70 W1 | – | – | – | CT 70 | C 70 E 2 U | C 70 K U | – | – | – | 1.1520 | – |
| – | C 45 W | – | – | – | C 45 U | Y3 42 | – | – | – | – | 1.1730 | – |
| – | C 60 W | – | SK 7 | – | – | Y3 55 | – | – | – | – | 1.1740 | – |
| – | 100 CrMn 6 | – | – | K19195 | 100 CrMn 6 | 100 CM 6 | – | – | – | – | 1.3520 | – |
| – | 28 B 2 | – | SWRCHB 26 | – | C 30 B | 20 B 3 | – | – | – | – | 1.5510 | – |
| – | St E 380 | – | SM 50 B | – | S 380 N | – | Fe E 390 KG | – | – | – | 1.8900 | – |
| – | TStE 380/S380NL | – | – | – | S 380 NL | – | Fe E 390 KT | 2117 | – | – | 1.8910 | – |
| – | S 890 Q | – | – | – | S 890 Q | S 890 Q | S 890 Q | – | – | – | 1.8940 | – |

## P4 Workpiece Materials Listing • Steel • P4

*P4 Alloy Steels and Tool Steels* *Content: C>.25%* *Tensile Strength RM (MPa)*: 850–1400* *Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A 570 Gr. 40 | St 44-2 | 4360-43 B | SM 41 B | K 02502 | S 275 JR | E 28-2 | Fe 430 BFN | 1412 | – | – | 1.0044 | – |
| – | S 235 J0/Fe 360 C | En 40C | – | – | S 235 J0 | E24-3 | Fe 360 CFN | – | – | – | 1.0114 | – |
| A 570 Gr. 36 | St 37-3 | 4360-40 C | – | K01501 | S 235 J2 G3 | Fe 360 D1(2); E 24-3 | Fe 360 D1(2) | 1312 | – | – | 1.0116 | – |
| – | QSt 37-3 | – | SWRCH 12R | – | – | – | – | – | – | – | 1.0123 | – |
| – | S 275 J0 | En43C; S275J0 | – | – | S 275 J0/Fe 430 C | S 275 J0; E 28-3 | S275J0; Fe430CFN | – | – | – | 1.0143 | – |
| A 573 Gr. 70 | St 44-3 | 4360-43 C | SM 41 B | – | Fe 430 D1(2); S 275 J2 G3 (4) | Fe 430 D1(2); E 28-4 | Fe 430 D FF | 1414 | – | – | 1.0144 | – |
| – | S 275 J2 G4/Fe 430 D 2 | S 275 J2 G4 | – | – | S 275 J2 G4 | E28-4; S 275 J2 G4 | S 275 J2 G4 | 1414 | – | – | 1.0145 | – |
| – | Ro St 44-2 | 43C | – | – | S 275 J0 H | – | S 275 J0 H | – | – | – | 1.0149 | – |
| – | St 37.0 | – | STPG 38 | – | P 235 T1 | – | – | – | – | – | 1.0254 | – |
| – | C9D | – | SWRM 8 | – | C 9 D | FM 9 | C 9 D | – | – | – | 1.0304 | – |
| – | C7D | C 7 D | SWRM 8 | G10060 | C 7 D | FM 8 | C 7 D | – | – | – | 1.0313 | – |
| – | L 210 GA | – | – | – | L 210 GA | TS E 220 class 2 | – | – | – | – | 1.0319 | – |
| – | USD 7/C 8 G1 W | – | – | – | C 8 G 1 W | – | – | – | – | – | 1.0323 | – |
| – | RSD 7/C8G2W | – | – | – | C 8 G 2 W | – | – | – | – | – | 1.0324 | – |
| – | RSD 10 Si/C10WSi | – | – | – | C 10 W Si | – | – | – | – | – | 1.0339 | – |
| – | P235 GH | P 235 GH | SPV 50 | K02503 | P 235 GH | A 37 CP | Fe E 235 | 1330 | – | – | 1.0345 | – |
| – | RRSD 10/C10 W | – | – | – | C 10 W | – | – | – | – | – | 1.0351 | – |
| – | St 45.8 | – | STB 410 | K02727 | – | – | – | – | – | – | 1.0405 | – |
| – | C 25 Pb | – | – | – | C 25 GPb | – | – | – | – | – | 1.0411 | – |
| – | L 245 MB | 430 | – | K03006 | L 245 MB | L 245 MB | – | – | – | – | 1.0418 | – |
| 1513 | P265 | HR 40/30 | – | G15130 | – | 12 M 5 | – | – | – | – | 1.0424 | – |
| – | P310 NB | 224-410 | SG 325 | K02100 | P280GH | BS 2 | P 275 N | 2103 | – | – | 1.0426 | – |
| – | L 290 MB | – | – | – | L290MB | L 290 MB | – | – | – | – | 1.0429 | – |
| – | H II/P285NH | – | Sm 38 | – | P 285 NH | – | – | – | – | – | 1.0435 | – |
| – | P310 NB | 224-430 | SG 325 | K02100 | P305GH | P 275 N | P 275 N | 2103 | – | – | 1.0436 | – |
| – | A St 41 | P 275 N | STK 400 | K02100 | S 275 N | BS 3 | P 275 N | 2103 | – | – | 1.0437 | – |
| – | B 500 A | – | SD 490 | – | B 500 A | – | B 500 A | – | – | – | 1.0438 | – |
| – | GS-45 | – | SC 450 | – | – | – | – | – | – | – | 1.0443 | – |
| – | H IV/P295NH | – | SG 37 | K03102 | – | – | Fe 460-2 KW | – | – | – | 1.0445 | – |

*(continued)*

# P4 Workpiece Materials Listing • Steel • P4 *(continued)*

*P4 Alloy Steels and Tool Steels* *Content: C>.25%* *Tensile Strength RM (MPa)*: 850–1400* *Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | StE 240.7 | – | – | – | L 245 NB | L 245 NB | – | – | – | – | 1.0457 | – |
| – | HIII/L 235 GA | – | – | – | L 235 GA | – | – | – | – | – | 1.0458 | – |
| – | L 245 GA/RRStE 240.7 | – | – | – | L 245 GA | TS E 250 | – | – | – | – | 1.0459 | – |
| – | St E255 | – | – | K01800 | – | – | – | – | – | – | 1.0461 | – |
| – | TStE 255 | – | – | K11535 | – | – | – | – | – | – | 1.0463 | – |
| – | 15 Mn 3 Al | – | – | – | C 14 GAl | – | – | – | – | – | 1.0468 | – |
| – | 21 Mn 4 | – | – | – | – | – | 20 Mn 4 | – | – | – | 1.0469 | – |
| – | 19 Mn 6/P 355 GH | P 355 GH | SGV 46 | K03300 | P355GH | A 52 CP | Fe E355-2 | 2101 | – | – | 1.0473 | – |
| – | 17 Mn 4/P 295 GH | 224-460B | SG 37 | K03501 | P 295 GH | A 48 CP | Fe E 295 | 2102 | – | – | 1.0481 | – |
| – | 19 Mn 5 | 224-460 | SG 37 | K 03102 | – | A 52 CP; AP; FP | Fe 460- 2 KW | – | – | – | 1.0482 | – |
| – | L 290 AG | – | – | – | L290GA | TS E 290 | – | – | – | – | 1.0483 | – |
| – | L 290 NB | – | – | – | L290NB | L 290 NB | – | – | – | – | 1.0484 | – |
| – | 21 Mn 6 | – | – | K12320 | – | – | – | – | – | – | 1.0485 | – |
| – | St E 285 | P 275 N | SM 41 A | K 01802 | P 275 N | P 275 N | Fe E 285 KG | – | – | – | 1.0486 | – |
| – | W St E 285 | P 275 N | – | K 01802 | P 275 NH | P 275 N | Fe E 285 KW | – | – | – | 1.0487 | – |
| – | T St E 285 | P 275 NL 1 | SLA 235 A | K 01803 | P 275 NL 1 | P 275 NL 1 | Fe E 285 KT | – | – | – | 1.0488 | – |
| – | H 300/ZSt E 300 | H280LA | – | – | H 280 LA | E 280 C | – | – | – | – | 1.0489 | – |
| – | S 275 NH | S 275 NH | – | – | S 275 NH | – | S 275 NH | – | – | – | 1.0493 | – |
| – | S 275 NLH | S275NLH | – | – | S 275 NLH | – | S275NLH | – | – | – | 1.0497 | – |
| – | L 360 GA | – | – | – | L 360 GA | – | – | – | – | – | 1.0499 | – |
| – | C 35 Pb/C 35 GPb | – | – | – | C 35 Pb | – | – | – | – | – | 1.0502 | – |
| – | St E 315/P 315N | – | SM 50 A | K11506 | P 315 N | – | Fe E 315 KG | – | – | – | 1.0505 | – |
| – | W St E 315 | – | SNC 1 | K02404 | P 315 NH | – | Fe E 315 KW | 2107 | – | – | 1.0506 | – |
| – | St 55 | – | STKM 16A | – | – | – | Fe 540 | – | – | – | 1.0507 | – |
| – | T St E315 | – | SLA 325 A | K02404 | P 315 NL | – | – | 2106 | – | – | 1.0508 | – |
| – | C 40 Pb | – | – | – | C 40 G Pb | – | – | – | – | – | 1.0512 | – |
| – | C38D | – | SWRH 37 | – | C 38 D | FM 38 | C 38 D | – | – | – | 1.0516 | – |
| – | C48D | – | SWRH 48 | – | C 48 D | FM 48 | C 48 D | – | – | – | 1.0517 | – |
| – | C56D | – | – | – | C 56 D | FM 56 | C 56 D | – | – | – | 1.0518 | – |
| – | StSch 700 (R 0 700) | – | – | – | R 0700 | – | – | – | – | – | 1.0521 | – |
| – | StSch800 (R 0 800) | – | – | – | R 0800 | – | – | – | – | – | 1.0524 | – |
| – | Cf 45 Pb | – | – | – | – | – | C 46 | – | – | – | 1.0526 | – |
| – | C32D | – | SWRH 32 | K02701 | C 32 D | FM 32 | C 32 D | – | – | – | 1.0530 | – |
| – | GL-A 40 (S 390 G 1 S) | – | – | – | S 390 G 1 S | – | – | – | – | – | 1.0532 | – |
| – | S 355 NH | S 355 NH | – | – | S 355 NH | – | S 355 NH | – | – | – | 1.0539 | – |
| – | C42D | – | SWRH 42 B | – | C 42 D | FM 42 | C 42 D | – | – | – | 1.0541 | – |
| – | Schienen 60 F(R 0600/ St Sch 60) | – | – | – | R 0600 | – | – | – | – | – | 1.0544 | – |
| – | S 355 J0 H | 50 C | – | – | S 355 J0 H | – | S 355 J0 H | – | – | – | 1.0547 | – |
| – | ZStE 340/H 340 | H 320 L A | – | – | H 320 LA | E 315 C | – | – | – | – | 1.0548 | – |
| – | S 335 NLH | 50 EE | – | – | S 355 N LH | – | S 355 N L H | – | – | – | 1.0549 | – |
| – | GS-52 | A2 | – | – | GE 260 | – | – | – | – | – | 1.0552 | – |
| – | S 355 J0 | En 50 C;S 355 J0 | SM 520 M | – | S 355 J0 | S 355 J0; E 36-3 | S 355 J0; Fe 510 C FN | – | – | – | 1.0553 | – |
| – | GS-70 | 50 C | – | – | S 355 J0 C | E 36-3 | Fe 510 C | – | – | – | 1.0554 | – |
| – | GS-62 | – | – | – | S 355 GO 1 | – | – | – | – | – | 1.0555 | – |
| – | ZStE 420/H 420 | 46/40HR,HS,CS | – | – | H 400 LA | H 400 LA | – | – | – | – | 1.0556 | – |
| – | P355 NB | – | SG 365 | – | P 355 NB | BS 4 | – | – | – | – | 1.0557 | – |
| – | GS-62.3 | – | – | – | S 355 GO 2 | – | – | – | – | – | 1.0559 | – |
| A 633 Gr. C | St E 355 | P 355 N | SM 50 YB | K12000 | P 355 N | E 355 R/FP | Fe E 355 KG | 2132 | – | – | 1.0562 | – |
| – | N 80 | – | – | – | – | – | – | – | – | – | 1.0564 | – |
| – | W St E 355 | P 355 NH | – | K01600 | P 355 NH | P 355 NH | Fe E 355 KW | – | – | – | 1.0565 | – |
| – | T St E355 | P 355 NL1 | SLA 37 | – | P 355 NL1 | P 355 NL1 | Fe E 355 KT | – | – | – | 1.0566 | – |
| – | 32 Mn 3 | – | – | – | – | – | – | – | – | – | 1.0567 | – |
| – | P355 QH1 | P 355 QH | – | – | P 355 QH | P 355 QH | – | – | – | – | 1.0571 | – |
| – | ZStE 460/H 460 | – | – | – | – | – | – | – | – | – | 1.0574 | – |
| – | S 355 J 2 G 4 | S 355 J 2 G 4 | – | – | S 355 J 2 G 4 | S 355 J 2 G 4 | S 355 J 2 G 4 | – | – | – | 1.0577 | – |
| – | L 360 MB | – | – | – | L 360 MB | L 360 MB | – | – | – | – | 1.0578 | – |
| – | St 52.4 | – | STS 49 | – | – | – | – | – | – | – | 1.0581 | – |
| – | L 360 NB/StE 360.7 | – | – | – | L360NB | L 360 NB | – | – | – | – | 1.0582 | – |
| – | S 355 J 2 G 3 Cu/St 52-3 Cu3 | – | – | – | S 355 J2 G3 Cu + CR | – | – | – | – | – | 1.0585 | – |
| – | C50D | – | – | – | C 50 D | FM 50 | C 50 D | – | – | – | 1.0586 | – |
| – | QSt 52-3 Cu 3 | – | – | – | S 355 J2 G3 Cu C | – | – | – | – | – | 1.0587 | – |
| – | D 53-2 | – | SWRH 52 B | – | C 52 D | FM 52 | C 52 D | – | – | – | 1.0588 | – |
| – | FStE 355 OS 3/S355G03 | – | – | K12000 | S 355 G03 | – | – | – | – | – | 1.0591 | – |
| – | S 355 J 2 G 4 Cu | – | – | – | S 355 J2 G4 Cu | – | – | – | – | – | 1.0592 | – |
| – | S355k2G3/Fe 510 DD1 (MULTIST) | S 355 K 2 G 3 | SM 520 C | K02505 | S 355 K 2 G 3 | E36-4 | S 355 K 2 G 3 | – | – | – | 1.0595 | – |
| – | S355K2G4/Fe 510 DD 2 (MULTIST) | S 355 K 2 G 4 | – | – | S 355 K 2 G 4 | S 355 K 2 G 4 | S 355 K 2 G 4 | – | – | – | 1.0596 | – |
| – | C 30 Pb | – | – | – | C 3 0 GPb | – | – | – | – | – | 1.0598 | – |
| – | C 60 Pb | – | – | – | C 60 GPb | – | – | – | – | – | 1.0602 | – |
| – | C 67 GPb/C 67 Pb | – | – | – | C 67 GPb | – | – | – | – | – | 1.0606 | – |
| – | C 75 GPb/C 75 Pb | – | – | – | C 75 GPb | – | – | – | – | – | 1.0607 | – |

NOTE: For legend, see page Y237.

*(continued)*

## P4 Workpiece Materials Listing • Steel • P4 *(continued)*

*P4 Alloy Steels and Tool Steels* *Content: C>.25%* *Tensile Strength RM (MPa)*: 850–1400* *Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | C62D | – | SWRH 62 B | – | C 62 D | FM 62 | C 62 D | – | – | – | 1.0611 | – |
| – | C66D | – | – | – | C 66 D | FM 66 | C 66 D | – | – | – | 1.0612 | – |
| – | C68D | – | SWRH 67 B | – | C 68 D | FM 68 | C 68 D | – | – | – | 1.0613 | – |
| – | C70D | – | – | – | C 70 D | FM 70 | C 70 D | – | – | – | 1.0615 | – |
| – | C72D | – | SWRH 72 B | – | C 72 D | FM 72 | C 72 D | – | – | – | 1.0617 | – |
| – | GS-C 25 | – | SCPH 1 | – | GP 240 GH | GP 240 GH | GP 240 Gh | – | – | – | 1.0619 | – |
| – | GP 240 GR | – | – | – | GP 240 GR | GP 240 GR | GP 240 GR | – | – | – | 1.0621 | – |
| – | C80D | – | – | – | C 80 D | FM 80 | C 80 D | – | – | – | 1.0622 | – |
| – | StSch 900 A (R 0900) | – | – | – | R 0900 | – | – | – | – | – | 1.0623 | – |
| – | StSch 900 B (R 0900 Mn) | – | – | – | R 0900 Mn | – | – | – | – | – | 1.0624 | – |
| 1345 | StSch 90 C/GP 280 GH | – | – | G13450 | GP 280 GH | GP 280 GH | GP 280 GH | – | – | – | 1.0625 | – |
| – | C82D | – | SWRH 82 B | – | C 82 D | FM 82 | C 82 D | – | – | – | 1.0626 | – |
| – | C88D | – | – | – | C 88 D | – | C 88 D | – | – | – | 1.0628 | – |
| – | StSch 1200 (R 1200) | – | – | – | R 1200 | – | – | – | – | – | 1.0631 | – |
| – | C 61/60 Mn 3 | – | – | – | C 61 | – | C 61 | – | – | – | 1.0642 | – |
| – | C 85/85 Mn 3 | – | – | – | C 85 | – | C 85 | – | – | – | 1.0647 | – |
| – | 35 SPb 20 | 35 SPb 20 | – | – | 35 SPb 20 | 35 SPb 20 | – | – | – | – | 1.0756 | – |
| – | 45 SPb 20 | – | – | – | 46 SPb 20 | – | – | – | – | – | 1.0757 | – |
| – | 38 SMnPb 28 | 38 SMnPb 28 | – | – | 38 SMnPb 28 | 38 SMnPb 28 | – | – | – | – | 1.0761 | – |
| – | 44 SMn 28 | 44 SMn 28 | – | – | 44 SMn 28 | 44 SMn 28 | – | – | – | – | 1.0762 | – |
| – | 44 SMnPb 28 | 44 SMnPb 28 | – | – | 44 SMnPb 28 | 44 SMnPb 28 | – | – | – | – | 1.0763 | – |
| – | 36 SMnPb 14 | 36 SMnPb 14 | – | – | 36 SMnPb 14 | 36 SMnPb 14 | – | – | – | – | 1.0765 | – |
| 9255 | 51 Si 7 | 250 A 53 | – | G92550 | – | 51 S 7 | 48 Si 7 | 2090 | – | – | 1.0903 | – |
| 9255 | 55 Si 7 | 250 A 53 | SKH 1; SKT 4 | G92550 | 55 NiCrMoV 7 | 55 S 7 | 55 Si 8 | 2085 | – | – | 1.0904 | – |
| – | StSch 1100 (R 1100 Cr) | – | – | – | R 1100 Cr | – | – | – | – | – | 1.0915 | – |
| 9262 | 60 SiCr 7 | 250 A 61 | SUP 7 | G92620 | 60 SiCr 8 | 60 SC 7 | 60 SiCr 8 | – | – | – | 1.0961 | – |
| – | QSt E 690 TM (S 700 MC) | – | – | – | S 700 MC | S 690 MC | S 700 MC | – | – | – | 1.0966 | – |
| – | QSt E 260 N 7 S 260 NC | – | AE 275 NC | – | S 260 NC | – | S 260 NCX | – | – | – | 1.0971 | – |
| – | QSt E 300 TM/S 315 MC | 43 F35 HR,HS,CS | – | – | S 315 MC | E 315 D | S 315 MC | – | – | – | 1.0972 | – |
| – | QSt E 300 N 7/S 315 NC | – | AE 340 NC | – | S 315 NC | – | S 315 NC | – | – | – | 1.0973 | – |
| – | QSt E340 TM | HR 40/30 | – | – | S 340 MC | E 335 D | – | – | – | – | 1.0974 | – |
| – | QSt E340 N | – | – | – | S 340 NC | – | Fe E 355 TD | – | – | – | 1.0975 | – |
| – | QSt E 360TM | – | – | – | S 355 MC | E 355 D | Fe E 355 TM | – | – | – | 1.0976 | – |
| – | QSt E360 N | – | – | – | S 355 NC | – | Fe E 355 TD | – | – | – | 1.0977 | – |
| – | QSt E380 TM | – | – | – | S 380 MC | E 390 D | – | – | – | – | 1.0978 | – |
| – | QSt E380 N | – | – | – | S 380 NC | – | Fe E 380 TD | – | – | – | 1.0979 | – |
| – | QSt E420 TM | HR 50 F 45 | – | – | S 420 MC | E 430 D | Fe E 420 TM | – | – | – | 1.0980 | – |
| – | QSt E 420 N | – | – | – | S 420 NC | – | Fe E 420 TD | – | – | – | 1.0981 | – |
| – | QSt E 460 TM | 50/45 HR | – | – | S 460 MC | E 445 D | – | – | – | – | 1.0982 | – |
| – | QSt E 460 N | – | – | – | S 460 NC | – | Fe E 460 TD | – | – | – | 1.0983 | – |
| – | QSt E500 TM | – | – | – | S 500 MC | E 490 D | Fe E 490 TM | 2662 | – | – | 1.0984 | – |
| – | QSt E500 N | – | – | – | S 500 NC | – | – | – | – | – | 1.0985 | – |
| – | QSt E550 TM | 60/55 HS | – | – | S 550 MC | E 560 D | Fe E 560 TM | – | – | – | 1.0986 | – |
| – | QSt E550 N | – | – | – | S 550 NC | – | – | – | – | – | 1.0987 | – |
| – | FStE 355 OS 3/S355G04 | – | – | – | S 355 G04 | – | – | – | – | – | 1.1102 | – |
| – | EStE 285 | P 275 NL 2 | STK 400 | – | P 275 NL 2 | P 275 NL 2 | P 275 NL 2 | – | – | – | 1.1104 | – |
| – | EStE 315 | – | – | – | S 315 NL 1 | – | – | – | – | – | 1.1105 | – |
| – | EStE 355 | P 355 NL 2 | STK 500 | – | P 355 NL 2 | P 355 NL 2 | P 355 NL 2 | – | – | – | 1.1106 | – |
| – | C5D2 | – | – | – | C 5 D 2 | FM 6 | C 5 D 2 | – | – | – | 1.1111 | – |
| – | USD 5/C 8 E1 W | – | – | – | C 8 E 1 W | – | – | – | – | – | 1.1112 | – |
| – | C8D2 | – | – | – | C 8 D 2 | FM 8 | C 8 D 2 | – | – | – | 1.1113 | – |
| – | C 10 E W/RSD 11 | – | – | – | C 10 EW | – | – | – | – | – | 1.1115 | – |
| – | USD 6/C 8 E2 W | – | – | – | C 8 E 2 W | – | – | – | – | – | 1.1116 | – |
| – | G 24 Mn 4/GS 24 Mn 4 | – | – | – | G 24 Mn 4 | – | – | – | – | – | 1.1136 | – |
| – | C32D2 | – | – | – | C 32 D 2 | FM 32 | C 32 D 2 | – | – | – | 1.1143 | – |
| – | C36D2 | – | – | – | C 36 D 2 | FM 36 | C 36 D 2 | – | – | – | 1.1145 | – |
| – | C38D2 | – | – | – | C 38 D 2 | FM 38 | C 38 D 2 | – | – | – | 1.115 | – |
| – | C 25 R | C 25 R | – | – | C 25 R | C 25 R | C 25 R | – | – | – | 1.1163 | – |
| – | C48D2 | – | – | – | C 48 D 2 | FM 48 | C48 D 2 | – | – | – | 1.1164 | – |
| 1330 | GS-30 Mn 5 | 120 M 36 | SMn 433 H; SCMn 2 | K13300 | – | 35 M 5 | – | 1330 | – | – | 1.1165 | – |
| 1335 | 36 Mn 5 | 150 M 36 | SMn 438(H) | G13350 | – | 40 M 5 | – | 2120 | – | – | 1.1167 | – |
| – | G 40 Mn 5/GS 40 Mn 5 | – | – | – | G 40 Mn 5 | – | – | – | – | – | 1.1168 | – |
| – | 20 Mn 6 | 150 M 19 | – | – | – | 20 M 5 | 20 Mn 6 | – | – | – | 1.1169 | – |
| – | C50D2 | – | – | – | C 50 D 2 | FM 50 | C50D 2 | – | – | – | 1.1171 | – |
| – | Ck 38 Pb | – | – | – | 25 Mn 4 | – | – | – | – | – | 1.1177 | – |
| – | C 30 R | C 30 R | C 30 R ( 3 C 30) | – | C 30 R | C 30 R | C 30 R | – | – | – | 1.1179 | – |
| – | Ck 35 Pb | – | – | – | S 355 G 13 | – | – | – | – | – | 1.1182 | – |
| – | Ck 36 | – | – | – | S 355 G 14 | – | – | – | – | – | 1.1184 | – |
| – | C3D1 | – | – | – | C 3 D 1 | – | C 3 D 1 | – | – | – | 1.1187 | – |
| – | C40R/Cm 40 | C 40 R | – | – | C 40 R | C 40 R | C 40 | – | – | – | 1.1189 | – |
| – | C52D2 | – | – | – | C 52 D 2 | FM 52 | C 52 D 2 | – | – | – | 1.1202 | – |
| – | C 53 R/Cm 53 | – | – | – | C 53 R | – | – | – | – | – | 1.1205 | – |
| – | C 10 R | C 10 R | – | – | C 10 R | C 10 R | – | – | – | – | 1.1207 | – |
| – | C 16 R | C 16 R | – | – | C 16 R | C 16 R | – | – | – | – | 1.1208 | – |
| – | C58D2 | – | – | – | C 58 D 2 | FM 58 | C 58 D 2 | – | – | – | 1.1212 | – |
| – | Ck 53 Pb | – | – | – | C 90 S | – | – | – | – | – | 1.1217 | – |
| – | C62D2 | – | – | – | C 62 D 2 | FM 62 | C 62 D 2 | – | – | – | 1.1222 | – |
| – | Cm 60 | C 60 R | – | – | 3 C 60 | C 60 R | C 60 R | – | – | – | 1.1223 | – |
| – | C60D2 | – | – | – | C 60 D 2 | FM 60 | C 60 D 2 | – | – | – | 1.1228 | – |
| – | C68D2 | – | – | – | C 68 D 2 | FM 68 | C 68 D 2 | – | – | – | 1.1232 | – |
| – | C66D2 | – | – | – | C 66 D 2 | FM 66 | C 66 D 2 | – | – | – | 1.1236 | – |
| – | C50R | C 50 R | – | – | C 50 R | FM 50 | C 50 R | – | – | – | 1.1241 | – |
| – | C72D2 | – | – | – | C 72 D 2 | FM 72 | C 72 D 2 | – | – | – | 1.1242 | – |
| – | C70D2 | – | – | – | C 70 D 2 | FM 70 | C 70 D 2 | – | – | – | 1.1251 | – |
| – | C78D2 | – | – | – | C 78 D 2 | FM 78 | C 78 D 2 | – | – | – | 1.1252 | – |
| – | C76D2 | – | – | – | C 76 D 2 | FM 76 | C 76 D 2 | – | – | – | 1.1253 | – |
| – | C80D2 | – | – | – | C 80 D 2 | FM 80 | C 80 D 2 | – | – | – | 1.1255 | – |
| – | C82D2 | – | – | – | C 82 D 2 | FM 82 | C 82 D 2 | – | – | – | 1.1262 | – |
| – | C86D2 | – | – | – | C 86 D 2 | FM 86 | C 86 D 2 | – | – | – | 1.1265 | – |
| – | C88D2 | – | – | – | C 88 D 2 | – | C 88 D 2 | – | – | – | 1.1272 | – |
| – | C92D2 | – | – | – | C 92 D 2 | – | C 92 D 2 | – | – | – | 1.1282 | – |
| – | C98D2 | – | – | – | C 98 D 2 | – | C 98 D 2 | – | – | – | 1.1283 | – |
| – | 46 MnVS 6 | – | – | – | 46 MnVS 6 | – | – | – | – | – | 1.1304 | – |
| – | C 90 U | – | – | – | C90U | – | – | – | – | – | 1.1535 | – |
| – | C 110 W | – | – | – | C 110 U | – | – | – | – | – | 1.1554 | – |
| – | C 120 U | – | – | – | C120U | – | – | – | – | – | 1.1555 | – |
| T 8 | C 80 W2 | BW 1B | SKC 3 | T12008 | – | Y1 80 | C 80 KU | – | – | – | 1.1625 | – |
| – | C 105 W2 | – | SK 3 | – | – | – | – | – | – | – | 1.1645 | – |
| – | C 135 W | – | SK 1 | – | – | Y2 140 | C 140 KU | – | – | – | 1.1673 | – |
| A-6 | C 67 W | – | – | T30106 | – | Y1 70 | – | – | – | – | 1.1744 | – |

