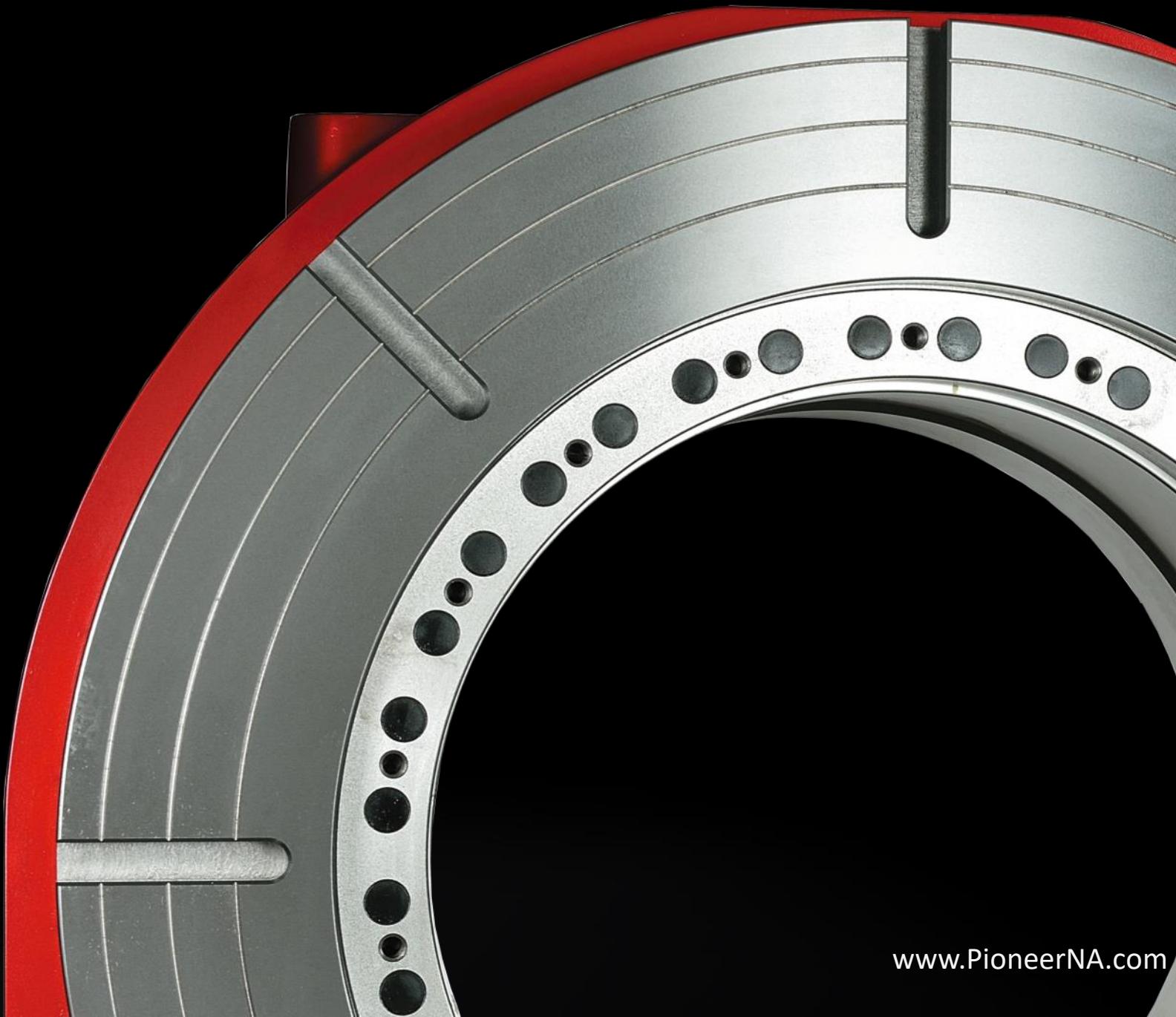


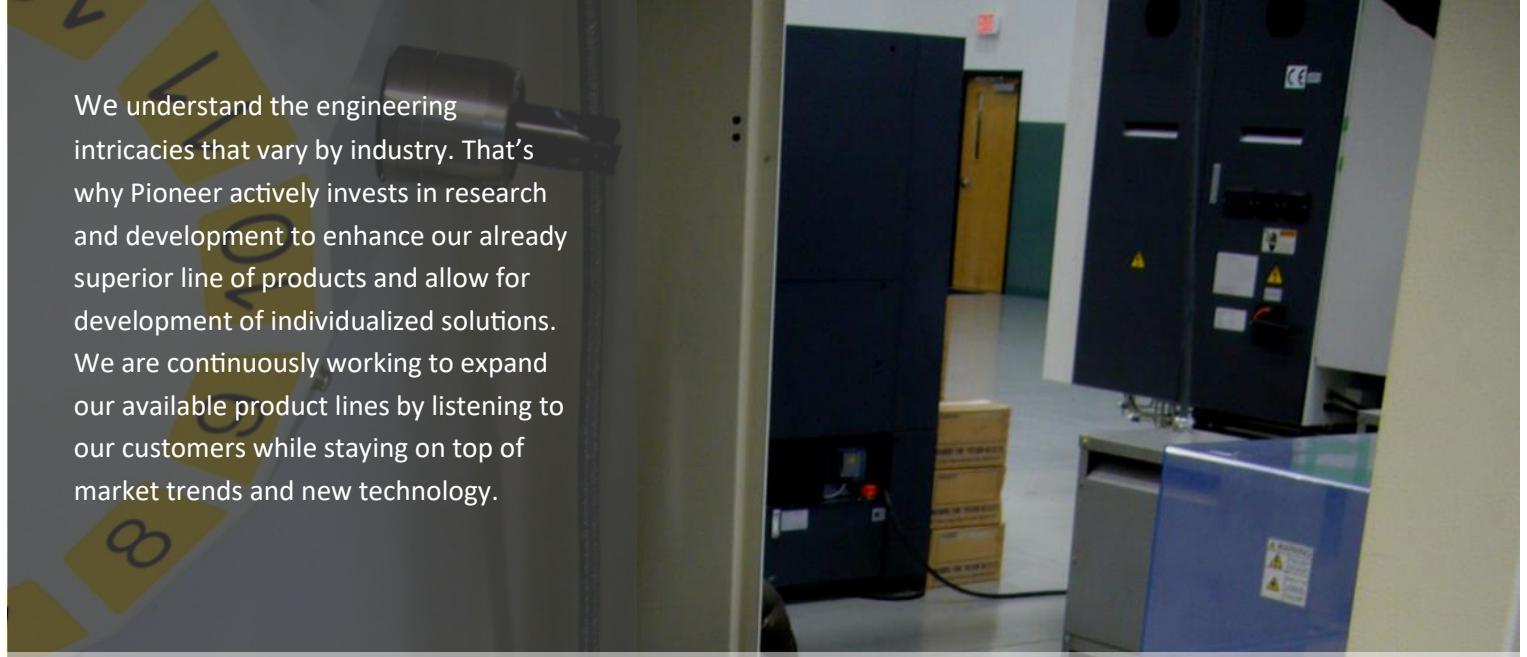
PIONEER

PIONEER N.A., INC.

PIONEER WORK HOLDING SOLUTIONS

2020 CATALOG





We understand the engineering intricacies that vary by industry. That's why Pioneer actively invests in research and development to enhance our already superior line of products and allow for development of individualized solutions. We are continuously working to expand our available product lines by listening to our customers while staying on top of market trends and new technology.

Since 1974, **PIONEER** has delivered world class tool and work holding products, earning a reputation built on unsurpassed service, custom solutions, and innovation.



We believe that a quality tool requires quality balance and are uncompromising in our pursuit to provide the most cost effective work holding in the market, going above and beyond the industry standard. Why? Because we know that higher accuracy results in superior outcomes, while also reducing wear and tear, and ultimately saving our customers money by extending their tool life.

Whatever your need, we have your business covered with our Premium and Standard product lines. We are passionate about providing our customers the latest, most sophisticated technology to guarantee a competitive advantage. We guarantee better performance through increased consistency and accuracy and invite you to explore the Pioneer difference.



Feature Pages

Technical Information**P.2**

Premium Performance Rotary Table



Heavy-duty Premium performance Table

YNCP & BNC Series**P.10**

Premium Compact 5 Axis Table

TNT Series**P.20**

Standard-duty performance table

JNC Series**P.14**

Index Controller

AC5**P.22**

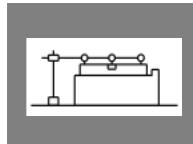
Slim Type—performance table

TNC Series**P.16****Accessories****P.26**

Economical EDM Rotary Table

JNC EDM**P.18**

PIONEER Premium Rotary Table

**Standard AX 4th Axis****P.30****5 Axis Trunnion Tilting****P.46****Large Size AX 4th Axis****P.34****5 Axis Manual Tilting****P.48****Big Bore AX 4th Axis****P.36****IDX Controller****P.52****Back Mounted Motor****4th Axis****P.38****Tailstocks & Accessories****P.54****Roller Gear Cam 4th Axis****P.40****Accuracy Standards****P.58****Multi-Spindle 4th Axis****P.42****Rotary table inquiry form****P.60****5 Axis Tilting Table****P.44**

Power to Perform

YUKIWA and PIONEER put the highest level of technology and engineering together to build the CNC Rotary Tables that have the power to perform.

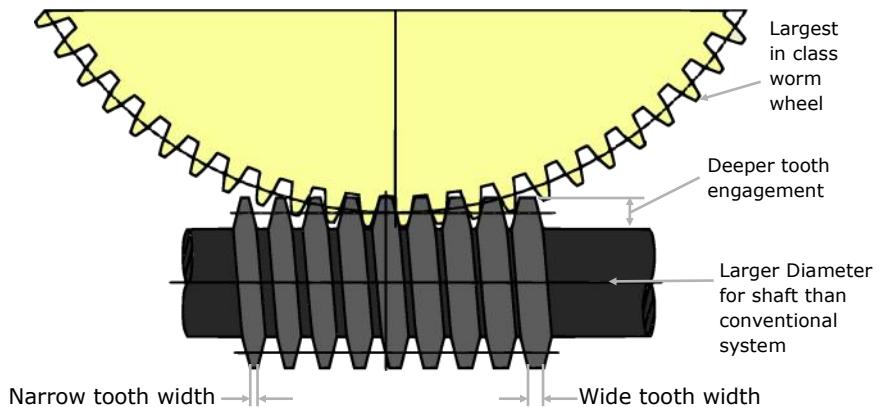


Durable and Rigid Dual-Lead Gear System

All YUKIWA and PIONEER tables use a combination of case hardened special alloy dual-lead screw that has larger shaft diameter, and special high tensile strength brass worm wheel ensures exceptional wear resistant and long durability for the life of the gear system.

Largest in Class Worm Wheel

Using the largest diameter in class worm wheel adds extra rigidity, smoothness and torque transfer efficiency to the gear system. It also allows deeper tooth engagement that improves surface contact by 30% compared to a conventional wheel, securing extra rigidity for heavier duty application.



Adjustment of back lash is easy and quick!

1 million index test



Model JNC140

Weight 50 lbs

1 million Indexes = Equivalent to 1 Index / 1 Minute cycle, 24/7, 1.9 years worth

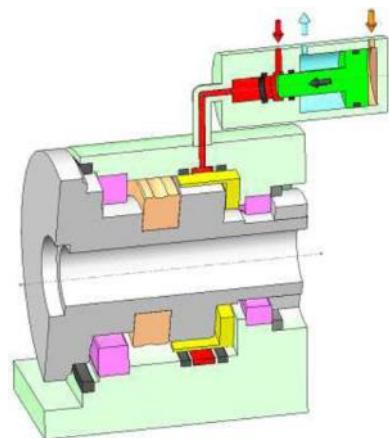
Backlash amount

Start 0.0005" (13 micron)

End **0.0009" (23 micron)**

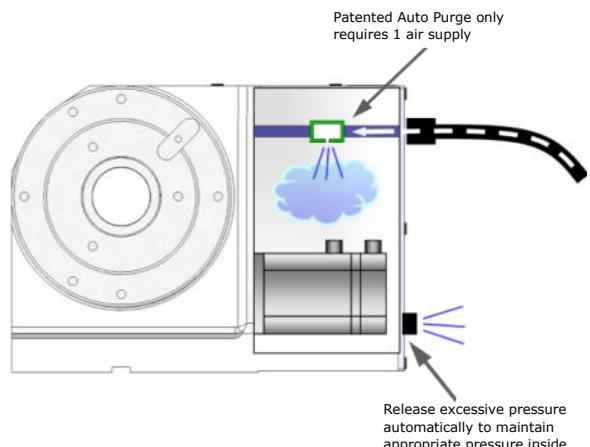
The Most Powerful Brake System

With Yukiwa's proprietary brake system, YNCP and TNT series deliver the most powerful brake torque, but you do not need an expensive and cumbersome hydraulic supply. Thanks to the Yukiwa's compact built-in air over hydraulic booster, simply supply standard shop air and it immediately generates strong brake torque equivalent to a hydraulic brake system. This feature makes the YUKIWA table the heaviest duty in its class.



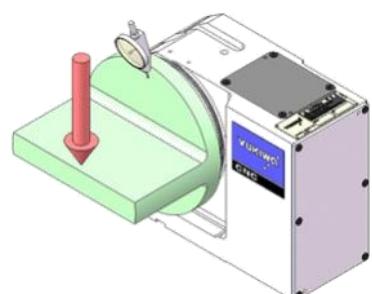
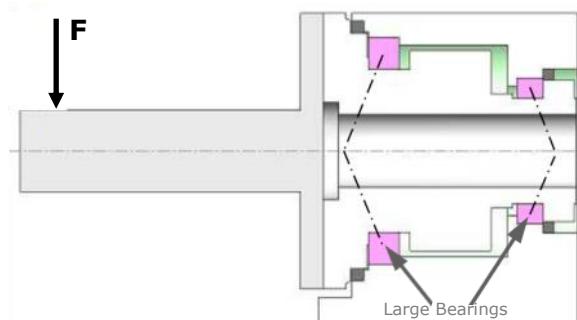
Auto Air Purge Protects You From Water Hazards

If you have ever experienced problems with the rotary tables within a couple of year or so, 90% of the problems are with electric devices like servo motors, solenoid switches and wire harness caused by cutting fluid. As high pressure coolant is getting more popular, it has become more important to select a table that has excellent water protection. Yukiwa's patented auto air purging system is the ultimate answer. It always keeps the appropriate pressure inside the cover to protect electric devices from water hazards. Auto Air Purge is standard on all Yukiwa models. Air purge is available as an option for most PIONEER models. Don't let the water down your machine any more!



Rock Solid Design gets your job done right

YUKIWA's True Dual Bearing System with Triple Support makes the YNCP and TNT series most robust and rock solid table in its class. Large bearings are located beneath the table face providing axial and radial support. Unlike most competitors who use only "1" bearing, YUKIWA added one more bearing at the very end of the spindle for extra support. Mated with the largest diameter spindle, YNCP and TNT series are the most robust and rock solid table. This massive construction reduces displacement from machining load by nearly 80% compared to competitors equivalent table. Whether you need to just index or simultaneous cut, remember your accuracy relies on the rigidity of the rotary table. YUKIWA rotary tables guarantees your job gets done right.

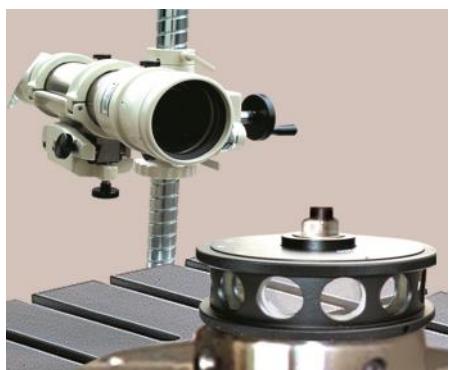


100% inspection is our policy

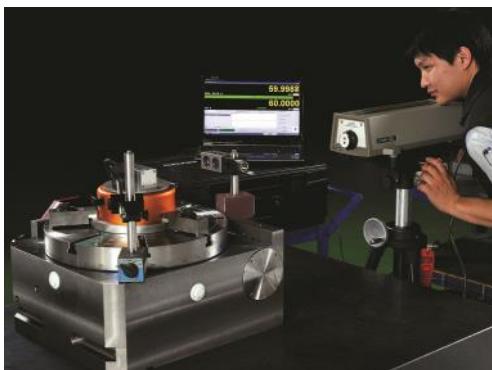
In order to guarantee quality for our rotary tables 100%, we believe the only way is to inspect every single rotary table before we ship. YUKIWA and PIONEER tables are subject to 100% inspection at the factory to ensure quality and performance of the rotary tables meet or exceed specifications. All YUKIWA and PIONEER table are provided with actual inspection certificate from the factory so you know your table has guaranteed quality. Further more, all YUKIWA tables are subject to test run at least 3 hours at the factory.

| Tilting Rotary Table - Inspection Report | | | | | |
|--|---|-------------------------------------|---|------------|--------------|
| Model | TNT170R | Manufacturing Serial No. | 120 | | |
| Order | | | | | |
| Delivery | | | | | |
| Accuracy | | | | | |
| No. | Inspection Item | Unit | Tolerance | Actual | |
| 1 | Parallelism of Table Face to Bottom Face (Tilting Axis direction) | On a 300mm Line | mm | 0.02 | 0.002 |
| 2 | Runout of Table Face During Rotation | 10mm inside form table edge | mm | 0.02 | 0.003 |
| 3 | Runout of Table Flange Hole | On Table Flange Hole | mm | 0.01 | 0.004 |
| 4 | Parallelism of Tilting Axis Center Line to Bottom Face | On a 300mm Line | mm | 0.03 | 0.006 |
| 5 | Indexing Accuracy of table | Accumulated Pitch Error | " | 30 | 18 |
| 6 | Indexing Accuracy of Tilting Axis | >110 ~ -30° Accumulated Pitch Error | " | 45 | 15 |
| 1 | | 2 | | 3 | |
| 4 | | 5 | Indexing Accuracy to be measured with Optical Instrument. | | 6 |
| Note: | | | | | |
| DATE | YUKIWA SEIKO INC. | | Approved by | Checked by | Inspected by |
| TNT170-SD快速-20 12.6.25 | | | | | |

Top notch inspection equipment ensures accuracy



Nikon autocollimator



HP optical angle encoder



Wyler electric level tester



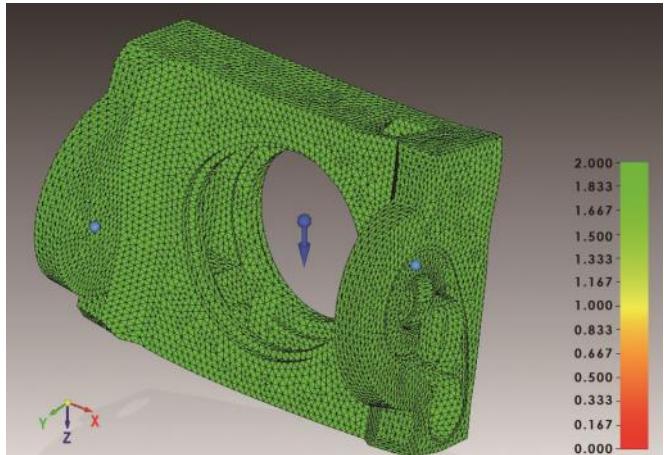
Large CMM for after finished table inspection

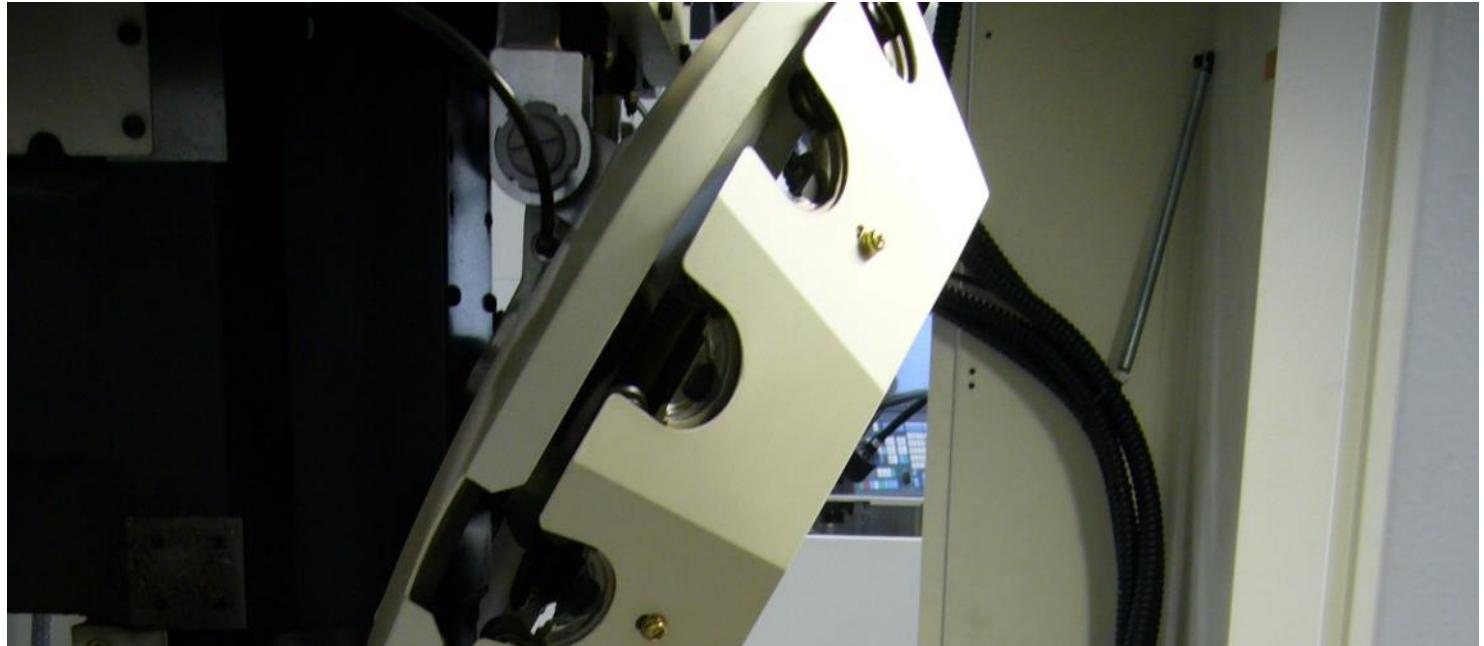


ZEISS CMM for components inspection

State of the art factory equipment makes

YUKIWA and PIONEER with the state of the art factory equipment produce the widest range of CNC rotary table products such as: 5" most affordable table to up to 80" super large table, compact 5 axis table for BT30 application to up to 800mm 5 axis trunnion table, industry standard worm gear system, roller gear cam, Direct Drive system, and many more. From our standard rotary tables to special tailor made rotary tables, we have the ability to quote, build and service. This feature makes us the "one stop shop" for all your rotary table needs.





PIONEER brings an Installation and Service department
SECOND TO NONE



PIONEER brings an Installation and Service department second to none, with over 20 years experience in full rotary table 4th and 5th Axis installations as well as repair and service on many popular brands.

- Full Turnkey Installations on many Fanuc based controls including Fanuc 0i, 16i, 18i, 21i series and more.
- Guaranteed Compatibility - We only install OEM Motors & Controllers to guarantee 100% compatibility with the machine control.

Installation includes:

- Drive (Amplifier) Installation
- Table Installation
- Parameter Updates
- External Cable Installation
- Cable Set
- Communication Cables
- Fiber Optic Cables
- Bulkhead Cable Set

Rotary Tables or Indexer - Which one do you need?

- **Indexer:** using a secondary controller for part positioning. While simultaneous or contour milling is not possible with indexer, advantage of indexer is you can move the indexer and controller from machine to machine easily when you need it on the other machine. Indexer option only needs one M-code function to send FIN signal to the secondary controller. Most machines these days come with M-code function so check your local machine dealer or builder if the machine has the M-code function.
- **Integrated Rotary Table:** which is wired directly to the machine control and functions as an additional true axis of the machine. This configuration can be used for positioning and simultaneous cutting. While interfacing is a lot more complicated than indexer (we can do that for you!), the benefits and options are dramatically improved. Integrated Rotary Table is the only option that enables you to perform true 4th and 5th axis work on your machine.