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## P4 Workpiece Materials Listing • Steel • P4 *(continued)*

*P4 Alloy Steels and Tool Steels* *Content: C>.25%* *Tensile Strength RM (MPa)*: 850–1400* *Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | 125 Cr 1 | – | – | – | 125 Cr 2 | Y2 120 C | – | – | – | – | 1.2002 | – |
| – | 85 Cr 1 | – | – | – | – | Y1 100 C 2 | – | – | – | – | 1.2004 | – |
| – | 140 Cr 3 | – | SKS 8 | – | 140 Cr 2 | Y2 140 C | – | – | – | – | 1.2008 | – |
| – | 105 Cr 4 | – | SKC 11 | – | – | – | – | – | – | – | 1.2057 | – |
| – | 21 MnCr 5 | – | SCR 420 H | – | 21 MnCr 5 | 20 NC 5 | – | – | – | – | 1.2162 | – |
| – | 35 CrMo 7 | – | – | – | 35 CrMo 7 | – | – | – | – | – | 1.2302 | – |
| – | 48 CrMoV 67 | – | – | – | – | 45 CDV 6 | – | – | – | – | 1.2323 | – |
| P6 | 15 NiCr 14 | – | SNC 22 | T51606 | – | 10 NC 12 | – | – | – | – | 1.2735 | – |
| – | 40 CrMnNiMo 8 6 4 | – | – | – | 40 CrMnNiMo 8-6-4 | – | – | – | – | – | 1.2738 | – |
| – | 57 NiCrMoV 7 7 | – | – | – | 55 NiCrMoV 7 | – | – | – | – | – | 1.2744 | – |
| – | 70 MnMoCr 8 | – | – | – | 70 MnMoCr 8 | – | – | – | – | – | 1.2824 | – |
| – | 95 MnWCr 5 | – | – | – | 95 MnWCr 5 | – | – | – | – | – | 1.2825 | – |
| – | 60 MnSi 4 | – | – | – | – | 60 MSC 4 | – | – | – | – | 1.2826 | – |
| – | 101 Cr 6 | – | – | – | – | – | 102 Cr 6 KU | – | – | – | 1.3514 | – |
| – | 16 CrNiMo 6 | 820A16 | – | – | – | 16 NCD 6 | 16NiCrMo6 | – | – | – | 1.3531 | – |
| – | 100 CrMn 7 3 | – | – | – | 100 CrMnMo 7 | 100 CD 7 | – | – | – | – | 1.3536 | – |
| – | 100 CrMo 7 | – | SUS 4 | K19965 | 100 CrMo 7 | 100 CD 7 | 100CrMo7 | – | – | – | 1.3537 | – |
| – | 100 CrMnMo 8 | – | – | – | – | 100 CrMnMo 8 | – | – | – | – | 1.3539 | – |
| 5046 | 44 Cr 2 | – | – | H50460 | 46 Cr 1 KD | 44 Cr 2 | – | – | – | – | 1.3561 | – |
| 4142 | 43 CrMo 4 | – | – | G41420 | – | 43 Cr Mo 4 | – | – | – | – | 1.3563 | – |
| 4147 | 48 CrMo 4 | 817 M 40 | SNC 836 | H41470 | – | 48 CrMo 4 | – | – | – | – | 1.3565 | – |
| – | 46 Si 7 | – | – | – | 45 Si | 46 S 7 | – | – | – | – | 1.5024 | – |
| 9259H | 51 Si 7 | – | – | – | 50 Si 7 | – | 48 Si 7 | 2090 | – | – | 1.5025 | – |
| – | 55 Si 7 | 250 A 53 | – | G92550 | 56 Si 7 | 55 S 7 | 55 Si 8 | 2085 | – | – | 1.5026 | – |
| 9260 | 60 Si 7 | 251 A 60 | – | G92600 | 60 Si 7 | 60 S 7 | 60 Si 7 | – | – | – | 1.5027 | – |
| – | 65 Si 7 | – | SUP 7 | – | – | – | – | – | – | – | 1.5028 | – |
| – | 12 Mn 8 | – | – | – | 11 Mn 8 KE | – | – | – | – | – | 1.5086 | – |
| 9262 | 60 SC 7 | – | – | G92620 | 60 SiCr 8 | 61 SC 7 | 60 SiCr 8 | – | – | – | 1.5092 | – |
| – | 37 MnSi 5 | – | – | – | – | 38 MS 5 | – | F.130.A | – | – | 1.5122 | – |
| – | 50 MnSi 4 | – | – | K04800 | – | – | – | – | – | – | 1.5131 | – |
| – | 15 MnMoV 4 5 | – | – | – | 15 MnMoV 4-5 | 15 MDV 4.05 | – | – | – | – | 1.5402 | – |
| A 204 Gr. A | 15 Mo 3 | 1501-240 | STFA 12 | K11820 | 16 Mo 3 | 15 D3 | 16 Mo 3 KW | 2912 | – | – | 1.5415 | – |
| 4419 | GS-22 Mo 4 | 243-430 | SCPH 11 | G44190 | G 20 Mo 5 | G20Mo5 | G 22 Mo 5 | – | – | – | 1.5419 | – |
| – | 20 MnMo 3 5 | – | – | K12121 | – | – | – | – | – | – | 1.5421 | – |
| – | G 18 Mo 5 | – | – | – | G18Mo5 | – | G 18 Mo5 | – | – | – | 1.5422 | – |
| 4520 | 16 Mo 5 | 1503-245-420 | SBC 690 | K11522 | – | – | 16 Mo 5 | – | – | – | 1.5423 | – |
| – | 11 MnMo 4 5 | – | – | K11123 | 11 MnMo 45 KE | – | – | – | – | – | 1.5425 | – |
| – | 13 MnMo 6 5 | – | – | K11424 | 11 MnMo 65 KE | – | – | – | – | – | 1.5426 | – |
| – | 13 MnMo 8 5 | – | – | K11423 | 11 MnMo 85 KE | – | – | – | – | – | 1.5427 | – |
| – | 35 B 2 | – | SWRCHB 237 | – | C 35 B | 35 B 3 | – | – | – | – | 1.5511 | – |
| 15B21 H | 19 MnB 4 | 170 H 20 | SWRCHB 420 | H15211 | 19 MnB 4 | 20 MB 5 | – | – | – | – | 1.5523 | – |
| 15B21 H | 20 MnB 5 | – | SWRCHB 620 | – | 20 MnB 5 | 20 MnB 5 | 20 MnB 5 | – | – | – | 1.553 | – |
| – | 24 Ni 8 | – | SCPL 21 | J22501 | G 9 Ni 10 | 22 N 8 | G9Ni10 | – | – | – | 1.5633 | – |
| A 350-LF 5 | 10 Ni 14 | 503 | SL 3 N 26 | K31718 | 12 Ni 14 | 12Ni14 | 18 Ni 14 KT | – | – | – | 1.5637 | – |
| P3 | 10 NC 6 | – | – | T51603 | 15 NiCr 6 | 10 NC 6 | – | – | – | – | 1.5713 | – |
| – | 10 NiCr 5 4 | 10NiCr5-4 | – | – | 10 NiCr 5-4 | 10 NiCr 5-4 | – | – | – | – | 1.5805 | – |
| – | 18 MnMoNi 5 5 | – | – | – | 18 MnMoNi 5-5 | – | – | – | – | – | 1.6308 | – |
| – | 20 MnMoNi 4 5 | – | SQV 2 B | K12539 | 20 MnMoNi 4-5 | – | – | – | – | – | 1.6311 | – |
| – | 10 NiMnMo 6 5 | – | – | K11160 | – | – | – | – | – | – | 1.6312 | – |
| – | 16 NiCrMO 12 6 | – | – | – | – | 16 NCD 13 | – | – | – | – | 1.6782 | – |
| – | 15 MnCrMoNiV 5 3 | – | – | – | 15 MnCrMoNiV 5-3 | – | – | – | – | – | 1.6920 | – |
| 50B40 | 37 CrB 1 | 120 M 36 | SMnC 3 H | H50401 | 38 Cr 2 | – | 35 CB 1 | – | – | – | 1.7007 | – |
| – | 13 Cr 2 | – | – | – | – | – | – | – | – | – | 1.7012 | – |
| – | 17 CrS 3 | 17 CrS3 | – | – | 17 CrS 3 | 17 CrS 3 | – | – | – | – | 1.7014 | – |
| 5015 | 15 Cr 3 | 523 M15 | SCr 415 H | G50150 | 15 Cr 2 | 12 C 3 | – | – | – | – | 1.7015 | – |
| 5117 | 17 Cr 3 | 17 Cr 3 | – | G51170 | (15 Cr 2 KD) | 18 C 3 | – | – | – | – | 1.7016 | – |
| 5130 H | 34 Cr 4 | 530 A 32 | SCr 430 H | G51300 | 34 Cr 4 KD | 32 C 4 | 34 Cr 4 KB | – | – | – | 1.7033 | – |
| 5132 H | 37 Cr 4 | 530 A 36 | SCr 435 H | G51320 | 37 Cr 4 | 38 C 4 | 36 CrMn 4 | – | – | – | 1.7034 | – |
| 5140 | 41 Cr 4 | 530 M 40 | SCr 440 H | G51400 | 41 Cr 4 | 42 C 4 | 41 Cr 4 | – | – | – | 1.7035 | – |
| – | 28 CrS 4 | – | – | – | 28CrS4 | 28CrS4 | – | – | – | – | 1.7036 | – |
| – | 34 CrS 4 | 34 CrS 4 | – | – | 34 CrS 4 | 34 CrS 4 | 34 CrS 4 | – | – | – | 1.7037 | – |
| – | 41 CrS 4 | 41 CrS 4 | – | – | 41 CrS 4 | 41 CrS 4 | 41 CrS 4 | 2245 | – | – | 1.7039 | – |
| – | 38 Cr 4 | – | – | – | 38 Cr 4 | – | 38 Cr 4 | – | – | – | 1.7043 | – |
| 5140 | 42 Cr 4 | 530 A 40 | SCr 440 | – | 40 NiCrMo 3 | 42 C 4 TS | 40 NiCrMo 3 | 2245 | – | – | 1.7045 | – |
| – | 54 SiCr 6 | – | – | – | – | 54 SC 6 | – | – | – | – | 1.7102 | – |
| – | 67 SiCr 5 | – | – | – | 67 SiCr 5 | – | 67 SiCr 5 | – | – | – | 1.7103 | – |
| 9262 | 60 SiCr 7 | – | – | – | 60 SiCr 8 | – | – | – | – | – | 1.7108 | – |
| – | 52 SiCrNi 5 | – | – | – | – | 52 SCN 5 | – | – | – | – | 1.7117 | – |
| 5115 | 16 MnCr 5 | 527 M 17 | SCR 415 | G 51150 | 16 MnCr 5 KD | 16 MC 5 | 16 MnCr 5 | 2173 | – | – | 1.7131 | – |
| – | 49 CrMo 4 | – | SCM 445 | – | – | – | – | – | – | – | 1.7238 | – |
| – | 16 CrMo 4 | 18 CrMo4 | SCM 418 H | – | 18 CrMo 4 | 15 CD 3.5 | 18 CrMo 4 | – | – | – | 1.7242 | – |
| – | 10 CrMo 11 | – | – | – | – | 12 CD 10 | – | – | – | – | 1.7276 | – |
| – | 16 CrMo 9 3 | – | – | – | – | 20 CD 8 | – | – | – | – | 1.7281 | – |
| – | 22 CrMoS 3 5 | – | – | – | 22 CrMoS 3-5 | 22 CrMoS 3-5 | – | – | – | – | 1.7333 | – |
| A 387 Gr. 12 Cl. 2 | 16 CrMo 4 4 | – | – | K11564 | – | – | A 18 CrMo 4 5 KW | – | – | – | 1.7337 | – |
| – | 12 CrMo 8 5 | – | – | K21509 | – | – | – | – | – | – | 1.7358 | – |
| – | 12 CrMo 19 5 | 3606-625 | SCMV 6 | K41545 | X 12 CrMo 5 | Z 10 CD 5.05 | 16 CrMo 20 5 | – | – | – | 1.7362 | – |
| – | X 7 CrMo 6 1 | B 5 | – | S50281 | CM 5-IG | – | – | – | – | – | 1.7373 | – |
| – | 12 CrMo 9 10 | – | – | – | – | 12 CrMo 9-10 | – | – | – | – | 1.7375 | – |
| – | SG-CrMo 9 | – | – | S50480 | – | – | – | – | – | – | 1.7388 | – |
| – | 51 CrMoV 4 | – | – | – | 51 CrMoV 4 | 51 CDV 4 | 51 CrMoV 4 | – | – | – | 1.7701 | – |
| – | 21 CrMoV 5 7 | – | – | K14073 | 21 CrmoV 5-7 | 20 CDV 5.07 | – | – | – | – | 1.7709 | – |
| – | 20 CrMoVTiB 4 10 | – | – | – | 20 CrMoVTiB 4-10 | 20 CrMoVTiB 4-10 | – | – | – | – | 1.7729 | – |
| 6150 | 50 CrV 4 | 735 A 50 | SUP 10 | G61500 | 51 CrV 4 | 50 CV 4 | 50 CrV 4 | 2230 | – | – | 1.8159 | – |
| – | PS 275 TMK | S 275 ML | – | – | S 275 ML | S 275 ML | S 275 ML | – | – | – | 1.8819 | – |
| – | S 355 G1 M | – | – | – | S 355 G 1 M | – | – | – | – | – | 1.8822 | – |
| – | BTStE 460 TM | S 460 ML | – | – | S 460 ML | E 460 | S 460 ML | – | – | – | 1.8838 | – |
| – | S 500 ML | – | – | – | S 500 ML | – | – | – | – | – | 1.8839 | – |

NOTE: For legend, see page Y237.

*(continued)*

## P4 Workpiece Materials Listing • Steel • P4 *(continued)*

*P4 Alloy Steels and Tool Steels* *Content: C>.25%* *Tensile Strength RM (MPa)*: 850–1400* *Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | S 275 MH | – | – | – | S 275 MH | – | S 275 MH | – | – | – | 1.8843 | – |
| – | S 275 MLH | – | – | – | S 275 MLH | – | S 275 MLH | – | – | – | 1.8844 | – |
| – | S 355 MH | – | – | – | S 355 MH | – | S 355 MH | – | – | – | 1.8845 | – |
| – | S 355 MLH | – | – | – | S 355 MLH | – | S 355 MLH | – | – | – | 1.8846 | – |
| – | S 420 MH | – | – | – | S 420 MH | – | S 420 MH | – | – | – | 1.8847 | – |
| – | S 420 MLH | – | – | – | S 420 MLH | – | S 420 MLH | – | – | – | 1.8848 | – |
| – | S 460 MH | – | – | – | S 460 MH | – | S 460 MH | – | – | – | 1.8849 | – |
| – | S 460 MLH | – | – | – | S 460 MLH | – | S 460 MLH | – | – | – | 1.885 | – |
| – | FStE 355 OS 4/ S420G5Q | – | – | – | S 420 G 2 | – | – | – | – | – | 1.8853 | – |
| – | P 550 QL | – | – | – | P 550 QL | – | – | – | – | – | 1.8878 | – |
| – | StE 460 | S 460 N | – | – | S 460 N | E 460 | S 460N | – | – | – | 1.8901 | – |
| A 633 Gr. E | St E 420 | S 420 N | SM 50 C | K02002 | FeE 420 KGN | E 420-I | Fe E 420 KG | 2143 | – | – | 1.8902 | – |
| – | TStE 460 | S 460 L | – | – | S 460 NL | E460 | S 460 NL | – | – | – | 1.8903 | – |
| – | S 550 Q | – | – | – | S 550 Q | E 550 | S 550 Q | – | – | – | 1.8904 | – |
| A 633 Gr. E | St E 460 | P 460 N | SM 53 B | K02900 | P 460 N | E 460-I | Fe E 460 KG | 2143 | – | – | 1.8905 | – |
| – | BGH 8906 | 55 F | – | – | S 460 QL | S 460 QL | S 460 QL | – | – | – | 1.8906 | – |
| – | St E 500 | – | SM 58 | K02001 | – | – | – | – | – | – | 1.8907 | – |
| – | S 460 Q | 55 F | – | – | S 460 Q | E 460 | S 460 Q | – | – | – | 1.8908 | – |
| – | S 420 NL/TStE 420 | S 420 NL | STK 540 | K02002 | S 420 NL | E 420 T-I | Fe E 420 KT | – | – | – | 1.8912 | – |
| – | EStE 420/ S420NL1 | – | STK 540 | – | – | – | – | – | – | – | 1.8913 | – |
| – | S 620 Q | – | – | – | S 620 Q | E 620 | S 620 Q | – | – | – | 1.8914 | – |
| – | T St E 460/ P460NL1 | P 460 NL 1 | – | K02900 | P 460 NL1 | E 460 T-I | Fe E 460 KT | – | – | – | 1.8915 | – |
| – | S 460 QL1 | 55 F | – | – | S 460 QL 1 | – | – | – | – | – | 1.8916 | – |
| – | T St E 500 | – | – | K02001 | – | E 500 T-I | – | – | – | – | 1.8917 | – |
| – | EStE 460/ P460Nl2 | P 460 NL 2 | – | – | P 460 NL 2 | P 460 NL 2 | P 460 NL 2 | – | – | – | 1.8918 | – |
| – | EStE 500/ S500NL1 | – | – | – | S 500 NL 1 | – | – | – | – | – | 1.8919 | – |
| – | TStE 690 VB/ S690G2QL | – | – | K11646 | S 690 G 2 QL | – | – | – | – | – | 1.8921 | – |
| – | S 690 G 4 QL/ TStE 690 VC | – | – | – | S 690 G 4 QL | – | – | – | – | – | 1.8922 | – |
| – | S 590 QL/TStE 590 V | – | – | – | S 590 QL | – | – | – | – | – | 1.8923 | – |
| – | S 500 Q (StE 500 V) | – | – | – | S 500 Q | E 500 | S 500 Q | 2614 | – | – | 1.8924 | – |
| – | S 890 QL 1 (EStE 90 V) | – | – | – | S 890 QL 1 | – | – | – | – | – | 1.8925 | – |
| – | S 690 QL (TStE 690 V) | – | SHY 685 NS | – | S 690 QL | – | – | – | – | – | 1.8928 | – |
| – | TStE 690 VD/ S690G3QL | – | – | – | S 690 G 3 QL | – | – | – | – | – | 1.8929 | – |
| – | S 690 Q/StE 690 V | – | SHY 685 N | – | S 690 Q | E 690 | S 690 Q | – | – | – | 1.8931 | – |
| – | WSt E 420/ P420NH | S 420 NL | STK 540 | K02002 | S 420 NL | S 420 NL | Fe E 420 KW | – | – | – | 1.8932 | – |
| – | S 960 QL/TStE 960 V | – | – | – | S 960 QL | – | – | – | – | – | 1.8933 | – |
| – | WSt E 460/ P460NH | P 460 NH | – | K02900 | P 460 NH | P 460 NH | Fe E 460 KW | – | – | – | 1.8935 | – |
| – | P420 QH | – | – | – | P 420 QH | – | – | – | – | – | 1.8936 | – |
| – | TStE 770 V/ S770QL | – | – | – | S 770 QL | – | – | – | – | – | 1.8938 | – |
| – | EStE 790 V/ S790QL1 | – | – | – | S 790 QL 1 | – | – | – | – | – | 1.8939 | – |
| – | S 960 Q | – | – | – | S 960 Q | E 960 T-II | S 960 Q | – | – | – | 1.8941 | – |
| – | S 550 G 1 QL 1/ EStE 550 VA | – | – | – | S 550 G 1 QL 1 | – | – | – | – | – | 1.8944 | – |
| – | S 355 J 0 WP | WR 50 A | – | – | S 355 J0 WP | E 36 W-A3 | S 355 J0 WP | – | – | – | 1.8945 | – |
| – | S 355 J 2 WP | S 355 J 2 WP | – | – | S 355 J2 WP | E36W-A4 | S 355 J2 WP | – | – | – | 1.8946 | – |
| – | L 415 QB | – | – | – | L 415 QB | L 415 QB | – | – | – | – | 1.8947 | – |
| – | L 360 QB | – | – | – | L 360 QB | L 360 QB | – | – | – | – | 1.8948 | – |
| – | L 450 QB | – | – | – | L 450 QB | L 450 QB | – | – | – | – | 1.8952 | – |
| – | S 460 NH (FGS 47) | – | – | – | S 460 NH | – | S 460 NH | – | – | – | 1.8953 | – |
| – | EStE620VA/S 620 G 1 QL 1 | – | – | – | S 620 G 1 QL 1 | – | – | – | – | – | 1.8954 | – |
| – | L 485 QB | – | – | – | L 485 QB | L 485 QB | – | – | – | – | 1.8955 | – |
| – | S 460 NLH/FG S 47 | – | – | – | S 460 NLH | – | S460NLH | – | – | – | 1.8956 | – |
| – | L 555 QB | – | – | – | L 555 QB | L 555 QB | – | – | – | – | 1.8957 | – |
| – | 9 CrNiCuP 3 2 4 | WR 50 A | SPA-H | K11430 | – | – | – | – | – | – | 1.8962 | – |
| – | WTSt 52-3 | WR 50 C | SMA 58 W | K11430 | S 355 J 2 G 1 W | E 36 W-A2 | – | – | – | – | 1.8963 | – |
| – | EStE 690 VA | – | – | – | S 690 G1 QL1 | – | – | – | – | – | 1.8964 | – |
| – | S 355 J 2 G 2 W | S 355 J 2 G 2 W | – | – | S 355 J 2 G 2 W | S 355 J 2 G 2 W | S 355 J 2 G 2 W | – | – | – | 1.8965 | – |
| – | S 355 K 2 G 1 W | S 355 K 2 G 1 W | SMA 490 CW | – | S 355 K2 G1 W | S 355 K2 G1 W | S 355 K 2 G 1 W | – | – | – | 1.8966 | – |
| – | S 355 K 2 G 2 W | S 355 K 2 G 2 W | – | – | S 355 K2G2W | S 355 K 2 G 2 W | S 355 K 2 G 2 W | – | – | – | 1.8967 | – |
| – | QStE 600 TM/S 600 MC | – | – | – | S 600 MC | E 620 D | S 600 MC | – | – | – | 1.8969 | – |
| – | StE 415..7/L 415 NB | – | – | – | L 415 NB | L 415 NB | – | – | – | – | 1.8972 | – |
| – | StE 415.7 TM/L 415 MB | – | – | – | L 415 MB | L 415 MB | – | – | – | – | 1.8973 | – |
| – | S 700 MC (QStE 690 TM) | – | – | – | S 700 MC | E 690 D | S 700 MC | – | – | – | 1.8974 | – |
| – | L 450 MB/StE 445.7 TM | – | – | – | L 450 MB | L 450 MB | – | – | – | – | 1.8975 | – |
| – | S 650 MC (QStE 650 TM) | – | – | – | S 650 MC | E 620 D | S 650 MC | – | – | – | 1.8976 | – |
| – | L 485 MB/StE 480.7 TM | – | – | – | L 485 MB | L 485 MB | – | – | – | – | 1.8977 | – |
| – | StE 550.7 TM/L 555 MB | – | – | – | L 555 MB | L 555 MB | – | – | – | – | 1.8978 | – |