Machine and control capability

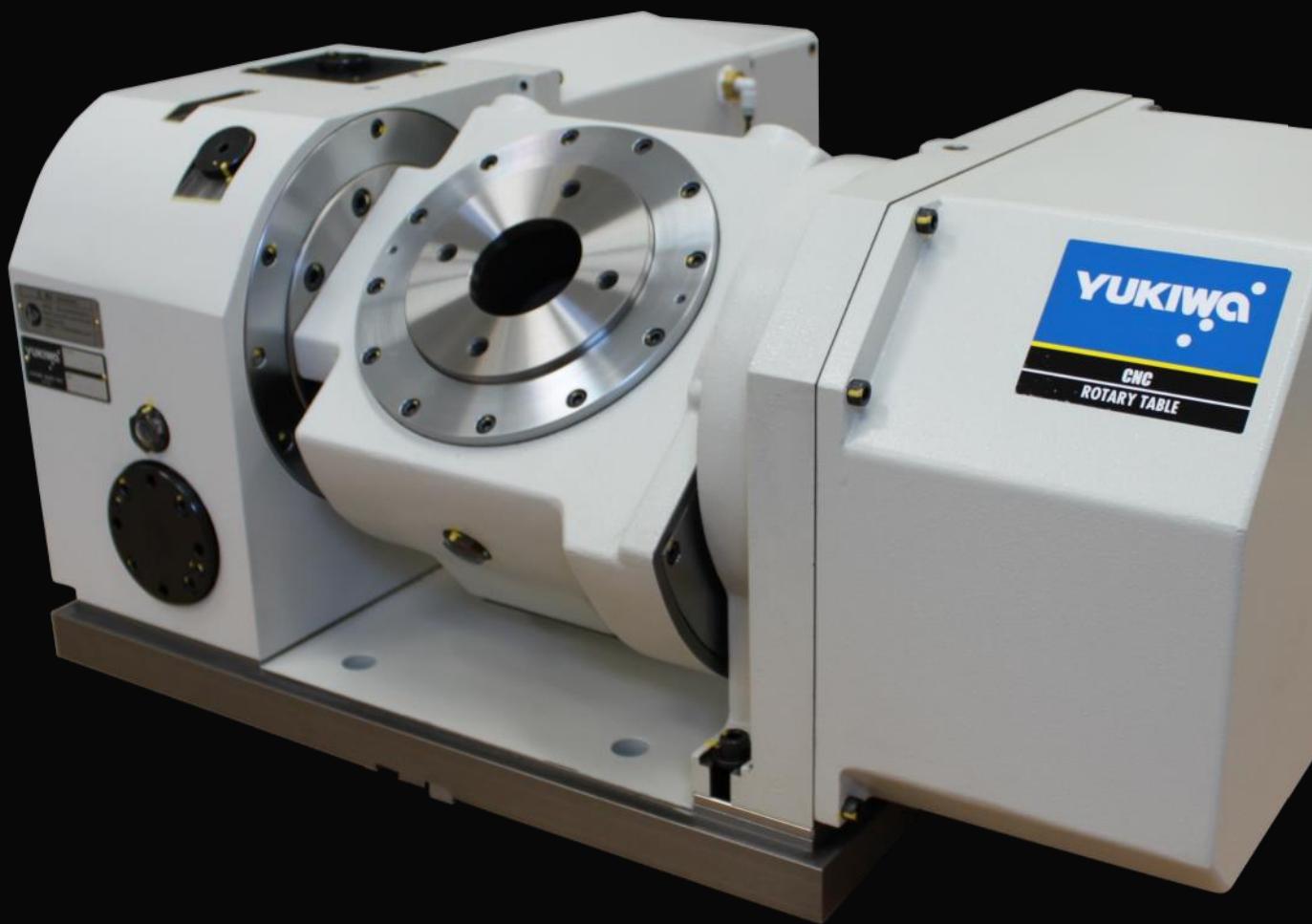
Even though you want to install 4th & 5th axis rotary table if the machine control is capable of only 4 simultaneous axis, it will only be 4th axis and you will need separate control for your 5th axis. It is also possible that your machine control is capable of 5 simultaneous axis but your machine does not have 5th axis software preinstalled at the factory. If you are not sure, we can help you find your machine and control capability. With over 15 years of installation experience PIONEER knows many different machines and controls.

What machine and control brand can PIONNER do the installation?

With over 15 years of experience we can install on most Fanuc based control machines including Mori Seiki. Installation on Yaskawa and Mitsubishi control can be available, too. We just need to know your machine make, model, year and control model, or simplest and best way is send us the machine data sheet then we can advise you if we can offer installation immediately.

Note that availability of installation on custom controls or proprietary control like Haas, Mazak, Okuma etc are subject to availability of information and support from the machine builder and/or dealer.

Premium Performance Rotary Tables





Heavy-duty Premium performance Table

YNCP Series P.10



Heavy-duty Premium performance Table

BNC Series P.12



Standard-duty performance table

JNC Series P.14



Slim Type - performance table

TNC Series P.16



Economical EDM Rotary Table

JNC EDM P.18



Premium Compact 5 Axis Table

TNT Series P.20



Index Controller

AC5 P.22



Accessories

P. 26

4th Axis - YNCP Super Heavy Duty

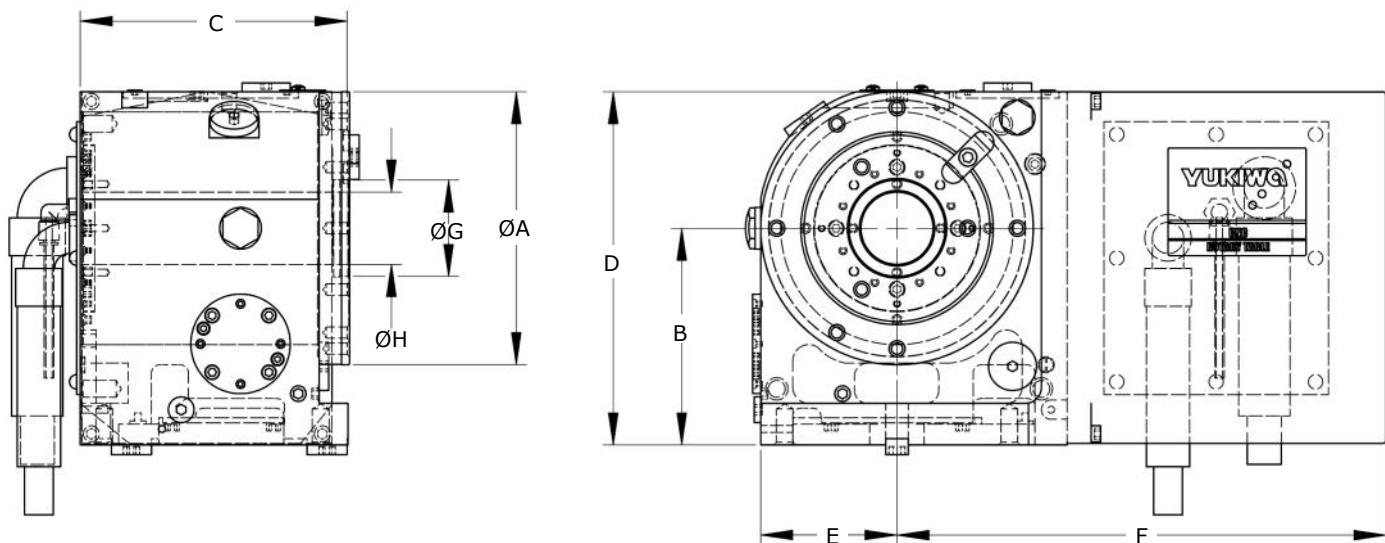


- Strongest brake torque in class with "Built In" air over hydraulic booster
- Heaviest duty design in class:
 - True Dual Bearing design with nose & tail bearing spindle for "Best in Class" Rigidity
 - Largest diameter bearing, worm wheel and spindle diameter for heavier duty milling
 - Solid one piece face plate and spindle construction
- Exceptional water protection with patented Auto Air Purging System

Available as :

- Integrated 4th axis
- Indexer with programmable YUKIWA AC4 control box
- Left hand configurations
- Super high resolution with optional rotary scale

| Model | YNCP170 R/L | | YNCP200 R/L | | YNCP250 R/L | |
|-------------------------------------|--------------------------------|----------------------|--------------------|---------------------|--------------------|---------------------|
| Table Diameter | 170mm | 6.69" | 200mm | 7.87" | 250mm | 9.84" |
| Center Height | 135mm | 5.31" | 160mm | 6.30" | 200mm | 7.87" |
| Center Pilot Diameter | 60mm H7 x 10mm | 2.36" H7 x 0.39" | 70mm x H7 | 2.76" H7 x 0.39" | 90mm H7 x 10mm | 3.54" H7 x 0.39" |
| Center Hole | 45mm | 1.77" | 56mm | 2.20" | 72mm | 2.83" |
| Guide Block Width | 14mm h7 | 0.55" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| FANUC servo motor | aiF1/2 | | aiF4/8 | | aiF8 | |
| Max. RPM | 33.3 | | 33.3 | | 33.3 | |
| Gear Ratio | 1:90 | | 1:90 | | 1:90 | |
| Indexing Accuracy arc sec. | ± 12.5 | | ± 10 | | ± 10 | |
| Net Weight without motors | 43kg | 95lbs | 69kg | 152lbs | 114kg | 251lbs |
| Clamp System | Pneumatic - Air Over Hydraulic | | | | | |
| Clamp Torque (at 72 psi) | 550Nm | 406 ft-lbs | 850Nm | 627 ft-lbs | 1,050Nm | 774 ft-lbs |
| Vertical Workload Limit (Inertia) | 70kg (0.25kgm²) | 154lbs (0.25kgm²) | 100kg (0.5kgm²) | 220lbs (0.5kgm²) | 125kg (1.0kgm²) | 275lbs (1.0kgm²) |
| Horizontal Workload Limit (Inertia) | 140kg (0.5kgm²) | 309lbs (0.5kgm²) | 200kg (1.0kgm²) | 440lbs (1.0kgm²) | 250kg (2.0kgm²) | 550lbs (2.0kgm²) |
| Horizontal Load Limit | 9,000N | 2,023lbf | 10,000N | 2,248lbf | 11,000N | 2,473lbf |
| Circumference Load Force | 550Nm | 406 ft-lbs | 850Nm | 627 ft-lbs | 1050Nm | 774 ft-lbs |
| Vertical Load Limit | 4,000N | 900lbf | 6,000N | 1,350lbf | 7,000N | 1574lbf |



| PART NUMBER | A DIA. | B | C | D | E | F | G PILOT | H HOLE |
|--------------------|--------|-------|-------|-------|-------|------------|---------|--------|
| YNCP170 R/L | 170mm | 135mm | 168mm | 220mm | 85mm | 305mm aif2 | 60mm H7 | 45mm |
| YNCP200 R/L | 200mm | 160mm | 192mm | 260mm | 100mm | 320mm aif4 | 70mm H7 | 56mm |
| YNCP250 R/L | 250mm | 200mm | 220mm | 325mm | 125mm | 390mm aif8 | 90mm H7 | 72mm |

4th Axis - BNC Super Heavy Duty

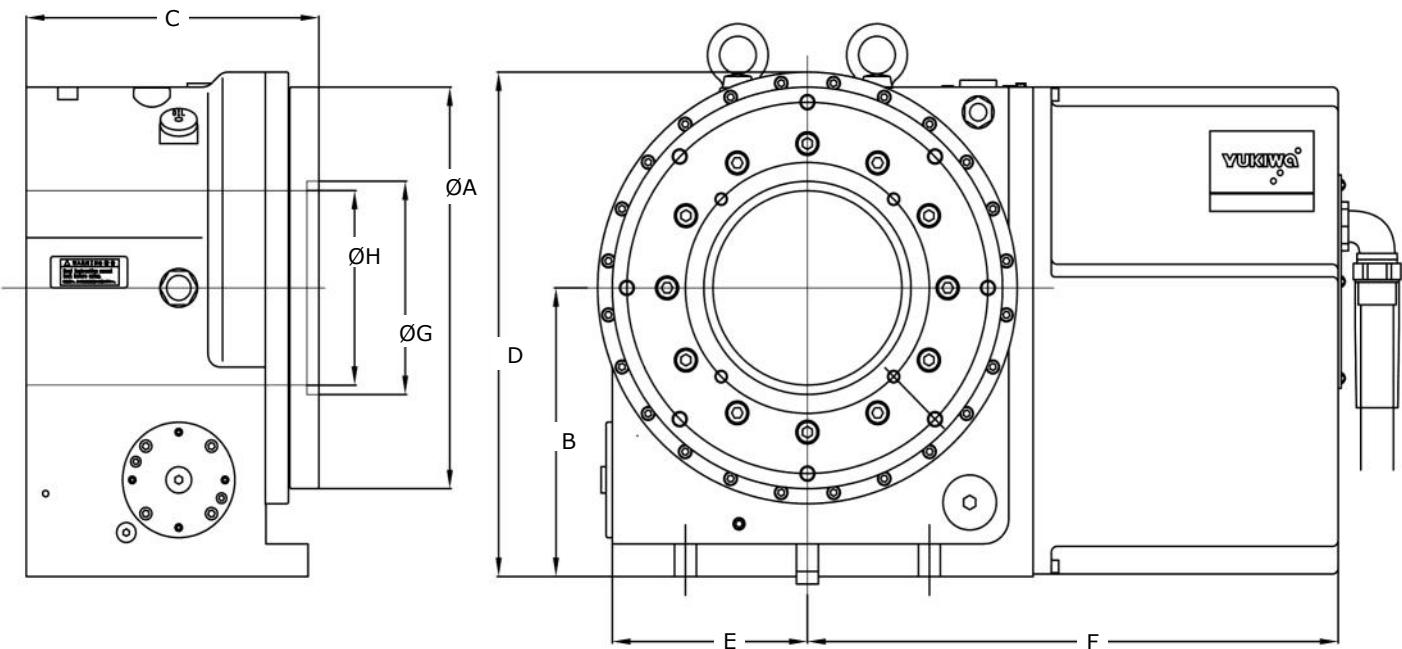


- Strongest brake torque in class with "Built In" air over hydraulic booster
- Heaviest duty design in class:
 - True Dual Bearing design with nose & tail bearing spindle for "Best in Class" Rigidity
 - Largest diameter bearing, worm wheel and spindle diameter for heavier duty milling
 - Solid one piece face plate and spindle construction
- Big Bore Design – largest in class
- Exceptional water protection with patented Auto Air Purging System

Available as :

- Integrated 4th axis
- Indexer with programmable YUKIWA AC3 control box
- Left hand configurations
- Super high resolution with optional rotary scale

| Model | BNC320R | |
|-------------------------------------|----------------------------------|-----------------------------------|
| Table Dia meter | 320mm | 12.6" |
| Center Height | 230mm | 9.05" |
| Center Pilot Diameter | 170mm H7 | 6.69" H7 |
| Center Hole | 160mm | 6.30" |
| Guide Block Width | 18mm h7 | 0.71" h7 |
| FANUC servo motor | aiF 8 | |
| Max. RPM | 22.2 | |
| Gear Ratio | 1:90 | |
| Indexing Accuracy arc sec. | ± 10 seconds | |
| Net Weight without motors | 175kg | 385 ft-lbs |
| Pneu. Clamp Torque (at 72 psi) | 3,000Nm | 2,212 ft-lbs |
| Vertical Workload Limit (Inertia) | 200kg (2.50kgm ²) | 440lbs (2.50kgm ²) |
| Horizontal Workload Limit (Inertia) | 400kg (5.0kgm ²) | 880lbs (5.0kgm ²) |
| Horizontal Load Limit | 18,000 N | 4,046lbf |
| Circumference Load Force | 3,000Nm | 2,213 ft-lbs |
| Vertical Load Limit | 11,000 N | 2,473lbf |



| PART NUMBER | A DIA. | B | C | D | E | F | G PILOT | H HOLE |
|-----------------|--------|-------|-------|-------|-------|------------|----------|--------|
| BNC320 R | 320mm | 230mm | 240mm | 402mm | 160mm | 435mm aif8 | 170mm H7 | 160mm |

4th Axis - JNC High Performance



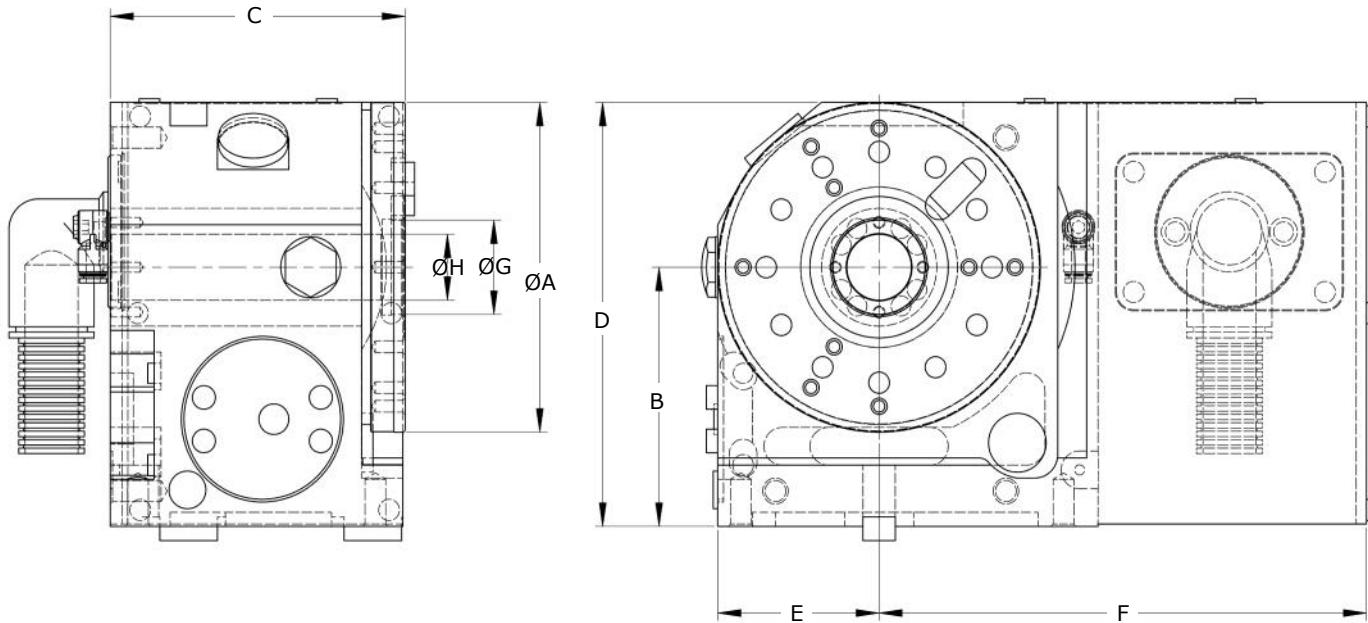
- Affordable Quality Japanese manufactured rotary table
- Compact Design suitable for small machines.
- Accurate indexing & high durability worm gearing system and solid once piece face plate and spindle design
- Exceptional water protection with patented Auto Air Purging System
 - Protects unit against high pressure coolant
 - Suitable for grinding, graphite and EDM application

Available as :

- Integrated 4th axis
- Indexer with programmable YUKIWA AC4 control box
- Left hand configurations
- Super high resolution with optional rotary scale

| Model | JNC140R/L | | JNC170R/L | | JNC200R/L | | JNC250R/L | |
|---|---------------------|-----------------------|--------------------|----------------------|--------------------|---------------------|--------------------|---------------------|
| Table Diameter | 140mm | 5.51" | 170mm | 6.69" | 200mm | 7.87" | 250mm | 9.84" |
| Center Height | 110mm | 4.33" | 135mm | 5.31" | 160mm | 6.30" | 200mm | 7.87" |
| Center Pilot Diameter | 40mm H7 x 10mm | 1.57" H7 x 0.39" | 60mm H7 x 10mm | 2.36" H7 x 0.39" | 70mm x H7 | 2.76" H7 x 0.39" | 90mm H7 x 10mm | 3.54" H7 x 0.39" |
| Center Hole Diameter | 28mm | 1.10" | 45mm | 1.77" | 56mm | 2.20" | 72mm | 2.83" |
| Guide Block Width | 14mm h7 | 0.55" h7 | 14mm h7 | 0.55" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| FANUC servo motor | Bis1 | | aiF1/2 | | aiF2 | | aiF4/8 | |
| Max. RPM | 41.6 | | 33.3 | | 33.3 | | 33.3 | |
| Gear Ratio | 1:72 | | 1:90 | | 1:90 | | 1:90 | |
| Indexing Accuracy arc sec. | ± 20 seconds | | ± 20 seconds | | ± 20 seconds | | ± 15 seconds | |
| Net Weight without motors | 27kg | 60lbs | 38kg | 84lbs | 58kg | 128lbs | 86kg | 190lbs |
| Pneu. Clamp Torque (at 72 psi) | 120Nm | 89ft-lbs | 230Nm | 170ft-lbs | 450Nm | 332ft-lbs | 650Nm | 480ft-lbs |
| Vertical Workload Limit (Inertia)  | 50kg (0.125kgm²) | 110lbs (0.125kgm²) | 70kg (0.25kgm²) | 154lbs (0.25kgm²) | 100kg (0.5kgm²) | 220lbs (0.5kgm²) | 125kg (1.0kgm²) | 275lbs (1.0kgm²) |
| Horizontal Workload Limit (Inertia)  | 100kg (0.25kgm²) | 220lbs (0.25kgm²) | 140kg (0.5kgm²) | 309lbs (0.5kgm²) | 200kg (1.0kgm²) | 440lbs (1.0kgm²) | 250kg (2.0kgm²) | 550lbs (2.0kgm²) |
| Horizontal Load Limit  | 4,000N | 900lbf | 5,000N | 1,124lbf | 7,000N | 1,574lbf | 8,000N | 1,800lbf |
| Circumference Load Force  | 120Nm | 89ft-lbs | 230Nm | 170ft-lbs | 450Nm | 332ft-lbs | 650Nm | 480ft-lbs |
| Vertical Load Limit  | 2,000N | 450lbf | 3,000N | 675lbf | 4,000N | 900lbf | 5,000N | 1,124lbf |

* All specifications can be modified according to customer's requirement



| PART NUMBER | A DIA. | B | C | D | E | F | G PILOT | H HOLE |
|-------------------|--------|-------|-------|-------|-------|------------|---------|--------|
| JNC140 R/L | 140mm | 110mm | 128mm | 180mm | 70mm | 207mm bis1 | 40mm H7 | 28mm |
| JNC170 R/L | 170mm | 135mm | 128mm | 220mm | 85mm | 260mm aif1 | 60mm H7 | 45mm |
| JNC200 R/L | 200mm | 160mm | 148mm | 270mm | 110mm | 306mm aif2 | 70mm H7 | 56mm |
| JNC250 R/L | 250mm | 200mm | 168mm | 325mm | 125mm | 390mm aif8 | 90mm H7 | 72mm |

4th Axis - TNC Slim



- Slim Type - 97mm body thickness
- Affordable Quality Japanese manufactured rotary table
- Light weight Compact: Suitable for small-sized machining centers
- Accurate indexing: high durability worm gear system and solid one piece face plate / spindle design.
- Outstanding water protection:
 - Auto-Air Purging system (PAT.) is built in as standard.
- Easy maintenance

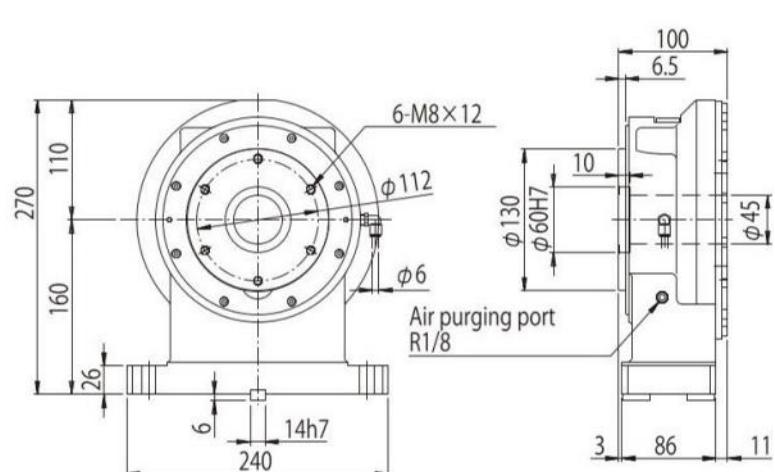
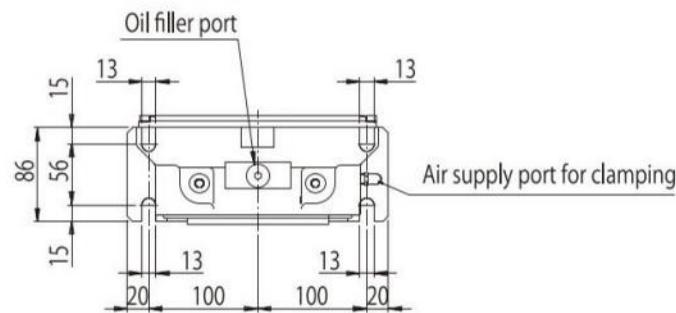
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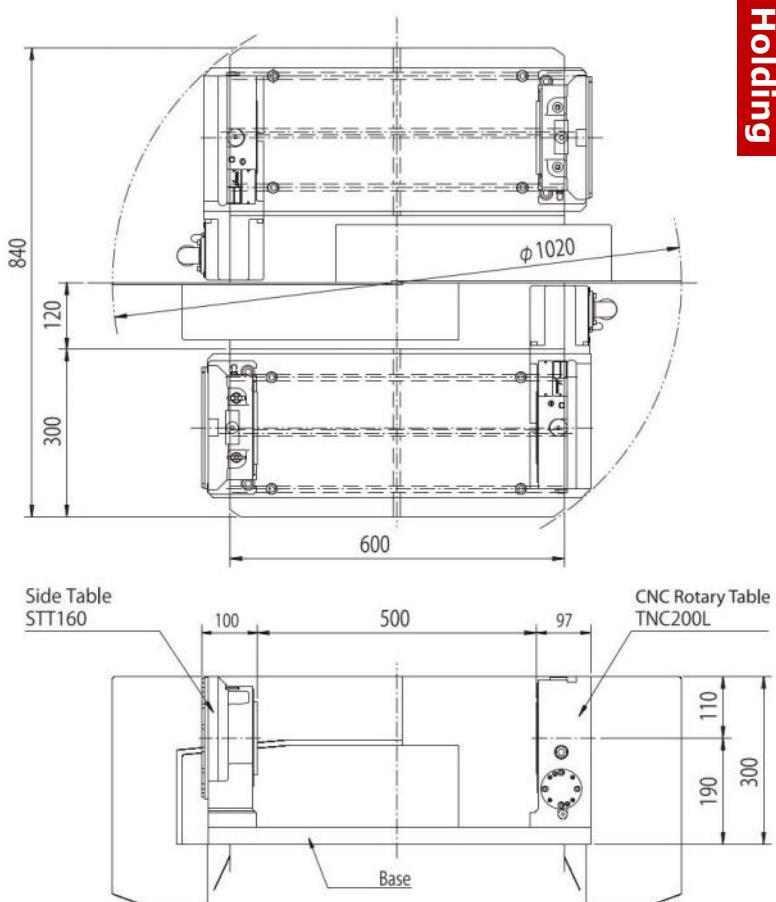
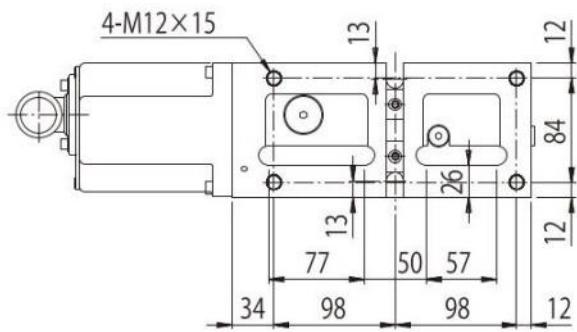
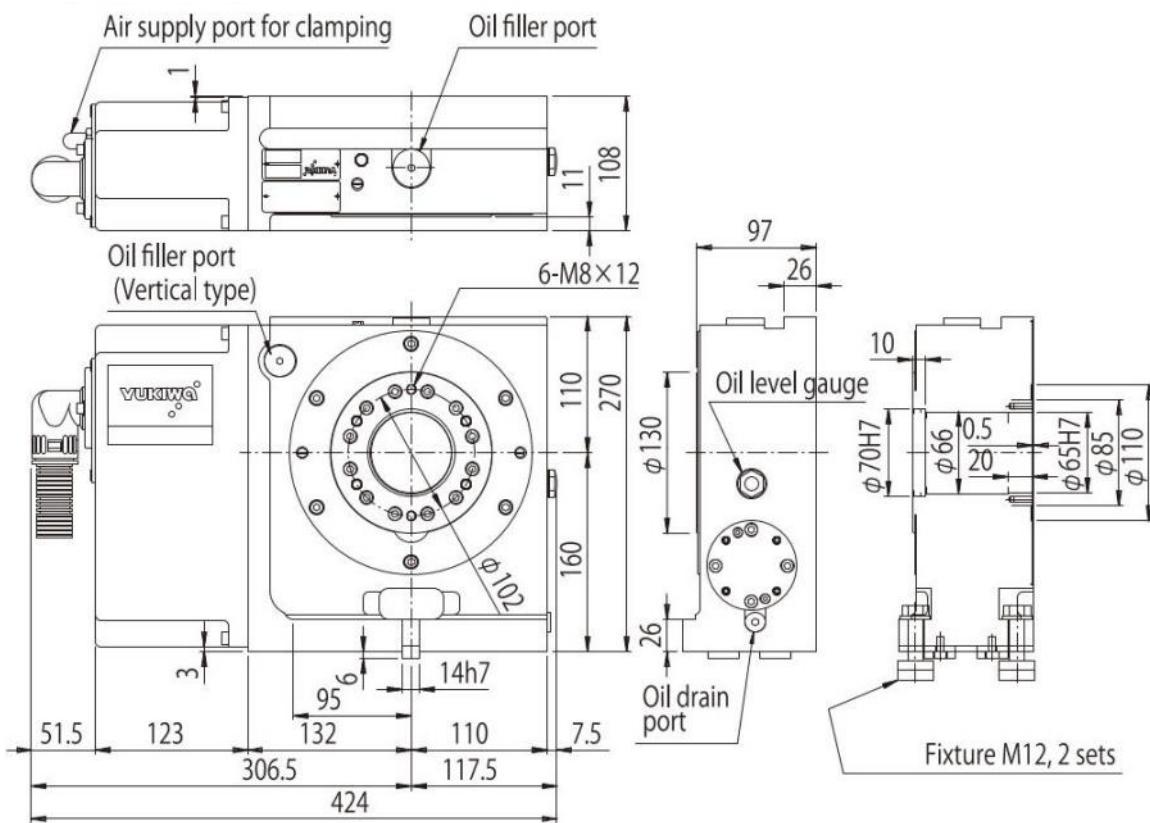
- Integrated 4th axis
- Indexer with programmable YUKIWA AC4 control box
- Left hand configurations
- Super high resolution with optional rotary scale

| Model | TNC200L | |
|--------------------------------|------------------|------------------|
| Table Diameter | 130mm | 5.12" |
| Center Height | 160mm | 6.30" |
| Center Pilot Diameter | 70mm x H7 | 2.76" H7 x 0.39" |
| Center Hole Diameter | 66mm | 2.598" |
| Guide Block Width | 14mm h7 | 0.551" h7 |
| FANUC servo motor | aiF2 | |
| Max. RPM | 33.3 | |
| Gear Ratio | 1:90 | |
| Indexing Accuracy arc sec. | \pm 15 seconds | |
| Net Weight without motors | 43kg | 95lbs |
| Pneu. Clamp Torque (at 72 psi) | 340Nm | 251ft-lbs |

SST 160

- Wider jig area in combination with TNC200L
 - A wider variety of parts can be machined owing to increased flexibility in selection of available jigs.
- Suitable for support for trunnion jigs
 - Effective for high-precision machining owing to the high rigidity attained by its clamping mechanism.



TNC 200L

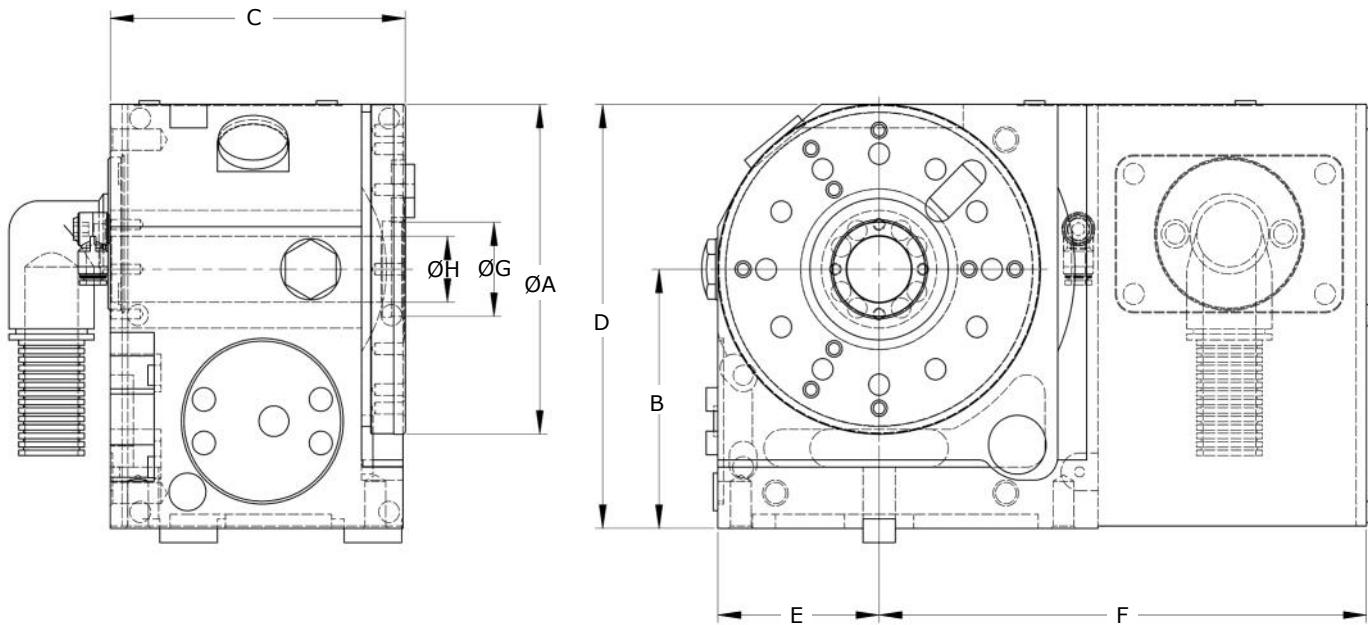


- Most affordable EDM rotary and indexing solution
- Submersible protection w/ Standard Auto Air Purging System (PAT)
- Optional stainless steel face plate with commutator block
- Optional nickel plating for corrosion protection
- Super high resolution indexing accuracy w/optional rotary scale
- Vertical installation standard – Optional horizontal available

Available as :

- Integrated 4th axis
- Indexer with programmable YUKIWA AC4 control box

| Model | JNC140R-EDM | | JNC170R-EDM | | JNC200R-EDM | | JNC250R-EDM | |
|---|---------------------|-----------------------|--------------------|----------------------|--------------------|---------------------|--------------------|---------------------|
| Table Diameter | 140mm | 5.51" | 170mm | 6.69" | 200mm | 7.87" | 250mm | 9.84" |
| Center Height | 110mm | 4.33" | 135mm | 5.31" | 160mm | 6.30" | 200mm | 7.87" |
| Center Pilot Diameter | 40mm H7 x 10mm | 1.57" H7 x 0.39" | 60mm H7 x 10mm | 2.36" H7 x 0.39" | 70mm x H7 | 2.76" H7 x 0.39" | 90mm H7 x 10mm | 3.54" H7 x 0.39" |
| Center Hole Diameter | 28mm | 1.10" | 45mm | 1.77" | 56mm | 2.20" | 72mm | 2.83" |
| Guide Block Width | 14mm h7 | 0.55" h7 | 14mm h7 | 0.55" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| FANUC servo motor | Bis1 | | aiF1/2 | | aiF2 | | aiF4/8 | |
| Max. RPM | 41.6 | | 33.3 | | 33.3 | | 33.3 | |
| Gear Ratio | 1:72 | | 1:90 | | 1:90 | | 1:90 | |
| Indexing Accuracy arc sec. | ± 20 seconds | | ± 20 seconds | | ± 20 seconds | | ± 15 seconds | |
| Net Weight without motors | 27kg | 60lbs | 38kg | 84lbs | 58kg | 128lbs | 86kg | 190lbs |
| Pneu. Clamp Torque (at 72 psi) | 120Nm | 89ft-lbs | 230Nm | 170ft-lbs | 450Nm | 332ft-lbs | 650Nm | 480ft-lbs |
| Vertical Weight Limit (Inertia)  | 50kg (0.125kgm²) | 110lbs (0.125kgm²) | 70kg (0.25kgm²) | 154lbs (0.25kgm²) | 100kg (0.5kgm²) | 220lbs (0.5kgm²) | 125kg (1.0kgm²) | 275lbs (1.0kgm²) |
| Horizontal Weight Limit (Inertia)  | 100kg (0.25kgm²) | 220lbs (0.25kgm²) | 140kg (0.5kgm²) | 309lbs (0.5kgm²) | 200kg (1.0kgm²) | 440lbs (1.0kgm²) | 250kg (2.0kgm²) | 550lbs (2.0kgm²) |
| Horizontal Load Limit  | 4,000N | 900lbf | 5,000N | 1,124lbf | 7,000N | 1,574lbf | 8,000N | 1,800lbf |
| Circumference Load Force  | 120Nm | 89ft-lbs | 230Nm | 170ft-lbs | 450Nm | 332ft-lbs | 650Nm | 480ft-lbs |
| Vertical Load Limit  | 2,000N | 450lbf | 3,000N | 675lbf | 4,000N | 900lbf | 5,000N | 1,124lbf |



| PART NUMBER | A DIA. | B | C | D | E | F | G PILOT | H HOLE |
|--------------------|--------|-------|-------|-------|-------|------------|---------|--------|
| JNC140R-EDM | 140mm | 110mm | 128mm | 180mm | 70mm | 207mm bis1 | 40mm H7 | 28mm |
| JNC170R-EDM | 170mm | 135mm | 128mm | 220mm | 85mm | 260mm aif1 | 60mm H7 | 45mm |
| JNC200R-EDM | 200mm | 160mm | 148mm | 270mm | 110mm | 306mm aif2 | 70mm H7 | 56mm |
| JNC250R-EDM | 250mm | 200mm | 168mm | 325mm | 125mm | 390mm aif8 | 90mm H7 | 72mm |

5th Axis - TNT Heavy Duty



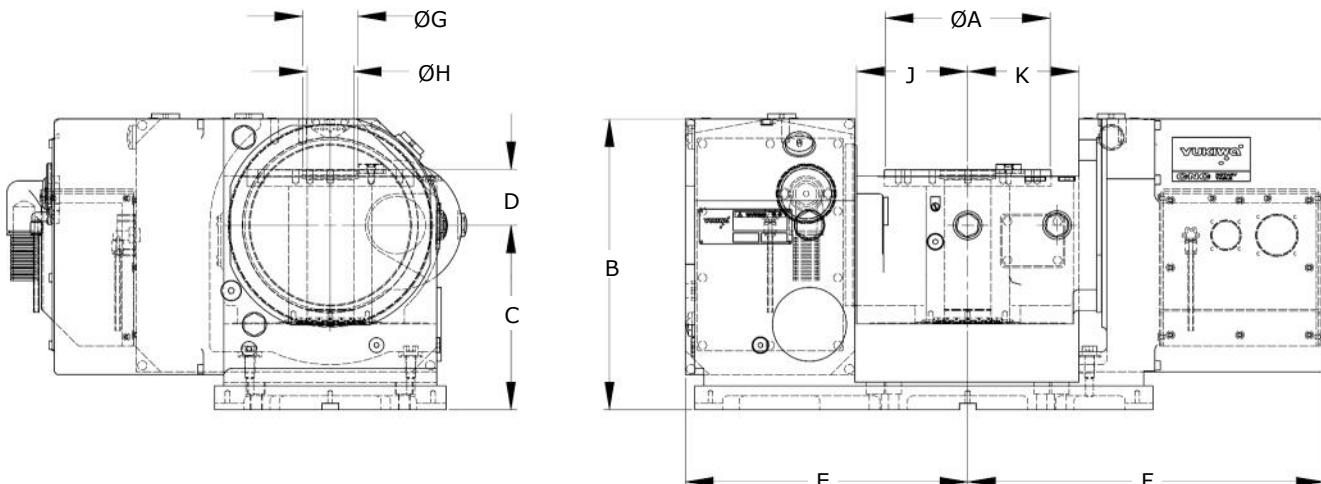
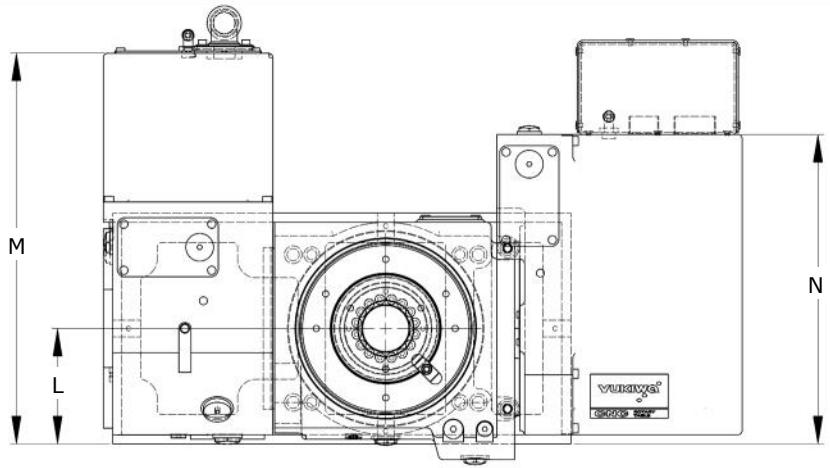
- Most compact design in class to fit small machines
- Largest machine-able work area in class
- Strongest brake torque in class with "Built In" air over hydraulic booster
- Heaviest duty design in class:
 - True Dual Bearing design with nose & tail bearing spindle for "Best in Class" Rigidity
 - Largest diameter bearing, worm wheel and spindle diameter for heavier duty milling
- Exceptional water protection with patented Auto Air Purging System

Available as :

- Integrated 5th axis
- Integrated 4th axis + programmable Yukiwa AC4 controller on tilt axis
- Indexer with programmable YUKIWA AC4 control boxes
- Left hand configurations (TNT170 only)
- Super high resolution with optional rotary scale



| Right Hand | TNT100L | TNT170R/L (L shown) | TNT250R |
|-------------------------------------|----------------------------|------------------------------|------------------------------|
| Spindle Diameter | 100mm 3.94" | 120mm 4.72" | 180mm 7.09" |
| Spindle Diameter w/ Adapter | - | 170mm 6.69" | 250mm 9.84" |
| Center Height | 135mm 5.31" | 180mm 7.09" | 225mm 8.86" |
| Table ID Pilot | 50mm H7 x 23 | 55mm H7 x 45 | 90mm H7 |
| Thru Hole Diameter | 28mm 1.10" | 40mm 1.57" | 72mm 2.83" |
| Air Pressure | 72-100 psi | 72-100 psi | 72-100 psi |
| Clamp Torque Rotary | 200 Nm 148 ft/lbs @ 72 psi | 520 Nm 384 ft/lbs @ 72 psi | 1,050 Nm 774 ft/lbs @ 72 psi |
| Clamp Torque Tilting | 300 Nm 236 ft/lbs @ 72 psi | 1,100 Nm 738 ft/lbs @ 72 psi | 1,200 Nm 885 ft/lbs @ 72 psi |
| Indexing Accuracy Rotary | +/- 17.5 seconds | +/- 17.5 seconds | +/- 12.5 seconds |
| Indexing Accuracy Tilting | +/- 20 seconds | +/- 20 seconds | +/- 20 seconds |
| Total Reduction Ratio Rotary | 1/72 | 1/72 | 1/90 |
| Total Reduction Tilting | 1/120 | 1/120 | 1/120 |
| Max RPM Rotary | 41.6 | 41.6 | 33.3 |
| Max RPM Tilting | 25 | 25 | 16.6 |
| Guide / Location Key Width | 14mm h7 | 14mm h7 | 18mm h7 |
| Table Weight | 80kg 176lbs | 138kg 304lbs | 280kg 617lbs |



| PART NUMBER | A DIA. | B | C | D | E | F | G PILOT | H HOLE | J | K | L | M | M |
|-------------|--------|---------|-------|------|-------|-------|---------|--------|-------|-------|-------|-------|-------|
| TNT100 L | 100mm | 230mm | 135mm | 45mm | 230mm | 215mm | 50mm H7 | 28mm | 103mm | 103mm | 95mm | 305mm | 345mm |
| TNT170 R/L | 170mm | 282mm | 180mm | 60mm | 260mm | 320mm | 55mm H7 | 40mm | 115mm | 117mm | 110mm | 320mm | 422mm |
| TNT250 R | 250mm | 365.5mm | 225mm | 70mm | 322mm | 371mm | 90mm H7 | 72mm | 145mm | 145mm | 145mm | 495mm | 385mm |

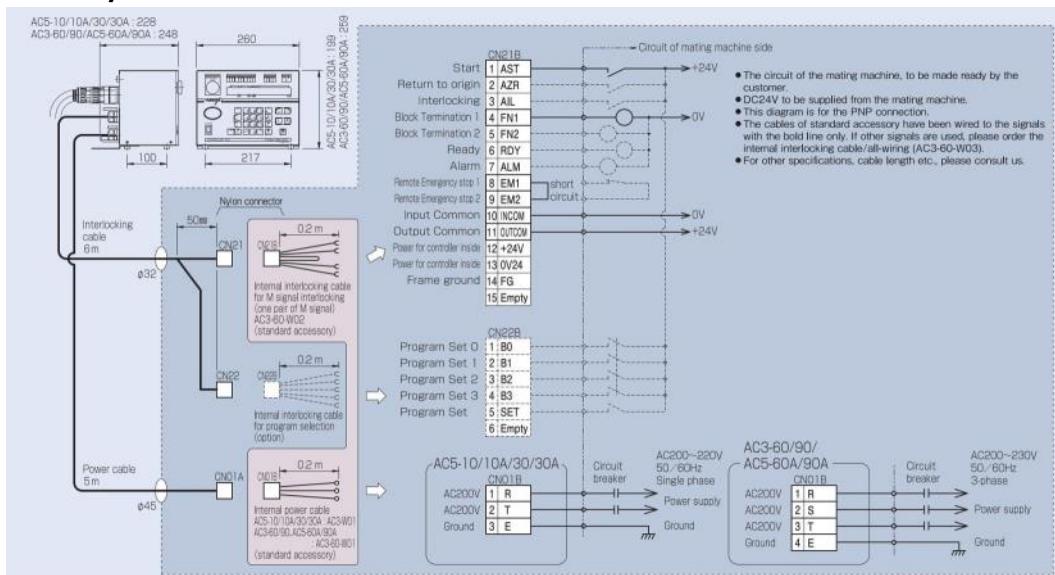
AC5 - Indexer Controller



- Direct Programming up to 100 programs, total storage of 10,000 Steps
- Machine Control / Off Line Programmable w/ Machine Macro β Function & RS232 Connection
- Compact Design
- Closed Construction to prevent contamination from oil mist

| Model | AC5-10 | AC5-30 | AC5-60 | AC5-90 |
|---|--|---|--|--|
| Voltage | Single phase AC200V~230V + 10~-15% 50/60Hz | | 3-phase AC200V~230V + 10%~-15% 50/60Hz | |
| Rated output of AC servo-motor | 300W | 750W | 1.0kW | 1.5kW |
| Power consumption | Max Min | 2.2A 7.5A | 3.9A 15.3A | 7A 21A |
| External dimensions & Mass (including cables) | | W260mm X H199mm X D228mm, 7.8kg W10.24" X H7.83" X D8.97", 17.16lbs | | W260mm X H250mm X D248mm, 10.0kg W10.24" X H9.84" X D9.76", 22lbs |
| Number of control axis | | Rotary axis, 1 axis | | |
| Position detection method | | Incremental encoder | | |
| Angle setting unit & Max. command angle | | 0.001, ±999.999°, 999 rotations (Max rotation is continuous rotation: 5,965) | | |
| Speed setting range | | 0~99999 (but limited by the reduction ratio and the motor rotation) | | |
| JOG (manual feed) function | | Selecting the rotation speed with the JOG key and the numeric keys | | |
| Rapid override | | Selecting the rapid transverse speed from 10 steps (setting 0~100% with parameter) | | |
| Movement Mode | | Auto (AUT), Manual (MAN), Return to machine origin (MZ), Return to work origin (WZ), Jog (JOG), Program edit (EDT), Parameter (PRM) | | |
| Programming | | Command method (Incremental, Absolute, Shortcut), Equal division, Sector division, Cutting feed, Multi-rotation (999 rotations), Continuous start, Interlocking start, Return to machine origin, Setting of work coordinate, Continuous block operation, Dwell, FIN, output change, Jump, Subprogram (repeating 1~999 times), Clamp valid/invalid, Running function (for trial operation) | | |
| Program edit function | | 1 step/inserting deleting the steps of specified range, 1 program/deleting the programs of specified range | | |
| Program capacity & External selection | | 100 programs X 100 steps, Binary mode: 16 programs, M signal mode: 100 programs | | |
| Program/parameter memory | | Non-volatile memory (Rewriting 100,000 times) | | |
| Stroke limit | | Setting with the parameter or the program (Selectable of the machine coordinate or the work coordinate) | | |
| Diagnosis & Alarm history | | Alarm number, Executing program, Current position, Shift remain, Override %, Rotation speed, Motor load torque, etc. Memorized automatically in alarming (past 69 times) | | |
| Interlocking input | Number of point | 8 points (DC24V, Non-contact Bipolar) | | |
| | Function | Start, Return to origin, Program selection signal 0~3, Program set, interlocking | | |
| Interlocking output | Number of point | 4 points (DC24V, Non-contact Bipolar, Max.50mA) | | |
| | Function | Block termination signal 1&2, Ready, Alarming | | |
| External emergency stop input | | 1 point (b-connection input. Interlocking cable inside), Connect the switch having contact. | | |
| Serial interface | | RS232C 1port, Dsub connector 9 pins | | |
| Internal interlocking cable | | AC3-W01 | | AC3-60-W01 |
| External interlocking cable | | | AC3-60-W02 | |

External Dimensions / Connections



Data display

To display program, current position, parameter, diagnosis address, data and etc.

P : Program numbers

N : Step numbers

ADRS : Address for program function

DATA : The first digit from the left will be indicated as follows:

| | | |
|------------------------|---|---|
| Rotation direction | - | + |
| Shortcut | W | M |
| Effective stroke limit | E | F |

W : Flickering during return to work origin and will be ON when the table is on work origin.

M : Flickering during return to machine origin and will be ON when the table is on machine origin.

INC : ON during incremental command.

EMERGENCY STOP Button

When pressed, the motor will be on SERVO-OFF. For releasing, turn to right.

POWER Switch
ON: Controller will be switched on.

MODE Numeric Key

Mode is selected by entering figures after pressing. Selected mode will be indicated on the left upper side of the figures.

MZ : Machine origin mode(return/setting)

WZ : Work origin mode(return/setting)

JOG : To effect one pulse feed or jog feed.

AUT : Automatic operation mode

interlocked with the mating machine.

MAN : Operation by the controller only.

EDT : Program editing, initiating and selecting.

PRM : Parameter setting mode.

For the figure key, the first pressing will enter the address of EDT mode, and the second pressing and further pressings will enter figures.

**INTERLOCKING SIGNAL**

Always to show the state with interlocking signals.

AST, AZR, AIL, BO~B3, SET are output signals.

FN1, FN2, and ALM are output signals.

ROTARY TABLE

Always to show the state with signals of rotary table.

LSZ : Proximity/limit switch for zero point deceleration

LSC : Proximity/limit switch for clamping confirmation

CLP : Flickering during the clamping and will be ON after confirmation

UNC : Flickering during the unclamping and will be ON after confirmation

STATUS

Always to show running status.

RUN : ON during program execution.

STOP : ON when stopped or when alarming appears, but flickering during the emergency stop.

RAPID OVR Rapid Override Numeric Key

Flickering frequency will change per percentage and, at 100%, the lamp will be OFF.

In MAN mode, when **START** is pressed, one block of the program will be executed.

In executing the program at MAN mode or AUT mode, when **STOP** is pressed, the program will stop temporarily. It will be released by pressing **START**.

When **JOG** key is pressed briefly in JOG mode, the table will rotate one pulse.

Numeric key if the key is pressed together with a figure key, the table will rotate in the speed of the figure.

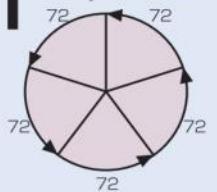
If the key is kept being pressed in MZ mode or WZ mode, the table will return to origin.

When **SHIFT** is pressed, the lamp will be ON and the function will be indicated on the right-upper side of each key.

AC5 - Indexer Controller

Example of program

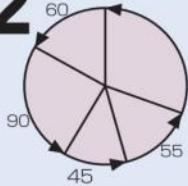
1 Equal Division



N00 d 5
N01 J 0

Division into five
Jump to N00

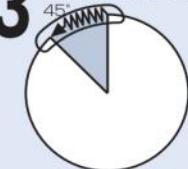
2 Unequal Division



N00 A 60000
N01 A 90000
N02 A 45000
N03 A 55000
N04 g 24
N05 J 0

Return to work origin
0

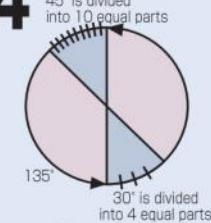
3 Circular Cutting



N00 F 75
Set the rotating speed to 0.75 min⁻¹.
This is effective only for the next
step. Thereafter, it rotates at rapid
traverse speed unless set.

N01 A 45000 45° cutting feed.