*(continued)*

## P4 Workpiece Materials Listing • Steel • P4 *(continued)*

*P4 Alloy Steels and Tool Steels* *Content: C>.25%* *Tensile Strength RM (MPa)*: 850–1400* *Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A 570 Gr. 50 | St 50-2 | 4360-50 B | SS 50 | – | E 295 | A 50-2 | Fe 490 | 2172 | – | – | 1.0050 | – |
| – | St 60-2 | 4360-55 E | SM 58 | – | E 335 | A 60-2 | Fe 60-2 | 1650 | – | – | 1.0060 | – |
| – | St 70-2 | E 360 | – | – | E 360 | A 70-2 | Fe 70-2 | 1655 | – | – | 1.0070 | – |
| – | C4D | – | – | – | C 4 D | FM 5 | C 4 D | – | – | – | 1.0300 | – |
| – | C 22 8 | – | – | – | P 250 GH | – | – | – | – | – | 1.0460 | – |
| – | H 260/ZSt E 260 | H 240 LA | – | – | H 240 LA | E 240 C | – | – | – | – | 1.0480 | – |
| – | ZStE 380/H 380 | H 360 L A | – | – | H 360 LA | E 355 C | – | – | – | – | 1.0550 | – |
| – | GL-E - 40 (S 390 G 3 S) | – | – | – | S 390 G 3 S | – | – | – | – | – | 1.0560 | – |
| – | C60D | – | – | – | C 60 D | FM 60 | C 60 D | – | – | – | 1.0610 | – |
| – | C 64/64 Mn 3 | – | – | – | C 64 | – | – | – | – | – | 1.0640 | – |
| – | 38 SMn 28 | 38 SMn 28 | – | – | 38 SMn 28 | 38 SMn 28 | – | – | – | – | 1.0760 | – |
| – | QSt E 260 TM/5260 MC | – | – | – | S 260 MC | 41 S 7 | Fe E 275 TM | – | – | – | 1.0970 | – |
| – | C3D2 | – | – | – | C 3 D 2 | FM 5 | C 3 D 2 | – | – | – | 1.1110 | – |
| 1330 | 28 Mn 6 | 150 M 28 | SCMn 1 | G 13300 | 28 Mn 6 | 35 M 5 | C 28 Mn | – | – | – | 1.1170 | – |
| – | C 42 E Al/Ck 42 Al | – | – | – | S 355 G15 | – | – | – | – | – | 1.1190 | – |
| – | C56D2/D 55-2 | – | – | – | C 56 D 2 | FM 56 | C 56 D 2 | – | – | – | 1.1220 | – |
| – | C 70 W1 | – | – | – | CT 70 | C 70 E 2 U | C 70 K U | – | – | – | 1.1520 | – |
| – | C 70 W2 | – | – | – | C 70 U | – | – | – | – | – | 1.1620 | – |
| – | C 45 W | – | – | – | C 45 U | Y3 42 | – | – | – | – | 1.1730 | – |
| – | C 60 W | – | SK 7 | – | – | Y3 55 | – | – | – | – | 1.1740 | – |
| – | 100 CrMn 6 | – | – | K19195 | 100 CrMn 6 | 100 CM 6 | – | – | – | – | 1.3520 | – |
| – | 28 B 2 | – | SWRCHB 26 | – | C 30 B | 20 B 3 | – | – | – | – | 1.5510 | – |
| 5130 | 28 Cr 4 | 530 A 30 | – | G51300 | 28 Cr 4 | 30 CD 4 | – | – | – | – | 1.7030 | – |
| – | S 420 G1 M | – | – | – | P 550 M | – | – | – | – | – | 1.8830 | – |
| – | St E 380 | – | SM 50 B | – | S 380 N | – | Fe E 390 KG | – | – | – | 1.8900 | – |
| – | TStE 380/ S380NL | – | – | – | S 380 NL | – | Fe E 390 KT | 2117 | – | – | 1.8910 | – |
| – | TStE 690 VA/ S690G1QL | – | – | – | S 690 G 1 QL | – | – | – | – | – | 1.8920 | – |
| – | WSt E 380/ P380Nh | – | – | – | P 380 NH | – | Fe E 390 KW | 2116 | – | – | 1.8930 | – |
| – | S 890 Q | – | – | – | S 890 Q | S 890 Q | S 890 Q | – | – | – | 1.8940 | – |

## P5 Workpiece Materials Listing • Steel • P5

*P5 Ferritic, Martensitic, and PH Stainless Steels* *Tensile Strength RM (MPa)*: 600–900* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 410 S | X 7 Cr 14 | – | – | – | – | – | – | – | – | – | 1.4001 | – |
| 405 | X 6 CrAl 13 | 405 S 17 | SUS 405 | S40500 | X 6 CrAl 13 | Z 6 CA 13 | X 6 CrAl 13 | 2302 | – | – | 1.4002 | – |
| – | X 2 CrNi 1 2 | – | – | – | Hyfab3/12 | CLC4003 | F12N(Mn<1,50) | – | – | – | 1.4003 | – |
| 416 | X 12CrS 13 | 416 S 21 | SUS416 | S41600 | X 12 CrS 13 | Z 12 CF 13 | X12CrS13 | 2380 | – | – | 1.4005 | ATI 416™ |
| 410 | X 12Cr 13 | 410 S 21 | SUS410 | S 41000 | (X 12 Cr 13 KD) | Z 12 C 13 | X12Cr13 | 2302 | – | – | 1.4006 | ATI 410™ |
| 414 | GX 8 CrNi 1 3 | 410 C 21 | SCS 1 | S41400 | GX 7 CrNiMo 12-1 | Z 12 CN 13 M | GX 12 Cr 13 | – | – | – | 1.4008 | – |
| – | X 8 Cr 14 | – | SUS Y 410 | S41080 | X 8 Cr 13 KE | – | – | – | – | – | 1.4009 | B13Fe |
| – | GX 12 Cr 1 2 | – | – | – | GX12Cr12 | GX12Cr12 | – | – | – | – | 1.4011 | – |
| – | N 3 2 0 (LW) | – | – | – | 3S62 | – | – | – | – | – | 1.4014 | – |
| – | X 8 Cr 18 | – | SUS Y 430 | S43080 | – | – | – | – | – | – | 1.4015 | B17Fe |
| 430 | X 8 Cr 17 | 430 S 15 | SUS430 | S 43000 | X 8 Cr 17 | Z8C17 | X8Cr17 | 2320 | – | – | 1.4016 | ATI 430™ |
| – | X 6 CrNi 17 1 | – | – | – | X6CrNi17-1 | F17N | X6CrNi17-1 | – | – | – | 1.4017 | – |
| 420 | X20Cr13 | 420 S 37 | SUS 420J1 | S42000 | X 20 Cr 13 | Z20C13 | X20Cr13 | 2303 | – | – | 1.4021 | ATI 420™ |
| 403 | X 15 Cr 13 | 420 S 29 | SUS 410 J1 | J91201 | X 15 Cr 13 | Z 12 C 13 M | X 12 Cr 13 | 2301 | – | A403M | 1.4024 | ATI 403™ |
| – | GX 20 Cr 1 4 | 420 C 29 | SCS 2 | – | – | Z 20 C 13 M | – | – | – | A743-4 | 1.4027 | – |
| 420 | X 40 Cr 13 | – | SUS 420 J2 | S42080 | X 40 Cr 13 | Z 40 C 14 | X 40 Cr 14 | 2304 | – | – | 1.4031 | – |
| – | GX 120 Cr 29 | 425 C 11 | – | – | – | – | – | – | – | F30C | 1.4086 | – |
| 430 F | X 12 CrMoS 17 | 441 S 29 | SUS 430 F | S 43020 | X 14 CrMoS 17 | Z 10 CF 17 | X 10 CrS 17 | 2383 | – | – | 1.4104 | – |
| 430 | X 4 CrMoS 18 | – | SUS 430F | – | X 6 CrMoS 17 | Z 6 CDF 18 - 02 | – | – | – | – | 1.4105 | – |
| – | X 2 CrMoSiS 18 2 1 | – | – | J91151 | – | – | – | – | – | CA15 | 1.4106 | – |
| – | GX 8 CrNi 1 2 | – | – | – | GX 8 CrNi 12 | GX8CrNi 12 | G X 8 CrNi 12 | – | – | – | 1.4107 | – |
| 434 | X 6CrMo 17 | 434 S 17 | SUS434 | S43400 | 434S17 | Z8CD17-01 | X8CrMo17 | 2325 | – | – | 1.4113 | AL 434 |
| – | X 15 CrMo 13 | – | – | – | – | – | – | – | – | – | 1.4119 | – |
| – | GX 70 CrMo 29 2 | – | – | – | – | Z 60 CD 29.2 M | – | – | – | – | 1.4136 | – |
| – | X 2 CrNi 24 12 | 309 S 93 | – | – | X 2 CrNi 24 13 KE | Z 2 CN 24-14 | – | – | – | – | 1.4332 | CN23/12-IG |
| – | X 5 NiCr 32 21 | – | – | S33200 | – | – | – | – | – | B536 | 1.4333 | H521 |
| – | GX 5 CrNiMo 16 5 | – | – | – | GX 4 CrNiMo 16-5-1 | GX4CrNiMo 16-5-1 | G X 4 CrNiMo 16-5-1 | – | – | – | 1.4405 | – |
| – | ERO 4411 A | – | – | – | GX 4 CrNiMo 16-5-2 | GX 4 CrNiMo 16-5-2 | – | – | – | – | 1.4411 | – |
| – | X 38 CrMo 14 | – | – | – | – | – | – | – | – | – | 1.4419 | – |
| – | X 8 CrTi 18 | – | – | – | X 6 Cr 18 KE | – | – | – | – | – | 1.4502 | – |
| 430 Nb | X 6 CrNb 17 | – | SUS 430 LX | – | X 3 CrNb 17 | Z 8 CNb 17 | X 6 CrNb 17 | – | – | – | 1.4511 | AXC525 |
| 409 | X 6 CrTi 12 | 409 S 19 | SUH 409 | S40900 | X 5 CrTi 12 | Z 6 CT 12 | X 6 CrTi 12 | – | – | – | 1.4512 | – |
| – | X 6 CrNiTi 12 | – | – | – | X 6 CrNiTi 12 | X 6 CrNiTi 12 | X 6 CrNiTi 12 | – | – | – | 1.4516 | – |
| – | X 2 CrTi 17 | – | SUS 430 LX | – | X 2 CrTi 17 | F 20T | X 2 CrTi 17 | – | – | – | 1.4520 | – |
| – | X 8 CrMoTi 17 | – | – | – | X 2 CrMoTiS 18 2 | X2CrMoTiS18-2 | – | – | – | – | 1.4523 | 1802 |
| – | GX 5 CrNiCu 16 4 | – | – | – | GX 5 CrNiCu 16-4 | GX 5 CrNiCu 16-4 | – | – | – | – | 1.4525 | – |
| – | X 6 CrMoNb 17 1 | – | – | – | X 6 CrMoNb 17-1 | X6CrMoNb 17-1 | F 17 MNb | – | – | – | 1.4526 | – |
| 904 L | X 1 NiCrMoCuN 25 20 5 | 904 S 13 | – | N08904 | X 1 NiCrMoCuN 25 20 5 | Z 1 NCDU 25 20 | – | 2562 | – | – | 1.4539 | ATI 904L™ |
| 348 | X 5 CrNiNb 18 10 | S 527 | – | J92640 | – | – | X 6 CrNiNb 18 11 | – | – | – | 1.4546 | ATI 348™ |
| – | X 5 CrNiNb 19 9 | – | SUS Y 347 | S34780 | X 5 CrNiNb 20 10 KE | Z 6 CNNb 20-10 | – | – | – | – | 1.4551 | – |
| – | GX 7 NiCrMoCuNb 42 20 | – | – | – | GX 7 NiCrMoCuNb 4220 | – | – | – | – | – | 1.4559 | – |
| – | X 5 CrNiMoNb 19 12 | 318 S 96 | – | S31980 | X 5 CrNiMoNb 19 12 03 KE | Z 4 CNDSNb 19-12-03 | – | – | – | – | 1.4576 | – |
| – | X 2 CrAlTi 18 2 | – | – | – | X 2 CrAlTi 18-2 | DMV 59 | X 2 CrAlTi 18-2 | – | – | – | 1.4605 | – |
| – | X 10 CrAl 7 | – | – | – | X 10 CrAl 7 | – | – | – | – | – | 1.4713 | – |

NOTE: For legend, see page Y237.

*(continued)*

## P5 ■ Workpiece Materials Listing • Steel • P5 *(continued)*

*P5 Ferritic, Martensitic, and PH Stainless Steels* *Tensile Strength RM (MPa)*: 600–900* *Hardness (HB): <330 (HRC): <35*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | X 215 Cr 12 | – | – | – | – | – | – | – | – | – | 1.4721 | – |
| H-12 | X 10 CrAl 13 | BH 12 | SUS 405 | T20812 | X 10 CrAl 13 | Z 10 C 13 | X 10 CrAl 12 | – | – | – | 1.4724 | – |
| 430 | X 10 CrAl 18 | (430 S 15) | SUH 21 | S43000 | – | Z 10 CAS 18 | (X 8 Cr 17) | – | – | – | 1.4742 | – |
| 446 | X 10 CrAl 25 | – | SUH 442 | S44600 | X 10 CrAl 24 | Z 10 CAS 24 | X 16 Cr 26 | 2322 | – | – | 1.4762 | – |
| – | GX 40 CrNiSi 27 4 | – | – | J92605 | – | – | – | – | – | – | 1.4823 | – |
| – | X 12 CrNi 22 12 | 311 S 94 | SUS Y 309 | S30980 | X 15 CrNi 23 13 | – | X 16 CrNi 23 14 | – | – | 309 | 1.4829 | – |
| – | X 9 CrNiSiNCe 21 11 2 | – | – | – | X 9 CrNiSiNCe 21-11-2 | – | – | – | – | – | 1.4835 | – |
| 314 | X 15 CrNiSi 25 20 | 314 S 25 | SUH 310 | S31400 | X 15 CrNiSi 25 20 | Z 15 CNS 25.20 | X 16 CrNiSi 25 20 | – | – | – | 1.4841 | Cronifer® 2520 |
| – | X 12 CrNi 25 20 | 310 S 94 | – | S31080 | X 12 CrNi 26 21 KE | Z 12 CN 26-21 | – | – | – | – | 1.4842 | – |
| – | CrNi 25 20 | – | SCS 18 | S31400 | – | – | – | – | – | – | 1.4843 | – |
| 310 S | X 12 CrNi 25 21 | 310 S 24 | SUS 310 S | S31008 | X 8 CrNi 25 21 | Z 12 CN 25.20 | X 6 CrNi 25 20 | 2361 | – | – | 1.4845 | ATI 310S™ |
| HK | X 40 CrNiSi 25 20 | 310 C 40 | SCH 21 | J94204 | – | – | GX 40 CrNi 26 20 | – | – | – | 1.4848 | – |
| – | GX 40 NiCrSiNb 38-18 | – | – | – | 3072.76 | – | – | – | – | – | 1.4849 | – |
| – | GX 10 NiCrNb 32 20 | – | – | J95151 | – | – | – | – | – | – | 1.4859 | – |
| 330 | X 12 NiCrSi 35 16 | NA 17 | SUH 330 | N08330 | X 12 NiCrSi 35 1 6 | Z 12 NCS 37.18 | – | – | – | – | 1.4864 | – |
| – | X40NiCrSi38-18 | 330 C 40 | SCH15/SCH16 | J94605 | 330C11/330C40/331C40 | – | GX50NiCr39-19 | – | – | – | 1.4865 | – |
| – | GX 50 CrNi 30-30 | – | – | N08801 | – | Z5NCT3220 | – | – | – | – | 1.4868 | – |
| B163 | X 10 NiCrAlTi 32 20 | NA 15 | NCF800(TP) | – | NA15(H) | Z10NC32.21 | – | – | B163 | – | 1.4876 | B163 |
| – | X 6 NiCrNbCe 32 27 | – | – | – | X 6 NiCrNbCe 32-27 | – | – | – | – | – | 1.4877 | – |
| – | X 12 NiCrSi 35 19 | – | – | N08830 | X1 0 NiCrSi 35 19 | – | – | – | – | – | 1.4886 | 330 |
| – | X 10 NiCrSiNb 35 22 | – | – | – | X10NiCrSiNb35-22 | – | – | – | – | – | 1.4887 | – |
| – | X 10 CrMoV 9 1 | – | – | S59180 | X 10 CrMoV 9-1 | – | – | – | – | – | 1.4903 | – |
| – | X 20 CrMoV 12 1 | – | – | – | X 20 CrMoV 11-1 | – | X 20 CrMoV 12 01 KW | 2317 | – | – | 1.4922 | – |
| – | GX 22 CrMoV 12 1 | – | – | – | G-X 22 CrMoV 12 1 | GX23CrMoV12-1 | G X 23 CrMoV 12-1 | – | – | – | 1.4931 | – |
| 422 | X 20 CrMoWV 12 1 | – | SUH 616 | S42200 | – | – | X 22 CrMoWV 12 1 | – | – | – | 1.4935 | – |
| 661 | X 12 CrCoNi 21 20 | – | SUH 661 | R30155 | – | – | – | – | – | – | 1.4971 | – |
| R30155 | X 12 CrCoNiMoWNb 21 20 20 | – | – | R30155 | X 12 CrCoNiMoWNb 21 20 20 | Z 12 CKNDWNb 21.20.20 | N-155 | – | – | – | 1.4974 | – |
| – | X 40 CoCrNi 20 20 | – | – | – | – | Z 42 CNKDWNb | – | – | – | – | 1.4977 | – |
| 403 | X 6 Cr 13 | 403 S 17 | SUS 403 | S 40300 | X 6 Cr 13 | Z 6 C 13 | X 6 Cr 13 | 2301 | – | A240 | 1.4000 | ATI 410S™ |
| 439 | X 6 CrTi 17 | – | SUS 430 LX | S 43035 | X 8 CrTi 1 7 | Z 8 CT 1 7 | X 6 CrTi 17 | – | – | – | 1.4510 | 430 Ti |
| – | X 22 CrMoV 1 -1 = ST12T | – | – | – | – | – | – | – | – | A437-76 Grade B4B | – | ATI FV448™ |
| 409 Cb | – | – | – | – | – | – | – | – | – | – | – | ATI 409Cb™ |
| 436 S | – | – | – | – | – | – | – | – | – | – | – | ATI 436S™ |
| 439 HP | – | – | – | S43035 | – | – | – | – | – | – | – | ATI 439 HP™ |
| 441 HP | – | – | – | – | – | – | – | – | – | – | – | ATI 441 HP™ |
| – | – | – | – | S44735 | – | – | – | – | – | A240 | – | AL 29-4C® |
| – | – | – | – | – | – | – | – | – | – | B625 | – | ATI E-BRITE® |
| 403Cb | – | – | – | – | – | – | – | – | – | – | – | T656 |
| 420 modified | – | – | – | – | – | – | – | – | – | – | – | Stavax ESR |
| – | – | – | – | – | – | – | – | – | – | – | – | 420HC |
| – | – | – | – | – | – | – | – | – | – | – | – | CPM 154 |
| – | – | – | – | – | – | – | – | – | – | – | – | CPM® S30V® |
| – | – | – | – | – | – | – | – | – | – | – | – | CPM® S35VN® |
| 420 V | – | – | – | – | – | – | – | – | – | – | – | CPM® S90V® |
| – | – | – | – | – | – | – | – | – | – | – | – | M390 |
| 422 | – | – | – | S42200 | – | – | – | – | – | – | – | 616 |