4 Sector Division



45° is divided
into 10 equal parts
N00 H 45000
N01 d 10
N02 A 135000 135° rotation
N03 H 30000 30° is divided
N04 d 15 into 15 equal parts.
N05 g 24
N06 J 0

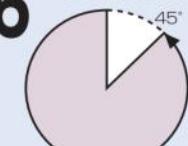
An angle obtained by
dividing 45° into ten equal parts
rotates. Repeat it ten times,
and go to the next step.

5 Reverse Rotation



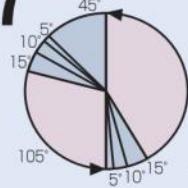
N00 A-45000

6 Continuous Rotation



N00 F 60 Set to 0.6 min⁻¹
N01 g 22 Start for continuous rotation

7 Subprogram



N00 A 45000
N01 C 10 Call subprogram from N10
N02 A 105000
N03 C 10
N04 g 24
N05 J 0
N10 A 5000 Head of the subprogram
N11 A 10000
N12 A 15000
N13 r 0 Return

Address

| | | | |
|----------|-----------------------------|--------------------------------|---|
| A | Commands the angle rotation | (0~±999.999deg) | R |
| B | Equal divisions command | (±999.999deg) | R |
| C | Sets rotating speed | (0~±999.999deg/MIN) | B |
| D | Jump | (0~9999) | B |
| E | Subprogram | (0~9999.999) | B |
| F | Setting Value | [Per G code immediate before.] | B |
| G | Preparation function | | |

G Code

| | | | |
|------------|-------------------------------|---------------------|-----|
| G30 | | Reverse rotation | R |
| G31 | Return to machine origin | Normal rotation | R |
| G32 | | Automatic selection | R |
| G33 | | Interlock start | R |
| G34 | | Reverse rotation | R |
| G35 | Continuous start | Normal rotation | R |
| G50 | | Incremental | B |
| G51 | Command mode | Absolute | B |
| G52 | | Shortcut | B |
| G53 | | Invalid | B |
| G54 | Clamp | Valid | B,A |
| G61 | | End | B,A |
| G62 | | Start | B |
| G63 | Running | End | B,A |
| G64 | | Start | B |
| G70 | | Current position | B |
| G71 | | Machine coordinate | B |
| G72 | Sector Aperture angle setting | L0~359.999(deg) | B |
| G73 | Setting of multiple rotations | L+999 | B |
| G81 | Dwell | LO~9.999(sec) | A |
| G82 | | Not output | A |
| G83 | FIN output change | FN2 only output | A |
| G84 | | FN1,2 output | A |

●: Setting with the power source being ON and changeable by parameter.

■: Setting with the power source being ON.

R: Commanding to execute rotation

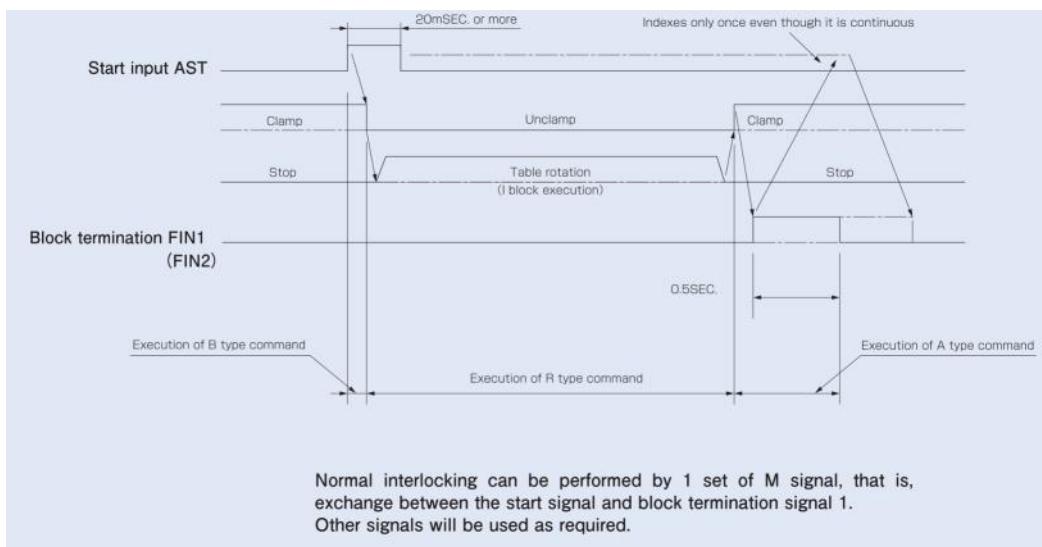
B: Commanding to immediate before R-type.

A: Commanding to immediate after R-type.

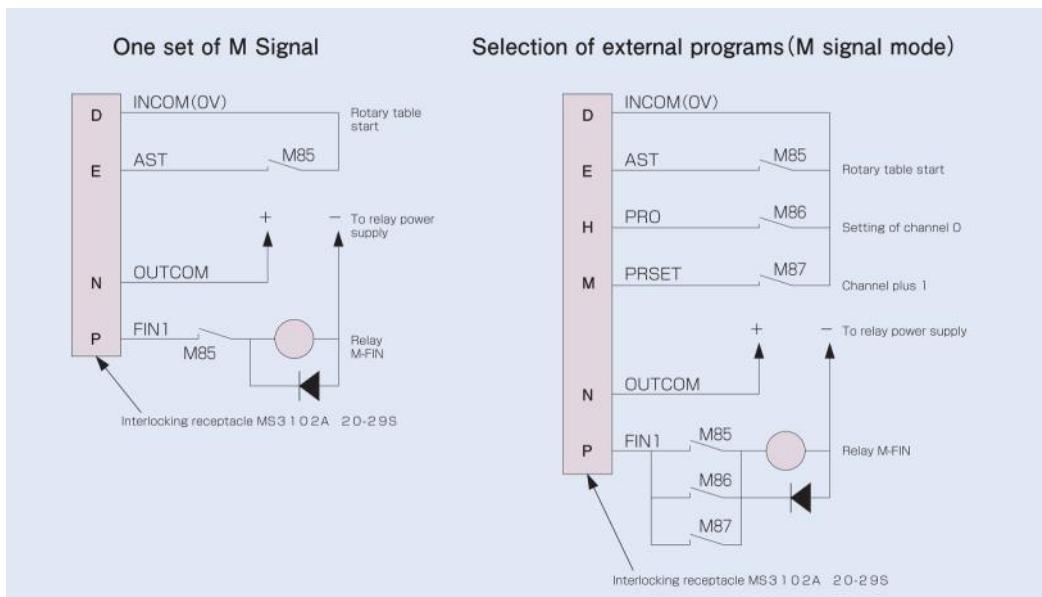
For G-code with L, the figures will be set by L-commands of preceding G-code.

Commanding to immediate before R-type.

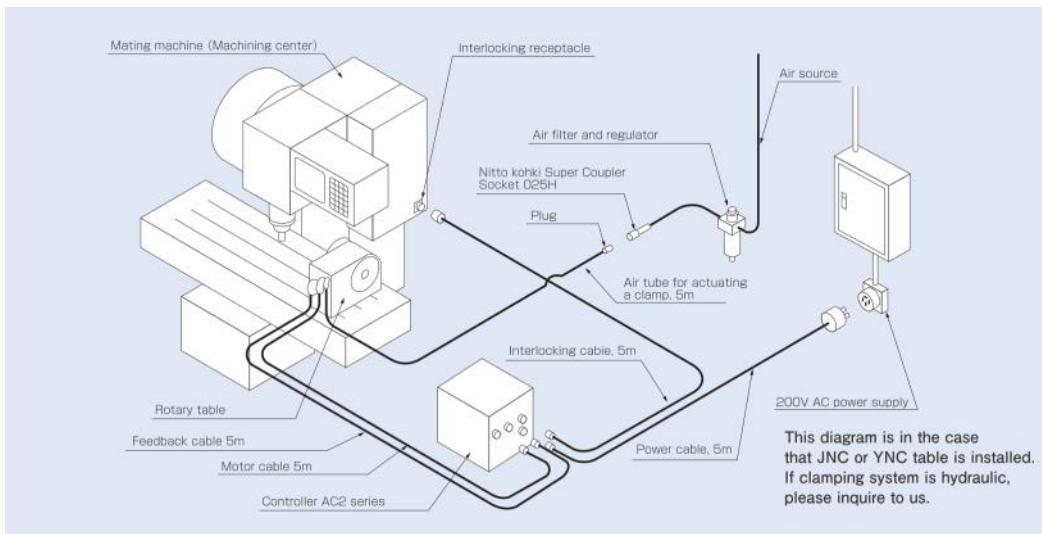
Timing Chart



Example of interlocking signal with a machining center

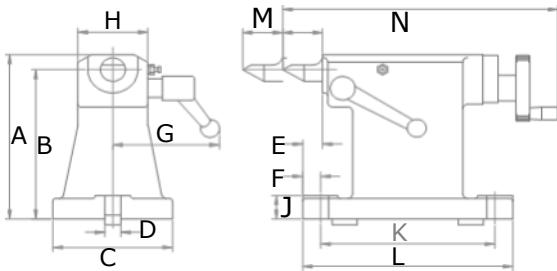


Interlocking Connection Diagram



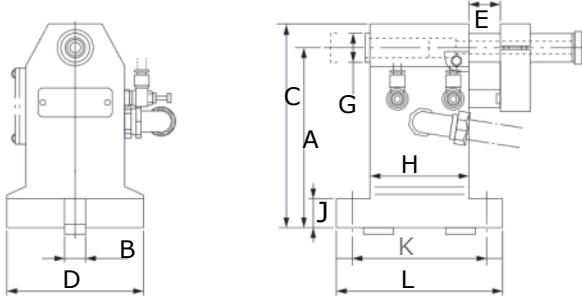
Accessories

Manual Tail Stock



| Model | Applicable Model | Center (shaft OD) | Weight | A | B | C | D | E | F | G | H | J | K | L | M | N | P |
|---------|------------------|-------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|--------|
| TSB110S | JNC140 | 25mm | 8kg | 126mm | 110mm | 110mm | 14mm | 10mm | 22mm | 88mm | 50mm | 20mm | 160mm | 190mm | 20mm | 25mm | 205mm |
| | | 0.98" | 17lbs | 4.96" | 4.33" | 4.33" | 0.55" | 0.39" | 0.87" | 3.46" | 1.97" | 0.79" | 6.30" | 7.48" | 0.79" | 0.98" | 8.07" |
| TSB135S | JNC170,YNCP170 | 25mm | 10kg | 151mm | 135mm | 110mm | 14mm | 20mm | 26mm | 107mm | 70mm | 23mm | 174mm | 210mm | 40mm | 40mm | 275mm |
| | | 0.98" | 22lbs | 5.94" | 5.31" | 4.33" | 0.55" | 0.79" | 1.02" | 4.21" | 2.76" | 0.91" | 6.85" | 8.27" | 1.57" | 1.57" | 10.83" |
| TSB160S | JNC200,YNCP200 | 25mm | 11kg | 176mm | 160mm | 120mm | 18mm | 20mm | 26mm | 107mm | 70mm | 25mm | 174mm | 210mm | 40mm | 40mm | 275mm |
| | | 0.98" | 24lbs | 6.93" | 6.30" | 4.72" | 0.71" | 0.79" | 1.02" | 4.21" | 2.76" | 0.98" | 6.85" | 8.27" | 1.57" | 1.57" | 10.83" |
| TSB200S | JNC250,YNCP250 | 38mm | 25kg | 227mm | 200mm | 140mm | 18mm | 10mm | 25mm | 128mm | 90mm | 35mm | 228mm | 260mm | 40mm | 50mm | 395mm |
| | | 1.50" | 55lbs | 8.94" | 7.87" | 5.51" | 0.71" | 0.39" | 0.98" | 5.04" | 3.54" | 1.38" | 8.98" | 10.24" | 1.57" | 1.97" | 15.55" |

Pneumatic Tail Stock

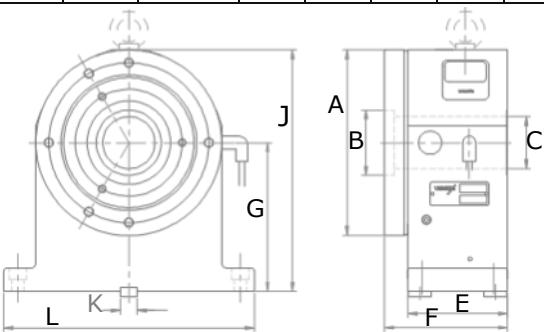


| Model | Applicable Model | Shaft Thrust | Weight (kg) | ID Taper | A (Center Height) | B (h7) | C | D | E (Stroke) | F | G | H | J | K | L |
|--------|------------------|--------------|-------------|----------|-------------------|--------|-------|-------|------------|-------|-------|-------|-------|-------|-------|
| TPA110 | JNC140 | 310mm | 6kg | MT2 | 110mm | 14mm | 130mm | 88mm | 40mm | 25mm | 25mm | 85mm | 20mm | 119mm | 149mm |
| | | 12.20" | 13lbs | | 4.33" | 0.55" | 5.12" | 3.46" | 1.57" | 0.98" | 0.98" | 3.35" | 0.79" | 4.69" | 5.87" |
| TPA135 | JNC170,YNCP170 | 310mm | 7kg | MT2 | 135mm | 14mm | 155mm | 88mm | 40mm | 25mm | 25mm | 85mm | 20mm | 119mm | 149mm |
| | | 12.20" | 15lbs | | 5.31" | 0.55" | 6.10" | 3.46" | 1.57" | 0.98" | 0.98" | 3.35" | 0.79" | 4.69" | 5.87" |
| TPA160 | JNC200,YNCP200 | 310mm | 9kg | MT2 | 160mm | 18mm | 180mm | 120mm | 40mm | 25mm | 25mm | 85mm | 25mm | 119mm | 149mm |
| | | 12.20" | 19lbs | | 6.30" | 0.71" | 7.09" | 4.72" | 1.57" | 0.98" | 0.98" | 3.35" | 0.98" | 4.69" | 5.87" |
| TPA200 | JNC250,YNCP250 | 490mm | 12kg | MT3 | 200mm | 18mm | 225mm | 120mm | 40mm | 32mm | 32mm | 89mm | 25mm | 123mm | 153mm |
| | | 19.29" | 27lbs | | 7.87" | 0.71" | 8.86" | 4.72" | 1.57" | 1.26" | 1.26" | 3.50" | 0.98" | 4.84" | 6.02" |

Side Table

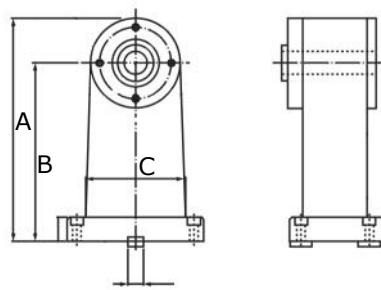


Features: Air Break System for additional holding power



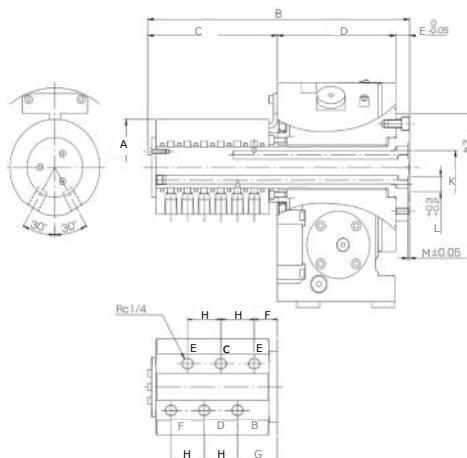
| Model | Applicable Model | Clamp Torque | Weight | A (Spindle Dia) | B (Pilot) | C (Hole Thru) | E | F | G (Center Height) | J | K | L |
|-------|------------------|--------------|--------|-----------------|-----------|---------------|-------|-------|-------------------|--------|-------|--------|
| ST135 | JNC170,YNCP170 | 153Nm | 21kg | 170mm | 60mm | 45mm | 98mm | 117mm | 135mm | 220mm | 14mm | 240mm |
| | | 112.85ft-lbs | 46lbs | 6.69" | 2.36" | 1.77" | 3.86" | 4.60" | 5.31" | 8.66" | 0.55" | 9.45" |
| ST160 | JNC200,YNCP200 | 415Nm | 33kg | 200mm | 70mm | 56mm | 107mm | 132mm | 160mm | 270mm | 18mm | 270mm |
| | | 306.09ft-lbs | 73lbs | 7.87" | 2.76" | 2.20" | 3.86" | 5.20" | 6.30" | 10.63" | 0.71" | 10.63" |
| ST200 | JNC250,YNCP250 | 517Nm | 58kg | 250mm | 90mm | 72mm | 124mm | 151mm | 200mm | 325mm | 18mm | 320mm |
| | | 381.32ft-lbs | 128lbs | 9.84" | 3.54" | 2.83" | 4.88" | 5.94" | 7.87" | 12.80" | 0.71" | 12.60" |

SS Series



| Model | Applicable Model | Center Height | Weight | A | B | C | D |
|-------|------------------|---------------|--------|-------|-------|-------|-------|
| SS110 | JNC140 | 110mm | 9kg | 160mm | 110mm | 100mm | 14mm |
| | | 4.33" | 22lbs | 6.30" | 4.33" | 3.94" | 0.55" |
| SS135 | JNC170,YNCP170 | 135mm | 10kg | 185mm | 135mm | 100mm | 14mm |
| | | 5.31" | 23lbs | 7.28" | 5.31" | 3.94" | 0.55" |
| SS160 | JNC200,YNCP200 | 160mm | 11kg | 210mm | 160mm | 100mm | 18mm |
| | | 6.30" | 24lbs | 8.27" | 6.30" | 3.94" | 0.71" |
| SS200 | JNC250,YNCP250 | 200mm | 12mm | 250mm | 200mm | 110mm | 18mm |
| | | 7.87" | 27lbs | 9.84" | 7.87" | 4.33" | 0.71" |

Outside mount type rotary joint



| Model | Number of ports | Applicable Pressure (Mpa) | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | | |
|-----------------|-----------------|---------------------------|-----|----------------|-----------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------------|----------------------|----------------------|---------------------------|--|
| JNC 140 L/R | -SJ4L | 4 | 3.5 | 87mm 3.43" | 229mm 9.02" | 91mm 3.58" | 128mm 5.04" | 10mm 0.39" | 20mm 0.79" | 36mm 1.42" | 32mm 1.26" | 95mm 3.74" | 24mm 0.94" | 12mm 0.47" | 1.4mm 0.06" | 6-M6X10 (P.C.D.118) | 3-M6X10 (P.C.D.78) | - | |
| JNC (H) 170 L/R | -SJ6L | 6 | 3.5 | 97mm 3.82" | 283mm 11.14" | 140mm 5.51" | 128mm 5.04" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 108mm 4.25" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | 6-M8X12 (P.C.D.150) | 3-M6X15 (P.C.D.88) | 14h7 Projection 6mm | |
| | -SJ6H | 6 | 7.0 | 105mm 4.13" | 283mm 11.14" | 140mm 5.51" | 128mm 5.04" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 108mm 4.25" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | | | | |
| JNC (H) 200 L/R | -SJ6L | 6 | 3.5 | 97mm 3.82" | 303mm 11.93" | 140mm 5.51" | 148mm 5.83" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 130mm 5.12" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | 6-M10X12 (P.C.D.172) | 3-M8X15 (P.C.D.115) | | |
| | -SJ6H | 6 | 7.0 | 105mm 4.13" | 303mm 11.93" | 140mm 5.51" | 148mm 5.83" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 130mm 5.12" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | | | | |
| JNC (H) 250 L/R | -SJ6L | 6 | 3.5 | 122mm 4.80" | 358mm 14.09" | 140mm 5.51" | 168mm 6.61" | 15mm 0.59" | 32mm 1.26" | 54mm 2.13" | 44mm 1.74" | 153mm 6.02" | 39mm 1.54" | 15mm 0.59" | 1.8mm 0.07" | 6-M10X17 (P.C.D.210) | 3-M10X15 (P.C.D.130) | | |
| | -SJ6H | 6 | 7.0 | 105mm 4.13" | 323mm 12.72" | 175mm 6.89" | 168mm 6.61" | 15mm 0.59" | 25mm 1.09" | 43mm 1.69" | 36mm 1.42" | 108mm 4.25" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | 6-M8X12 (P.C.D.150) | 3-M6X15 (P.C.D.88) | | |
| YNC (P) 170 L/R | -SJ6L | 6 | 3.5 | 97mm 3.82" | 323mm 12.72" | 175mm 6.89" | 168mm 6.61" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 108mm 4.25" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | | | | |
| | -SJ6H | 6 | 7.0 | 105mm 4.13" | 323mm 12.72" | 175mm 6.89" | 168mm 6.61" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 108mm 4.25" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | | | | |
| YNC (P) 200 L/R | -SJ6L | 6 | 3.5 | 97mm 3.82" | 347mm 13.66" | 140mm 5.51" | 192mm 7.56" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 130mm 5.12" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | 6-M10X12 (P.C.D.172) | 3-M8X15 (P.C.D.115) | | |
| | -SJ6H | 6 | 7.0 | 105mm 4.13" | 347mm 13.66" | 140mm 5.51" | 192mm 7.56" | 15mm 0.59" | 25mm 0.98" | 43mm 1.69" | 36mm 1.42" | 130mm 5.12" | 34mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | | | | |
| YNC (P) 250 L/R | -SJ6L | 6 | 3.5 | 122mm 4.80" | 410mm 16.14" | 175mm 6.89" | 220mm 8.66" | 15mm 0.59" | 32mm 1.26" | 54mm 2.13" | 44mm 1.74" | 153mm 6.02" | 39mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | 6-M10X17 (P.C.D.210) | 3-M10X15 (P.C.D.130) | | |
| | -SJ6H | 6 | 7.0 | 122mm 4.80" | 410mm 16.14" | 175mm 6.89" | 220mm 8.66" | 15mm 0.59" | 32mm 1.26" | 54mm 2.13" | 44mm 1.74" | 153mm 6.02" | 39mm 1.34" | 15mm 0.59" | 1.8mm 0.07" | | | | |

PIONEER Premium Rotary Tables





**4th Axis
Standard**
P.30



**5 Axis
Trunnion Models**
P.46



**4th Axis
Large Size**
P.34



**5 Axis Manual
Tilting Rotary Table**
P.48



**4th Axis
Big Bore**
P.36



IDX Controller
P.52



**4th Axis Back
Mounted Motor**
P.38



**Manual Tilting
Tailstocks**
P.54



**4th Axis Roller Cam
Rotary Table**
P.40



**4th Axis
Multi-Spindle Type**
P.42



**5 Axis
Tilting Table**
P.44

4th Axis - AX4 - 170-320mm



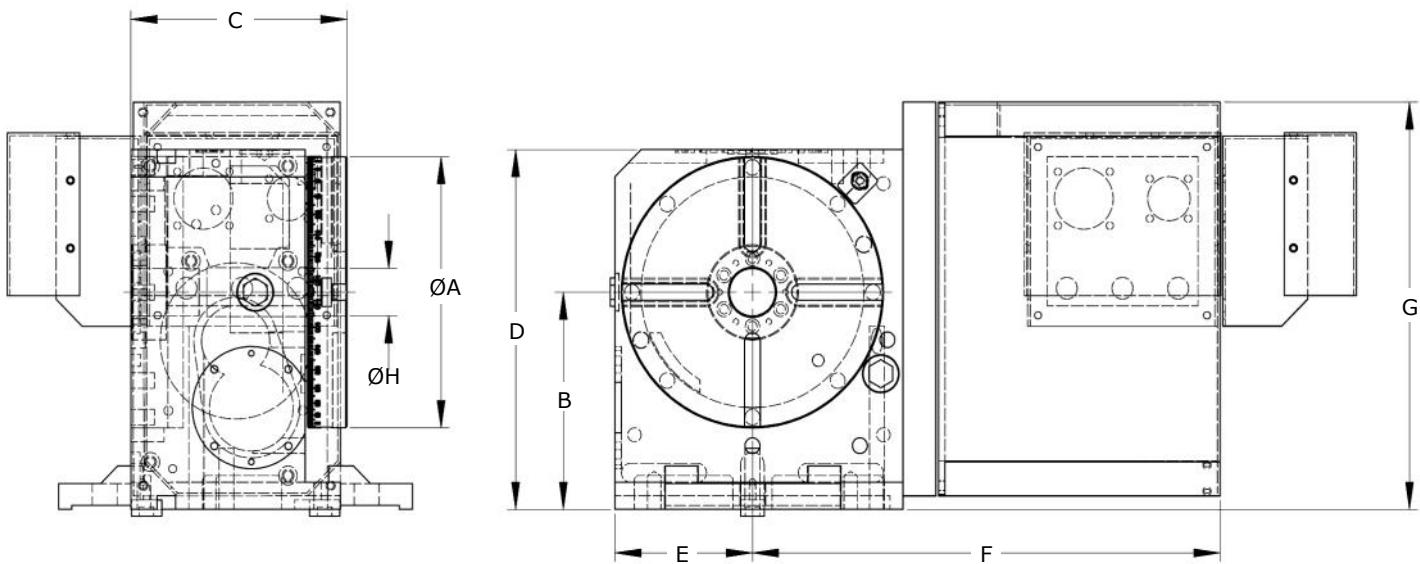
- Combination of case hardened special alloy screw and special high tensile strength brass worm wheel ensures exceptional wear resistant and long durability
- Dual lead worm screw for easy backlash adjustment
- Large diameter worm wheel for extra rigidity, smoothness and torque transfer efficiency
- Double bearing design and solid one piece face plate & spindle for extra rigidity
- Large thru hole standard on most face plate sizes

Available as :

- Integrated 4th axis
- Indexer with a programmable control box
- Optional air purge for water protection
- Left hand configurations
- Super high resolution with optional rotary scale

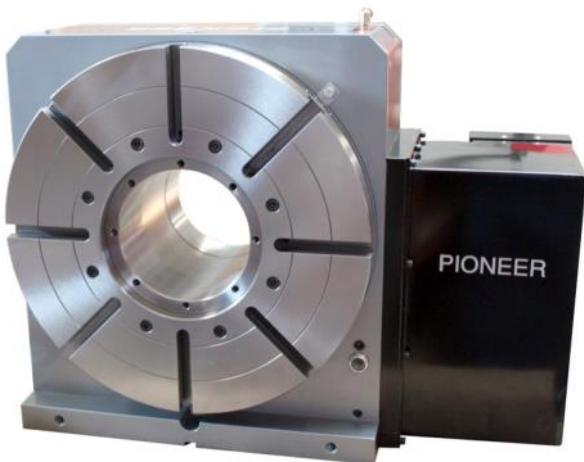
| Model | AX4-171R | | AX4-200R | | AX4-250R | | AX4-320R | | |
|----------------------------|-------------------|----------|-----------|----------|-------------|----------|-------------|----------|------------|
| Table Diameter | 170mm | 6.69" | 200mm | 7.87" | 250mm | 9.84" | 320mm | 12.6" | |
| Center Height | 160mm | 6.30" | 160mm | 6.30" | 185mm | 7.28" | 210mm | 8.27" | |
| Center Hole | 35mm H7 | 1.38" H7 | 35mm H7 | 1.38" H7 | 70mm H7 | 2.76" H7 | 110mm H7 | 4.33" H7 | |
| Guide Block Width | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | |
| T-slot Width | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 | 14mm h7 | 0.55" h7 | |
| FANUC servo motor | aiF4 | | aiF4 | | aiF4/8 | | aiF12 | | |
| Max. RPM | 22.2 | | 22.2 | | 11.1 / 22.2 | | 11.1 / 22.2 | | |
| Gear Ratio | 1:90 | | 1:90 | | 1:180/1:90 | | 1:180/1:90 | | |
| Indexing Accuracy arc sec. | ± 12.5 | | ± 12.5 | | ± 10 | | ± 10 | | |
| Net Weight without motors | 70kg | 155lbs | 84kg | 185lbs | 124kg | 275lbs | 210kg | 463lbs | |
| Clamp Torque | Pneumatic @72psi | 245Nm | 181ft-lbs | 245Nm | 181ft-lbs | 461Nm | 340ft-lbs | 696Nm | 514ft-lbs |
| | Hydraulic @286psi | 490Nm | 361ft-lbs | 490Nm | 361ft-lbs | 921Nm | 679ft-lbs | 1392Nm | 1026ft-lbs |
| Vertical Weight Limit | | 75kg | 165lbs | 100kg | 220lbs | 125kg | 275lbs | 150kg | 330lbs |
| Horizontal Weight Limit | | 150kg | 330lbs | 200kg | 440lbs | 300kg | 660lbs | 350kg | 770lbs |
| Horizontal Load Limit | | 7,840 N | 1,762lbf | 8,055N | 1,810lbf | 1,1840N | 2,662lbf | 1,3475N | 3,030lbf |
| Circumference Load Force | | 245Nm | 181ft-lbs | 245Nm | 181ft-lbs | 461Nm | 340ft-lbs | 696Nm | 514ft-lbs |
| Vertical Load Limit | | 392Nm | 290ft-lbs | 490Nm | 361ft-lbs | 705Nm | 520ft-lbs | 900Nm | 665ft-lbs |

* All specifications are subject to change without prior notice.



| PART NUMBER | A DIA. | B | C | D | E | F | G | H HOLE |
|-----------------|--------|-------|-------|-------|-------|-------------|-------|----------|
| AX4-171R | 170mm | 160mm | 165mm | 265mm | 105mm | 355mm aif4 | 300mm | 35mm H7 |
| AX4-200R | 200mm | 160mm | 165mm | 265mm | 105mm | 355mm aif4 | 300mm | 35mm H7 |
| AX4-250R | 250mm | 185mm | 200mm | 315mm | 130mm | 417mm aif8 | 315mm | 70mm H7 |
| AX4-320R | 320mm | 210mm | 240mm | 380mm | 170 | 430mm aif12 | - | 110mm H7 |

4th Axis - AX4 - 400-800mm

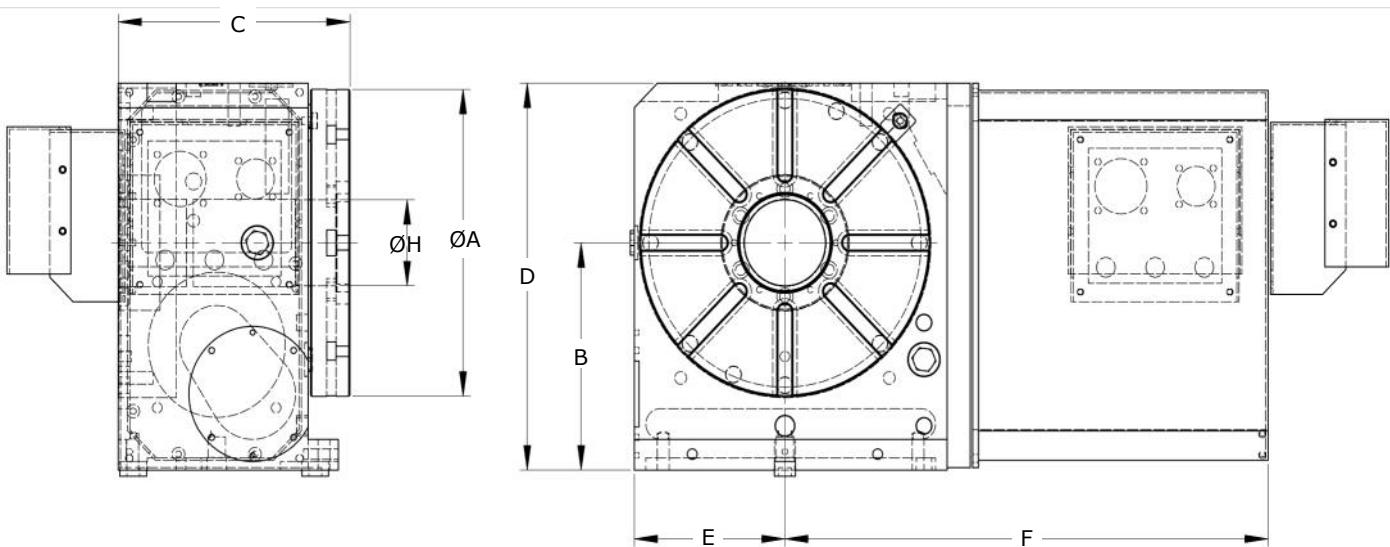


- Combination of case hardened special alloy screw and special high tensile strength brass worm wheel ensures exceptional wear resistant and long durability.
- Dual lead worm screw for easy backlash adjustment
- Large diameter worm wheel for extra rigidity, smoothness and torque transfer efficiency
- Double bearing design and solid one piece face plate & spindle for extra rigidity
- Large thru hole standard on most face plate sizes

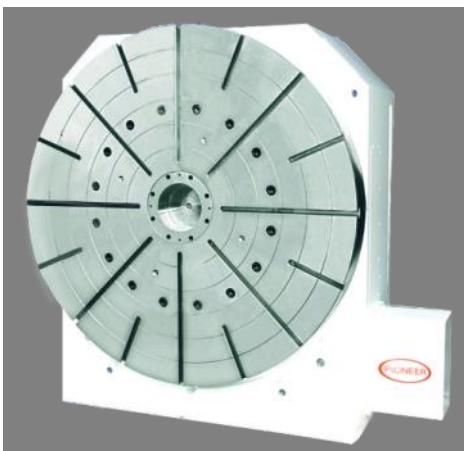
Available as :

- Integrated 4th axis
- Indexer with a programmable control box
- Optional air purge for water protection
- Left hand configurations
- Super high resolution with optional rotary scale

| Model | AX4-400R | | AX4-500R | | AX4-630R | | AX4-800R | |
|----------------------------|-------------------|----------|-------------|----------|-------------|----------|-------------|-------------|
| Table Diameter | 400mm | 15.75" | 500mm | 19.68" | 630mm | 24.8" | 800mm | 31.5" |
| Center Height | 250mm | 9.84" | 310mm | 12.2" | 400mm | 15.75" | 480mm | 18.9" |
| Center Hole | 150mm H7 | 5.91" H7 | 180mm H7 | 7.09" H7 | 254mm H7 | 10 H7" | 254mm H7 | 10" H7 |
| Guide Block Width | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 22mm h7 | 0.87" h7 |
| T-slot Width | 14mm H7 | 0.55" H7 | 18mm H7 | 0.71" H7 | 18mm H7 | 0.71" H7 | 20mm H7 | 0.79" H7 |
| FANUC servo motor | aiF12 | | aiF12/aiF22 | | aiF22 | | aiF22 | |
| Max. RPM | 22.2 | | 16.7 | | 11.1 | | 11.1 | |
| Gear Ratio | 1:90 | | 1:120 | | 1:180 | | 1:180 | |
| Indexing Accuracy arc sec. | ± 7.5 | | ± 7.5 | | ± 7.5 | | ± 7.5 | |
| Net Weight without motors | 280kg | 616lbs | 380kg | 836lbs | 860kg | 1,892lbs | 1,200kg | 2,640lbs |
| Clamp Torque | Pneumatic @72psi | 902Nm | 665ft-lbs | 1,225Nm | 904ft-lbs | 3,430Nm | 2,529ft-lbs | 4,214Nm |
| | Hydraulic @286psi | 1,803Nm | 1,330ft-lbs | 2,450Nm | 1,807ft-lbs | 6,860Nm | 5,060ft-lbs | 7,588ft-lbs |
| Vertical Weight Limit | | 300kg | 660lbs | 350kg | 770lbs | 400kg | 880lbs | 500kg |
| Horizontal Weight Limit | | 500kg | 1,100lbs | 600kg | 1,320lbs | 800kg | 1,760lbs | 1,000kg |
| Horizontal Load Limit | | 15,533 N | 3,942lbf | 18,424 N | 4142lbf | 20,384 N | 4582lbf | 25,480 N |
| Circumference Load Force | | 902Nm | 665ft-lbs | 1,225Nm | 903ft-lbs | 3,432Nm | 2,529ft-lbs | 4,214Nm |
| Vertical Load Limit | | 1,195Nm | 882ft-lbs | 1,617Nm | 1,192ft-lbs | 2,234Nm | 1,648ft-lbs | 2,793Nm |
| | | | | | | | | 2,060ft-lbs |



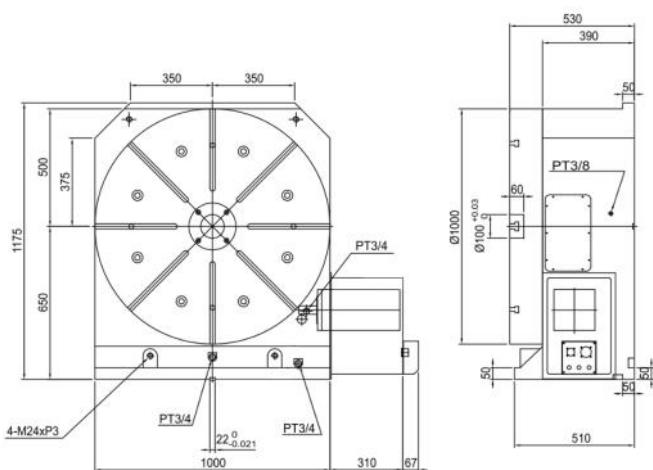
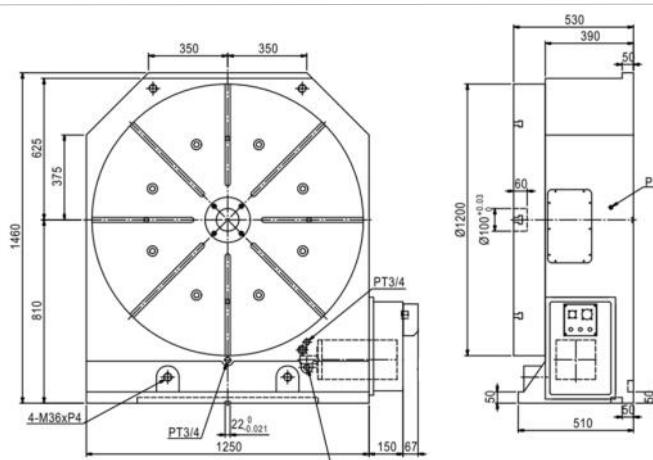
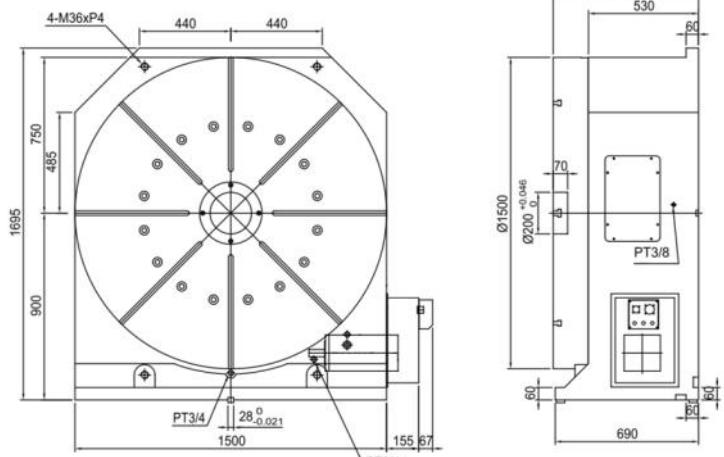
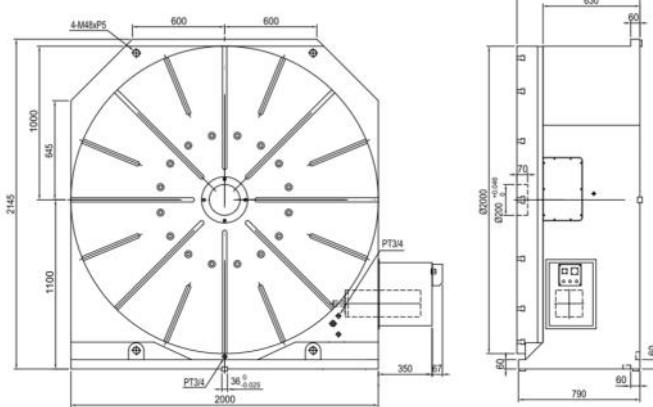
| PART NUMBER | A DIA. | B | C | D | E | F | H HOLE |
|-----------------|--------|-------|-------|-------|-------|-------------|----------|
| AX4-400R | 400mm | 250mm | 250mm | 460mm | 210mm | 462mm aif12 | 150mm H7 |
| AX4-500R | 500mm | 310mm | 290mm | 570mm | 260mm | 510mm aif12 | 180mm H7 |
| AX4-630R | 630mm | 400mm | 320mm | 725mm | 325mm | 652mm aif22 | 254mm H7 |
| AX4-800R | 800mm | 480mm | 340mm | 880mm | 400mm | 727mm aif22 | 254mm H7 |



- Table size available from 1,000mm to 2,000mm
- Available in both vertical & horizontal position
- Heavy loading capacity axial-radial roller bearings are incorporated to provide higher rigidity
- Custom design available for various applications
- Super high resolution of +/- 5 sec with direct measuring rotary scale available as option

*Available resolution varies depending on the grade of the rotary scale

| Model | AX4-1000HV | | AX4-1200HV | | AX4-1500HV | | AX4-2000HV | |
|--|------------|-------------|-------------|-------------|-------------|---------------|---------------|---------------|
| Table Diameter | 1000mm | 39.37" | 1,200mm | 47.24" | 1,500mm | 59.06" | 2,000mm | 78.74" |
| Center Height in Vertical | 650mm | 25.59" | 810mm | 31.89" | 900mm | 35.43" | 1100mm | 43.31" |
| Table Height in Horizontal | 530mm | 20.87" | 530mm | 20.87" | 700mm | 27.56" | 800mm | 31.5" |
| Center Holes | 100x60mm | 3.94x2.36" | 100x60mm | 3.94x2.36" | 200x70mm | 7.87x2.76" | 200x70mm | 7.87x2.76" |
| Guide Block Width | 22mm h7 | 0.87" h7 | 22mm h7 | 0.87" h7 | 28mm H7 | 1.10" H7 | 36mm h7 | 1.42" h7 |
| T-slot Width | 22mm H7 | 0.87" H7 | 22mm H7 | 0.87" H7 | 22mm H7 | 0.87" H7 | 28mm H7 | 1.10" H7 |
| FANUC servo motor | aiF30 | | aiF30 | | aiF30 | | aiF40 | |
| Gear Ratio | 1:360 | | 1:360 | | 1:720 | | 1:720 | |
| Min. Indexing (degree) | 0.001° | | 0.001° | | 0.001° | | 0.001° | |
| Max. RPM | 5.56 | | 5.56 | | 2.78 | | 2.78 | |
| Clamp System | Hydraulic | | | | | | | |
| Clamp Torque @500psi | 10,780Nm | 7,950ft-lbs | 10,780Nm | 7,950ft-lbs | 14,700Nm | 10,840 ft-lbs | 19,600Nm | 14,454 ft-lbs |
| Indexing Accuracy arc sec. | ± 7.5 | | ± 7.5 | | ± 7.5 | | ± 7.5 | |
| Indexing Accuracy w/ Rotary Scale (optional) | ± 5 | | ± 5 | | ± 5 | | ± 5 | |
| Net weight without motors | 2,500kg | 5,500lbs | 3,500kg | 7,700lbs | 6,000kg | 13,200lbs | 8,000kg | 17,600lbs |
| Vertical Weight Limit | | 1,500kg | 3,300lbs | 2,000kg | 4,400lbs | 3,000kg | 6,600lbs | 4,000kg |
| Horizontal Weight Limit | | 3,500kg | 7,700lbs | 5,000kg | 11,000lbs | 8,000kg | 17,600lbs | 10,000kg |
| Horizontal Load Limit | | 29,400 N | 6,610lbf | 29,400 N | 6,610lbf | 49,000 N | 11,015lbf | 58,800 N |
| Circumference Load Force | | 10,780Nm | 7,950ft-lbs | 10,780Nm | 7,950ft-lbs | 14,700Nm | 10,840 ft-lbs | 19,600Nm |
| Vertical Load Limit | | 9,800Nm | 7,227ft-lbs | 9,800Nm | 7,227ft-lbs | 14,700Nm | 10,840 ft-lbs | 19,600Nm |

AX-1000HV**AX-1200HV****AX-1500HV****AX-2000HV**

4th Axis - AX4 800mm Big Bore

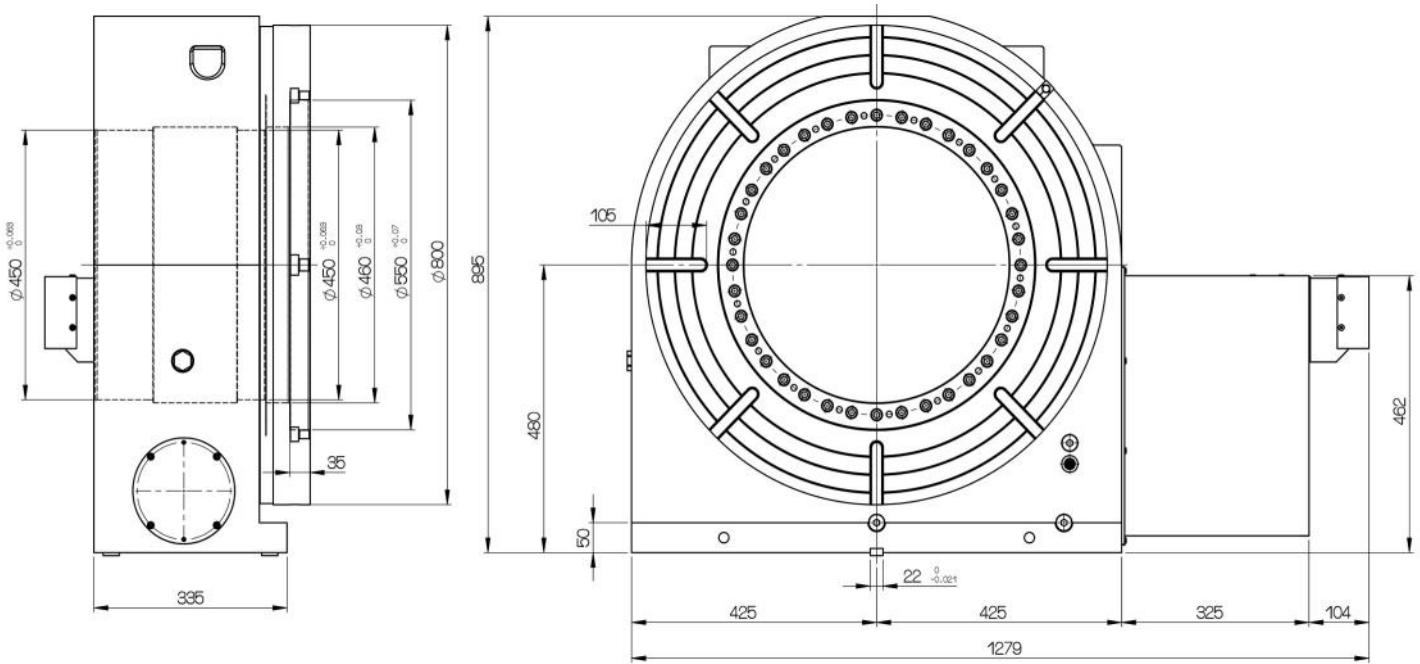


- Table size available 800mm
- Big Bore Design—450mm ID (17.7")
- Available in both vertical & horizontal position
- Heavy loading capacity axial-radial roller bearings are incorporated to provide higher rigidity
- Custom design available for various applications
- Super high resolution of +/- 5 sec with direct measuring rotary scale available as option

*Available resolution varies depending on the grade of the rotary scale

| Model | AX-800BR | |
|--------------------------------|-----------|--------------|
| Table Diameter | 800mm | 31.5" |
| Center Height | 480mm | 18.9" |
| Center Hole | 450mm H7 | 17.7" H7 |
| Guide Block Width | 22mm h7 | 0.87" h7 |
| T-slot Width | 20mm H7 | 0.79" H7 |
| FANUC servo motor | aiF22 | |
| Max. RPM | 11.1 | |
| Gear Ratio | 1:180 | |
| Indexing Accuracy arc sec. | ± 7.5 | |
| Net Weight without motors | 1,060kg | 2,337lbs |
| Brake Torque Hydraulic @286psi | 15,690Nm | 11,573ft-lbs |
| Vertical Weight Limit | 1,500kg | 3,307lbs |
| Horizontal Weight Limit | 3,000kg | 6,614lbs |
| Horizontal Load Limit | 49,033 N | 11,023lbf |
| Circumference Load Force | 15,690Nm | 11,573 |
| Vertical Load Limit | 15,690Nm | 2,070ft-lbs |

AX4-800BR

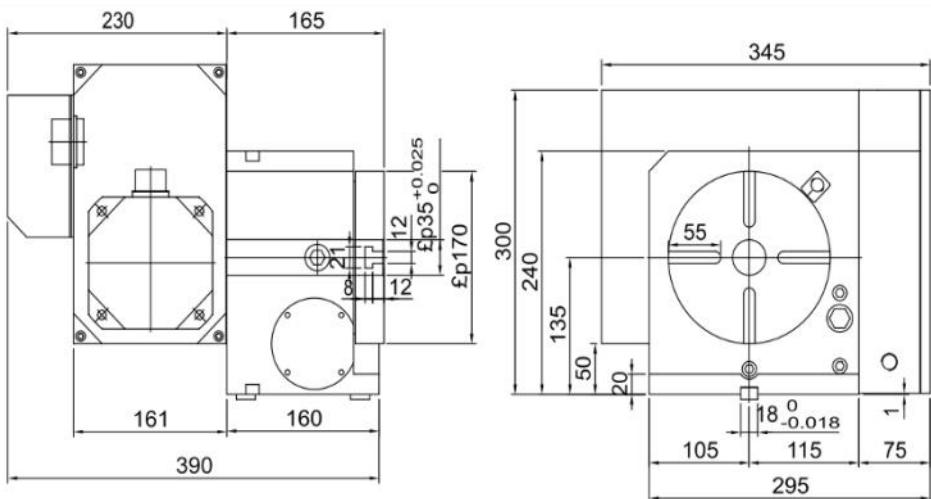
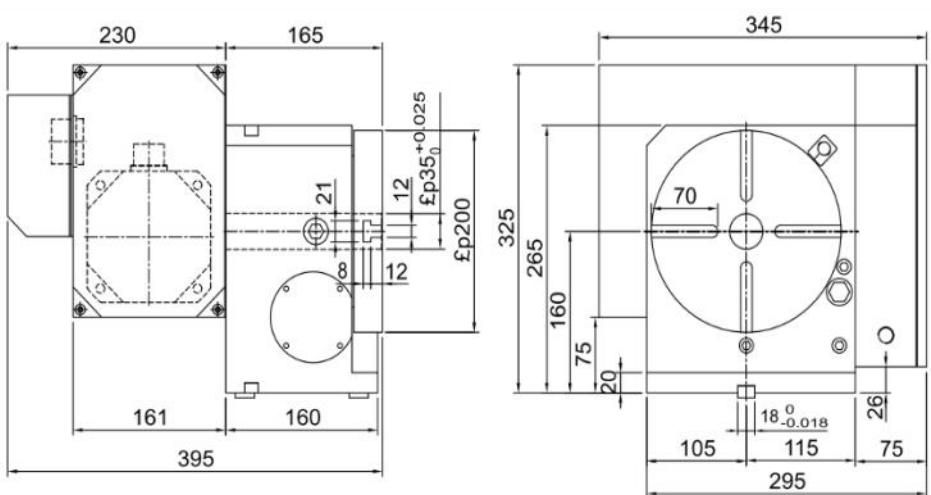
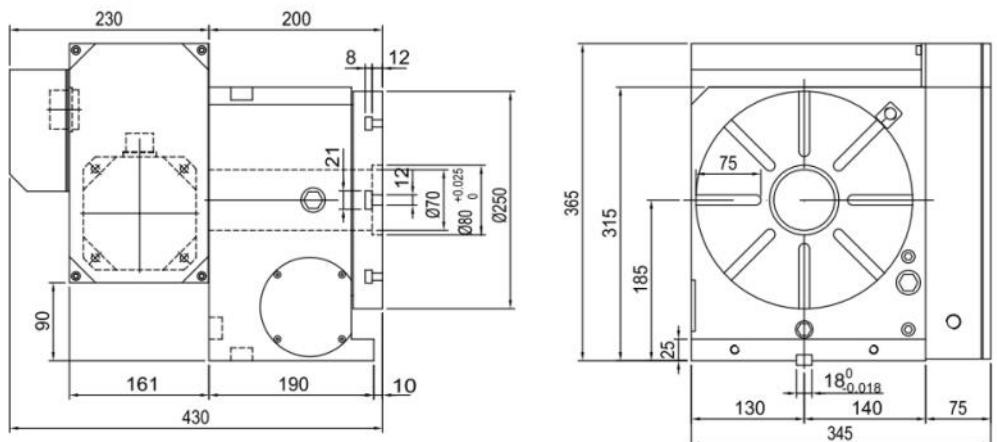