# P6 Workpiece Materials Listing • Steel • P6

*P6 High-Strength Ferritic, Martensitic, and PH Stainless Steels* *Tensile Strength RM (MPa)*: 900–1350*
*Hardness (HB): 350–450 (HRC): 35–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | 17-7 PH | 301 S 81 | SUS 631 | S17700 | X 7 CrNiAl 17-7 | X7CrNiAl17-7; Z9CNA17-07 | X 7 CrNiAl 17-7 | 2388 | – | A693 | 1.4564 | ATI 17-7™ |
| – | GX 22 CrNi 17 | ANC 2 | – | J91803 | – | Z 20 CN 17.2 M | – | – | – | CB30 | 1.4059 | – |
| – | GX 30 CrSi 6 | – | – | – | – | – | – | – | – | – | 1.4710 | – |
| – | GX 4 CrNi 13 4 | – | – | – | GX 4 CrNi 13-4 | GX 4 CrNi 13-4 | GX 4 CrNi 13-4 | – | – | – | 1.4317 | – |
| – | GX 40 CrSi 17 | – | – | – | – | – | GX 35 Cr 17 | – | – | – | 1.4740 | – |
| – | GX 40 CrSi 24 | – | SCH 1 | – | – | – | GX 35 Cr 13 | – | – | – | 1.4745 | – |
| – | GX 40 CrSi 28 | 452 C 11 | SCH 2 | J92605 | – | – | GX 35 Cr 28 | – | – | CC50 | 1.4776 | – |
| – | X 105 CrCoMo 18 2 | – | – | – | – | – | – | – | – | – | 1.4528 | N690 |
| 440 C | X 105CrMo 17 | – | SUS 440C | S44004 | X 105 CrMo 17 | Z 100 CD 17 | X 105 CrMo 17 | – | – | – | 1.4125 | ATI 440C™ |
| – | X 110 CrMoV 15 | – | SUS 430 LX | – | – | Z 4 CN b 17 | X 6 CrNb 17 | – | – | – | 1.4111 | – |
| 5718.9 | X 12 CrNiMo 12 | S.151 | – | S64152 | – | Z12CNDV12 | – | – | – | – | 1.4939 | ATI Jethete™ M152 |
| – | X 12 CrNiMoV 12 3 | – | – | – | X 12 CrNiMoV 12-3 | X 12 CrNiMoV 12-3 | – | – | – | – | 1.4938 | T522 |
| – | X 15 TN | – | – | – | 420S25 | Z40CDV16-02 | X40CrMoVN16-2 | – | – | F899 | 1.4123 | X 15 TN |
| 15-5 PH | X 15 U 5 W | – | – | S15500 | – | Z6CNU15.05 | – | – | – | A564/ A693/A705 | 1.4545 | ATI 15-5™ |
| – | X 19 CrMoNbVN 11 1 | – | – | – | – | Z 21 CDNbV 11 | – | – | – | – | 1.4913 | Jethete X19 |
| 431 | X 19 CrNi 17 2 | 431 S 29 | SUS 431 | S 43100 | X 19 CrNi 17 2 | Z 15 CN 16.02 | X 16 CrNi 16 | 2321 | – | – | 1.4057 | 431 (HT) |
| – | X 20 CrMo 17 1 | – | – | – | – | – | – | – | – | – | 1.4115 | B17MoFe |
| 420F Mod | X 22 CrMoNiS 13 1 | – | – | – | – | – | – | – | – | – | 1.4121 | Bioline 4C27A |
| – | X 22 CrMoV 12 1 | 762 | – | – | X 22 CrMoV 12-1 | Z 21 CDV 12 | X 22 CrMoV 12 1 | – | – | – | 1.4923 | Jethete X20 |
| 420 | X 29 CrS 13 | 416 S 37 | SUS 416 | – | X 29 CrS 13 | Z29CF13 | X 29 CrS 13 | – | – | – | 1.4029 | – |
| – | X 3 CrNiCuTi 12 9 | – | – | S45500 | – | – | X 6 CrNiNb 18 11 | – | – | – | 1.4543 | ATI 455™ |
| 13-8 PH | X 3 CrNiMoAl 13 8 2 | – | – | S13800 | – | Z4 CNDAT 13 09 | – | – | – | – | 1.4534 | ATI 13-8Mo™ |
| 420 F | X 30 Cr 13 | 420 S 45 | SUS420J2 | S42020 | X 30 Cr 13 | Z 30 C 13 | X 30 Cr 13 | 2304 | – | CA40 | 1.4028 | – |
| – | X 30CrMoN 15 1 | – | – | – | 420S45 | Z33C13 | – | 2304 | – | – | 1.4108 | N360 |
| – | X 35 CrMo 17 | – | – | – | X 39 CrMo 17 1 | X39CrMo17-1 | X 35 CrMo 17 | – | – | – | 1.4122 | – |
| – | X 4 CrNiCuNb 16 4 | – | – | J92200 | – | Z 4 CNUNb 16.4 M | – | – | – | – | 1.4540 | – |
| 415 M | X 4 CrNiMo 16 5 1 | – | – | – | X 4 CrNiMo 16 5 1 | Z 6 CND 16.05.01 | – | 2387 | – | – | 1.4418 | APX4 |
| – | X 40 CrNi 25 21 | 310 S 98 | SCH 13 | – | – | – | – | – | – | – | 1.4846 | – |
| – | X 40 CrSiMo 10 2 | – | SUH3 | – | X 40 CrSiMo 10-2 | Z40CSD10 | – | – | – | – | 1.4731 | – |
| 420 | X 45 Cr 13 | (420 S45) | – | – | X 45 Cr 13 | Z 40 C 14 | X 40 Cr 14 | – | – | – | 1.4034 | – |
| – | X 45 CrMoV 15 | – | – | – | X 50 CrMoV 15 | Z 50 CD 15 | X 50 CrMo V 15 | – | – | – | 1.4116 | UGI 4116N |
| HNV3 | X 45 CrSi 9 3 | – | SUH1 | – | 401S45 | Z45CS9 | X45CrSi8 | – | HNV3 | – | 1.4718 | – |
| HNV 2 | X 45 SiCr 4 | – | – | S64006 | – | – | – | – | – | – | 1.4704 | – |
| CA 6-NM | X 5 CrNi 134 | 425 C 11 | SCS 5 | J91540 | X 3 CrNiMo 13 4 | Z 4 CDN 13.4 | X 6 CrNi 13 04 | 2385 | – | – | 1.4313 | – |
| 630 | X 5 CrNiCuNb 16 4 | – | SUS 630 | – | X 5 CrNiCuNb 16-4 | Z6CNU17.04 | – | – | – | CB7Cu | 1.4542 | UGIMA® 4542 |
| 17-4 PH | X 5 CrNiCuNb 17 4 4 | – | SUS 630 | S17400 | X 5 CrNiCuNb 16-4 | X5CrNiCuNb16.4 | – | – | – | A693 | 1.4548 | – |
| – | X 5 CrNiMoCuNb 14 5 | – | – | – | X 5 CrNiMoCuNb 14-5 | X 5 CrNiMoCuNb 14-5 | X 5 CrNiMoCuNb 14-5 | – | – | – | 1.4594 | – |
| – | X 50 CoCrNi 20 20 | – | – | – | – | – | – | – | – | – | 1.4978 | – |
| EV8 | X 53 CrMnNiN 2 9 | 349 S 54 | SUH35/SUH36 | S63008 | 349S54 | Z52CMN21.09 | X53CrMnNiN21-9 | – | EV8 | – | 1.4871 | – |
| – | X 55 CrMo 14 | – | – | – | – | Z 50 CD 13 | – | – | – | – | 1.4110 | – |
| – | X 60 CrMnMoVNbN 21 10 | – | – | – | – | Z 60 CMDVNb 21-10 Az | – | – | – | – | 1.4785 | – |
| 440 A | X 65 CrMo 14 | – | SUS 440A | S44002 | X 70 CrMo 15 | Z 70 CD 14 | – | – | – | – | 1.4109 | ATI 440A™ |
| – | X 7 CrNiAl 17 7 | 301 S 81 | SUS 631 | S17700 | X 7 CrNiAl 17-7 | X7CrNiAl17-7;Z9CNA17-07 | X 7 CrNiAl 17-7 | 2388 | – | A693 | 1.4568 | – |
| 632 | X 7 CrNiMoAl 15 7 | – | – | S15700 | – | – | – | – | – | – | 1.4574 | PH 15-7 Mo® |
| – | X 8 CrCoNiMo 10 6 | Z 9 CKD 11 | – | – | S152 | Z10CKD10 | – | – | – | – | 1.4911 | ATI FV535™ |
| 15-7 PH | X 8 CrNiMoAl 15 7 2 | – | – | S15700 | X 8 CrNiMoAl 15-7-2 | Z8CNDA15.07 | X 8 CrNiMoAl 15-7-2 | – | – | A693 | 1.4532 | ATI 15-7™ |
| HNV 6 | X 80 CrNiSi 20 | 443 S 65 | SUH 4 | S65006 | X 80 CrNiSi 20 | Z 80 CSN 20.02 | X 80 CrSiNi 20 | – | – | – | 1.4747 | – |
| – | X 85 CrMoV 18 2 | – | – | – | X 85 CrMoV 18 2 | Z 85 CDMV 18.02 | X 85 CrMoV 19 3 | – | – | – | 1.4748 | – |
| 440 B | X 90 CrMoV 18 | 409 S 1 9 | SUS 440 B | S44003 | X 90 CrMoV 18 | Z 3 CT 1 2 | X 6 Cr Ti 1 2 | – | – | – | 1.4112 | – |
| – | X45CrNiW18-9 | 331 S 40 | SUH31 | – | X 45 CrNiW 18 9 | Z35CNWS14.14 | X45CrNiW18-9 | – | – | – | 1.4873 | – |

NOTE: For legend, see page Y237.

## M1 Workpiece Materials Listing • Stainless Steel • M1

*M1 Austenitic Stainless Steel* *Tensile Strength RM (MPa)*: <600* *Hardness (HB): 130–200*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CF-8 | X 6 CrNi 18 9 | 304 C 15 | SCS 13 | – | X 2 CrNiN 18 7 | Z 6 CN 18.10 M | G X 5 CrNi 19-10 | 2333 | – | CF8 | 1.4308 | CF-8 |
| – | X 2 NiCr 18 16 | – | – | – | – | Z 3 CDT 18-02 | – | – | – | – | 1.4321 | – |
| – | X 1 CrNi 25 21 | – | – | – | X 1 CrNi 25 21 | X1CrNi25-21 | X 1 CrNi 25-21 | – | – | – | 1.4335 | Uranus 65 |
| 610 | X1CrNiSi 18-15-4 | – | – | S30600 | X 1 CrNiSi 18-15-4 | Z1 CNS 17.5 | X 1 CrNiSi 18-15-4 | – | – | A240-97A | 1.4361 | ATI 610™ |
| CF-8M | X 6 CrNiMo 18 10 | 316 C 16 | SCS 14 | J92900 | GX 5 CrNiMo 19-11-2 | GX5CrNiMo 19-11-2 | G X 5 CrNiMo 19-11-2 | 2343 | – | – | 1.4408 | – |
| – | GX 2 CrNiMo 19 11 2 | – | – | – | GX 2 CrNiMo 19-11-2 | GX 2 CrNiMo 19-11-2 | GX 2 CrNiMo 19-11-2 | – | – | – | 1.4409 | – |
| – | ER0 4412 AHMo | – | – | J92900 | GX 5 CrNiMo19-11-3 | GX 5 CrNiMo 19-11-3 | – | – | – | A743CF8M | 1.4412 | – |
| – | ER0 4416 AHCRMo | – | – | – | GX 2 NiCrMoN 25-20-5 | GX2NiCrMoN 25-20-5 | – | – | – | – | 1.4416 | – |
| – | GX 6 CrNiMo 18 12 | 317 C 12 | – | – | – | – | – | – | – | – | 1.4437 | – |
| – | X 2 CrNiMo 18 16 5 | – | – | S31780 | – | – | – | – | – | – | 1.4440 | – |
| – | GX 2 CrNiMoN 17 1 3 4 | – | – | – | GX 2 CrNiMoN 17 1 3 4 | – | – | – | – | – | 1.4446 | – |
| – | GX 6 CrNiMo 17 13 | 317 C 16 | – | J93000 | – | – | – | – | – | CG8M | 1.4448 | – |
| – | GX 2 NiCrMo 28 20 2 | – | – | – | GX 2 NiCrMo 28-20-2 | GX 2 NiCrMo 28-20-2 | GX 2 NiCrMo 28-20-2 | – | – | – | 1.4458 | – |
| – | GX 4 NiCrCuMo 30 20 4 | – | – | – | GX 4 NiCrCuMo 30-20-4 | GX 4 NiCrCuMo 30-20-4 | – | – | – | – | 1.4527 | – |
| – | GX 5 CrNiNb 18 9 | 347 C 17 | SCS 21 | J92710 | GX 5 CrNiNb 19-11 | Z 4 CNNb 19.10 M | G-X 5 CrNiNb 19-11 | – | – | – | 1.4552 | – |
| – | GX 2 CrNiMoCuN 20 18 6 | – | – | – | GX 2 CrNiMoCuN 20-18-6 | GX 2 CrNiMoCuN 20-18-6 | – | – | – | – | 1.4557 | – |
| – | X 3 CrNiCuMo 17 11 3 2 | – | – | – | X 3 CrNiCuMo17 11 3 2 | X3CrNiCuMo 17-11-3-2 | X 3 CrNiCuMo 17-11-3-2 | – | – | – | 1.4578 | – |
| – | GX 5 CrNiMoNb 18 10 | 318 C 17 | SCS 22 | – | GX 5 CrNiMoNb 19-11-2 | Z 4 CNDNb 18.12 M | GX 6 CRNOMONB 20 11 | – | – | – | 1.4581 | – |
| – | GX 2 NiCrMoCu 25 2 0 5 | – | – | – | GX 2 NiCrMoCu 25-20-5 | GX 2 NiCrMoCu 25-20-5 | – | – | – | – | 1.4584 | – |
| – | GX 7 CrNiMoCuNb 18 18 | – | – | J94651 | – | – | – | – | – | – | 1.4585 | – |
| – | GX 2 NiCrMoCuN 29 25 5 | – | – | – | GX 2 NiCrMoCuN 29-25-5 | GX 2 NiCrMoCuN 29-25-5 | – | – | – | – | 1.4587 | – |
| – | GX 2 NiCrMoCuN 25 20 6 | – | – | – | GX 2 NiCrMoCuN 25-20-6 | GX 2 NiCrMoCuN 25-20-6 | – | – | – | – | 1.4588 | – |
| – | GX 25 CrNiSi 18 9 | 302 C 35 | – | J92602 | – | – | G X 16 CrNi 20 10 | – | – | CF20 | 1.4825 | – |
| – | GX 40 CrNiSi 22 9 | – | SCH 12 | J92603 | – | – | – | – | – | – | 1.4826 | – |
| – | GX 50 CrNiNb 25 22 | – | – | – | – | – | – | – | – | – | 1.4836 | – |
| – | GX 40 CrNiSi 25 12 | 309 C 30 | SCS 17 | J93503 | – | – | GX 35 CrNi 25 12 | – | – | CE30 | 1.4837 | – |
| 334 | X 8 CrNiAlTi 20 20 | – | – | S33400 | – | – | – | – | – | – | 1.4847 | ATI 334™ |
| – | GX 40 NiCrSiNb 38 18 | – | – | N08004 | – | – | – | – | – | – | 1.4849 | – |
| – | GX 40 NiCrSiNb 35 25 | – | – | – | – | – | – | – | – | – | 1.4852 | – |
| – | GX 40 NiCrSi 35 25 | – | – | J95705 | – | – | GX 50 NiCr 35 25 | – | – | – | 1.4857 | – |
| 105 MA | BGH 4892 | – | – | – | – | – | – | – | – | – | 1.4892 | – |
| – | X 3 CrNi 18 11 | – | – | – | – | – | X 2 CrNiN 18 11 | – | – | – | 1.4949 | – |
| – | X 2 CrNiMo 19 12 | 316 S 93 | – | S31683 | x 2 CrNiMo 19 13 03 KE | Z 2 CND 19-12-03 | – | – | – | – | 1.4430 | – |
| – | GX 7 NiCrMoCuNb 25 20 | – | SCS 23 | J95150 | 10.204.3.1B | Z 3 NCDU 25.20 M | GX 5 NiCrCuMo 29 21 | – | – | – | 1.4500 | – |
| – | X 3 CrNiCu 19 9 2 | – | – | – | S 124 M | PHYHQ 4560 | 304 RH1 | – | – | – | 1.4560 | ACX276 |
| – | – | – | – | S63198 | – | – | – | – | 19-9 DL | – | – | 19-9 DL |
| – | X 2 CrNiMoN 17 13 3 | – | – | – | – | Z 2 CND 17.13 | X 2 CrNiMoN 17 13 3 | – | – | – | – | – |
| 332 | – | – | – | N08800 | – | – | – | – | – | – | – | ATI 332™ |
| – | – | – | – | N08367 | – | – | – | – | – | – | – | AL-6XN® |
| 611 | – | – | – | S30601 | – | – | – | – | – | A240-97A | – | ATI 611™ |

## M2 Workpiece Materials Listing • Stainless Steel • M2

*M2 High-Strength Austenitic Stainless and Cast Stainless Steels* *Tensile Strength RM (MPa)*: 600–800*
*Hardness (HB): 150–230 (HRC): <25*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 304 H | X 5 CrNi 18 10 | 304 S 15 | SUS 304 | S30409 | X 6 CrNi 18 10 KD | Z 6 CN 18.09 | X 5 CrNi 18 10 | 2332 | – | – | 1.4301 | – |
| – | X 5 CrNi 19 9 | 308 S 96 | – | S30888 | X 6CrNi 20 10 KE | – | – | – | – | – | 1.4302 | – |
| 305 | X 4 CrNi 18 12 | 305 S 19 | SUS 305 | S30500 | X 4 CrNi18 12 KD | Z 5 CN 18.12 | X 4 CrNi 19 10 | – | – | – | 1.4303 | – |
| 303 | X 10 CrNiS 18 9 | 303 S 21 | SUS 303 | S30300 | X 10 CrNiS 18 9 | Z 10 CNF 18.09 | X 10 CrNiS 18 09 | 2346 | – | – | 1.4305 | ATI 303™ |
| 304 L | X 2 CrNi 19 11 | 304 C 12 | SUS 304L | S30403 | X 3 CrNi18 10 KD | Z 2 CN 18.09 | GX 2 CrNi 19 10 | 2352 | – | CF3 | 1.4306 | ATI 304L™ |
| 304 L | X 2 CrNi 18 9 | 304 S 11 | SUS 304L | – | X 2 CrNi 18 9 | CLC18.9.L | X 2 CrNi 18-9 | – | – | – | 1.4307 | – |
| – | GX 2 CrNi 19 11 | 304 C 12 | – | J92500 | GX2CrNi19-11 | GX2CrNi19-11 | GX2CrNi19-11 | 2352 | – | CF3 | 1.4309 | – |
| 304 LN | X 2 CrNiN 18 10 | 304 S 62 | SUS 304 LN | S30453 | X 2 CrNiN 18 10 | Z 8 CN 18.12 | X 8 CrNi 19 10 | 2371 | – | – | 1.4311 | – |
| 305 | GX 10 CrNi 18 8 | 302 C 25 | SCS 12 | – | – | Z 10 CN 18.9 M | – | – | – | – | 1.4312 | ATI 305™ |
| 308 L | X 2 CrNi 19 9 | 308 S 92 | SUS Y 308L | S30883 | X 2 CrNi 20 10 KE | Z 2 CN 20.10 | – | – | – | – | 1.4316 | – |
| – | X 2 CrNiN 18 7 | – | – | – | X 2 CrNiN 18-7 | 18-7L | 18-7L | – | – | – | 1.4318 | – |
| 302 | X 10 CrNi 18 9 | 302 S 26 | SUS 302 | S20200 | 302S31 | Z10CN18-09 | X 10 CrNi 18 09 | 2330 | – | – | 1.4319 | ATI 302™ |
| 301 | X 10 CrNi 18 9 | 302 S 26 | – | J92501 | X 10 CrNi 18 9 | – | – | – | – | – | 1.4324 | – |
| – | X 10 CrNi 30 9 | 312 S 94 | – | – | X 12 CrNi 30 09 KE | Z 10 CN 31-10 | – | – | – | – | 1.4337 | – |
| – | X 3 CrNi 13 4 | – | – | S41086 | X 3 CrNi 14 04 KE | – | – | – | – | – | 1.4351 | 410NiMo |
| 202 | X 3CrMnNiN 18 8 7 | – | – | – | 284S16 | Z8CMN18-08-05 | – | – | – | – | 1.4371 | – |
| 201 | X 12 CrMnNiN 17 7 5 | 284 S 16 | SUS 201 | – | X 12 CrMnNiN 17-7-5 | X 12 CrMnNiN17-7-5 | X 12 CrMnNiN 17-7-5 | – | – | – | 1.4372 | ACX060 |
| 316 | X 5 CrNiMo 17 12 2 | 316 S 16 | SUS 316 | S31600 | X6 CrNiMo 17 12 2 KD | Z 6 CND 17.11 | X 5 CrNiMo 17 12 | 2347 | – | – | 1.4401 | ATI 316™ |
| 316L | X 2 CrNiMo 17 13 2 | 316 S 12 | SUS 316 L | S31603 | GX 3 CrNiMo 17 12 2 KD | Z 3 CND 19.10 M | GX 2 CrNiMo 19 11 | 2348 | – | – | 1.4404 | ATI 316L™ |
| 316 LN | X 2 CrNiMoN 17 12 2 | 316 S 61 | SUS 316 LN | S31653 | X 3 CrNiMoN 17 12 2 | Z 2 CND 17.12 Az | X 2 CrNiMoN 17 12 | 2353 | – | – | 1.4406 | ATI 316LN™ |
| – | X 5 CrNiMo 13 4 | – | – | J91550 | – | Z 6 CND 16.05.01 | – | – | – | – | 1.4407 | – |
| – | X12CrNiMoS18-11 | – | – | – | – | Z3CNDF17-13 | – | – | – | – | 1.4427 | Chronifer® Special KL |
| 316L | X 2 CrNiMo 17 12 3 | 316 S 13 | SUS 316L | – | X 2 CrNiMo 17 12 2 | Z 3 CND 17-13-30 | X 2 CrNiMo 17-12-3 | 2348/2353/2354 | – | – | 1.4432 | – |
| – | X 2 CrNiMoN 18 12 4 | – | – | – | 317 LN | CLC18.12.4.LN | X2CrNiMoN1812-4 | – | – | – | 1.4434 | – |
| 316 L | X 2 CrNiMo 18 14 3 | 316 S 11 | SCS 16 | S31603 | X 2 CrNiMo 18 16 | Z 2 CND 17.13 | X 2 CrNiMo 17 13 | 2353 | – | – | 1.4435 | – |
| 316 | X 5 CrNiMo 17 1 3 3 | 316 S 16 | SUS 316 | S31600 | X6 CrNiMo 18 13 3 KD | Z 6 CND 17.12 | X 5 CrNiMo 17 13 | 2343 | – | – | 1.4436 | – |
| 317 L | X 2 CrNiMo 18 16 4 | 317 S 12 | SUS 317 L | S31703 | X 3 CrNiMo 18 16 4 | Z 2 CND 19.15 | X 2 CrNiMo 18 15 | 2367 | – | – | 1.4438 | ATI 317L™ |
| – | X 2 CrNiMoN 17 13 5 | – | – | – | X 3 CrNiMo 17 13 5 | Z 3 CND 18.14-05 AZ | – | – | – | – | 1.4439 | – |
| – | X 2 CrNiMo 18 15 4 | – | – | S31675 | – | X 3 CrNiMoN 19-14 | – | – | – | – | 1.4442 | – |
| 317 | X 5 CrNiMo 17 13 | 317 S 16 | SUS 317 | S31700 | – | – | X 5 CrNiMo 18 15 | – | – | – | 1.4449 | AL 317L+E55 |
| – | X 5 CrNiCuNb 16 4 | – | – | – | – | Z7CNU16.04 | – | – | – | – | 1.4452 | – |
| – | – | – | – | S21904 | – | – | – | – | – | A666 | 1.4454 | ATI 219 |
| – | X 2 CrNiMnMoN 20 16 | – | – | – | X 2 CrNiMnMoN 20 15 08 KE | – | – | – | – | – | 1.4455 | – |
| – | X 1 CrNiMoN 25 2 5 2 | – | – | S31050 | – | – | – | – | – | – | 1.4465 | 2RE69 |

*(continued)*

## M2 Workpiece Materials Listing • Stainless Steel • M2 *(continued)*

*M2 High-Strength Austenitic Stainless and Cast Stainless Steels* *Tensile Strength RM (MPa)*: 600–800*
*Hardness (HB): 150–230 (HRC): <25*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | X 1 CrNiMoN 25 22 2 | – | – | – | 725 LN | DMV 25.22.2 | X 1 CrNiMoN 25-22-2 | – | – | – | 1.4466 | – |
| – | X 1 NiCrMoCuN 25 20 6 | – | – | – | – | – | – | – | – | – | 1.4529 | Uranus B26 6Mo |
| – | GX 2 NiCrMoCuN 25 20 | – | – | J94650 | GX 2 CrNiMoCuN 25-20-6 | – | – | – | – | – | 1.4536 | – |
| – | X 1 CrNiMoCuN 25 25 5 | – | – | – | X 1 CrNiMoCuN 25-25-5 | X 1 CrNiMoCuN 25-25-5 | X 1 CrNiMoCuN 25-25-5 | – | – | – | 1.4537 | – |
| 321 | X 6 CrNiTi 18 10 | 321 S 12 | SUS 321 | S32100 | X 6 CrNiTi 18 10 | Z 6 CNT 18.10 | X 6 CrNiTi 18 11 | 2337 | – | – | 1.4541 | ATI 321™ |
| 321 | A 700 | 304 S 31 | – | J92630 | – | Z 10 CNT 18 11 | X 6 CrNiTi 18 11 | – | – | – | 1.4544 | – |
| – | X 1 CrNiMoCuN 20 18 7 | X 1 CrNiMoCuN 20 18 7 | – | S31254 | X 1 CrNiMoCuN 20-18-7 | X 1 CrNiMoCuN 20-18-7 | X 1 CrNiMoCuN 20-18-7 | – | – | – | 1.4547 | Uranus B25 6Mo |
| – | X 2 NiCrAlTi 32 20 | – | NCF 800 TB | – | – | – | – | – | – | – | 1.4558 | – |
| – | X 1 NiCrMoCuN 31 27 4 | – | – | – | X 1 NiCrMoCu 31 27 4 | X 1 NiCrMoCuN 31 -27-4 | X 1 NiCrMoCuN 31 -27-4 | 2584 | – | – | 1.4563 | – |
| – | X 3 CrNiCu 18 9 4 | 394 S 17 | SUS XM7 | – | X3CrNiCu18-9-4 | 304CU | 304K | – | – | – | 1.4567 | – |
| 316 Ti | X 6 CrNiMoTi 17 12 2 | 320 S 31 | SUS 316Ti | – | X 6 CrNiMoTi 17 12 2 | Z 6 CNDT 17.12 | X 6 CrNiMoTi 17 12 | 2350 | – | – | 1.4571 | ATI 316Ti™ |
| – | GX 5 CrNiMoNb 23 9 | – | – | – | – | – | – | – | – | – | 1.4572 | – |
| 316 Ti | X 10 CrNiMoTi 18 12 | 320 S 33 | SUS 316Ti | S31635 | – | – | X 6 CrNiMoTi 17 13 | – | – | – | 1.4573 | – |
| 318 | X 10 CrNiMoNb 18 12 | – | – | – | – | – | X 6 CrNiMoNb 17 13 | – | – | – | 1.4583 | – |
| – | X 2 CrNiCu 19 10 | – | – | – | X 2 CrNiCu 19-10 | TX 304L | – | – | – | – | 1.4650 | – |
| – | X1CrNiMoCuN24-22-8 | – | – | S32654 | – | – | – | – | – | – | 1.4652 | 654 SMO® |
| – | 153 MA | – | – | S30415 | X 6 CrNiSiNCe 19 10 | – | – | – | – | – | 1.4818 | 153 MA™ |
| – | X 20 CrNiSi 25 4 | – | – | S44635 | X 15 CrNiSi 25 4 | Z 20 CNS 25.04 | X 20 CrNiSi 25 4 | – | – | – | 1.4821 | – |
| 309 | X 15 CrNiSi 20 12 | 309 S 24 | SUH 309 | S30900 | X 15 CrNiSi 20 12 | Z 15 CNS 20.12 | X 16 CrNiSi 25,20 | – | – | – | 1.4828 | ATI 309™ |
| 309 S | X 7 CrNi 23 14 | 309 S 24 | SUS 309 S | J93400 | X 12 CrNi 23 13 | Z 15 CN 24.13 | X 6 CrNi 23 14 | – | – | – | 1.4833 | – |
| – | 353 MA | – | – | S35315 | X 6 NiCrSiNCe 35-25 | – | – | – | – | – | 1.4854 | 353 MA® |
| – | X 8 NiCrSi 38 18 | NA 17 | – | N08330 | – | Z 12 NCS 37.18 | – | – | – | – | 1.4862 | – |
| – | X 33 CrNiMnN 23 8 | – | – | – | X 33 CrNiMnN 23-8 | X 33 CrNiMnN 23-8 | – | – | – | – | 1.4866 | – |
| EV 12 | X 55 CrMnNiN 20 8 | – | – | S63012 | X 55 CrMnNiN 20-8 | Z 55 CMN 20.08 Az | – | – | – | – | 1.4875 | – |
| 321 | X 12 CrNiTi 18 9 | 321 S 20 | SUS 321 | S32100 | X 10 CrNiTi 18 10 | Z 6 CNT 18.12 | X 6 CrNiTi 18.11 | 2337 | – | – | 1.4878 | ACX315 |
| EV 11 | X 70 CrMnNiN 21 6 | – | – | S63011 | – | – | X 70 CrMnNiN 21 6 | – | – | – | 1.4881 | – |
| – | X 50 CrMnNiNbN 21 9 | – | – | – | X 50 CrMnNiNbN 21-9 | Z 50 CMNNb 21.09 | – | – | – | – | 1.4882 | – |
| – | X 7 CrNiNb 18 10 | – | SUS347H | S34709 | X7CrNiNb18-10 | X7CrNiNb18-10 | – | – | – | – | 1.4912 | – |
| 316 H | X 6 CrNiMo 17 13 | 316 S 51 | – | S31609 | X 6 CrNiMo 17 12 2 | Z 6 CND 17-13 B | – | – | – | – | 1.4919 | – |
| 321 H | X 8 CrNiTi 18 10 | – | – | – | X 6 CrNiTiB 18-10 | Z 6 CNT 18-10 B | X 6 CrNiTiB 11 | – | – | – | 1.4941 | – |
| A660 | X 4 NiCrTi 25 15 | HR251 | SUH 660 | S66286 | – | Z 6 NCTDV 25.15 B | – | – | – | – | 1.4943 | Discaloy |
| – | X 6 CrNiWNb 16 16 | – | – | – | – | – | – | – | – | – | 1.4945 | – |
| – | X 6 CrNi 18 11 | 304 S 51 | – | S30480 | X 6 CrNi 18 10 | Z 6 CN 18-09 | X 5 CrNi 18 10 KW | 2333 | – | – | 1.4948 | – |
| – | X 6 CrNi 25 20 | – | – | – | 310 H | – | – | – | – | – | 1.4951 | – |
| – | X 8 CrNiNb 16 13 | 347 S 51 | – | – | – | – | – | – | – | – | 1.4961 | – |
| – | Esshete12 50 | – | – | S21500 | X 10 CrNiMoMnNbVB 15-10-1 | X 10 CrNiMoMnNbVB 15-10-1 | – | – | – | A213 | 1.4982 | Esshete 1250 |
| – | X 8 CrNiMoBNb 16 16 | – | – | – | X 7 CrNiMoBNb 16-16 | – | – | – | – | – | 1.4986 | – |
| 301 | X 12 CrNi 17 7 | 301 S 21 | SUS 301 | S30100 | X 12 CrNi 17 7 | Z 12 CN 17.07 | X 12 CrNi 17 07 | 2331 | – | – | 1.4310 | ATI 301™ |
| – | GX 40 CrNi 27 4 | – | – | J92615 | – | – | GX 35 CrNi 28 05 | – | – | – | 1.4340 | – |
| 304 | X 5 CrNi 18 9 | 304 S 31 | SUS 304 | S30400 | 1 | Z6CN18.09 | X5CrNi1810 | 2332/2333 | – | A276 | 1.4350 | ATI 304™ |
| – | X 15 CrNiMn 18 8 | 307 S 98 | – | – | X 15 CrNiMn 18 08 KE | Z 8 CNM 19-09-07 | – | – | – | – | 1.4370 | – |
| S32750 | GX 10 CrNiMo 18 9 | – | SCS 14 A | S32750 | X 2 CrNiMoN 25-7-4 | Z 5 CND 20.10 M | X 2 CrNiMoN 25-7-4 | – | – | – | 1.4410 | – |
| – | X 5 CrNiMo 18 11 | 315 S 16 | – | – | – | – | – | 2340 | – | – | 1.4420 | – |
| 347 | X 6 CrNiNb 18 10 | 347 S 17 | SUS 347 | S34700 | X 6 CrNiNb 18 10 | Z 6 CNNb 18.10 | X 6 CrNiNb 18 11 | 2338 | – | – | 1.4550 | ATI 347™ |
| 316 Cb | X 6 CrNiMoNb 17 12 2 | 318 S 17 | – | – | X 6 CrNiMoNb 17 12 2 | Z 6 CNDNb 17.12 | X 6 CrNiMoNb 17 12 | – | – | – | 1.4580 | – |
| – | X 3 CrNiMoN 17 13 | – | – | – | X 3 CrNiMoN 17-13-3 | – | X 2 CrNiMoN 17 12 | – | – | – | 1.4910 | – |
| – | X 6 CrNi 23 13 | – | – | – | 309 H | – | – | – | – | – | 1.4950 | – |
| A286 | X 6 NiCrTiMoVB 25-15-2 | 286 S 31 | – | S66286 | X 6 NiCrTiMoVB 21-15-2 | – | – | – | – | – | 1.4980 | Incoloy A 286 |
| XM-19 | – | – | – | S20910 | – | – | – | – | – | F1314 | – | ATI XM-19™ |
| 303 plus X | – | – | – | S30310 | – | – | – | – | – | XM-5 | – | 303 plus X |
| – | X 2 CrNi 18 13 3 | – | – | – | – | – | – | – | – | – | – | Staybrite® 4435NCu |
| 218 | – | – | – | S21800 | – | – | – | – | – | – | – | Nitronic 60 |
| 201LN | – | – | – | S20153 | – | – | – | – | – | – | – | ATI 201LN™-MIL |
| – | X 2 CrNiMoN 17 13 3 | – | – | – | – | Z 2 CND 17.13 | X 2 CrNiMoN 17 13 3 | – | – | – | – | AL 316LXN |
| – | – | – | – | S31675 | – | – | – | – | – | F1586 | – | ATI REX 734™ |
| – | – | – | – | – | – | – | – | – | – | – | – | P558 |
| – | X 1 NiCrMoCu 22 24 6 | – | – | – | – | – | – | – | – | – | – | Uranus B66 |
| – | – | – | – | – | – | – | – | – | – | – | – | ATI Datalloy 2® |
| – | – | – | – | – | – | – | – | – | – | – | – | ATI Staballoy® AG17® |
| – | – | – | – | – | – | – | – | – | – | – | – | P530 |
| – | X 1 NiCrMoCu 31 27 4 | – | – | N08028 | – | – | – | – | – | – | – | Uranus B28 |
| – | – | – | – | – | – | – | – | – | – | – | – | P750 |
| – | – | – | – | – | – | – | – | – | – | – | – | P750-I |
| – | X 4 CrNiMoN 21 9 4 | – | – | – | – | – | – | – | – | F1586 | – | M30NW |
| – | – | – | – | – | – | – | – | – | – | – | – | P550 |
| – | – | – | – | – | – | – | – | – | – | – | – | P580 |
| – | – | – | – | – | – | – | – | – | – | – | – | P650 |
| – | – | – | – | – | – | – | – | – | – | – | – | ATI Datalloy HP™ |

NOTE: For legend, see page Y237.

## M3 ■ Workpiece Materials Listing • Stainless Steel • M3

*M3 Duplex Stainless Steel* *Tensile Strength RM (MPa)*: <800* *Hardness (HB): 135–275 (HRC): <30*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | GX 120 CrMo 29 2 | – | – | – | – | – | – | – | – | F30M | 1.4138 | PK324 |
| – | X 2 CrMnNiN 21 5 1 | – | – | S32101 | – | – | – | – | – | – | 1.4162 | LDX2101 |
| – | GX 6 CrNiN 26 7 | – | – | – | GX 6 CrNiN 26-7 | – | – | – | – | – | 1.4347 | – |
| S32304 | X 2 CrNiN 23 4 | – | – | S32304 | SAF 2304 | 35 N | X 2 CrNiN 23-4 | 2327 | – | A240 | 1.4362 | ATI 2304™ |
| S31500 | X 2 CrNiMoSi 19 5 | – | – | S39215 | GX 2 CrNiMoN 25-7-3 | GX 2 CrNiMoN 25-7-3 | – | 2376 | – | – | 1.4417 | – |
| S31803 | X 2 CrNiMoN 22 5 3 | 318 S 13 | SUS 329J 3L | S31803, S32205 | X 2 CrNiMoN 22 5 3 | Z 3 CND 22.05 AZ | X 2 CrNiMoN 22-5-3 | 2377 | F51 | 2205 | 1.4462 | ATI 2205™ |
| – | GX 6 CrNiMo 24 8 2 | – | – | – | – | – | – | – | – | – | 1.4463 | – |
| – | GX 2 CrNiMoN 25 6 3 | – | – | – | GX 2 CrNiMoN 25-6-3 | GX 2 CrNiMoN 25-6-3 | – | – | – | – | 1.4468 | – |
| – | GX 2 CrNiMoN 26 7 4 | – | – | J93404 | GX 2 CrNiMoN 26-7-4 | GX 2 CrNiMoN 26-7-4 | GX 2 CrNiMoN 26-7-4 | – | – | – | 1.4469 | – |
| – | X 2 CrNiMoCuWN 25 7 4 | – | – | S32760 | X 2 CrNiMoCuWN 25 7 4 | X 2 CrNiMoCuWN 25-7-4 | X 2 CrNiMoCuWN 25-7-4 | – | – | F 55 | 1.4501 | F55 |
| 2507 | X 2 CrNiMoCuN 25 6 3 | – | – | – | X 2 CrNiMoCuN 25-6-3 | DMV25.7Cu | 329SK | – | – | – | 1.4507 | Uranus 52N+ |
| – | GX 2 CrNiMoCuWN 25 8 4 | – | – | – | X 6 CrNiCu 18 10 4 KD | Z 4 CNUD 17-11-03 FF | – | – | – | – | 1.4508 | – |
| – | GX 2 CrNiMoCuN 25 6 3 3 | – | – | – | GX 2 CrNiMoCuN 25-6-3-3 | GX 2 CrNiMoCuN 25-6-3-3 | GX 2 CrNiMoCuN 25-6-3-3 | – | – | – | 1.4517 | – |
| – | X 4 CrNiMoNb 25 7 | – | SCS 22 | – | – | – | – | – | – | – | 1.4582 | PK343 |
| – | BGH 4593 | – | – | – | GX 3 CrNiMoCuN 24 6 2 3 | – | – | – | – | – | 1.4593 | Noridur® |
| 329 | X 4 CrNiMo 27 5 2 | – | SUS 329 J1 | S32900 | X 3 CrNiMo 27 5 2 | X 2 CrNiMo 25-7-3 | X 3 CrNiMo 27-5-2 | 2324 | – | A240 | 1.4460 | 10RE51 |
| – | GX 2 CrNiMoN 22 5 3 | – | – | – | GX 2 CrNiMoN 22-5-3 | GX 2 CrNiMoN 22-5-3 | GX 2 CrNiMoN 22-5-3 | – | – | – | 1.4470 | – |
| S32550 | – | – | – | S32550 | – | – | – | – | – | – | – | Ferralium® alloy 255 |
| – | – | – | – | S32003 | – | – | – | – | – | – | – | ATI 2003® |
| – | – | – | – | S80211 | – | – | – | – | – | – | – | ATI 2102™ |
| – | – | – | – | S32550 | – | – | – | – | – | – | – | ATI 255™ |
| – | – | – | – | S34565 | – | – | – | – | – | – | – | ATI 4565™ |
| – | X 2 CrNiMoN 25 6 3 | – | – | – | – | – | – | – | – | – | – | Uranus 47N+ |
| – | – | – | – | – | – | – | F60 | – | – | 32760 | – | Zeron® 100 |

## Cast Iron

## K1 ■ Workpiece Materials Listing • Cast Iron • K1

*K1 Gray Cast Iron* *Tensile Strength RM (MPa)*: 125–500* *Hardness (HB): 120–290 (HRC): <32*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | GG-150HB | – | – | – | GJL-HB 170 | – | – | – | – | – | 0.6012 | – |
| A48-25 B | GG-15 | Grade 150 | FC 150 | – | GJL-150 | FGL 150 | G 15 | 0115-00 | – | A 48 Class 25 | 0.6015 | – |
| – | GG-170HB | – | – | N06985 | GJL-HB 205 | – | – | – | – | – | 0.6017 | – |
| – | GG-190HB | – | – | N06022 | GJL-HB 230 | – | – | – | – | – | 0.6022 | – |
| A48-35 B | GG-25 | Grade 260 | FC 250 | – | GJL-250 | FGL 250 | G 25 | 0125-00 | – | A 48 Class 35 | 0.6025 | – |
| – | GG-26 | – | FC260 | – | – | – | G 26 | 0126-00 | – | – | 0.6026 | – |
| – | GG-220HB | – | – | W06027 | GJL-HB 250 | FGL 250 | – | – | – | – | 0.6027 | – |
| – | GG-240HB | – | – | – | GJL-HB 275 | – | – | – | – | – | 0.6032 | – |
| A48-50 B | GG-35 | Grade 350 | FC 350 | – | GJL-350 | FGL 350 | G 35 | 0135-00 | – | A 48 Class 50 | 0.6035 | – |
| – | GG-260HB | – | – | – | GJL-HB 275 | – | – | – | – | – | 0.6037 | – |
| A48-20 B | GG-10 | Grade 100 | FC 100 | – | GJL-100 | FGL 100 | G 10 | 0110-00 | – | A 48 Class 20 | 0.6010 | – |
| A48-30 B | GG-20 | Grade 220 | FC 200 | W06020 | GJL-200 | FGL 200 | G 20 | 0120-00 | – | A 48 Class 30 | 0.6020 | – |
| A48-45 B | GG-30 | Grade 300 | FC 300 | – | GJL-300 | FGL 300 | G 30 | 0130-00 | – | A 48 Class 45 | 0.6030 | – |
| A48-55 B | GG-40 | Grade 400 | – | – | GJL-400 | FGL 400 | – | 0140-00 | – | A 48 Class 55 | 0.6040 | – |
| A48-40 | – | – | – | – | – | – | – | – | – | A 48 Class 40 | – | – |
| A48-60 | – | – | – | – | – | – | – | – | – | A 48 Class 60 | – | – |
| – | – | – | – | – | – | – | – | – | G1800 | A 159 G1800 | – | – |
| – | – | – | – | – | – | – | – | – | G3000 | A 159 G3000 | – | – |
| – | – | – | – | – | – | – | – | – | G10H18 | A 159 G3000 | – | – |
| – | – | – | – | – | – | – | – | – | G11H18 | A 159 G3000 | – | – |
| – | – | – | – | – | – | – | – | – | G3500 | A 159 G3500 | – | – |
| – | – | – | – | – | – | – | – | – | G11H20 | A 159 G3500 | – | – |
| – | – | – | – | – | – | – | – | – | G4000 | A 159 G4000 | – | – |
| – | – | – | – | – | – | – | – | – | G13H19 | A 159 G4000 | – | – |
| – | – | – | – | – | – | – | – | – | G12H21 | A 159 G4000 | – | – |
| – | – | – | – | – | – | – | – | – | G9H12 | A 159 G1800 | – | – |
| – | GG-26-Cr | – | – | – | – | – | – | – | – | – | – | – |
| – | GG-25-Cr | – | – | – | – | – | – | – | – | – | – | – |

## K2 Workpiece Materials Listing • Cast Iron • K2

*K2 Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)* *Tensile Strength RM (MPa)*: <600*
*Hardness (HB): 130–260 (HRC): <28*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | GGL-NiMn137 | L-NiMn 13 7 | FCA NiMn 13 7 | F43000 | GJLA-XNiMn 13-7 | L-NM 13 7 | – | – | – | – | 0.6652 | – |
| A 436 Type 1 | GGL- NiCuCr1562 | L-NiCuCr 15 6 2 | FCA-NiCuCr 15 6 2 | F41000 | GJLA-XNiCuCr 15-6-2 | L-NUC 15 6 2 | – | – | – | – | 0.6655 | – |
| A 436 Type 1b | GGL-NiCuCr1563 | L-NiCuCr 15 6 3 | FCA-NiCuCr 15 6 3 | F41001 | GJLA-XNiCuCr 15-6-3 | L-NUC 15 6 3 | – | – | – | – | 0.6656 | – |
| A 436 Type 2b | GGL-NiCr203 | L-NiCr 20 3 | FCA-NiCr 20 3 | F41003 | GJLA-XNiCr 20-3 | L-NC 20 3 | – | – | – | – | 0.6661 | – |
| – | GGL-NiSiCr2053 | L-NiSiCr 20 5 3 | FCA-NiSiCr 20 5 3 | – | GJLA-XNiSiCr 20-5-3 | L-NSC 20 5 3 | – | – | – | – | 0.6667 | – |
| A 436 Type 3 | GGL- NiCr303 | L-NiCr 30 3 | FCA-NiCr 30 3 | F41004 | GJLA-XNiCr 30-3 | L-NC 30 3 | – | – | – | – | 0.6676 | – |
| – | GGG-35.3 | – | – | – | GJS-350-22 | – | – | 0717-15 | – | – | 0.7033 | – |
| – | GGG-40.3 | SNG 370/17 | FCD 370 | – | GJS-400-18 | FGS 370-17 | GSO 42/15 | 0717-15 | – | – | 0.7043 | – |
| – | GGG-45 | – | FCD 450 | – | – | – | – | – | – | – | 0.7045 | – |
| – | – | – | – | – | – | FGS450.10 | – | – | – | – | 0.7049 | – |
| – | GGG-65 | – | – | – | – | – | – | – | – | – | 0.7065 | – |
| – | GGG-NiMn137 | S-NiMn 13 7 | FCDA-NiMn 13 7 | – | GJSA-XNiMn 13-7 | S-Mn 13 7 | – | 0772-00 | – | – | 0.7652 | – |
| – | GGG-NiCrNb202 | S2W | FCDA-NiCrNb 20 2 | – | GJSA-XNiCrNb 20-2 | – | – | – | – | – | 0.7659 | – |
| A 439 Type D-2B | GGG-NiCr203 | S-NiCr 20 3 | FCDA-NiCr 20 3 | F43001 | GJSA-XNiCr 20-3 | – | – | – | – | – | 0.7661 | – |
| – | GGG-NiSiCr2052 | S-NiSiCr 20 5 2 | FCDA-NiSiCr 20 5 2 | – | GJSA-XNiSiCr 20-5-2 | S-NSC 20 5 2 | – | – | – | – | 0.7665 | – |
| A 571 Type D-2M | GGG-NiMn234 | S-NiMn 23 4 | FCDA-NiMn 23 4 | – | GJSA-XNiMn 23-4 | S-NM 23 4 | – | – | – | – | 0.7673 | – |
| A 439 Type D-3 | GGG-NiCr303 | S-NiCr 30 3 | FCDA-NiCr 30 3 | F43003 | GJSA-XNiCr 30-3 | S-NC 30 3 | – | – | – | – | 0.7676 | – |
| A 439 Type D-3A | GGG-NiCr301 | S-NiCr 30 1 | FCDA-NiCr 30 1 | F43004 | GJSA-XNiCr 30-1 | S-NC 30 1 | – | – | – | – | 0.7677 | – |
| – | GGG-NiSiCr3055 | – | FCDA-NiSiCr 30 5 5 | – | GJSA-XNiSiCr 30-5-5 | – | – | – | – | – | 0.7679 | – |
| A 439 Type D-5 | GGG-Ni35 | S-Ni 35 | FCDA-Ni 35 | F43006 | GJSA-XNi 35 | S-N 35 | – | – | – | – | 0.7683 | – |
| A 439 Type D-5A | GGG-NiCr353 | S-NiCr 35 3 | FCDA-NiCr 35 3 | F43007 | GJSA-XNiCr 35-3 | S-NC 35 3 | – | – | – | – | 0.7685 | – |
| – | GGG-NiSiCr3552 | – | FCDA-NiSiCr 35 5 2 | – | GJSA-XNiSiCr 35-5-2 | FGS Ni35 Si 5 Cr2 | – | – | – | – | 0.7688 | – |
| – | GTW-35-04 | W 35-04 | FCMW 330 class 1 | – | GJMW-35-0-4 | MB 35-7 | W 35-04 | – | – | – | 0.8035 | – |
| – | GTW-S-38-1 2 | W 38-12 | – | – | GJMW-360-12 | MB 300-12 | – | – | – | – | 0.8038 | – |
| – | GTW-45-07 | W 45-07 | FCMWP 440 class 3 | – | GJMW-450-7 | MB 450-7 | GMB 45 | – | – | – | 0.8045 | – |
| – | GTW-55 | – | – | – | – | – | GMB 55 | – | – | – | 0.8055 | – |
| – | GTW-65 | – | – | – | – | – | GMB 65 | – | – | – | 0.8065 | – |
| 32510 | GTS-35-10 | B 340/12 | FCMP 330 | – | GJMB-350-10 | MN 350-10 | – | 815 | – | – | 0.8135 | – |
| 40010 | GTS-45-06 | P 440/7 | FCMP 440 | – | GJMB-450-6 | MN 450 - 6 | P 45-06 | 852 | – | – | 0.8145 | – |
| 50005 | GTS-55-04 | P 510/4 | FCMP 490 | – | GJMB-550-4 | MN 550-4 | P 55-04 | 854 | – | – | 0.8155 | – |
| 70003 | GTS-65-02 | P 570/3 | FCMP 540 | – | GJMB-650-2 | MN 650-3 | P 65-02 | 0858-00, 0856-00 | – | – | 0.8165 | – |
| 90001 | GTS-70-02 | P 690/2 | FCMP 690 | – | GJMB-700-2 | MN 700-2 | P 70-02 | 0862-03; 0864-03 | – | – | 0.8170 | – |
| – | GGV-30 | – | – | – | GJV-300 | – | – | – | – | – | 0.9991 | – |
| A 436 Type 2 | GGL-NiCr202 | L-NiCr 20 2 | FCA-NiCr 20 2 | F41002 | GJLA-XNiCr 20-2 | L-NC 20 2 | – | 0523-00 | – | – | 0.6660 | – |
| A 436 Type 4 | GGL- NiSiCr3055 | L-NiSiCr 30 5 5 | FCA-NiSiCr 30 5 5 | F41005 | GJLA-XNiSiCr 30-5-5 | L-NSC 30 5 5 | – | – | – | – | 0.6680 | – |
| 60-40-18 | GGG-40 | SNG 420/12 | FCD 400 class 1 | F32800 | GJS-400-15 | FGS400-12 | GS400-12 | 0717-02 | 60-40-18 | 60-40-18 | 0.7040 | – |
| 65-45-12 | GGG-50 | SNG 500/7 | FCD 500 | F33100 | GJS-500-7 | FGS 500-7 | GS 500/7 | 0727-02 | 65-45-12 | 65-45-12 | 0.7050 | – |
| – | GGG-60 | SNG 600/3 | FCD 600-3 | – | GJS-600-3 | – | GS 600/3 | – | 80-55-06 | 80-55-06 | 0.7060 | – |
| 100-70-03 | GGG-70 | SNG 700/2 | FCD 700 | F34800 | GJS-700-2 | FGS 700-2 | GS 700-2 | 0737-01 | 100-70-03 | 100-70-03 | 0.7070 | – |
| 120-90-02 | GGG-80 | SNG 800/2 | FCD 800 | F36200 | GJS-800-2 | FGS 800-2 | GS 800-2 | – | 120-90-02 | 120-90-02 | 0.7080 | – |
| A 439 Type D-2 | GGG-NiCr202 | L-NiCuCr 20 2 | FCDA-NiCr 20 2 | – | GJSA-XNiCr 20-2 | L-NC 20 2 | – | 0523-00 | – | – | 0.7660 | – |
| A 439 Type D-2C | GGG-Ni22 | S-Ni 22 | FCDA-Ni 22 | F43002 | GJSA-XNi 22 | S-N 22 | – | – | – | – | 0.7670 | – |
| A 439 Type D-4 | GGG-NiSiCr3053 | S-NiSiCr 30 5 5 | FCDA-NiSiCr 30 5 4 | F43005 | GJSA-XNiSiCr 30-5-3 | S-NSC 30 5 5 | – | – | – | – | 0.7680 | – |
| – | GTW-40-05 | W 40-05 | FCMW 370 | – | GJMW-400-5 | MB 400-5 | GMB 40 | – | – | – | 0.8040 | – |
| – | GGV-40 | – | – | – | GJV-400 | – | – | – | – | – | 0.9990 | – |
| 80-55-06 | – | – | – | F33800 | – | FGS 350-22 | – | 0732-03 | D5506 | – | – | – |
| – | – | – | – | – | – | – | – | – | D4018 | – | – | – |
| – | – | – | – | – | – | – | – | – | D400 | – | – | – |
| – | – | – | – | – | – | – | – | – | D4512 | – | – | – |
| – | – | – | – | – | – | – | – | – | D450 | – | – | – |
| – | – | – | – | – | – | – | – | – | M3210 | – | – | – |
| – | – | – | – | – | – | – | – | – | M4504 | – | – | – |
| – | – | – | – | – | – | – | – | – | M5003 | – | – | – |
| – | – | – | – | – | – | – | – | – | M5503 | – | – | – |
| – | – | – | – | – | – | – | – | – | M7002 | – | – | – |
| – | – | – | – | – | – | – | – | – | D7003 | – | – | – |
| – | – | – | – | – | – | – | – | – | M8501 | A 602 M8501 | – | – |
| – | GGV-45 | – | – | – | GJV-450 | – | – | – | – | – | – | – |
| – | GGG-SiMo3.08 | – | – | – | – | – | – | – | – | – | – | – |
| – | GGG-SiMo4.10 | – | – | – | – | – | – | – | – | – | – | – |
| – | GGG-SiMo5.10 | – | – | – | – | – | – | – | – | – | – | – |
| – | – | – | – | – | – | – | – | – | – | – | – | HPI C13 06 |
| – | GGV-35 | – | – | – | GJV-350 | – | – | – | – | – | – | – |
| – | GGV-50 | – | – | – | GJV-500 | – | – | – | – | – | – | – |

## K3 Workpiece Materials Listing • Cast Iron • K3

*K3 High-Strength Ductile Irons and Austempered Ductile Iron (ADI)* *Tensile Strength RM (MPa)*: >600* *Hardness (HB): 180–350 (HRC): <43*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | – | – | – | – | – | – | – | – | – | A 897 125-80-10 | – | – |
| – | – | – | – | – | – | – | – | – | – | A 897 150-100-7 | – | – |
| – | – | – | – | – | – | – | – | – | – | A 897 175-125-4 | – | – |
| – | – | – | – | – | – | – | – | – | – | A 897 200-150-1 | – | – |
| – | – | – | – | – | – | – | – | – | – | A 897 230-185 | – | – |

NOTE: For legend, see page Y237.