4th Axis - AX4 Back Mount Motor



- Back-Mounted Motor, avoid the interference with M/C splash guard
- Suitable for small-size of AX Machining / Tapping-Center.
- **This model cannot be installed for horizontal use.**

| Model | AX4-120RB | | AX4-170RB | | AX4-200RB | | AX4-250RB | |
|----------------------------|-------------------|----------|-----------|----------|-----------|----------|-----------|-----------|
| Table Diameter | 120mm | 4.72" | 170mm | 6.69" | 200mm | 7.87" | 250mm | 9.84" |
| Center Height | 115mm | 4.53" | 135mm | 5.31" | 160mm | 6.30" | 185mm | 7.28" |
| Center Hole | 30mm H7 | 1.18" H7 | 35mm H7 | 1.38" H7 | 35mm H7 | 1.38" H7 | 52mmH7 | 2.05" H7 |
| Guide Block Width | 14mm h7 | 0.55" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| T-slot Width | 10mm H7 | 0.39" H7 | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 |
| FANUC servo motor | aiF2 | | aiF4 | | aiF4 | | aiF4 | |
| Max. RPM | 33.3 | | 22.2 | | 22.2 | | 22.2 | |
| Gear Ratio | 1:60 | | 1:90 | | 1:90 | | 1:90 | |
| Indexing Accuracy arc sec. | ± 30 | | ± 12.5 | | ± 12.5 | | ± 12.5 | |
| Net Weight without motors | 70kg | 154lbs | 70kg | 154lbs | 84kg | 185lbs | 124kg | 273lbs |
| Clamp Torque | Pneumatic @72psi | 118Nm | 87ft-lbs | 245Nm | 180ft-lbs | 245Nm | 180ft-lbs | 460Nm |
| | Hydraulic @286psi | 235Nm | 174ft-lbs | 490Nm | 362ft-lbs | 490Nm | 362ft-lbs | 922Nm |
| Vertical Weight Limit | | 35kg | 77lbs | 75kg | 165lbs | 100kg | 220lbs | 125kg |
| Horizontal Weight Limit | | 75kg | 165lbs | 150kg | 330lbs | 200kg | 440lbs | 300kg |
| Horizontal Load Limit | | 5,880 N | 1,322lbf | 7,840 N | 1,762lbf | 8,055 N | 1,811lbf | 11,838 N |
| Circumference Load Force | | 118Nm | 87ft-lbs | 245Nm | 180ft-lbs | 245Nm | 180ft-lbs | 460Nm |
| Vertical Load Limit | | 118Nm | 87ft-lbs | 392Nm | 290ft-lbs | 490Nm | 363ft-lbs | 705Nm |
| | | | | | | | | 522ft-lbs |

AX-170RB**AX-200RB****AX-250RB**

4th Axis - AX4 Roller Cam

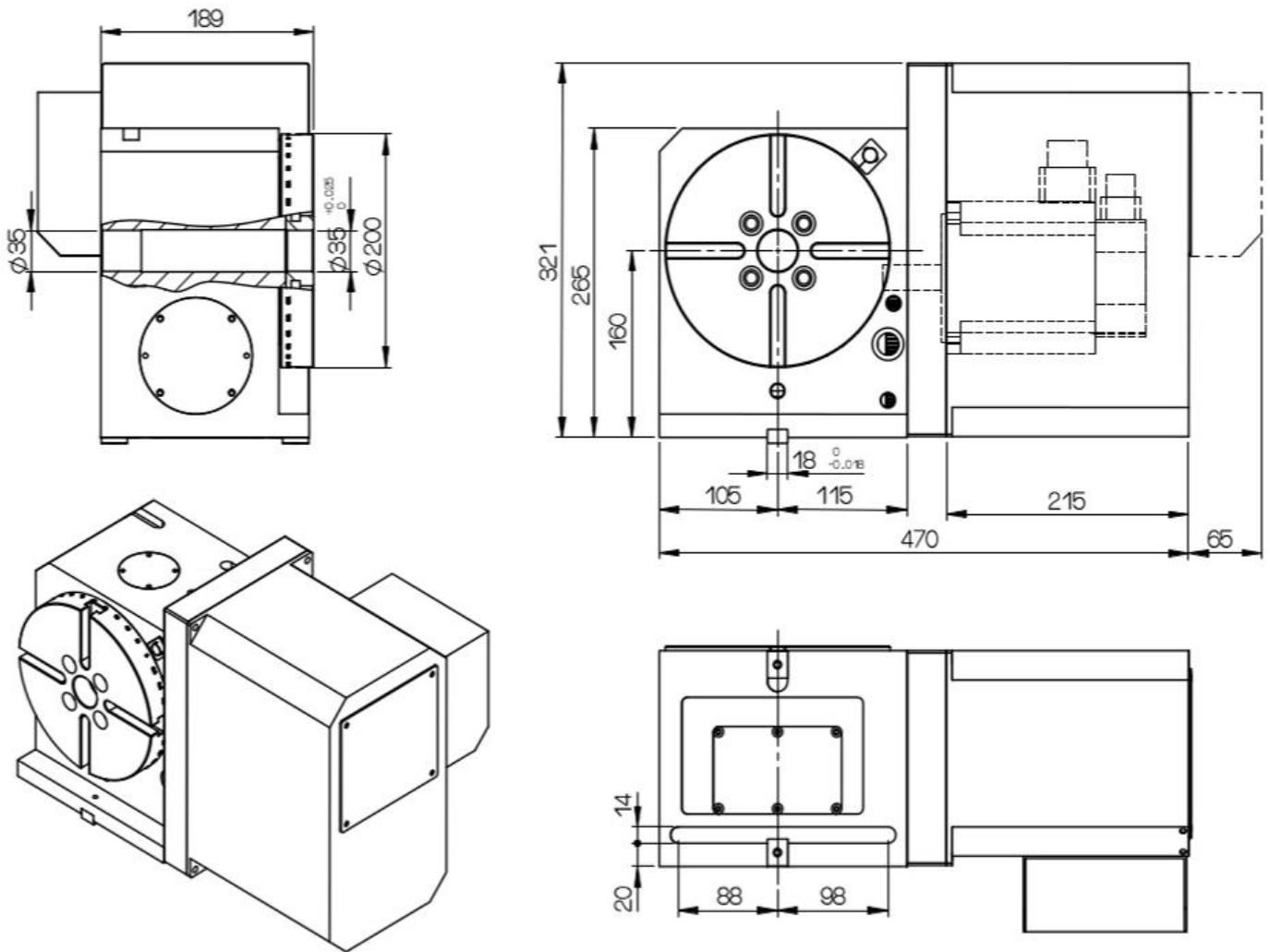


- Roller Cam Gear System has many advantages over conventional worm gearing system
 - Higher RPM
 - Higher rigidity
 - Higher accuracy compared to conventional worm gear system
- Maintenance Free – unique Zero-Backlash design requires no backlash adjustments

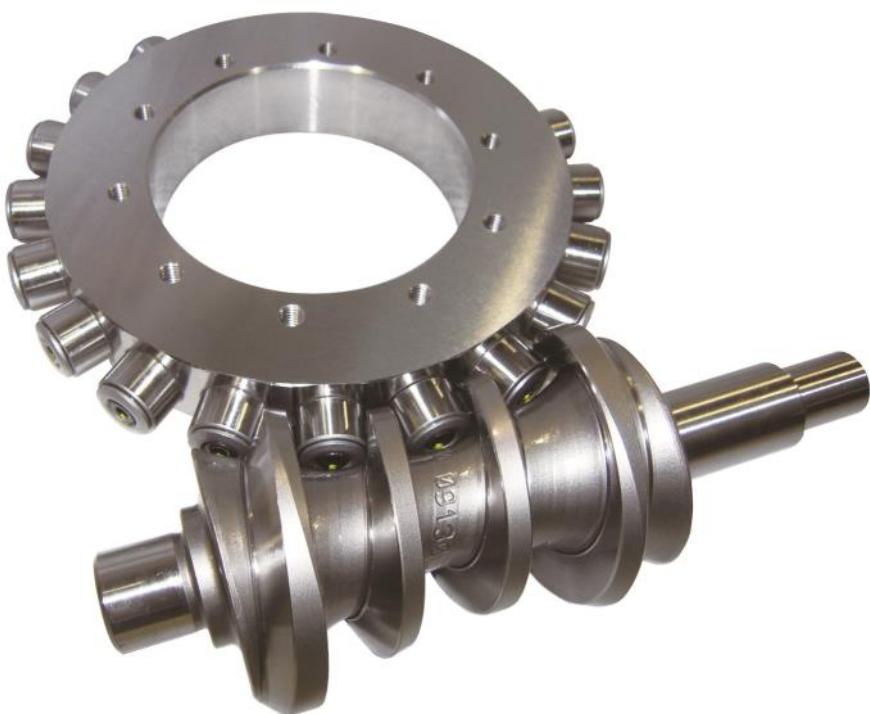
Available as :

- Integrated 4th axis
- Indexer with a programmable control box
- Optional air purge for water protection
- Left hand configurations
- Super high resolution with optional rotary scale

| Model | RCT-170R | RCT-200R | RCT-250R | RCT-320R |
|----------------------------|-------------------|---------------------|-------------------|---------------------|
| Table Diameter | 170mm | 6.69" | 200mm | 7.87" |
| Center Height | 135mm | 5.31" | 160mm | 6.30" |
| Center Hole | 35mm H7 / 35mm | 1.37" H7 / 1.37" | 35mm H7 / 35mm | 1.37" H7 / 1.37" |
| Guide Block Width | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| T-slot Width | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 |
| FANUC servo motor | aiF4 | aiF4 | aiF8 | aiF8 |
| Max. RPM | 66.6 | 50 | 50 | 33.3 |
| Gear Ratio | 1:30 | 1:40 | 1:40 | 1:60 |
| Indexing Accuracy arc sec. | ± 10 | ± 10 | ± 10 | ± 10 |
| Net Weight without motors | 65kg | 143lbs | 80kg | 176lbs |
| Clamp Torque | Pneumatic @72psi | 245Nm | 181ft-lbs | 245Nm |
| | Hydraulic @286psi | 490Nm | 361ft-lbs | 490Nm |
| Vertical Weight Limit | 75 kg | 165lbs | 75 kg | 165lbs |
| Horizontal Weight Limit | 150 kg | 331lbs | 150 kg | 330.69lbs |
| Horizontal Load Limit | 7840 N | 1762lbf | 7,840 N | 1762lbf |
| Circumference Load | 245Nm | 181ft-lbs | 245Nm | 181ft-lbs |
| Vertical Load Limit | 392 Nm | 289ft-lbs | 392 Nm | 289ft-lbs |



Roller Gear Cam Drive Assembly



4th Axis - AX4 Multi-Spindle



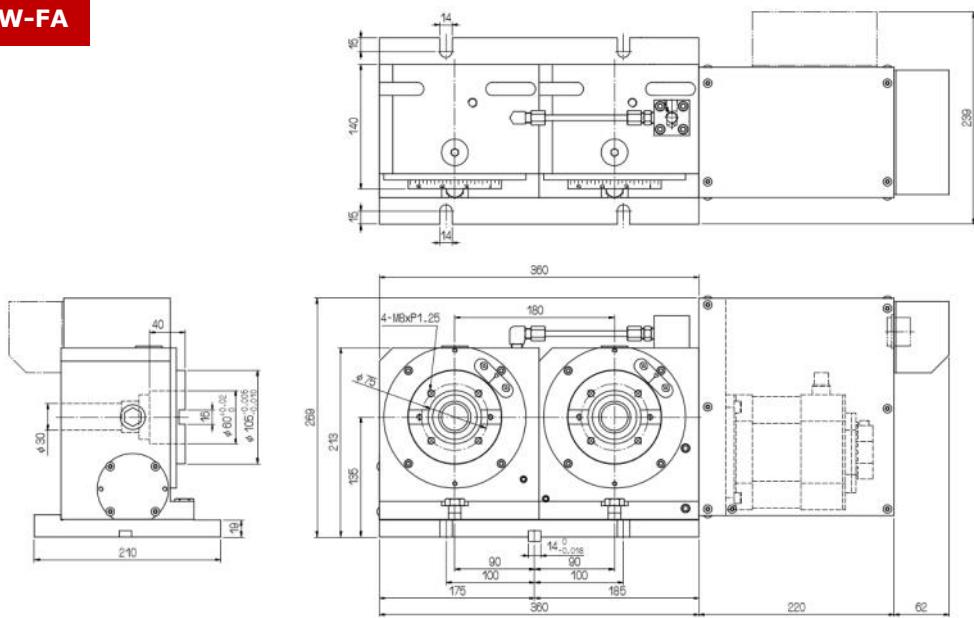
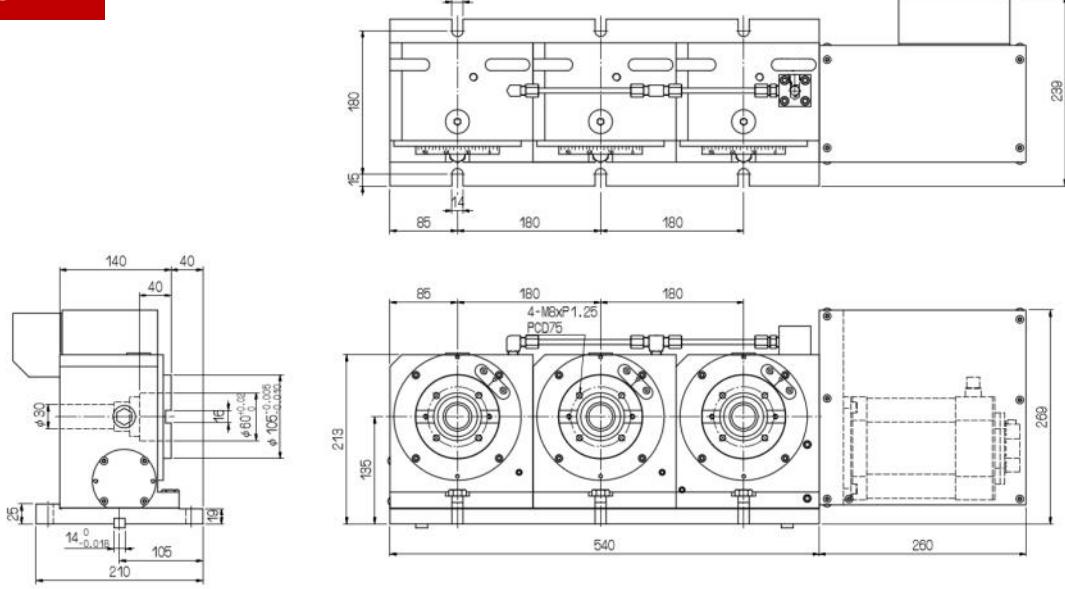
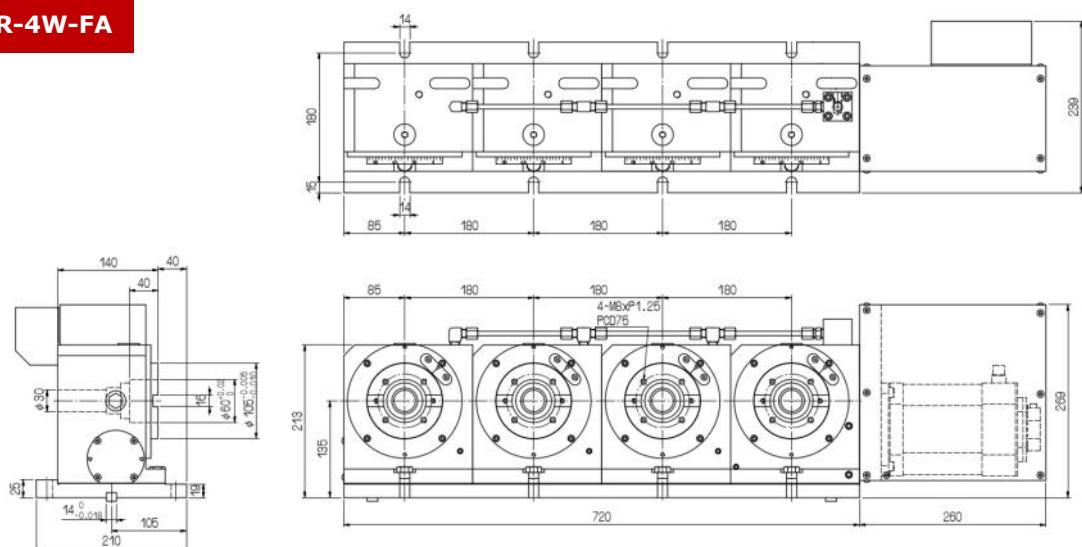
- Increase productivity - Available up to 4 spindles
- Combination of case hardened special alloy screw and special high tensile strength brass worm wheel ensures exceptional wear resistant and long durability.
- Dual lead worm screw for easy backlash adjustment
- Large diameter worm wheel for extra rigidity, smoothness and torque transfer efficiency
- Double bearing design and solid one piece face plate & spindle for extra rigidity

Available as :

- Integrated 4th axis
- Indexer with a programmable control box
- Optional air purge for water protection

170, 200, 250mm spindles sizes available upon request

| Model | | AX4-120R-2W (3W/4W) | |
|----------------------------------|-------------------|----------------------------|-----------|
| Table Diameter | | 120mm | 4.72" |
| Center Height | | 135mm | 5.31" |
| Center Hole | | 30mm H7 | 1.18" H7 |
| Guide Block Width | | 14mm h7 | 0.55" h7 |
| T-slot Width | | 10mm h7 | 0.39" h7 |
| FANUC servo motor | | aiF4 | |
| Max. RPM | | 33.3 | |
| Gear Ratio | | 1:60 | |
| Indexing Accuracy arc sec. | | ± 7.5 seconds | |
| Net Weight without motors | | | |
| Clamp Torque | Pneumatic @72psi | 118Nm | 87ft-lbs |
| | Hydraulic @286psi | 490Nm | 361ft-lbs |
| Vertical Weight Limit | | 35kg | 77lbs |
| Horizontal Weight Limit | | 75kg | 165lbs |
| Horizontal Load Limit | | 7840 N | 1762lbf |
| Circumference Load Force | | 118Nm | 87ft-lbs |
| Vertical Load Limit | | 176Nm | 130lbf |

AX4H-120R-2W-FA**AX4H-120R-3W-FA****AX4H-120R-4W-FA**

5th Axis - 100-320mm



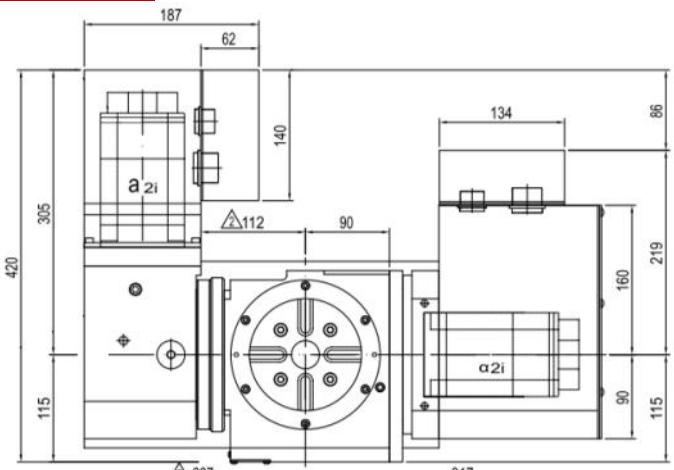
- Compact design with larger machine-able work space
- Combination of case hardened special alloy screw and special high tensile strength brass worm wheel ensures exceptional wear resistant and long durability.
- Dual lead worm screw for easy backlash adjustment
- Large diameter worm wheel for extra rigidity, smoothness and torque transfer efficiency
- Double bearing design and solid one piece face plate & spindle for extra rigidity

Available as :

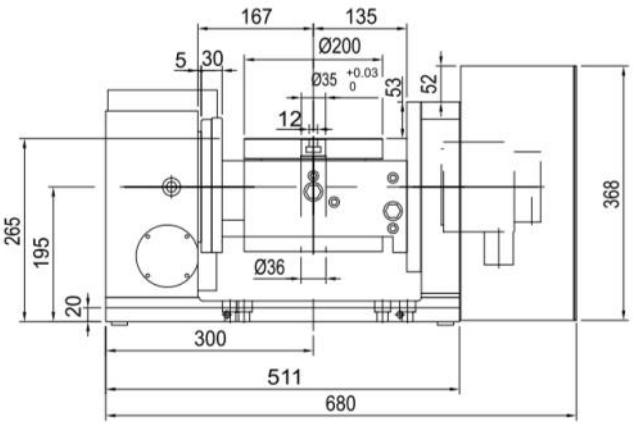
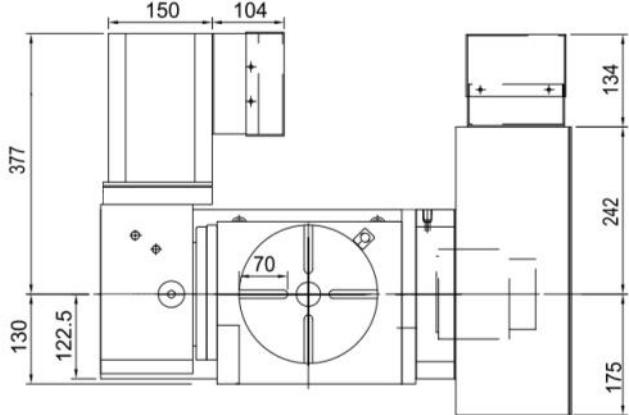
- Integrated 5th axis
- Integrated 4th axis + programmable controller on tilt axis
- Indexer with programmable control boxes on rotary and tilt axis
- Optional air purge for water protection
- Super high resolution with optional rotary scale

| Model | AX5-100 | | AX5-200 | | AX5-250 | | AX5-320 | |
|-------------------------------------|-------------|----------|------------|----------|------------|----------|------------|----------|
| Table Diameter | 120mm | 4.72" | 200mm | 7.87" | 250mm | 9.84" | 320mm | 12.6" |
| Center Height | 150mm | 5.91" | 195mm | 7.68" | 225mm | 8.86" | 255mm | 10.04" |
| Center Hole | 30mm H7 | 1.18" H7 | 35mm H7 | 1.38" H7 | 70mm H7 | 2.76" H7 | 110mm H7 | 4.33" H7 |
| Guide Block Width | 14mm h7 | 0.55" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| T-slot Width | 10mm H7 | 0.39" H7 | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 | 14mm H7 | 0.55" H7 |
| FANUC servo motor | Rotating | Tilting | Rotating | Tilting | Rotating | Tilting | Rotating | Tilting |
| | aiF2 | aiF2 | aiF4 | aiF8 | aiF4 | aiF8 | aiF8 | aiF12 |
| Tilting degree | -20°~120° | | -110°~110° | | -110°~110° | | -110°~110° | |
| Max. RPM | 27.8 | 16.7 | 22.2 | 11.1 | 22.1 | 11.1 | 11.1 | 11.1 |
| Gear Ratio | 1:72 | 1:120 | 1:90 | 1:180 | 1:90 | 1:180 | 1:180 | 1:180 |
| Indexing Accuracy arc sec. | ± 17.5 | ± 30 | ± 15 | ± 30 | ± 10 | ± 30 | ± 10 | ± 15 |
| Net Weight without motors | 105kg | 232lbs | 240kg | 530lbs | 280kg | 617lbs | 505kg | 1,111lbs |
| Clamp Torque (Pneumatic @72psi) | Rotary Axis | 118Nm | 87ft-lbs | 245Nm | 181ft-lbs | 490Nm | 361ft-lbs | 696Nm |
| | Tilt Axis | 118Nm | 87ft-lbs | 245Nm | 181ft-lbs | 490Nm | 361ft-lbs | 696Nm |
| Clamp Torque (Hydraulic @286psi) | Rotary Axis | 235Nm | 173ft-lbs | 490Nm | 361ft-lbs | 980Nm | 722ft-lbs | 1,392Nm |
| | Tilt Axis | 235Nm | 173ft-lbs | 490Nm | 361ft-lbs | 1,176Nm | 867ft-lbs | 1,392Nm |
| Max Weight Limit @ 0 deg | 35kg | 77lbs | 100kg | 220lbs | 100kg | 220lbs | 200kg | 440lbs |
| Max Weight Limit @ 90 deg | 20kg | 44lbs | 50kg | 110lbs | 60kg | 132lbs | 100kg | 220lbs |
| Horizontal Load Limit | | 3,920 N | 881lbf | 4,900 N | 1,101lbf | 11,760 N | 2,644lbf | 14,700 N |
| Circumference Load Limit | | 118Nm | 87ft-lbs | 245Nm | 181ft-lbs | 490Nm | 362ft-lbs | 696Nm |
| Vertical Load Limit | | 98Nm | 73ft-lbs | 147Nm | 110ft-lbs | 255Nm | 188ft-lbs | 343Nm |

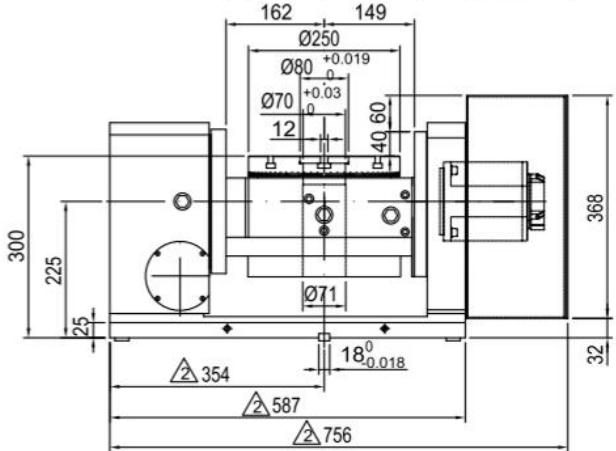
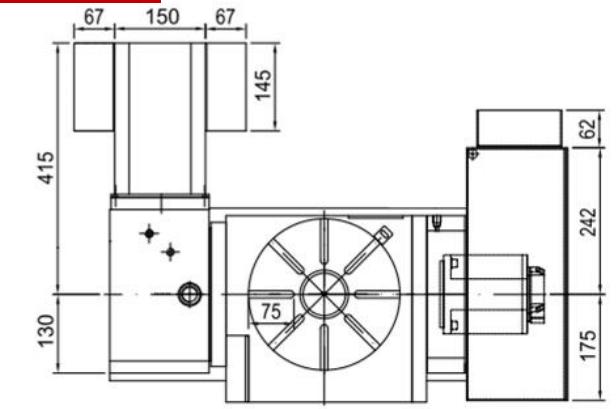
AX5-100