## N1 Workpiece Materials Listing • Non-Ferrous Metals • N1

*N1 Wrought Aluminum*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1080 | Al99.8 | – | 1A | – | – | – | – | – | – | – | 3.0128 | – |
| 1050 | Al99.5 | L 31 | 1B | – | – | A 59050 C | – | – | – | – | 3.0255 | – |
| – | SG-Al 99,5 | – | – | – | – | – | – | – | – | – | 3.0259 | – |
| 1070 | Al99.7 | – | – | – | – | – | 4508 | – | – | – | 3.0275 | – |
| 3103 | AlMn | – | N3 | – | – | – | – | – | – | – | 3.0515 | – |
| 3003 | AlMnCu | – | – | – | – | – | – | – | – | – | 3.0517 | – |
| 3005 | AlMn1Mg0.5 | – | – | – | – | – | – | – | – | – | 3.0525 | – |
| 3004 | AlMn1Mg1 | – | – | – | – | – | – | – | – | – | 3.0526 | – |
| – | AlMgSiPb | – | – | – | – | – | – | – | – | – | 3.0615 | – |
| – | SG-Al 99,5Ti | – | – | – | – | – | – | – | – | – | 3.0805 | – |
| – | SG-Al 99,5 Ti | – | – | – | – | – | – | – | – | – | 3.0805 | – |
| 2014 | AlCuSiMn | – | H15 | – | – | A-U4SG | 3581 | – | – | – | 3.1255 | – |
| 2017 | AlCuMg 1 | – | – | – | AW-2017 A | A-U4G | 3579 | – | – | – | 3.1325 | – |
| 2024 | AlCuMg 2 | – | L97 | – | AW-2024 | A-U4G1 | – | – | – | – | 3.1355 | – |
| – | AlCuMgPb | – | – | – | – | – | – | – | – | – | 3.1645 | – |
| 2011 | AlCuBiPb | – | FC1 | – | – | A-U5PbBi | 6362 | – | – | – | 3.1655 | – |
| 6082 | AlMgSi 1 | – | H30 | – | AW-6005 A | A-SGM0.7 | 3571 | – | – | – | 3.2315 | – |
| 6060 | AlMgSi0.5 | – | – | – | – | – | – | – | – | – | 3.3206 | – |
| 6063 | AlMgSi0.7 | – | H9 | – | – | A-GS | 3569 | – | – | – | 3.3206 | – |
| 6463 | EAlMgSi0.5 | – | 91E | – | – | – | – | – | – | – | 3.3207 | – |
| 5005 | AlMg 1 | – | N41 | – | AW-6082 | A-G0.6 | 5764-66 | – | – | – | 3.3315 | – |
| 5050 | – | – | – | – | – | – | – | – | – | – | 3.3316 | – |
| 5052 | AlMg2.5 | – | 2L56 | – | – | A-G2.5C | 4574 | – | – | – | 3.3523 | – |
| 5754 | AlMg 3 | – | N5 | – | – | A-G3M | 3575 | – | – | – | 3.3535 | – |
| 5454 | AlMg2.5Mn | – | N51 | – | – | A-G2.5MC | 7789 | – | – | – | 3.3537 | – |
| 5086 | AlMg4Mn | – | – | – | – | – | – | – | – | – | 3.3545 | – |
| – | SG-Al Mg 4,5 Mn Zr | – | – | – | – | – | – | – | – | – | 3.3546 | – |
| 5083 | AlMg4,5Mn | – | N8 | – | – | A-G4.5MC | 7790 | – | – | – | 3.3547 | – |
| 5056 | AlMg5 | – | N6 | – | – | A-G5 | 3576 | – | – | – | 3.3549 | – |
| – | AlMg 5 | – | – | – | – | – | – | – | – | – | 3.3555 | – |
| 7050 | AlZnMgCu0,5 | L 86 | – | – | – | AZ 4 GU/9051 | 811-04 | – | – | – | 3.4144 | – |
| 7020 | AlZn4.5Mg1 | – | H17 | – | – | A-Z5G | – | – | – | – | 3.4335 | – |
| 7022 | AlZnMgCu0.5 | – | – | – | – | – | – | – | – | – | 3.4345 | – |
| – | AlZn5,5MgCu | – | – | – | – | – | – | – | – | – | 3.4365 | – |
| 7075 | AlZnMgCu 1.5 | – | DTD5074 | A97075 | AL-P7075 | A-Z5GU | 3735 | – | 7075 | – | 3.4365 | – |
| 1000 | Al99.5H | L31 | – | – | – | A59050C | – | – | – | – | 3.0250 | – |
| – | Al99.8 | – | – | – | – | – | – | – | – | – | 3.0280 | – |
| – | AlMg3Mn | – | – | – | – | – | – | – | – | – | – | – |
| 2025 | – | – | A 2025 FD | A92025 | – | – | – | – | 2025 | B 247 2025 | – | – |
| 1100 | – | – | – | – | – | – | – | – | – | – | – | – |
| 3105 | – | – | – | – | – | – | – | – | – | – | – | – |
| 5657 | AlMg0.8Si | – | – | – | – | – | – | – | – | – | – | – |
| 6070 | – | – | – | – | – | – | – | – | – | – | – | – |
| 6262 | – | – | – | – | – | – | – | – | – | – | – | – |
| 7003 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2050 | – | – | – | – | – | – | – | – | – | – | – | – |
| 7475 | – | – | – | – | – | – | – | – | – | – | – | – |
| 7175 | – | – | – | – | – | – | – | – | – | – | – | – |
| 7178 | – | – | – | – | – | – | – | – | – | – | – | – |
| 5251 | AlMg2Mo3 | – | N4 | – | – | A-G2M | 3574 | – | – | – | – | – |
| 6151 | – | – | – | – | – | – | – | – | – | – | – | – |
| 7001 | – | – | – | – | – | – | – | – | – | – | – | – |
| 7040 | – | – | – | – | – | – | – | – | – | – | – | – |

## N2 Workpiece Materials Listing • Non-Ferrous Metals • N2

*N2 Low-Silicon Aluminum Alloys and Magnesium Alloys* *Content: Si <12.2%*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | SG-Al99,8 | – | – | – | – | – | – | – | – | – | 3.0286 | – |
| – | G-AlCu 4 TiMg | – | – | – | – | – | – | – | – | – | 3.1371 | – |
| – | G-AlCu 4 TiMg | – | – | – | – | – | – | – | – | – | 3.1371 | – |
| – | G-AlCu 5 Ni 1,5 | – | – | – | – | – | – | – | – | – | 3.1754 | – |
| – | G-AlCu 4 Ti | – | – | – | – | – | – | – | – | – | 3.1841 | – |
| – | G-AlSi 5 Cu 1 | – | – | – | – | – | – | – | – | – | 3.2131 | – |
| – | G-AlSi 6 Cu 4 | – | – | – | – | – | – | – | – | – | 3.2151 | – |
| – | G-AlSi 8 Cu 3 | – | – | – | – | – | – | – | – | – | 3.2161 | – |
| – | G-AlSi 9 Cu 3 | – | – | – | – | – | – | – | – | – | 3.2163 | – |
| – | G-AlSi 1 1 | – | – | – | – | – | – | – | – | – | 3.2211 | – |
| – | SG-AlSi 5 | – | – | – | – | – | – | – | – | – | 3.2245 | – |
| – | SG-AlSi 5 | – | – | – | – | – | – | – | – | – | 3.2245 | – |
| – | G-AlSi 5 Mg | – | – | – | – | – | – | – | – | – | 3.2341 | – |
| 4218 B | G-AlSi 7 Mg | – | – | – | – | – | – | – | – | – | 3.2371 | – |
| – | G-AlSi 9 Mg | – | – | – | – | – | – | – | – | – | 3.2373 | – |
| – | G-AlSi 10 Mg | – | – | – | – | – | – | – | – | – | 3.2381 | – |
| – | G-D AlSi 10 Mg | – | – | – | – | – | – | – | – | – | 3.2382 | – |
| A 360.2 | G-AlSi 10 Mg(Cu) | LM 9 | – | – | – | – | – | 4253 | – | – | 3.2383 | – |
| A 413.0 | G-D AlSi 12 | – | – | – | – | – | – | 4247 | – | – | 3.2582 | – |
| – | SG-AlSi 12 | – | – | – | – | – | – | – | – | – | 3.2585 | – |
| – | G-D AlSi 12(Cu) | – | – | – | – | – | – | – | – | – | 3.2982 | – |
| 6061 | AlMgSiCu | – | H20 | – | – | A-GSUC | 6170 | – | – | – | 3.3211 | – |
| – | G-AlMg 3 Si | – | – | – | – | – | – | – | – | – | 3.3241 | – |
| – | G-AlMg 5 Si | – | – | – | – | – | – | – | – | – | 3.3261 | – |
| – | G-D AlMg 9 | – | – | – | – | – | – | – | – | – | 3.3292 | – |
| – | G-AlMg5Si(Cu,Mn) | – | – | – | – | – | – | – | – | – | 3.3458 | – |
| – | SG-AlMg 3 | – | – | – | – | – | – | – | – | – | 3.3536 | – |

*(continued)*

## N2 Workpiece Materials Listing • Non-Ferrous Metals • N2 *(continued)*

*N2 Low-Silicon Aluminum Alloys and Magnesium Alloys* *Content: Si <12.2%*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | G-AlMg 3 | – | – | – | – | – | – | – | – | – | 3.3541 | – |
| – | SG-AlMg 4,5 Mn | – | – | – | – | – | – | – | – | – | 3.3548 | – |
| – | SG-AlMg 5 | – | – | – | – | – | – | – | – | – | 3.3556 | – |
| – | G-AlMg 5 | – | – | – | – | – | – | – | – | – | 3.3561 | – |
| ZE 41 | G-MgZn 4 SE 1 Zr 1 | MAG 5 | – | – | MCMgZn 4 RE 1 Zr | G-Z 4 TR | – | – | – | – | 3.5101 | – |
| – | G-MgZn 5 Th 2 Zr 1 | – | – | – | – | – | – | – | – | – | 3.5102 | – |
| EZ 33 | MgSE 3 Zn 2 Zr 1 | MAG 6 | – | – | MCMgRE 3 Zn 2 Zr | G-TR 3 Z 2 | – | – | – | – | 3.5103 | – |
| – | MgAl 9 Zn 1 | – | – | – | – | – | – | – | – | – | 3.5104 | – |
| – | G-MgTh 3 Zn 2 Zr 1 | – | – | – | – | – | – | – | – | – | 3.5105 | – |
| QE 22 | G-MgAg 3 SE 2 Zr 1 | MAG 12 | – | – | MCMgRE 2 Ag 2 Zr | G-Ag 22,5 | – | – | – | – | 3.5106 | – |
| – | G-D MgAl 6 Zn 1 | – | – | – | – | – | – | – | – | – | 3.5612 | – |
| – | G-D MgAl 6 | – | – | – | – | – | – | – | – | – | 3.5662 | – |
| AZ 81 | G-MgAl 8 Zn 1 | MAG 1 | – | – | MCMgAl 8 Zn 1 | G-A 9 | – | – | – | – | 3.5812 | – |
| AZ 91 | G-MgAl 9 Zn 1 | MAG 7 | – | – | MCMgAl 9 Zn 1 | G-A 9 Z 1 | – | – | – | – | 3.5912 | – |
| – | G-MgAl 8 Zn 1 | – | – | – | – | – | – | – | – | – | 3.5200 | – |
| AS 41 | G-D MgAl 4 Si 1 | – | – | – | MCMgAl4Si | G-A4S 1 | – | – | – | – | 3.5470 | – |
| – | G-AlZn10Si8Mg | – | – | – | – | – | – | – | – | – | – | – |
| AS 7 G | AlSi7Mg | – | – | – | – | – | – | – | – | – | – | – |
| 2117 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2218 | AlCuMgNi2 | – | – | – | – | – | – | – | – | – | – | – |
| 2091 | – | – | – | – | – | – | – | – | – | – | – | – |
| 8090 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2090 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2224 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2094 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2095 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2097 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2098 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2099 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2195 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2196 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2197 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2198 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2297 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2397 | – | – | – | – | – | – | – | – | – | – | – | – |
| 8017 | – | – | – | – | – | – | – | – | – | – | – | – |
| 8024 | – | – | – | – | – | – | – | – | – | – | – | – |
| 8091 | – | – | – | – | – | – | – | – | – | – | – | – |
| 8093 | – | – | – | – | – | – | – | – | – | – | – | – |
| 2199 | – | – | – | – | – | – | – | – | – | – | – | – |

## N3 Workpiece Materials Listing • Non-Ferrous Metals • N3

*N3 High-Silicon Aluminum Alloys and Magnesium Alloys* *Content: Si >12.2%*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A 413.1 | G-AlSi 12(Cu) | LM 20 | – | – | – | – | – | 4260 | – | – | 3.2583 | – |
| A 413.2 | G-AlSi 12 | LM 6 | – | – | – | – | – | 4261 | – | – | 3.2581 | – |
| – | G-AlSi17Cu4Mg | – | – | – | – | – | – | – | – | – | – | – |
| – | GK-AlSi18CuNiMg | – | – | – | – | – | – | – | – | – | – | – |
| – | GK-AlSi21CuNiMg | – | – | – | – | – | – | – | – | – | – | – |
| – | GK-AlSi12CuNiMg | – | – | – | – | – | – | – | – | – | – | – |
| – | GK-AlSi25CuNiMg | – | – | – | – | – | – | – | – | – | – | – |
| – | G-AlSi 21 CuNiMg | – | – | – | – | – | – | – | – | – | – | – |
| 4032 | – | – | – | – | – | – | – | – | – | – | – | – |

## N4 Workpiece Materials Listing • Non-Ferrous Metals • N4

*N4 Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C 11000 | E-Cu 58 | C 101 | – | – | – | Cn-a2 | – | – | – | – | 2.0065 | – |
| C 81100 | G-CuL 45 | HCC 1 | – | – | – | – | – | – | – | – | 2.0082 | – |
| C 81100 | G-Cu L 50 | HCC 1 | – | – | – | – | – | – | – | – | 2.0085 | – |
| – | CuZn 40 MnPb | – | – | – | – | – | – | – | – | – | 2.0241 | – |
| C 26000 | CuZn 30 | CZ 102 | C 2600 | – | – | CuZn 30 | – | – | – | – | 2.0265 | – |
| C 27200 | CuZn 37 | CZ 108 | – | – | – | CuZn 37 | C 2720 | – | – | – | 2.0321 | – |
| – | CuZn 36 Pb 1.5 | – | – | – | – | – | – | – | – | – | 2.0331 | – |
| – | S-CuZn40 | – | – | – | – | – | – | – | – | – | 2.0366 | – |
| – | CuZn 39 Pb 3 + D567 | – | – | – | – | – | – | – | – | – | 2.0401 | – |
| – | CuZn 40 Pb 2 | – | – | – | – | – | – | – | – | – | 2.0402 | – |
| B-198 | G-CuZn 15Si 4 | – | – | – | – | – | – | – | – | – | 2.0492 | – |
| – | CuZn 40Al 1 | – | – | – | – | – | – | – | – | – | 2.0561 | – |
| – | G-KCuZn 38 Al | – | – | – | – | – | – | – | – | – | 2.0591 | – |
| C 86500 | G-CuZn 35 Al 1 | HTB 1 | – | – | – | U-Z 36 N 3 | – | – | – | – | 2.0592 | – |
| – | G-KCuZn 37 Al 1 | – | – | – | – | – | – | – | – | – | 2.0595 | – |
| C 86200 | G-CuZn 34 Al 2 | HTB 1 | – | – | – | U-Z 36 N 3 | – | – | – | – | 2.0596 | – |
| – | G-CuZn 25 Al 5 | – | – | – | – | – | – | – | – | – | 2.0598 | – |
| – | S - CuNi 30 Fe | – | – | – | – | – | – | – | – | – | 2.0837 | – |
| – | CuNi 10 Fe 1 Mn | – | – | – | – | – | – | – | – | – | 2.0872 | – |

NOTE: For legend, see page Y237.

*(continued)*

## N4 Workpiece Materials Listing • Non-Ferrous Metals • N4 *(continued)*

*N4 Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | S - CuNi 10 Fe | – | – | – | – | – | – | – | – | – | 2.0873 | – |
| – | CuNi 30 Mn 1 Fe | – | – | – | – | – | – | – | – | – | 2.0882 | – |
| – | SG-Cu Al 8 | – | – | – | – | – | – | – | – | – | 2.0921 | – |
| – | SG-CuAl 8 Ni 2 | – | – | – | – | – | – | – | – | – | 2.0922 | – |
| – | SG-CuAl 9 Ni5 Fe | – | – | – | – | – | – | – | – | – | 2.0927 | – |
| – | CuAl 10 Fe 3 Mn 2 | CA 103 | – | – | – | U-A 10 Fe | – | – | – | – | 2.0936 | – |
| – | SG-Cu Al 10 Fe | – | – | – | – | – | – | – | – | – | 2.0937 | – |
| C 63000 | CuAl 10 Ni 5 Fe 4 | Ca 104 | – | – | – | U-A 10 N | – | – | – | – | 2.0966 | – |
| B-148-52 | G-CuAl 10 Ni | – | – | – | – | – | – | – | – | – | 2.0975 | – |
| – | SG-Cu Sn | – | – | – | – | – | – | – | – | – | 2.1006 | – |
| – | SG-Cu Sn 6 | – | – | – | – | – | – | – | – | – | 2.1022 | – |
| C 90800 | G-CuSn 12 | Pb 2 | – | – | – | UE 12 P | – | – | – | – | 2.1052 | – |
| – | G-CuSn 12 Pb | – | – | – | – | – | – | – | – | – | 2.1061 | – |
| – | G-CuSn 10 Zn | – | – | – | – | – | – | – | – | – | 2.1086 | – |
| C 93200 | G-CuSn 7 ZnPb | – | – | – | – | U-E 7 Z 5 Pb 4 | – | – | – | – | 2.1090 | – |
| – | G-CuSn 6 ZnNi | LG 4 | – | – | – | – | – | – | – | – | 2.1093 | – |
| C 83600 | G-CuSn 5 ZnPb | LG 2 | – | – | – | U-E 5 Pb 5 Z 5 | – | – | – | – | 2.1096 | – |
| – | G-CuSn 2 ZnPb | – | – | – | – | – | – | – | – | – | 2.1098 | – |
| C 93700 | G-CuPb 10 Sn | LB 2 | – | – | – | U-E 10 Pb 10 | – | – | – | – | 2.1176 | – |
| C 93800 | G-CuPb 15 Sn | LB 1 | – | – | – | U-Pb 15 E 8 | – | – | – | – | 2.1182 | – |
| C 94100 | G-CuPb 20 Sn | LB 5 | – | – | – | U-Pb 20 | – | – | – | – | 2.1188 | – |
| C 81500 | G-CuCrF 35 | CC1-FF | – | – | – | – | – | – | – | – | 2.1292 | – |
| C 18200 | CuCrZr | CC 102 | – | – | – | U-Cr 0,8 Zr | – | – | – | – | 2.1293 | – |
| – | SG-Cu Mn 13 Al 7 | – | – | – | – | – | – | – | – | – | 2.1367 | – |
| – | SG-Cu Si 3 | – | – | – | – | – | – | – | – | – | 2.1461 | – |
| CuSi 3 Mn | – | – | – | – | – | – | – | – | – | – | 2.1525 | – |
| – | OF-Cu | – | – | – | – | – | – | – | – | – | 2.0040 | – |
| B-120 | E-Cu 57 | – | – | – | – | – | – | – | – | – | 2.0060 | – |
| C 10300 | SE-Cu | C 101 | – | – | – | Cu-c1 | – | – | – | – | 2.0070 | – |
| – | CuZn 5 | – | – | – | – | – | – | – | – | – | 2.0220 | – |
| C 23000 | CuZn 15 | CZ 102 | C 2300 | – | – | CuZn 15 | – | – | – | – | 2.0240 | – |
| – | G-CuZn 33 Pb | – | – | – | – | – | – | – | – | – | 2.0290 | – |
| – | CuZn 36 Pb 2 | – | – | – | – | – | – | – | – | – | 2.0330 | – |
| – | G-CuZn 37 Pb | – | – | – | – | – | – | – | – | – | 2.0340 | – |
| – | CuZn 40 | – | – | – | – | – | – | – | – | – | 2.0360 | – |
| – | CuZn 39 Pb 2 | – | – | – | – | – | – | – | – | – | 2.0380 | – |
| – | CuZn 20 Al 2 | – | – | – | – | – | – | – | – | – | 2.0460 | – |
| – | CuZn 37Al 1 | – | – | – | – | – | – | – | – | – | 2.0510 | – |
| – | CuZn 40 Al 2 | – | – | – | – | – | – | – | – | – | 2.0550 | – |
| – | G-CuZn 40 Fe | – | – | – | – | – | – | – | – | – | 2.0590 | – |
| – | G-CuAl 10 Fe | – | – | – | – | – | – | – | – | – | 2.0940 | – |
| C 90700 | G-CuSn 10 | CT 1 | – | – | – | – | – | – | – | – | 2.1050 | – |
| C 91700 | G-CuSn 12 Ni | – | – | – | – | – | – | – | – | – | 2.1060 | – |
| – | C35100 | – | – | – | – | – | – | – | – | – | – | – |
| – | 17665 | – | – | C95500 | – | – | – | – | – | – | – | – |
| – | MS60 | – | – | – | – | – | – | – | – | – | – | – |

## N5 Workpiece Materials Listing • Non-Ferrous Metals • N5

*N5 Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | LEXAN | – | – | – | – | – | – | – | – | – | – | – |
| – | HOSTALEN | – | – | – | – | – | – | – | – | – | – | – |
| – | Polystyrol | – | – | – | – | – | – | – | – | – | – | – |
| – | Makralon | – | – | – | – | – | – | – | – | – | – | – |

## N6 Workpiece Materials Listing • Non-Ferrous Metals • N6

*N6 Carbon, Graphite Composites, CFRP*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | GFK | – | – | – | – | – | – | – | – | – | – | – |
| – | CFK | – | – | – | – | – | – | – | – | – | – | – |
| Graphite | – | – | – | – | – | – | – | – | – | – | – | – |
| CFRP | – | – | – | – | – | – | – | – | – | – | – | – |

## S1 Workpiece Materials Listing • High-Temp Alloys • S1

*S1 Iron-Based, Heat-Resistant Alloys* *Tensile Strength RM (MPa)*: 500–1200* *Hardness (HB): 160–260 (HRC): 25–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | X 10 Cr 25 | – | – | – | – | – | – | – | – | – | 1.3811 | – |
| – | D 1 a | – | – | – | – | – | – | – | – | – | 1.3915 | – |
| – | D 3 | BD 3 | – | – | X 210 Cr 1 2 | Z 200 C 12 | X 205 Cr 12 KU | – | – | – | 1.3916 | – |
| – | RNi 12 | – | – | – | – | – | – | – | – | – | 1.3926 | – |
| – | RNi 8 | – | – | – | – | – | – | – | – | – | 1.3927 | – |
| – | GX 2 NiCoMoTi1 7 10 | – | – | – | – | – | – | – | – | – | 1.6351 | Maraging |
| 6501, 6512, 6520 | X 2 NiCoMo 18 8 5 | – | – | UNS K92890 | S162 | Z2NKD18.8 | – | – | – | ASTM A646 | 1.6359 | ATI VascoMax® C-250 |
| – | X 2 NiCoMo 18-8-5 | – | – | K92890 | – | – | – | – | – | – | 1.6359 | Maraging |
| – | X 1 CrNiCoMo 13 8 5 | – | – | – | – | – | – | – | – | – | – | Maraging |
| – | Ni 36 | – | – | – | – | – | – | – | – | – | 1.3910 | Magnifer 36 |
| – | Ni 46 | – | – | – | – | – | – | – | – | – | 1.3920 | – |
| – | X 2 CrNiCoMo 12 8 5 | – | – | – | – | – | – | – | – | – | 1.6980 | Maraging |
| ASTM B463 | – | – | – | UNS N08020 | – | – | – | – | – | ASTM B463 | 2.4660 | 20CB-3 |
| ASTM A666 | – | – | – | – | – | – | – | – | – | ASTM A666 | – | 6/21/09 |
| ASTM B753 | – | – | – | – | – | – | – | – | – | ASTM B753 | – | AL 4750 |
| S66286 | – | – | NAS 660 | UNS S66286 | – | – | A-286 | – | – | – | – | ATI A286™ |
| – | – | – | – | UNS K92810 | – | – | – | – | – | – | – | ATI VascoMax® C-200 |
| 6514 | – | – | – | UNS K93120 | – | – | – | – | – | – | – | ATI VascoMax® C-300 |
| – | – | – | – | – | – | – | – | – | – | – | – | ATI VascoMax® C-350 |
| – | – | – | – | – | – | – | – | – | – | – | – | ATI VascoMax® T-200 |
| 6518, 6519, 6591 | – | – | – | – | – | – | – | – | – | – | – | ATI VascoMax® T-250 |
| – | – | – | – | – | – | – | – | – | – | – | – | ATI VascoMax® T-300 |
| 5725 | – | – | – | – | – | Z3NCT25 | – | – | SAE 16-25-6 | – | – | Discaloy 16-25-6 |
| ASTM A638 | – | – | – | – | – | Z3NCT25 | – | – | Discaloy | ASTM A638 | – | Discaloy 24 |
| – | – | – | – | R30556 | – | – | – | – | – | – | – | Haynes® 556 |
| 5768 | X 12 CrCoNi 21 20 | – | – | – | – | Z12CKNDWNb21.20.20 | – | – | – | – | – | Haynes 556 |
| ASTM F30 | – | – | – | – | – | – | – | – | Invar | ASTM F30 | – | Invar 42 |
| 5768 | – | – | – | UNS R30155 | – | Z12CNKDW20 | – | – | – | – | – | Multimet N-155 |
| – | – | – | – | – | – | – | – | – | – | – | – | Multimet N-156 |
| 5533 | X 40 CoCrNi 20 20 | – | – | – | – | Z42CKNDW | – | – | – | – | – | S 590 |
| – | X 2 NiCrAlTi 32 20 | – | – | – | – | – | – | – | – | – | – | Sanicro 30 |
| AISI:665 | – | – | – | – | – | Z8NCTDA2613 | – | – | – | – | – | W-545 |

## S2 Workpiece Materials Listing • High-Temp Alloys • S2

*S2 Cobalt-Based, Heat-Resistant Alloys* *Tensile Strength RM (MPa)*: 1000–1450* *Hardness (HB): 250–450 (HRC): 25–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | CoCr 26 Ni 9 Mo | – | – | – | – | – | – | – | – | – | 2.4681 | – |
| – | CoCr 25 NiW | – | – | – | – | KC25WN | – | – | – | ASTM A567 | 2.4682 | Stellite® 31 (X40) |
| – | CoCr 22 NiW | – | – | – | – | – | – | – | – | – | 2.4683 | – |
| – | CoCr 28 Mo | – | – | – | – | KC27D5NFe | – | – | – | ASTM F-75 | 2.4691 | HS 21 |
| – | CoCr 20 Ni 15 Mo | – | – | – | – | – | – | – | – | – | 2.4711 | – |
| – | CoCr 29 Mo | – | – | – | – | – | – | – | – | – | 2.4723 | – |
| – | CoCr 33 W | – | – | – | – | – | – | – | – | – | 2.4775 | – |
| – | CoCr 28 | – | – | – | – | – | – | – | – | – | 2.4778 | – |
| – | CoCr 28 Nb | – | – | – | – | – | – | – | – | – | 2.4779 | – |
| – | – | – | – | – | – | – | – | – | – | ASTM F90 | 2.4964 | F 90 |
| – | – | – | – | R30605 | – | KC20WN | – | – | – | – | 2.4964 | Haynes 25 |
| – | CoCr 20 W 15 Ni | HR 240 | – | R30605 | – | KC20WN | – | – | – | 5759 | 2.4964 | L 605 |
| – | CoCr 20 W 15 Ni | – | – | CAST Version of L605 | – | KC20WN | – | – | – | 5759 | 2.4964 | Stellite 25 |
| AMS 5399 | NiCr 19 Co 11 MoTi | – | – | – | – | NC 19 KDT | – | – | – | – | 2.4973 | – |
| – | CoCr 20 Ni 20 W | – | – | – | – | – | – | – | – | 5534 | 2.4979 | S 816 |
| – | CoCr20NiW | – | – | – | – | – | – | – | – | – | 2.4989 | – |
| – | – | – | – | R31537 & R31538 | – | CoCr28Mo | – | – | – | ASTM F1537 | – | F 1537 |
| – | – | – | – | – | – | – | – | – | – | ASTM F562 | – | F 562 |
| – | – | – | – | – | – | – | – | – | – | ASTM F563 | – | F 563 |
| – | – | – | – | R30188 | – | KC22N22W14Fe | – | – | – | – | – | Haynes 188 |
| AISI 670 | CoCr 20 W 15 Ni | – | – | – | – | KC20WN | – | – | – | – | – | HS 25 |
| – | CoCr 26 Ni 14 Mo | – | – | – | – | – | – | – | – | 5380 | – | HS 30 |
| – | CoCr 19 W 14 NiB | – | – | – | – | – | – | – | – | – | – | HS 36 |
| – | – | – | – | – | – | – | – | – | – | – | – | L 251 |
| – | CoCrW 10 TaZrB | – | – | – | – | KC21W10Ta9 | – | – | – | – | – | MAR-M 302 |
| – | CoCr 22 W 9 TaZrNb | – | – | – | – | KC21W9Ta | – | – | – | – | – | MAR-M 322 |
| – | CoCr 24 Ni 10 WTaZrB | – | – | – | – | KC23N10W7Ta | – | – | – | – | – | MAR-M 509 |
| – | – | – | – | – | – | KC20N20Ta7 | – | – | – | – | – | MAR-M 905 |
| – | CoCr 20 Ni 20 Ta | – | – | – | – | KC20N20Ta7 | – | – | – | – | – | MAR-M 918 |
| – | – | – | – | R30159 | – | – | – | – | – | – | – | MP159 |
| – | – | – | – | R30035 | – | – | – | – | – | – | – | MP35N |
| – | – | – | – | – | – | KC33W13 | – | – | – | – | – | Stellite 1 |
| – | – | – | – | – | – | KC28W8 | – | – | – | – | – | Stellite 12 |
| – | – | – | – | – | – | KC22N22W14Fe | – | – | – | – | – | Stellite 188 |
| – | – | – | – | – | – | KC26NW | – | – | – | – | – | Stellite 6 |
| – | – | – | – | – | – | – | – | – | – | – | – | Stellite 8 (F75) |
| – | CoCr 25 Ni 20 MoWNb | – | – | – | – | KC25N20DFeWNb | – | – | – | – | – | V-36 |
| – | CoCr 21 Mo 11 W | – | – | – | – | KC21W11ANbT | – | – | – | – | – | WI-52 |
| – | – | – | – | – | – | KC25N10W7Fe | – | – | – | – | – | X 45 |
| – | – | – | – | – | – | – | – | – | J-1570 | – | – | – |
| – | K13C20N126Fe15D7 | – | – | R3003 & R3008 | – | K13C20N126Fe15D7 | – | – | – | ASTM F1058 | – | – |

NOTE: For legend, see page Y237.

## S3 Workpiece Materials Listing • High-Temp Alloys • S3

*S3 Nickel-Based, Heat-Resistant Alloys* *Tensile Strength RM (MPa)*: 600–1700* *Hardness (HB): 160–450 (HRC): <48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | X 7 NiCrCoMo 54 20 | – | – | – | – | – | – | – | – | – | 1.2789 | – |
| – | Ni 99,7 Mg 0,07 | – | – | J24053 | – | – | – | – | – | A 915 J24053 | 2.4053 | – |
| – | LC-Ni 99,6 | – | – | N02201 | – | – | – | – | – | – | 2.4061 | – |
| – | – | – | – | N02200 | – | – | – | – | – | – | 2.4066 | 200 |
| Nickel 200 | Ni 99,2 | NA 11 | – | N02200 | – | – | – | – | – | – | 2.4066 | – |
| – | – | – | – | N02201 | – | – | – | – | – | – | 2.4068 | 201 |
| Nickel 201 | LC-Ni 99 | NA 12 | – | – | – | – | – | – | – | – | 2.4068 | – |
| – | NiMn 1 | – | – | – | – | – | – | – | – | – | 2.4106 | – |
| – | NiMn 1 C | – | – | – | – | – | – | – | – | – | 2.4108 | – |
| – | NiMn 1,5 | – | – | – | – | – | – | – | – | – | 2.4109 | – |
| – | NiMn 3 Al | – | – | – | – | – | – | – | – | – | 2.4122 | – |
| – | NiMn 3 SiMg | – | – | – | – | – | – | – | – | – | 2.4126 | – |
| – | NiCr 2 Mn | – | – | – | – | – | – | – | – | – | 2.4145 | – |
| – | NiCr 2 MnSi | – | – | – | – | – | – | – | – | – | 2.4146 | – |
| – | NiCr 5 MnSi | – | – | – | – | – | – | – | – | – | 2.4151 | – |
| – | SG-NiTi 4 | NA32 | – | – | NA 32 | – | – | – | – | – | 2.4155 | – |
| CZ-100 | G-Ni 93 C | – | – | – | – | – | – | – | – | – | 2.4175 | – |
| – | NiCr 4 Mn | – | – | – | – | – | – | – | – | – | 2.4199 | – |
| M 35-1/2 | G-NiCu 30 Nb | – | – | N24030 | – | – | – | – | – | – | 2.4365 | – |
| – | EL-NiCu 30 Mn | – | – | N04402 | – | – | – | – | – | – | 2.4366 | – |
| M 30-H | G-NiCu 30 Si 3 | – | – | – | – | – | – | – | – | – | 2.4367 | – |
| M-255 | G-NiCu 30 Si 4 | – | – | – | – | – | – | – | – | – | 2.4368 | – |
| – | NiCu 30 Al | – | – | – | – | – | – | – | – | – | 2.4374 | – |
| – | NiCu 30 Al | NA 18 | – | N05500 | 3072.76 | NU 30 AT | – | – | – | – | 2.4375 | Monel® K500 |
| – | SG-NiCu 30 MnTi | NA 33 | – | – | – | – | – | – | – | – | 2.4377 | – |
| – | NiFe 16 CuCr | – | – | – | – | – | – | – | – | – | 2.4501 | – |
| – | G-NiMo 16 CrW | – | – | – | – | – | – | – | – | – | 2.4537 | – |
| – | NiCr 21 Mo 14 W | – | – | N26022 | – | – | – | – | – | – | 2.4602 | INCONEL® alloy 622 |
| – | NiCr 30 FeMo | – | – | – | – | – | – | – | – | – | 2.4603 | Hastelloy® G-30 |
| – | – | – | – | N06059 | – | – | – | – | – | ASTM B575 | 2.4605 | Allcorr |
| – | NiCr 23 Mo 16 Al | – | – | – | – | – | – | – | – | – | 2.4605 | – |
| – | SG/UP-NiCr 23 Mo 16 | – | – | – | – | – | – | – | – | – | 2.4607 | – |
| – | NiCr 26 MoW | – | – | – | – | – | – | – | – | – | 2.4608 | – |
| – | SG-NiMo 27 | – | – | – | – | – | – | – | – | – | 2.4615 | – |
| – | NiMo 28 | – | – | N10665 | – | NiMo 28 | – | – | – | – | 2.4617 | – |
| – | NiCr 22 Mo 6 Cu | – | – | – | – | – | – | – | – | – | 2.4618 | – |
| – | – | – | – | N06985 | – | – | – | – | – | – | 2.4619 | Hastelloy G-3 |
| – | NiCr 22 Mo 7 Cu | – | – | N06985 | – | – | – | – | – | – | 2.4619 | – |
| – | SG-NiCr 23 Al | NA 49 | – | – | – | – | – | – | – | – | 2.4626 | – |
| – | SG-NiCr 22 Co 12 Mo | NA 50 | – | – | – | – | – | – | – | – | 2.4627 | – |
| – | NiCr 20 Ti | HR5 | – | N06075 | HR5, 203.4 | NC 20 T | – | – | – | – | 2.4630 | Nimonic® 75 |
| – | NiCr 20 TiAl | NA 20 | NCF 80A | N07080 | HR401, 601 | NC 20 TA | – | – | – | – | 2.4631 | Nimonic 80A |
| – | NiCr 20 Co 18 Ti | NA 36 | – | N07090 | HR2, 202 | NC20KTA | – | – | – | – | 2.4632 | Nimonic 90 |
| – | NiCo 20 Cr 15 MoAlTi | – | – | N13021 | HR3 | NCKD20ATV | – | – | – | – | 2.4634 | Nimonic 105 |
| – | NiCo 15 Cr 15 MoAlTi | HR4 | – | – | HR401, 601 | NCVK15ATD | – | – | – | – | 2.4636 | Nimonic 115 |
| AISI 687 | NiCo 15 Cr 15 MoAlTi | – | – | – | – | NCKD20AT | – | – | – | – | 2.4636 | Udimet® 700 |
| – | NiCr 22 Mo 8 AlCuTi | – | – | – | – | – | – | – | – | – | 2.4637 | – |
| – | SG-NiCr 20 | NA 34 | – | – | – | – | – | – | – | – | 2.4639 | – |
| – | NiCr 21 Mo 6 Cu | – | NCF 600 TP | – | – | – | – | – | – | – | 2.4641 | – |
| – | NiCr 29 Fe | – | NCF 690 | N06690 | – | NC 30 Fe | – | – | – | – | 2.4642 | INCONEL® alloy 690 |
| – | NiCr 25 FeAlYC | – | – | – | – | – | – | – | – | – | 2.4647 | – |
| – | NiCr 20 CoMoTi | NA 38 | NCF 690 | N07263 | HR10 | NCK 20 D | – | – | – | – | 2.4650 | Nimonic C263 |
| – | EL-NiCr 26 Mo | – | – | – | – | – | – | – | – | – | 2.4652 | – |
| – | NiCr 19 Co 14 Mo 4 Ti | – | – | N07001 | – | NC20K14Y | – | – | – | – | 2.4654 | Waspaloy |
| – | SG-NiCr 29 Mo | – | – | – | – | – | – | – | – | – | 2.4656 | – |
| – | NiCr 70 30 | – | – | N06008 | – | – | – | – | – | – | 2.4658 | – |
| – | SG-NiCr 30 Mo 5 W | – | – | – | – | – | – | – | – | – | 2.4659 | – |
| – | EL-NiCr 29 Mo 5 W | – | – | – | – | – | – | – | – | – | 2.4661 | – |
| – | NiFe 35 Cr 14 MoTi | – | – | N09901 | – | Z8NCDT42 | – | – | – | – | 2.4662 | INCOLOY® 901 |
| – | NiCr 13 Mo 6 Ti 3 | – | – | N09901 | – | Z8NCDT42 | – | – | – | – | 2.4662 | Nimonic 901 |
| – | NiCr 23 Co 12 Mo | – | – | N06617 | – | NC22K12D9A | – | – | – | – | 2.4663 | INCONEL® alloy 617 |
| – | NiCr 22 FeMo | – | – | N06002 | HR6, 204 | NC22FeD | – | – | – | – | 2.4665 | Hastelloy X |
| – | NiCr 22 Fe 18 Mo | NA 40 | – | N06002 | – | NC22FeD | – | – | – | – | 2.4665 | INCONEL alloy HX |
| – | NiCr 18 CoMo | – | – | – | – | NKCD20ATU | – | – | – | – | 2.4666 | Nimonic PK25 |
| – | SG-NiCr 19 NbMoTi | NA 51 | – | – | – | – | – | – | – | – | 2.4667 | – |
| – | NiCr 19 FeNbMo | – | – | N07718 | HR8 | NC 19 Fe Nb | – | – | – | – | 2.4668 | INCONEL alloy 718 |
| – | NiCr 15 Fe 7 TiAl | – | – | N07750 | – | NC 15 Fe 7 TA | – | – | – | – | 2.4669 | INCONEL alloy X750 |
| – | G-NiCr 12 Al 6 MoNb | – | – | – | – | – | – | – | – | – | 2.4671 | – |
| – | G-NiCr 20 Co 20 MoTi | – | – | – | – | – | – | – | – | – | 2.4672 | – |
| – | NiCo 15 Cr 10 MoAlTi | – | – | N13100 | – | NK15CAT | – | – | – | – | 2.4674 | IN 100 |
| – | NiCo 15 Cr 10 MoAlTi | – | – | – | – | NK15C10A5T | – | – | – | – | 2.4674 | René 100 |
| – | G-NiCo 15 Cr 10 AlTiMo | – | – | – | – | – | – | – | – | – | 2.4674 | – |
| – | G-NiCo 10 W 10 CrAlNb | – | – | – | – | – | – | – | – | – | 2.4676 | – |
| – | G-NiCr 50 | – | – | – | – | – | – | – | – | – | 2.4678 | – |
| – | G-NiCr 35 | – | – | – | – | – | – | – | – | – | 2.4679 | – |
| – | – | – | – | N10665 | – | – | – | – | – | N7M | 2.4685 | Hastelloy B-2 |
| CW-12 MW | G-NiMo 17 CrW | – | – | – | – | – | – | – | – | – | 2.4686 | – |
| – | NiCr 25 Mo 7 Ti | – | – | – | – | – | – | – | – | – | 2.4693 | – |
| – | NiCr 16 Fe 7 TiAl | – | – | N 07751 | – | – | – | – | – | – | 2.4694 | INCONEL alloy 751 |
| – | G-NiCr 20 Mo 15 | – | – | – | – | – | – | – | – | – | 2.4697 | – |
| – | NiCr 22 W 14 Mo | – | – | – | – | – | – | – | – | – | 2.4733 | – |
| – | NiCr 20 AlY | – | – | – | – | – | – | – | – | – | 2.4764 | – |
| – | NiCr 17 AlWY | – | – | – | – | – | – | – | – | – | 2.4765 | – |
| – | SG-NiCr 20 Nb | NA 35 | – | – | – | – | – | – | – | – | 2.4806 | – |
| – | G-NiCr 50 Nb | – | – | – | – | – | – | – | – | – | 2.4813 | – |
| – | NiCr 15 Fe | NA 14 | NCF 600 | N06600 | 3072.76 | NC 15 Fe | – | – | – | – | 2.4816 | INCONEL alloy 600 |
| – | G-NiMo 30 | – | – | N10276 | – | NC 15 D 14 KFe | – | – | – | – | 2.4819 | Hastelloy C-276 |
| ASME SB575 | NiMo 16 Cr 15 W | – | – | N10276 | – | NC 17 D | – | – | – | – | 2.4819 | Nimonic C276 |