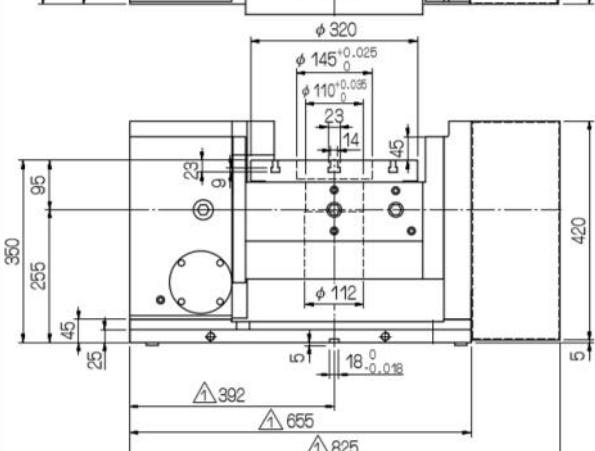
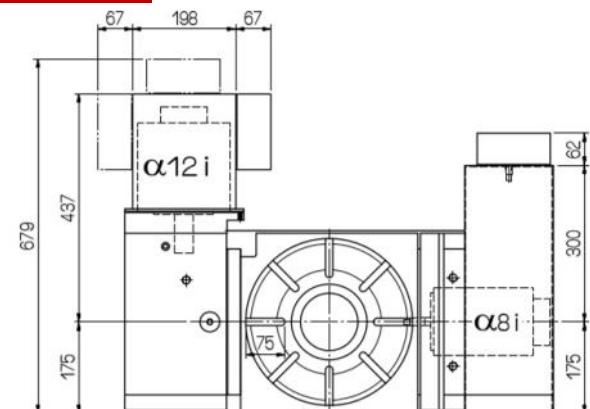
AX5-200



AX5-250



AX5-320

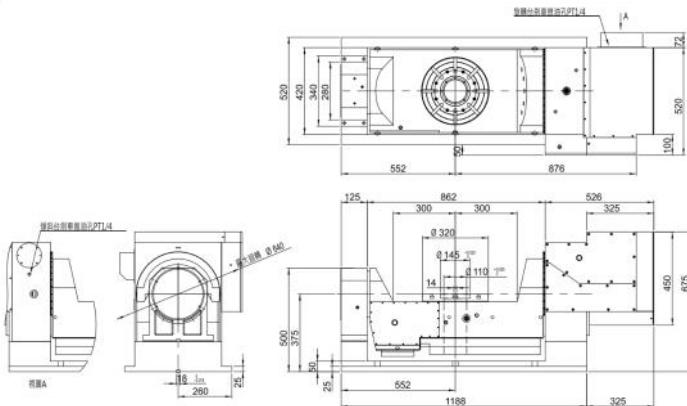
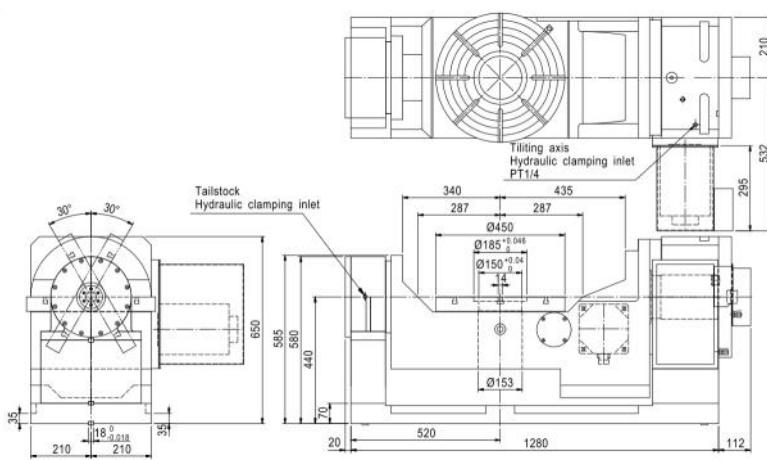
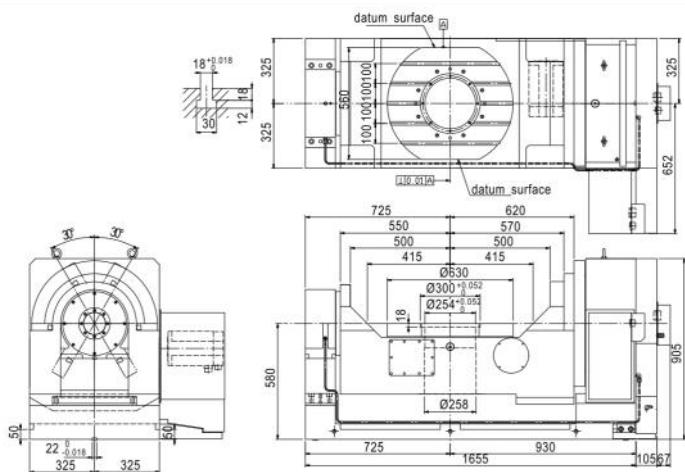
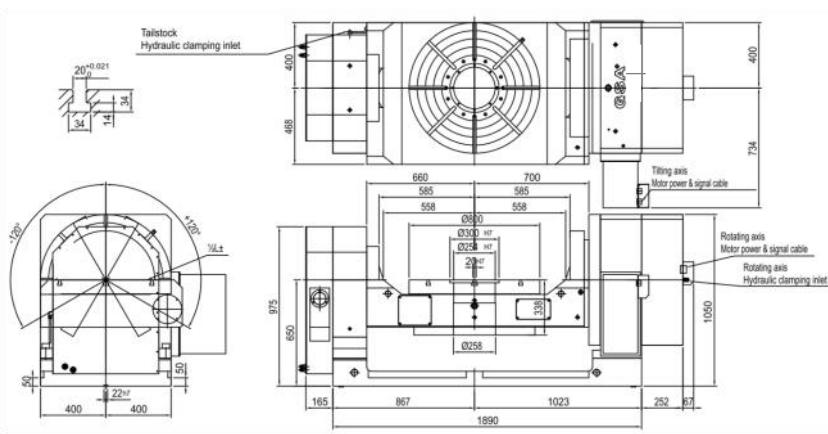


5th Axis - Trunnion 320-800mm



- Compact design with wide machining range.
- Up to 1 meter table M/C install available upon request
- Easy installation & operation.
- Compact design with wide machining range.
- Even an approx. 1 Meter Table M/C can be installed.
- To match 5 axis M/C for continuous machining, the tilting axis can connect to the M-code by using our single axis AC/DC/Stepping servo controller.

| Model | AX5-320RT | | AX5-450RT | | AX5-630RT | | AX5-800RT | |
|----------------------------------|--------------------------|--------------------|------------------------|--------------------|----------------------------|--------------------|----------------------------|---------------------|
| Table Diameter | 320mm | 12.6" | 450mm | 17.72" | 630mm | 24.8" | 800mm | 31.5" |
| Center Height | 375mm | 14.76" | 440mm | 17.32" | 580mm | 22.83" | 650mm | 25.59" |
| Center Hole | 145mm H7 | 5.71" H7 | 150mm H7 | 5.91" H7 | 254mm H7 | 10.0" H7 | 254mm H7 | 10.0" H7 |
| Guide Block Width | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 22mm h7 | 0.87" h7 | 22mm h7 | 0.87" h7 |
| T-slot Width | 14mm H7 | 0.55" H7 | 14mm H7 | 0.55" H7 | 18mm H7 | 0.71" H7 | 20mm H7 | 0.79" H7 |
| FANUC servo motor | Rotating aiF8 | Tilting aiF22 | Rotating aiF12 | Tilting aiF22 | Rotating aiF22 | Tilting aiF22 | Rotating aiF22 | Tilting aiF30 |
| Tilting degree | $\pm 120^\circ$ | | $\pm 120^\circ$ | | $\pm 120^\circ$ | | $\pm 120^\circ$ | |
| Max. RPM | 11.1 | 11.1 | 22.2 | 11.1 | 11.1 | 5.8 | 11.1 | 2.8 |
| Gear Ratio | 1:180 | 1:180 | 1:90 | 1:180 | 1:180 | 1:360 | 1:180 | 1:720 |
| Indexing Accuracy arc sec. | ± 10 | ± 15 | ± 7.5 | ± 15 | ± 7.5 | ± 15 | ± 7.5 | ± 10 |
| Net Weight without motors | 855kg | 1,881lbs | 1,160kg | 2,552lbs | 2,650kg | 5,830lbs | 4,850kg | 10,670lbs |
| Clamp Torque (Pneumatic @72psi) | Rotary Axis Tilt Axis | 696Nm 931Nm | 513ft-lbs 687ft-lbs | 882Nm 1,176Nm | 650ft-lbs 867ft-lbs | 3,430Nm 4,116Nm | 2,529ft-lbs 3,035ft-lbs | - - |
| Clamp Torque (Hydraulic @286psi) | Rotary Axis Tilt Axis | 1,391Nm 1,862Nm | 1,026Nm 1,373ft-lbs | 1,764Nm 2,058Nm | 1,301ft-lbs 1,518ft-lbs | 6,860Nm 7,840Nm | 5,059ft-lbs 5,782ft-lbs | 9,800Nm 12,250Nm |
| Max Weight Limit @ 0 deg | 200kg | 440lbs | 300kg | 660lbs | 500kg | 1,100lbs | 1,000kg | 2,200lbs |
| Max Weight Limit @ 90 deg | 100kg | 220lbs | 150kg | 330lbs | 300kg | 660lbs | 600kg | 1,320lbs |
| Horizontal Load Limit | | 14,700 N | 3,305lbf | 17,640 N | 3,965lbf | 20,384 N | 4,582lbf | 25,480 N |
| Circumference Load Force | | 696Nm | 513ft-lb | 882Nm | 650ft-lb | 3,430Nm | 2,529ft-lb | 9,800Nm |
| Vertical Load Limit | | 343Nm | 253ft-lb | 490Nm | 361ft-lb | 2,234Nm | 1,648ft-lb | 2,793Nm |
| | | | | | | | | 2,060ft-lb |

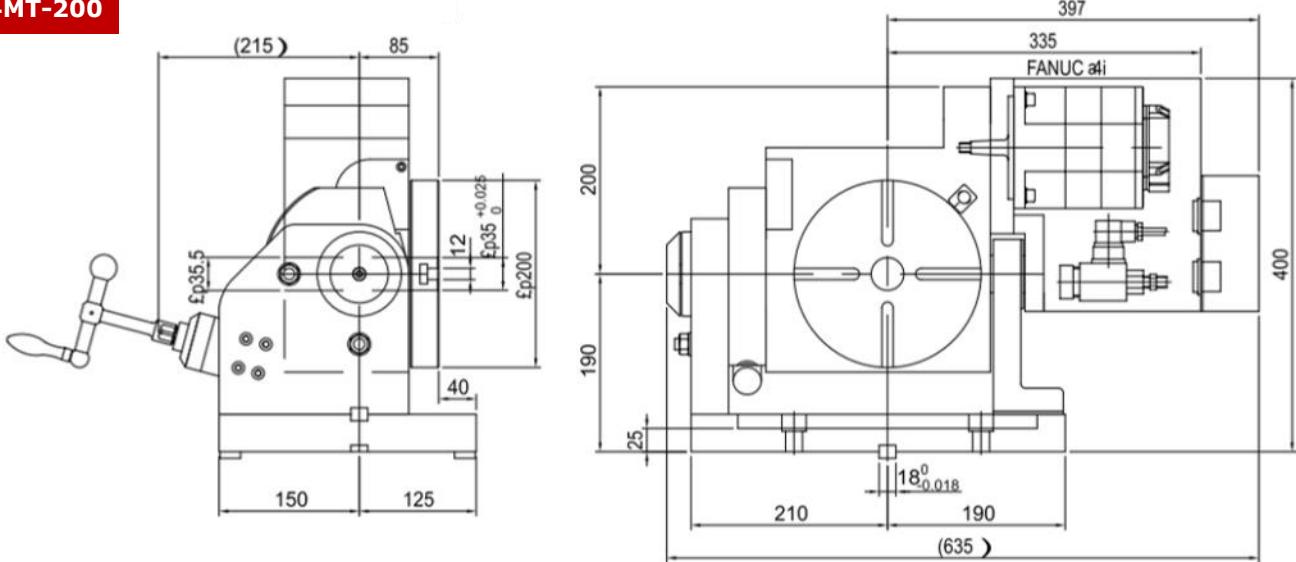
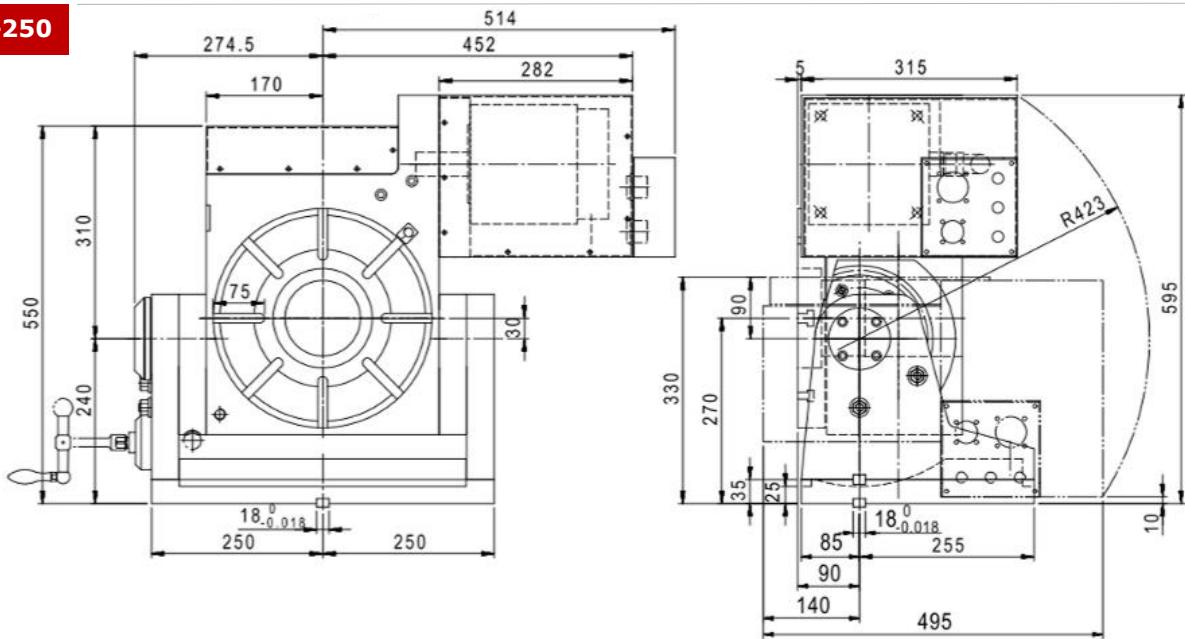
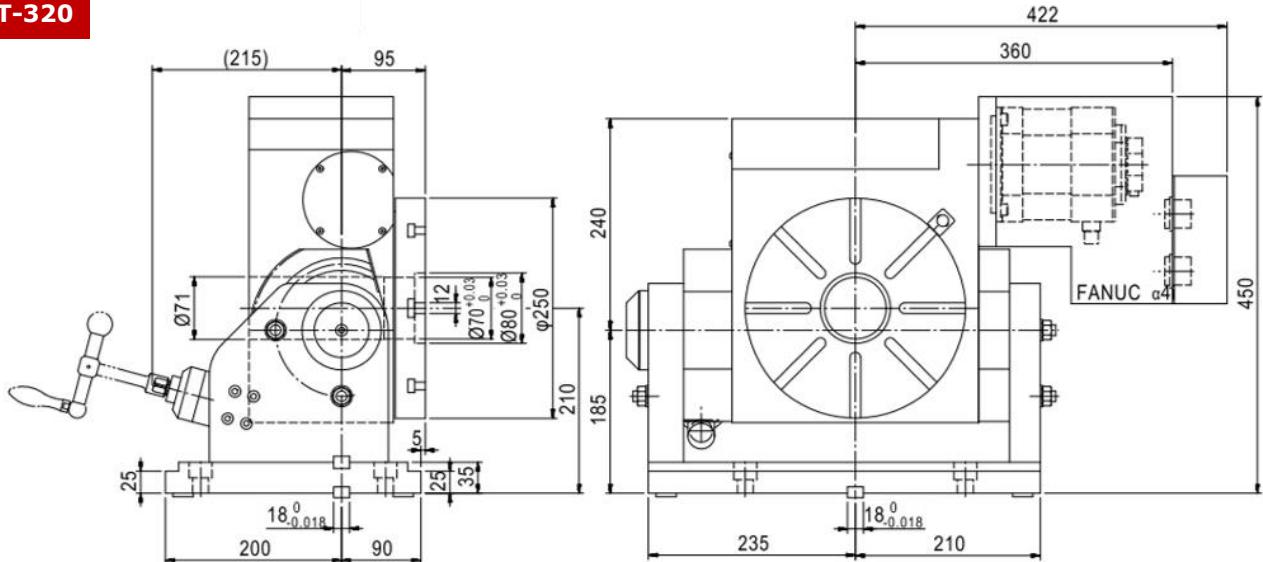
AX5-320RT**AX5-450RT****AX5-630RT****AX5-800RT**

5th Axis - Manual Tilt 200-630mm



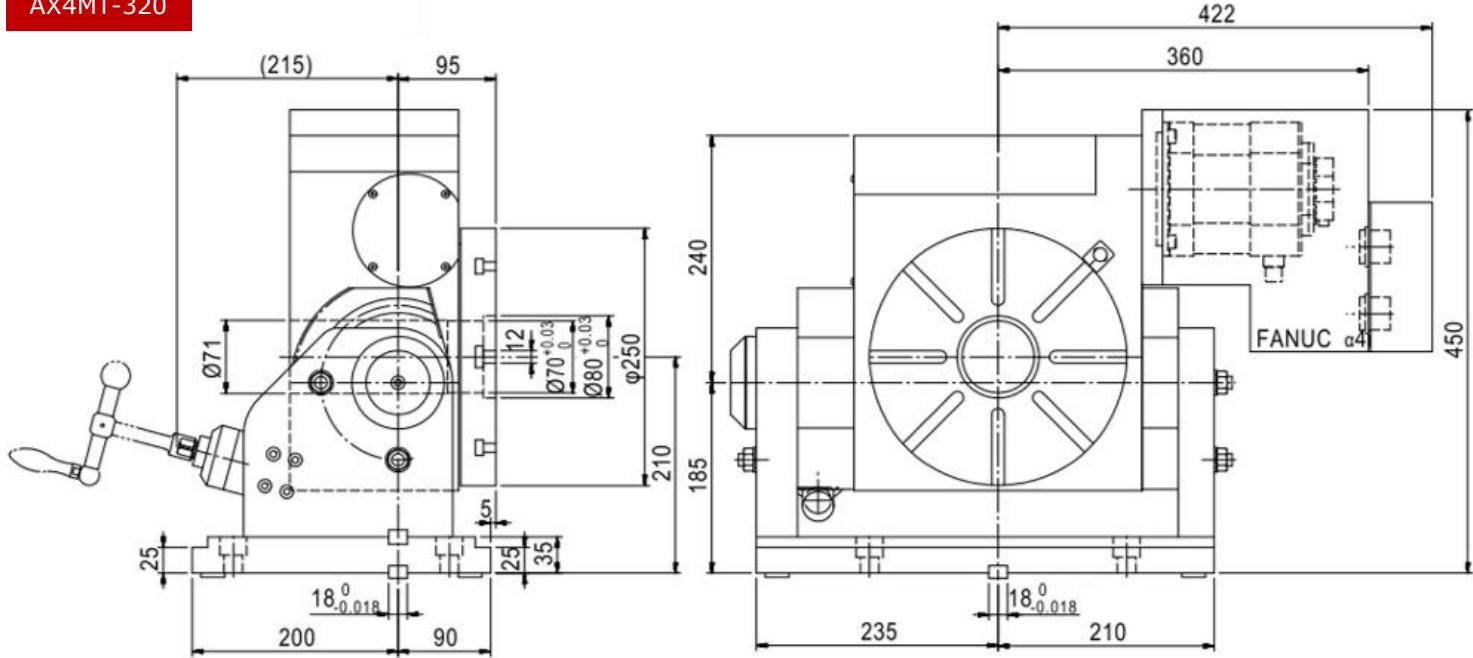
- Suitable for conventional milling, boring, and tapping machine.
- Manual tilting, Rotating by AX control.
- Available as Indexer or 4th Axis Installation.

| Model | AX4MT-200 | | AX4MT-250 | | AX4MT-320 | | AX4MT-400 | | AX4MT-500 | | AX4MT-630 | | |
|-----------------------------|-------------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-------------|--------------|-------------|-------------|
| Table Diameter | 200mm | 7.87" | 250mm | 9.84" | 320mm | 12.6" | 400mm | 15.75" | 500mm | 19.69" | 630mm | 24.8" | |
| Center Height | 190mm | 7.48" | 210mm | 8.27" | 270mm | 10.63" | 290mm | 11.42" | 330mm | 13.0" | 440mm | 17.32" | |
| Center Hole | 30mm H7 | 1.18" H7 | 70mm H7 | 2.76" H7 | 110mm H7 | 4.33" H7 | 150mm H7 | 5.91" H7 | 180mm H7 | 7.09" H7 | 254mm H7 | 10.0" H7 | |
| Guide Block Width | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | |
| T-slot Width | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 | 14mm H7 | 0.55" H7 | 14mm H7 | 0.55" H7 | 18mm H7 | 0.71" H7 | 18mm H7 | 0.71" H7 | |
| FANUC servo motor | R-axis | T-axis | R-axis | T-axis | R-axis | T-axis | R-axis | T-axis | R-axis | T-axis | R-axis | T-axis | |
| | aiF4 | Manual | aiF4 | Manual | aiF12 | Manual | aiF12 | Manual | aiF12 | Manual | aiF22 | Manual | |
| Tilting degree | 0°~105° | | 0°~100° | | 0°~100° | | 0°~100° | | 0°~100° | | 0°~100° | | |
| Max. RPM | 22.2 | | 22.2 | | 22.2/11.1 | | 22.2 | | 16.7 | | 11.1 | | |
| Gear Ratio | 1:90 | | 1:90 | | 1:90/1:180 | | 1:90 | | 1:120 | | 1:180 | | |
| Indexing Accuracy arc sec. | ± 10 seconds | | ± 10 seconds | | ± 10 seconds | | ± 10 seconds | | ± 10 seconds | | ± 10 seconds | | |
| Net Weight without motors | 135kg | 297lbs | 220kg | 484lbs | 310kg | 682lbs | 380kg | 836lbs | 450kg | 990lbs | 1000kg | 2200lbs | |
| Clamp Torque Rotate Axis | Pneumatic @72psi | 245Nm | 181ft-lbs | 461Nm | 340ft-lbs | 696Nm | 514ft-lbs | 902Nm | 665ft-lbs | 1,125Nm | 903ft-lbs | 3,626Nm | 2,674ft-lbs |
| | Hydraulic @286psi | 490Nm | 361ft-lbs | 921Nm | 679ft-lbs | 1,392Nm | 1,026ft-lbs | 1,803Nm | 1,330ft-lbs | 2,450Nm | 1,807ft-lbs | 7,252Nm | 5,348ft-lbs |
| Vertical Weight Limit | 40kg | 88lbs | 125kg | 275lbs | 150kg | 330lbs | 300kg | 660lbs | 350kg | 770lbs | 500kg | 1100lbs | |
| Horizontal Weight Limit | 80kg | 176lbs | 300kg | 660lbs | 350kg | 770lbs | 500kg | 1100lbs | 600kg | 1320lbs | 1000kg | 2200lbs | |
| Horizontal Load Limit | 5880 N | 1,322lbf | 11,838 N | 2661lbf | 13,475 N | 3,030lbf | 15,533 N | 3,492lbf | 18,424 N | 4141lbf | 20,384 N | 4,582lbf | |
| Circumference Load Limit | 245Nm | 181ft-lbs | 461Nm | 340ft-lbs | 696Nm | 514ft-lbs | 902Nm | 665ft-lbs | 1,125Nm | 903ft-lbs | 3,626Nm | 2,674ft-lbs | |
| Vertical Load Limit | 196Nm | 145ft-lbs | 706Nm | 520ft-lbs | 902Nm | 665ft-lbs | 980Nm | 723ft-lbs | 1,617Nm | 1,192ft-lbs | 2,234Nm | 1,648ft-lbs | |