*(continued)*

## S3 Workpiece Materials Listing • High-Temp Alloys • S3 *(continued)*

*S3 Nickel-Based, Heat-Resistant Alloys* *Tensile Strength RM (MPa)*: 600–1700* *Hardness (HB): 160–450 (HRC): <48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | SG-NiCr 21 Mo 9 Nb | – | – | – | – | – | – | – | – | – | 2.4831 | – |
| – | NiCr 20 Mo 15 | – | – | – | – | – | – | – | – | – | 2.4836 | – |
| – | SG-NiCr 20 Mo 15 | – | – | – | – | – | – | – | – | – | 2.4839 | – |
| – | – | – | – | N06601 | – | – | – | – | – | – | 2.4851 | Haynes® 601 |
| – | NiCr 23 Fe | – | NCF 601 | N06601 | – | NC 23 Fe 14 A | – | – | – | – | 2.4851 | INCONEL alloy 601 |
| – | NiFe 33 Cr 25 Co | – | – | – | – | – | – | – | – | – | 2.4854 | – |
| – | NiCr 19 Mo 9 Si | – | – | – | – | – | – | – | – | – | 2.4855 | – |
| ASME SB443 | NiCr 22 Mo 9 Nb | – | – | N06625 | – | NC 22 Fe DNb | – | – | – | – | 2.4856 | Haynes 625 |
| ASME SB443.4 | NiCr 22 Mo 9 Nb | NA 21 | NCF 625 | N06625 | – | NC 22 Fe DNb | – | – | – | – | 2.4856 | INCONEL alloy 625 |
| ASME SB163 | NiCr 21 Mo | – | – | N08825 | 3072.76 | NC21FeDU | – | – | – | – | 2.4858 | INCOLOY® 825 |
| – | NiCr 60 15 | – | – | – | – | – | – | – | – | – | 2.4867 | – |
| – | NiCr 80 20 | – | – | – | – | – | – | – | – | – | 2.4869 | – |
| – | NiCr 20 AlSi | – | – | – | – | – | – | – | – | – | 2.4872 | – |
| – | G-NiCr 28 W | – | – | – | – | – | – | – | – | – | 2.4879 | Centralloy® 4879 |
| – | NiCr 17 Mo 17 FeW | – | – | N10002 | – | NC17DWY | – | – | – | CW12MW | 2.4883 | Hastelloy C |
| – | G-NiMo 16 Cr | – | – | – | – | – | – | – | – | – | 2.4883 | – |
| – | SG-NiMo 16 cr 16 W | NA 48 | – | – | – | – | – | – | – | – | 2.4886 | – |
| – | G-NiCr 13 MoAl | – | – | – | – | – | – | – | – | – | 2.4888 | – |
| – | NiCr 20 Ti | HR 5 | – | N06621 | – | NC 20 T | – | – | – | – | 2.4951 | – |
| – | NiCr 20 TiAl | NA 20 | NCF 80 A | N07080 | – | NC 20 TA | – | – | – | – | 2.4952 | – |
| – | NiFe 25 Cr 20 NbTi | – | – | – | NiFe 25 Cr 20 NbTi | – | – | – | – | – | 2.4955 | – |
| – | NiCr 20 Co 18 Ti | NA 19 | – | N07090 | – | – | – | – | – | – | 2.4969 | – |
| – | NiCr 22 W 12 Fe | – | – | – | – | – | – | – | – | – | 2.4972 | – |
| – | NiCr 19 Co 11 MoTi | – | – | N07041 | – | NC19KDT | – | – | – | – | 2.4973 | René 41 |
| – | NiFeCr 12 Mo | – | – | – | – | – | – | – | – | – | 2.4975 | – |
| – | NiCr 20 Mo | – | – | – | – | – | – | – | – | – | 2.4976 | – |
| – | NiCr 20 CoMo | – | – | – | – | – | – | – | – | – | 2.4982 | – |
| – | NiCr 18 Co | – | – | N07500 | – | – | – | – | – | – | 2.4983 | Co500 |
| AISI 684 | NiCr 18 CoMoAlTi | – | – | N07500 | – | NCK19DAT | – | – | – | – | 2.4983 | Udimet® 500 |
| – | Ni 99,6 | NA 46 | – | – | – | – | – | – | – | – | 2.4060 | – |
| – | NiMn 2 | – | – | – | – | – | – | – | – | – | 2.4110 | – |
| SZ-100 | G-Ni 95 | – | – | – | – | – | – | – | – | – | 2.4170 | – |
| – | G-Ni 93 Si | – | – | – | – | – | – | – | – | – | 2.4180 | – |
| – | NiCu 30 Fe | – | – | N04400 | 3072.76 | NU30 | – | – | – | – | 2.4360 | Monel® 400 |
| – | NiCu 30 Ti | – | – | – | – | – | – | – | – | – | 2.4370 | Monel 60 |
| – | NiFe 44 | – | – | – | – | – | – | – | – | – | 2.4420 | Magnifer 53 |
| – | NiFe 16 CuMo | – | – | – | – | – | – | – | – | – | 2.4530 | Perm 77 |
| – | NiFeK 6040 | – | – | – | – | – | – | – | – | – | 2.4560 | – |
| – | NiMo 16 Cr 16 Ti | NA 45 | – | N26455 | – | – | – | – | – | – | 2.4610 | Hastelloy C-4 |
| – | – | – | – | – | – | 20CB-3 | – | – | – | ASTM B463 | 2.4660 | INCOLOY 020 |
| – | NiCr 20 CuMo | – | – | N08020 | – | – | – | – | – | – | 2.4660 | – |
| – | G-NiCr 13 Al 16 MoNb | – | – | – | HC203 | NC13AD | – | – | – | – | 2.4670 | Nimocast 713 |
| – | G-NiCr 50 Nb | – | – | – | – | – | – | – | – | – | 2.4680 | – |
| – | NiMo 23 Cr 8 Fe | – | – | – | – | – | – | – | – | – | 2.4710 | – |
| – | NiMo 30 | – | – | – | – | ND27FeV | – | – | – | N-12 MV | 2.4810 | Hastelloy B |
| – | NiCr 45 23 | – | – | – | – | – | – | – | – | – | 2.4890 | – |
| – | – | – | – | N13017 | – | NK17C15D5AT | – | – | – | – | – | Astroloy |
| – | – | – | – | – | – | – | – | – | – | – | – | Centralloy® 60HTD |
| AISI 686 | – | – | – | – | – | NC15Fe10D5AT | – | – | – | – | – | GMR 235 |
| – | NiCr 16 MoAl | – | – | – | – | NC15D5FeAT | – | – | – | – | – | GMR 235-D |
| – | – | – | – | – | – | – | – | – | – | CW6M | – | Hastelloy C-22 |
| – | – | – | – | N06007 | – | NC22Fe19D6KTa | – | – | – | – | – | Hastelloy G |
| – | – | – | – | N10003 | – | – | – | – | – | – | – | Hastelloy N |
| – | – | – | – | N06635 | – | NC15D14KFe | – | – | – | – | – | Hastelloy S |
| – | – | – | – | N10004 | – | – | – | – | – | – | – | Hastelloy W |
| – | – | – | – | N07263 | – | NC20K20D6T | – | – | – | – | – | Haynes® 263 |
| – | – | – | – | – | – | – | – | – | – | – | – | Haynes 282 |
| – | NiCr 15 Fe | – | – | N06600 | – | – | – | – | – | – | – | Haynes 600 |
| – | – | – | – | – | – | – | – | – | – | – | – | Haynes 75 |
| – | NiCo 32 Cr 26 Mo | – | – | – | – | – | – | – | – | – | – | HS27 |
| – | – | – | – | N06102 | – | – | – | – | – | – | – | IN 102 |
| ASME SB409 | X 10 NiCrAlTi 32-20 | – | – | N08800 | 3082.76 | Z10NC3221 | – | – | – | – | – | INCOLOY 800 |
| – | – | – | – | – | – | Z4NC3221 | – | – | – | – | – | INCOLOY 802 |
| – | – | – | – | – | – | NC29Fe25 | – | – | – | – | – | INCOLOY 804 |
| – | NiFe 42 K 15 Nb | – | – | N19903 | – | Z3NK28 | – | – | – | – | – | INCOLOY 903 |
| – | – | – | – | N19907 | – | – | – | – | – | – | – | INCOLOY 907 |
| – | – | – | – | N09925 | – | – | – | – | – | – | – | INCOLOY 925 |
| – | – | – | – | N09945 | – | – | – | – | – | – | – | INCOLOY 945 |
| ASME SB575 | – | – | – | – | – | NiMo16Cr15 | – | – | – | – | – | INCONEL alloy 22 |
| – | – | – | – | – | – | – | – | – | – | – | – | INCONEL alloy 230 |
| – | – | – | – | – | – | – | – | – | – | – | – | INCONEL alloy 600SP |
| – | – | – | – | – | – | – | – | – | – | – | – | INCONEL alloy 62 |
| – | – | – | – | N06626 | – | – | – | – | – | – | – | INCONEL alloy 625LCF |
| – | – | – | – | – | – | NC15A | – | – | – | – | – | INCONEL alloy 702 |
| – | – | – | – | N09706 | – | NFe10C16NbT | – | – | – | – | – | INCONEL alloy 706 |
| – | – | – | – | N07718 | – | – | – | – | – | – | – | INCONEL alloy 718 OP |
| – | – | – | – | – | – | NC16Fe8TM | – | – | – | – | – | INCONEL alloy 721 |
| – | NiCr 16 FeTi | – | – | N07722 | – | NC16FeTi | – | – | – | – | – | INCONEL alloy 722 |
| – | – | – | – | R30783 | – | – | – | – | – | – | – | INCONEL alloy 783 |
| – | – | – | – | N09925 | – | – | – | – | – | B983 N09925 | – | INCONEL alloy 925 |
| – | – | – | – | N10276 | – | – | – | – | – | – | – | INCONEL alloy C-276 |
| – | – | – | – | N07754 | – | – | – | – | – | – | – | INCONEL alloy MA754 |
| – | – | – | – | N07751 | – | – | – | – | – | – | – | INCONEL alloy X751 |
| – | – | – | – | K93600 K93603 | – | – | – | – | – | ASTM F1684 | – | INVAR® 36 |
| – | NiCr 20 Co 18 Ti | – | – | – | – | – | – | – | – | – | – | Jessop G81 |
| – | G-NiCr 19 Co | – | – | N07252 | – | – | – | – | – | – | – | M 252 |
| – | – | – | – | N04405 | – | – | – | – | – | – | – | Monel® R405 |

NOTE: For legend, see page Y237.

*(continued)*

## S3 Workpiece Materials Listing • High-Temp Alloys • S3 *(continued)*

*S3 Nickel-Based, Heat-Resistant Alloys* *Tensile Strength RM (MPa)*: 600–1700* *Hardness (HB): 160–450 (HRC): <48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | NiFe 33 Cr 17 Mo | – | – | – | – | – | – | – | – | – | – | Nimocast PD16 |
| – | – | – | – | – | HC202 | NC20N13 | – | – | – | – | – | Nimocast PE10 |
| – | – | – | – | – | – | NC19K18Fe5TA | – | – | – | – | – | Nimonic® 95 |
| ASME SB575 | – | – | – | N06022 | – | – | – | – | – | – | – | Nimonic C22 |
| – | NiCr 22 Fe 18 Mo | – | – | – | HR6, 204 | NC22FeD | – | – | – | – | – | Nimonic PE13 |
| – | NiFe 33 Cr 17 Mo | – | – | – | HR207 | NW11AC | – | – | – | – | – | Nimonic PE16 |
| – | NiCr 20 Co 16 MoTi | – | – | – | – | NC19KDUN | – | – | – | – | – | Nimonic PK33 |
| – | – | – | NCF 3015 | – | – | – | – | – | – | – | – | NiReVa 3015 |
| AISI 686 | – | – | – | – | – | – | – | – | – | – | – | R-235 |
| AISI 690 | – | – | – | – | – | Z6NKCDT38 | – | – | – | – | – | Refractaloy 26 |
| – | – | – | – | – | – | NK10C8W7ATaTD | – | – | – | – | – | René 125 |
| – | – | – | – | – | – | NK15C14D6AWT | – | – | – | – | – | René 65 |
| – | – | – | – | – | – | NC15K15ADT | – | – | – | – | – | René 77 |
| – | – | – | – | – | – | NC14K9T5DWA | – | – | – | – | – | René 80 |
| – | – | – | – | – | – | NC14K8 | – | – | – | – | – | René 95 |
| – | NiTa 9 Co 8 W 6 CrAl | – | – | – | – | NTa9K7C6W5A5DT | – | – | – | – | – | TRW VIA |
| – | NiCr 19 NbMo | – | – | – | – | NC18Fe18Nb6DWT | – | – | – | – | – | Udimet® 630 |
| – | – | – | – | – | – | NCK18TDA | – | – | – | – | – | Udimet 710 |
| – | – | – | – | – | – | NC18K15TDA | – | – | – | – | – | Udimet 720 |

## S4 Workpiece Materials Listing • High-Temp Alloys • S4

*S4 Titanium and Titanium Alloys* *Tensile Strength RM (MPa)*: 900–1600* *Hardness (HB): 300–400 (HRC): 33–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R 50250 | Ti-99.8 | 2 TA 1 | – | UNS R50250 | TA6, TA7, TA8, TA9 | AIR:9182T35 | – | – | – | ASTM B381F1 | 3.7025 | ATI 30 CP Grade 1 |
| R 50400 | Ti-99.7 | 2 TA 2-5 | – | UNS R50400 | TA2.5 | AIR:9182T40 | – | – | – | ASTM B381F2 | 3.7035 | ATI 40 CP Grade 2 |
| – | SG-Ti 2 | – | – | – | – | – | – | – | – | – | 3.7036 | – |
| R 50550 | Ti-99.6 | TA 3 | – | UNS R50550 | TA2, TA3, TA4, TA5 | AIR:9182T50 | – | – | – | ASTM B381F3 | 3.7055 | ATI 55 CP Grade 3 |
| R 50700 | Ti-99.5 | 2 TA 6-9 | – | UNS R50700 | – | AIR:9182T60 | – | – | – | ASTM B381F4 | 3.7065 | ATI 70 CP Grade 4 |
| – | TiNi 0,8 Mo 0,3 | – | – | UNS R53400 | – | – | – | – | Ti-3Al-1.5Mn | ASTM Grade 12 | 3.7105 | – |
| Ti 5Al-2.5Sn | TiAl 5 Sn 2,5 | – | – | UNS R54520 | TA 14,17 | T-A5E | – | – | Ti-5Al-2.5Sn | – | 3.7115 | ATI Grade 6 |
| – | TiCu 2 | 2 TA 21-24 | – | – | – | – | – | – | Ti-2Cu | – | 3.7124 | – |
| R 54620 | TiAl 6 Sn 2 Zr 4 Mo 2 Si | – | – | UNS R54620 | – | – | – | – | Ti-6Al-2Sn-2Zr-4Mo-2Si | – | 3.7145 | – |
| – | TiAl 6 ZrMo 0,5 | TA 43 | – | – | – | – | – | – | Ti-6-5-0.5 | – | 3.7155 | – |
| R 56400 | TiAl 6 V 4 | TA 10-13 | TC4 | UNS R56400 | TA10 TA11 TA12 TA13 TA28 TA56 | TA6V | – | – | Ti-6Al-4V | – | 3.7164 | ATI 6-4™ |
| – | TiAl 6 V4 | – | TC4 | UNS R56400 | TA10 TA11 TA12 TA13 TA28 TA56 | TA6V; AIR:9183 | – | – | Ti-6Al-4V (Beta) | – | 3.7164 | – |
| R 56620 | TiAl 6 V 6 Sn2 | – | – | UNS R56620 | – | – | – | – | Ti-6Al-6V-2Sn | – | 3.7175 | ATI 6-6-2™ |
| – | TiAl 4 Mo 4 Sn 2 | TA 45-51 | – | – | – | – | – | – | Ti-4Al-4Mo-2Sn | – | 3.7185 | – |
| – | TiAl 3 V2.5 | – | – | UNS R56320 | – | – | – | – | Ti-3Al-2.5V | ASTM Grade 9 | 3.7195 | ATI 3-2.5-MIL™ |
| R 52250 | Ti 1 Pd | TP 1 | – | UNS R 52250 | – | – | – | – | – | ASTM Grade 11 | 3.7225 | – |
| R 52400 | Ti 2 Pd | – | – | UNS R 52400 | – | – | – | – | – | ASTM Grade 7 | 3.7235 | – |
| – | Ti 3 Pd | – | – | – | – | – | – | – | – | – | 3.7255 | – |
| – | TiAl 5 Fe 2,5 | – | – | – | – | – | – | – | Ti-5Al-2.5Fe | – | 3.7110 | – |
| – | TiV13Cr11Al3 | – | – | – | – | – | – | – | Ti-13V-11Cr-3Al | – | – | 11/13/03 |
| – | Ti-10V-2Fe-3Al | – | – | – | – | – | – | – | Ti-10.2.3 | – | – | ATI 10-2-3™ |
| – | – | – | – | UNS R58153 | – | – | – | – | Ti-15-333 | – | – | ATI 15-333™ |
| – | – | – | – | – | – | – | – | – | Ti-15Mo (Alpha + Beta) | – | – | ATI 15Mo™ (Alpha + Beta) |
| – | – | – | – | – | – | – | – | – | Ti-15Mo (Beta) | – | – | ATI 15Mo™ (Beta) |
| – | Ti5Al2Sn2Zr4Cr4Mo | – | – | UNS R58650 | – | – | – | – | – | – | – | ATI 17™ |
| – | TIAl 3 V 8 Cr 6 Mo 4 Z 4 | – | – | – | – | – | – | – | Ti-3Al-8V-6Cr-4Mo-4Zr | ASTN Grade 19 | – | ATI 38-644™ |
| – | – | – | – | UNS R54250 | – | – | – | – | Ti-425 | ASTM B265 | – | ATI 425® |
| – | – | – | – | – | – | – | – | – | Ti-425 MIL | – | – | ATI 425®-MIL |
| – | TiAl 4 Mo 4 Sn 2 Si 0.5 | – | – | – | 5103 | T-A4DE | – | – | Ti-4Al-4Mo-2Sn-0.5Si | – | – | ATI 4-4-2™ |
| – | – | – | – | – | – | – | – | – | Ti-45Nb | – | – | ATI 45Nb™ |
| – | – | – | – | – | – | – | – | – | Ti-5Al-5V-5Mo-3Cr | – | – | ATI 5-5-5-3 PM™ |
| – | – | – | – | – | – | – | – | – | Ti-6Al-2Sn-2Zr-2Mn-2Cr-0.2Si | – | – | ATI 6-2222™ |
| – | – | – | – | UNS R54620 | – | – | – | – | Ti-6Al-4Zr-2Mo-2Sn | – | – | ATI 6-2-4-2 PM™ |
| – | TiAl6Zr4Mo2Sn2 | – | – | UNS R54620 modified | – | – | – | – | Ti-6Al-4Zr-2Mo-2Sn-0.2Si | – | – | ATI 6-2-4-2-Si PM™ |
| – | – | – | – | UNS R56260 | – | – | – | – | Ti-6-2-4-6 | – | – | ATI 6-2-4-6™ |
| – | – | – | – | UNS R56401 | – | – | – | – | Ti-6Al-4V ELI | – | – | ATI 6-4 ELI™ |
| – | TiAl 6 V4 | – | – | UNS R56400 | TA10 TA11 TA12 TA13 TA28 TA56 | TA6V; AIR:9183 | – | – | Ti-6Al-4V MIL | – | – | ATI 6-4-MIL™ |
| – | TiAl 6 V4 | – | – | UNS R56400 | TA10 TA11 TA12 TA13 TA28 TA56 | TA6V; AIR:9183 | – | – | Ti-6Al-4V MIL (HT) | – | – | ATI 6-4-MIL™ |
| – | – | – | – | UNS R56700 | – | – | – | – | Ti-6-7 | ASTM F 1295 | – | ATI 6-7™ |
| – | TiAl8Mo1V1 | – | – | UNS R54810 | – | – | – | – | Ti-8Al-1Mo-1V | – | – | ATI 8-1-1™ |
| – | – | – | – | – | – | – | – | – | Ti-15Mo-3Nb-3Al-0.2Si | ASTM Grade 21 | – | Beta 21-S |
| – | – | – | – | – | – | – | – | – | Ti-12Mo-6Zr-2Fe | – | – | TMZF |
| – | TiAl7Nb | – | – | – | – | – | – | – | Ti-6Al-7Nb | – | – | – |
| – | TiAl7Mo4 | – | – | – | – | – | – | – | – | ASTM B381 | – | – |
| – | TiAl 4 Mo 4 Sn 4 Si 0.5 | – | – | – | 5203 | – | – | – | Ti-4Al-4Mo-4Sn-0.5Si | – | – | – |
| – | TiA6Zr5Mo0.5Si0.25 | – | – | – | – | T.AGZ.50 | – | – | Ti-6Al-5Zr-0.5Mo-0.25Si | – | – | – |
| – | TiAl6Zr5Mo4CuSi0.2 | – | – | – | M201 | – | – | – | Ti-6Al-5Zr-4Mo-Cu-0.2Si | – | – | – |
| – | – | – | TC18 | – | – | – | – | – | Ti-5Al-5Mo-5V-1Cr-1Fe | – | – | – |
| – | – | – | – | UNS %58210 | – | – | – | – | Ti Beta 21 S | ASTM Grade 21 | – | – |
| Ti 98.8 | Ti 98.8 | – | – | – | – | – | – | – | – | – | – | – |
| Ti 99.9 | Ti 99.9 | – | – | – | – | – | – | – | – | – | – | – |
| – | TiAL 6 Sn 2 Zr 4 Mo 2 | – | – | – | – | – | – | – | – | – | – | – |

NOTE: For legend, see page Y237.

## H1 Workpiece Materials Listing • Hardened Steels and Irons • H1

*H1 Hardened Materials* *Hardness (HRC): 44–48*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H 11 | X 38 CrMoV 5 H1 | BH 11 | SKD 6 | T20811 | X 38 CrMoV 5 H1 | Z 38 CDV 5 | X 37 CrMoV 5 1 KU | – | – | – | 1.2343 | – |
| H11 | X 38 CrMoV 5 H1 | BH 11 | SKD 6 | T20811 | X 38 CrMoV 5 H1 | Z 38 CDV 5 | X 37 CrMoV 5 1 KU | – | – | – | 1.2343 | – |
| H 13 | X 40 CrMoV 5 1 | BH 13 | SKD 61 | T20813 | X 40 CrMoV 5 1 | Z 40 CDV 5 | X 40 CrMoV 5 1 1 KU | 2242 | – | – | 1.2344 | – |
| H 10 | X 32 CrMoV 3 3 | BH 10 | SKD 7 | T 20810 | X 32 CrMoV 12H-28 | 32 DCV 28 | 30 CrMoV 12 27 KU | – | – | – | 1.2365 | – |
| H19 | X 45 CrCoVW 5 5 5 | – | – | – | – | – | – | – | – | – | 1.2678 | – |
| A 532 I B NiCr-LC | GX 260 NiCr 42 | Grade 2 A | 0512-00 | F45001 | GJH-X260NiCr 4-2 | – | – | 0512-00 | – | – | 0.9620 | – |
| L6 | – | – | – | – | – | 55 NCDV 07 (HT) | – | – | – | – | – | – |

## H2 Workpiece Materials Listing • Hardened Steels and Irons • H2

*H2 Hardened Materials* *Hardness (HRC): 48–55*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A 532 I A NiCr-HC | G-X 330 NiCr 42 | Grade 2 B | 0513-00 | F45000 | GJH-X330NiCr 4-2 | FB Ni 4 Cr2 HC | – | 0513-00 | – | – | 0.9625 | – |
| H 21 | X 30 WCrV 93 | BH 21 | SKD 5 | T 20821 | X 30 WCrV 9 3 | Z 30 WCV 9 | X 30 WCrV 9 3 KU | – | – | – | 1.2581 | – |
| H 12 | X 37 CrMoW 5 1 | BH 12 | SKD 62 | T20812 | – | Z 35 CWDV 5 | X 35 CrMoW 05 KU | – | – | – | 1.2606 | – |
| – | G-X 300 NiMo 3 Mg | – | – | – | GJH-X300NiMo 3 Mg | – | – | – | – | – | 0.9610 | – |
| A 532 I B NiCr-LC | GX 260 NiCr 42 | Grade 2 A | 0512-00 | F45001 | GJH-X260NiCr 4-2 | – | – | 0512-00 | – | – | 0.9620 | – |
| A 532 III A 25% Cr | GX 260 Cr 27 | Grade 3 D | 0466-00 | – | GJH-X260Cr 27 | – | – | – | – | – | 0.9650 | – |
| – | X 2 NiCoMoTi 180905 | – | – | – | – | Z 2 NKD 180905 | – | – | – | – | – | Durimphy |
| K12 | – | – | – | – | – | – | – | – | – | – | – | ATI K12 MIL |

## H3 Workpiece Materials Listing • Hardened Steels and Irons • H3

*H3 Hardened Materials* *Hardness (HRC): 56–60*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A 532 IIC15% CrMo-HC | G-X 300CrMo 15 3 | Grade 3 A | – | – | GJH-X300CrMo 15-3 | – | – | – | – | – | 0.9635 | – |
| – | G-X 300 CrMoNi 15 2 1 | Grade 3 B | – | F45005 | GJH-X300CrMoNi15-2-1 | – | – | – | – | – | 0.9640 | – |
| A 532 IID20% CrMo-LC | GX 260 CrMoNi 20 2 1 | Grade 3 C | – | F45007 | GJH-X260CrMoNi20-2-1 | – | – | – | – | – | 0.9645 | – |
| A 532 III A 25% Cr | G-X 300 CrMo 27 1 | Grade 3 E | – | – | GJH-X300CrMo 27-1 | – | – | – | – | – | 0.9655 | – |
| A 2 | X 100 CrMoV 5 1 | SKD 12 | – | – | BA 2 | Z 100 CDV 5 (HT) | X 100 CrMoV 51 KU | 2260 | – | – | 1.2363 | – |
| D7 (HT) | – | – | – | T30407 | – | Z 230 CVA 12 04 | – | – | – | – | 1.2378 | – |
| O 2 | 90 MnCrV 8 | BO 2 | – | T31502 | 90 MnV 8 | 90 MnV 8 | 90 MnVCr 8 KU | – | – | – | 1.2842 | – |
| A 532 I D Ni-HiCr | G-X 300 CrNiSi 95 2 | Grade 2 C | 0457-00 | F45003 | GJH-X300CrNiSi 9-5-2 | – | – | – | – | – | 0.9630 | Nihard type 4 |
| S 1 | 60 WCrV 7 | BS 1 | – | – | 6020 WCrV 8 | 55 WC 20 | 55 WCrV 8 KU | – | – | – | 1.2550 | – |
| S 1 | 60 WCrV 7 | BS 1 | – | – | 60 WCrV 8 | 55 WC 20 | 55 WCrV 8 UK | – | – | – | 1.2550 | – |
| S 7 | 50 CrMoV 13 14 | – | – | – | – | – | – | – | – | – | – | Cryodur 2357 |
| K 12 (HT) | – | – | – | – | – | – | – | – | – | – | – | ATI K12-MIL |

## H4 Workpiece Materials Listing • Hardened Steels and Irons • H4

*H4 Hardened Materials* *Hardness (HRC): >60*

| AISI** | DIN | BTS | JIS | UNS | EN | AFNOR | UNI | SIS | SAE | ASTM | Material Number | Manufacturer Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W 108 | C 80 W 1 | – | – | T72301 | C 80 U | Y1 90 | C 80 KU | 1880 | – | – | 1.1525 | – |
| D 2 | X 155 CrVMo 12 1 | BD 2 | SKD §§ | T 30402 | X 153 CrMoV 12 | Z 160 CDV 12 | X 155 CrVMo 12 1 KU | 2310 | – | – | 1.2379 | – |
| – | 100 WV4 | – | SKS 21 | – | – | – | – | – | – | – | 1.2515 | – |
| D 3 | X 210 Cr 12 | BD 3 | SKD 1 | T30403 | X 210 Cr 1 2 | Z 200 C 12 | X 205 Cr 12 KU | – | – | – | 1.2080 | – |
| O 7 | 110 WCrV 5 | – | – | – | – | – | – | – | – | – | – | – |
| – | Mh97 + Pb | – | – | – | – | – | – | – | – | – | – | LAW 100 Pb |

## Workpiece Materials Listing Legend

* 1 Mpa = 145 psi.
** Includes ASTM and SAE material specifications.
AISI — American Iron and Steel Institute
AFNOR — French National Organization for Standardization
AMS — Aerospace Material Specifications
ASTM — American Society of Mechanical Engineers
BS — British Standards
DIN — German Institute for Standardization
EN — European Standards
JIS — Japanese Industrial Standards
SAE — Society of Automotive Engineers
SIS — Swedish Standards Institute
UNI — Italian Organization for Standardization
UNS — Unified Numbering System

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# METALCUTTING SAFETY

## IMPORTANT SAFETY INSTRUCTIONS

Read before using the tools in this catalog!

### Projectile and Fragmentation Hazards:

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

### Breathing and Skin Contact Hazards:

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by Kennametal and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation. For more information, consult the Kennametal Metalcutting Safety booklet, available free from Kennametal at 724 539 5747 or fax 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at 724 539 5066 or fax 724 539 5372.

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