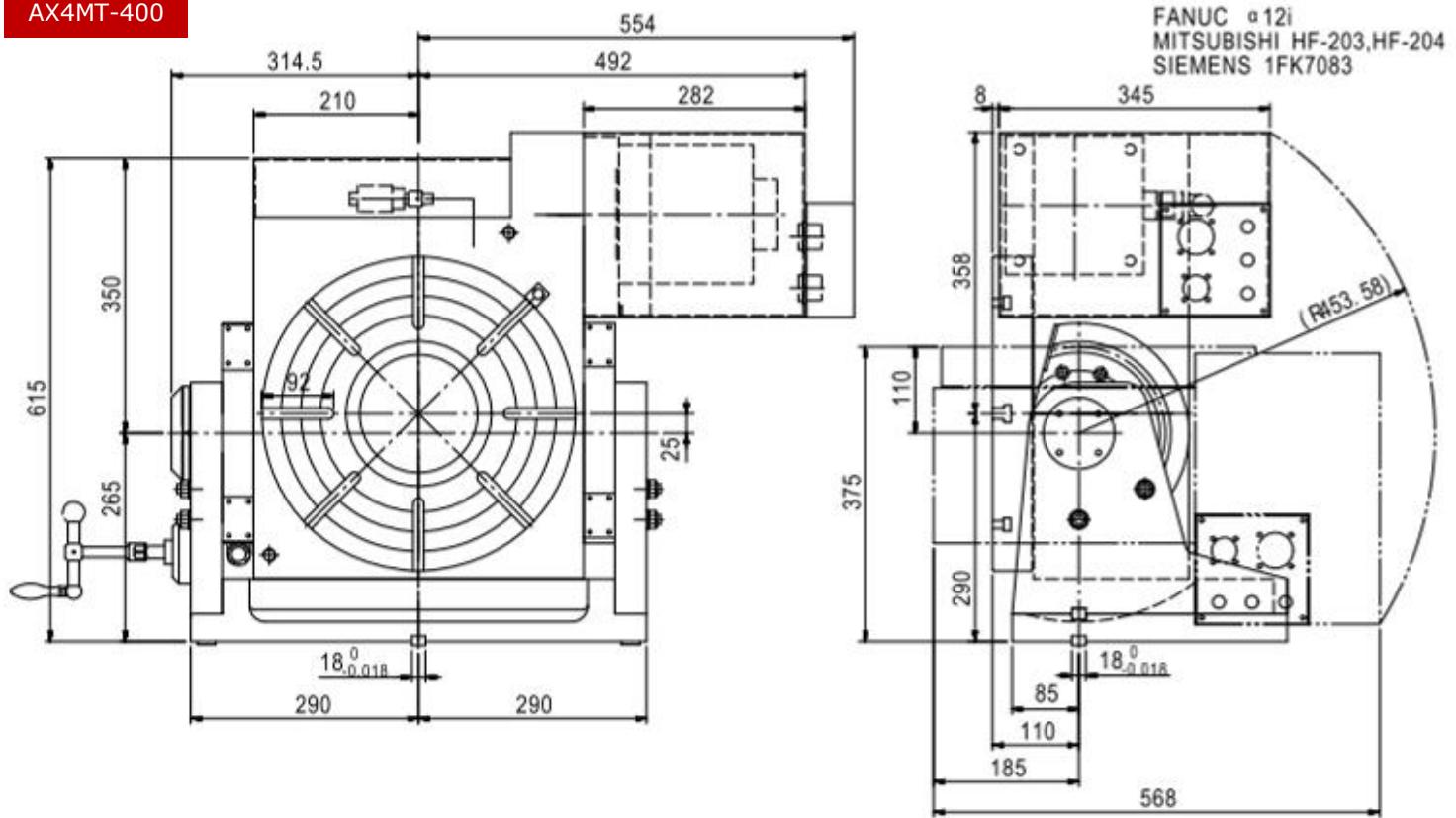
AX4MT-200**AX4MT-250****AX4MT-320**

5th Axis - Manual Tilt 200-630mm

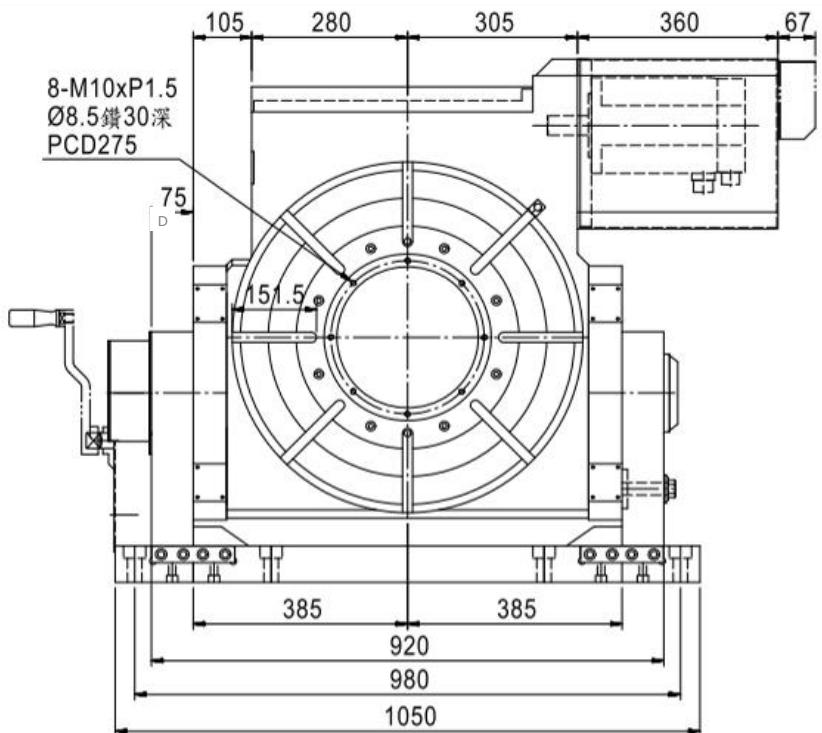
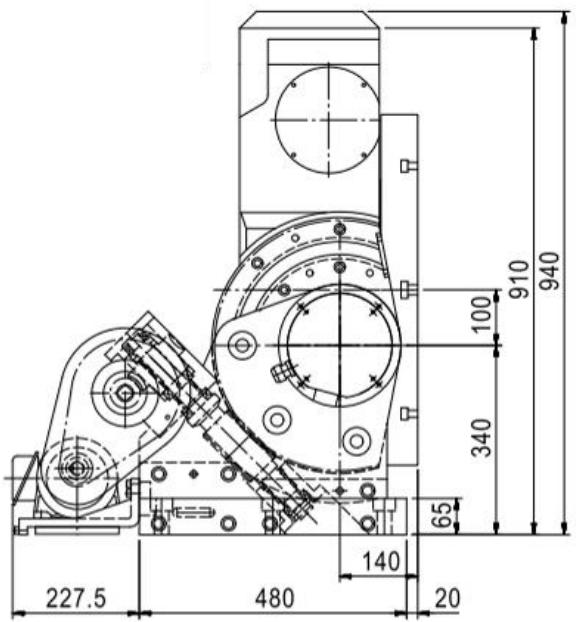
AX4MT-320



AX4MT-400



AX4MT-630

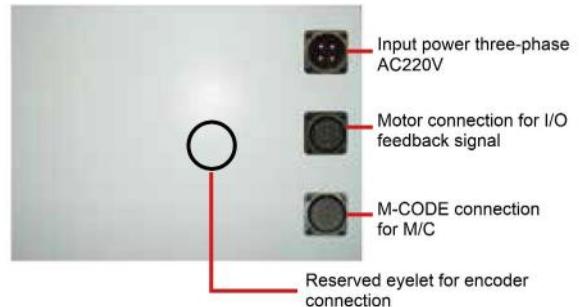




- 15 sets of program, 90 steps for each program
- 0.001° degree minimum increment
- Macro β Functionality
- Power, feedback, M-signal, and power supply cable included
- RS232C capable
- 14"W x 10.5"H x 12.5"D

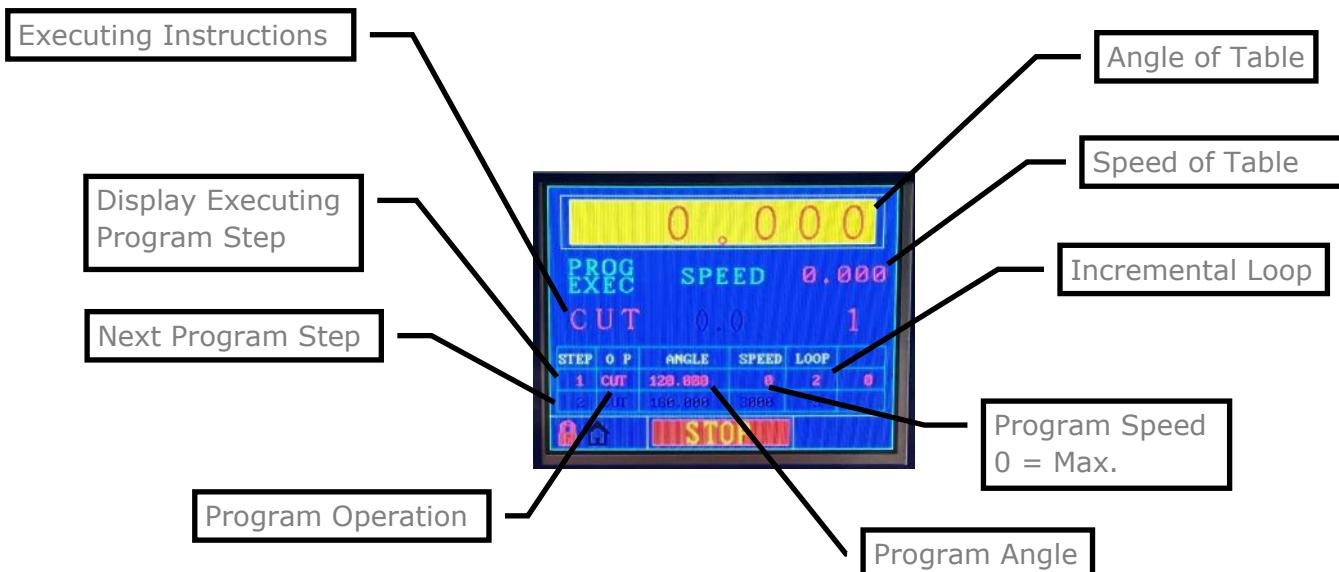
Requirements

- 70PSI filtered air supply for brake system.
- 1 x M signal required.



| ITEM | SPECIFICATION | ITEM | SPECIFICATION |
|-----------------------|----------------------------------|-----------------------------|---|
| Min. Increment | 0.001° | Backlash Adjustment | Adjusted by parameter screen 1 of 2 |
| Programmable Angle | 0.000~999.999 ° | Standard Parameter Function | Input / Output interface, long press ":" |
| Emergency Stop | Whole system stop | Programmable System | Accepted incremental / absolute value |
| Input Method | Keyboard input | Instruction Selecting | Program input instruction / Indexing and rotating instruction |
| Program Capacity | 15 sets of program | Origin Adjustment | Origin offset compensation setting |
| Program Step Capacity | 90 steps for each program | External start signal | Automatic operation by M-CODE |
| Homing | Machine homing / relative homing | Delay time | 0.1 to 99.9 seconds of delay |
| Jump Function | Jump to the subroutine (JUMP) | Input Power | Three-phase AC-220V 50/60HZ |
| Cycle Loop | Step up to 999 times per cycle | Connection cable | Power cable / Motor cable / CNC connection cables |

EZX Display





| | | | |
|--|---|--|--|
| | Power switch | | Back to the execution screen |
| | Emergency stop button | | Page key: switching program page |
| | MPG(hand wheel) socket | | Jog key: select the direction for table rotating |
| | Screen for info displayed | | Cursor key: direction selecting |
| | Stop key | | Switching key for system screen |
| | Numeric keys: enter the program and parameters | | Selection key for program OP |
| | I. To be decimal point while program setting or parameter status II. Program code setting: press key 2 seconds while the program STEP1 of OP | | Return to relative origin |
| | "+" and "-" key: be the function while program setting or parameter status" | | Return to mechanical origin |
| | Insert a program while program setting | | Enter key |
| | I. Long press 3 seconds for setting 0 degree of table while the execution status II. Delete a program while program setting | | Start key |

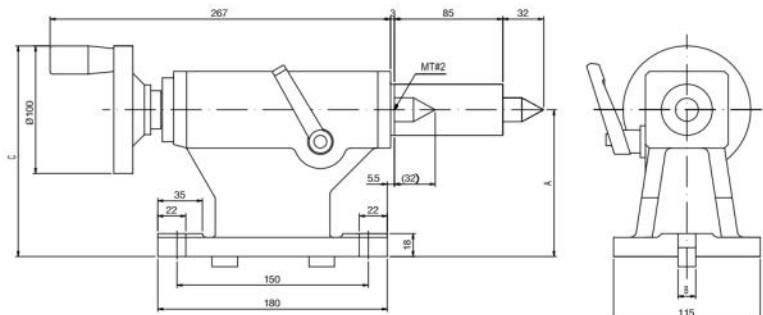
Hand Controller (MPG)

- Part# MPG-1
- Sold Separately



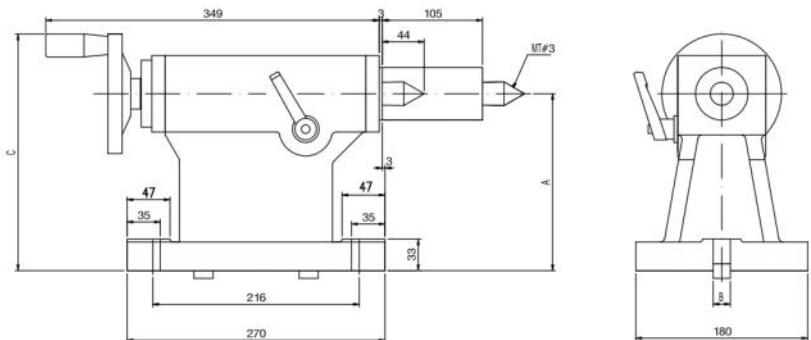
Tail Stocks

TS-A



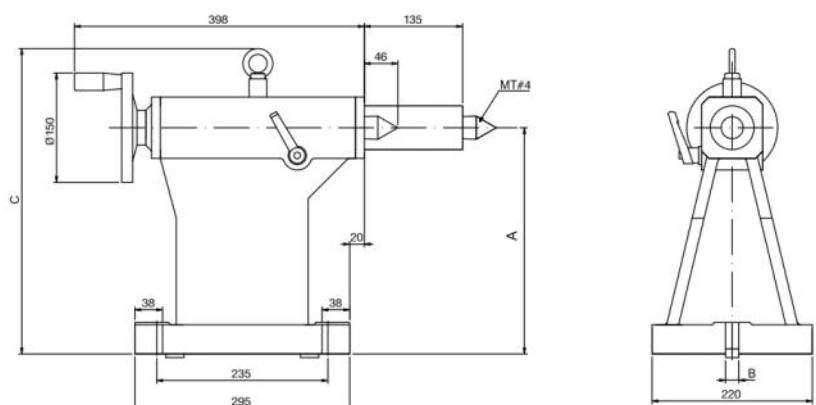
| Model | A | | B | | C | | Center Taper | Suitable Rotary Table |
|---------|-------|-------|------|-------|-------|-------|--------------|-----------------------|
| TS-A115 | 115mm | 4.53" | 14mm | 0.55" | 165mm | 6.50" | MT#2 | AX-120R |
| TS-A135 | 135mm | 5.31" | 18mm | 0.71" | 185mm | 7.28" | MT#2 | AX-170R, AX-170RB |
| TS-A160 | 160mm | 6.30" | 18mm | 0.71" | 210mm | 8.27" | MT#2 | AX-200R, AX-200RB |

TS-B

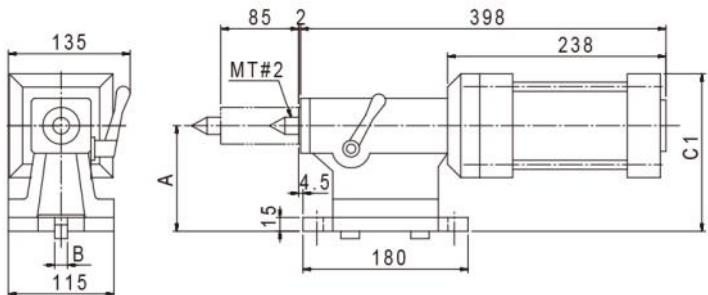


| Model | A | | B | | C | | Center Taper | Suitable Rotary Table |
|---------|-------|--------|------|-------|-------|--------|--------------|-----------------------------|
| TS-B185 | 185mm | 7.28" | 18mm | 0.71" | 250mm | 9.84" | MT#3 | AX-250R, NCF-250, AX-250RB |
| TS-B190 | 190mm | 7.48" | 18mm | 0.71" | 255mm | 10.04" | MT#3 | CNCMT-200 |
| TS-B210 | 210mm | 8.27" | 18mm | 0.71" | 275mm | 10.83" | MT#3 | AX-320R, NCF-320, CNCMT-250 |
| TS-B250 | 250mm | 9.84" | 18mm | 0.71" | 315mm | 12.4" | MT#3 | AX-400R, NCF-400 |
| TS-B255 | 255mm | 10.04" | 18mm | 0.71" | 320mm | 12.6" | MT#3 | CNCT-320 |
| TS-B270 | 270mm | 10.63" | 18mm | 0.71" | 345mm | 13.58" | MT#3 | CNCMT-320 |

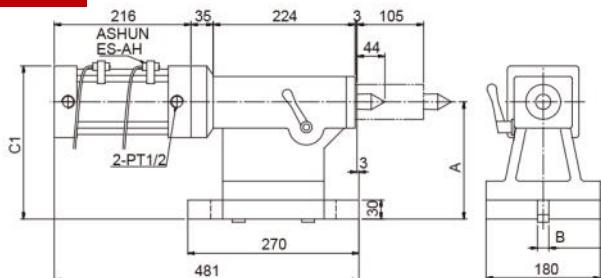
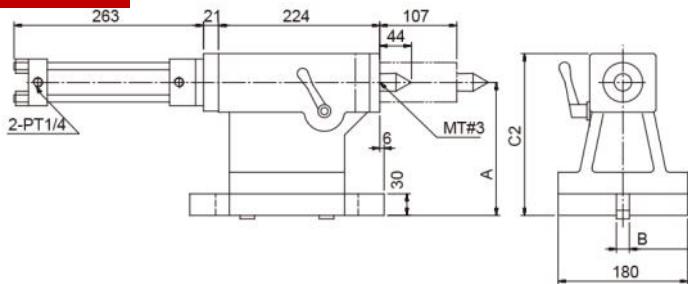
TS-C



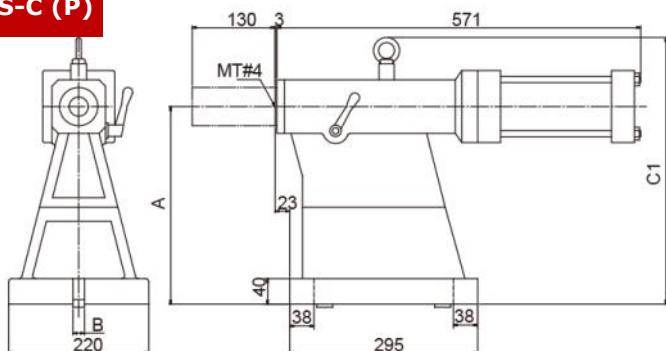
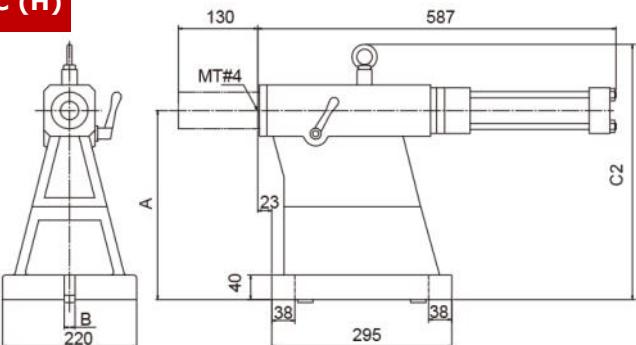
| Model | A | | B | | C | | Center Taper | Suitable Rotary Table |
|---------|-------|--------|------|-------|-------|--------|--------------|-----------------------|
| TS-C310 | 310mm | 12.2" | 18mm | 0.71" | 420mm | 16.54" | MT#4 | AX-500R |
| TS-C400 | 400mm | 15.75" | 18mm | 0.71" | 510mm | 20.08" | MT#4 | AX-630R |
| TS-C480 | 480mm | 18.90" | 22mm | 0.87" | 590mm | 23.23" | MT#4 | AX-800R |

TS-A

| Model | A | B | C1(P) | C2(H) | Center Taper | Suitable Rotary Table | | | | |
|--------------|-------|-------|-------|-------|--------------|-----------------------|-------|-------|------|-------------------|
| TS-A115(P/H) | 115mm | 4.53" | 14mm | 0.55" | 172mm | 6.77" | 148mm | 5.83" | MT#2 | AX-120R |
| TS-A135(P/H) | 135mm | 5.31" | 18mm | 0.71" | 192mm | 7.56" | 168mm | 6.61" | MT#2 | AX-170R, AX-170RB |
| TS-A160(P/H) | 160mm | 6.30" | 18mm | 0.71" | 217mm | 8.54" | 193mm | 7.60" | MT#2 | AX-200R, AX-200RB |

TS-B (P)**TS-B (H)**

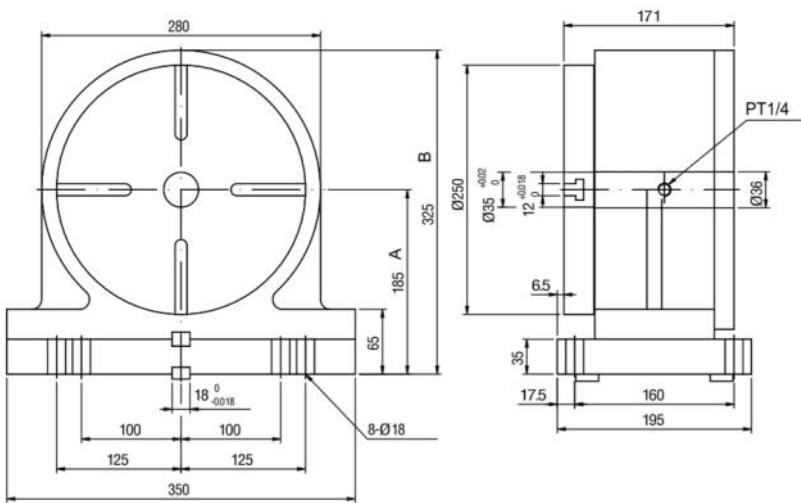
| Model | A | B | C1(P) | C2(H) | Center Taper | Suitable Rotary Table | | | | |
|--------------|-------|--------|-------|-------|--------------|-----------------------|-------|--------|------|-----------------------------|
| TS-B185(P/H) | 185mm | 7.28" | 18mm | 0.71" | 242mm | 9.53" | 225mm | 8.86" | MT#3 | AX-250R, NCF-250, AX-250RB |
| TS-B190(P/H) | 190mm | 7.48" | 18mm | 0.71" | 247mm | 9.72" | 230mm | 9.06" | MT#3 | CNCMT-200 |
| TS-B210(P/H) | 210mm | 8.27" | 18mm | 0.71" | 267mm | 10.51" | 250mm | 9.84" | MT#3 | AX-320R, NCF-320, CNCMT-250 |
| TS-B250(P/H) | 250mm | 9.84" | 18mm | 0.71" | 307mm | 12.09" | 290mm | 11.42" | MT#3 | AX-400R, NCF-400 |
| TS-B255(P/H) | 255mm | 10.04" | 18mm | 0.71" | 312mm | 12.28" | 295mm | 11.61" | MT#3 | CNCT-320 |
| TS-B270(P/H) | 270mm | 10.63" | 18mm | 0.71" | 327mm | 12.87" | 310mm | 12.2" | MT#3 | CNCMT-320 |

TS-C (P)**TS-C (H)**

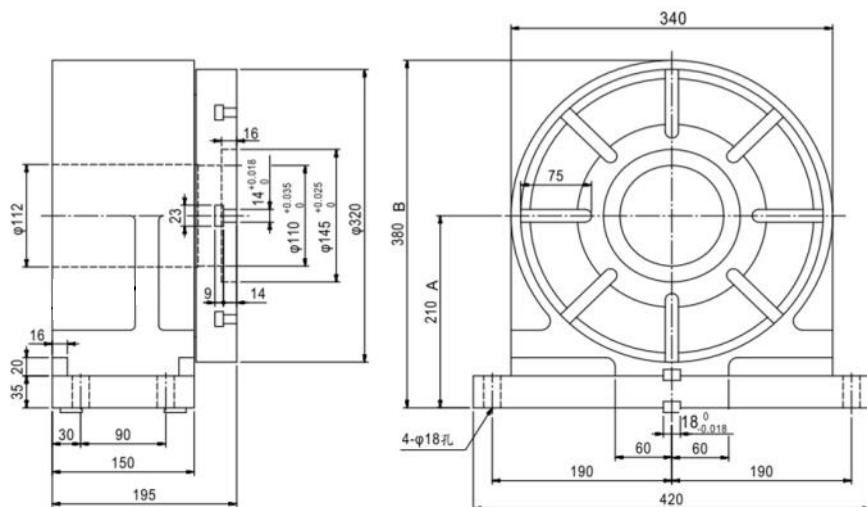
| Model | A | B | C1(P) | C2(H) | Center Taper | Suitable Rotary Table | | | | |
|--------------|-------|--------|-------|-------|--------------|-----------------------|-------|--------|------|---------|
| TS-C310(P/H) | 310mm | 12.2" | 18mm | 0.71" | 420mm | 16.54" | 420mm | 16.54" | MT#4 | AX-500R |
| TS-C400(P/H) | 400mm | 15.75" | 18mm | 0.71" | 510mm | 20.08" | 510mm | 20.08" | MT#4 | AX-630R |
| TS-C480(P/H) | 480mm | 18.9" | 22mm | 0.87" | 590mm | 23.23" | 590mm | 23.23" | MT#4 | AX-800R |

Side Tables & Accessories

TSA-251S



TSA-320S



| Model | TSA-200S | | TSA-251S | | TSA-320S | |
|-----------------------------|----------|-------------|----------|-------------|----------|-------------|
| Table Diameter | 200mm | 7.87" | 250mm | 9.84" | 320mm | 12.6" |
| (A) Center Height | 160mm | 6.30" | 185mm | 7.28" | 210mm | 8.27" |
| (B) Overall Height | 265mm | 10.43" | 325mm | 12.8" | 380mm | 14.96" |
| Center Hole | 35mm | 1.38" | 35mm | 1.38" | 110mm | 4.33" |
| Width of Guide Block | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 | 18mm h7 | 0.71" h7 |
| Width of T-slot | 12mm H7 | 0.47" H7 | 12mm H7 | 0.47" H7 | 14mm H7 | 0.55" H7 |
| Pneu.clamp force (at 72psi) | 245.2Nm | 180.8ft-lbs | 637.4Nm | 470.1ft-lbs | 784.5Nm | 578.6ft-lbs |
| Net Weight without motors | 45kg | 99lbs | 82kg | 180lbs | 138kg | 304lbs |
| Suitable Rotary Table | AX-170R | | AX-250R | | AX-320R | |
| | AX-200R | | AX-320R | | AX-400R | |
| | - | | AX-400R | | AX-500R | |



Pioneer Chuck / Hydraulic Cylinder / Tailstock

| Suitable Rotary Table | | AX-171R | AX-200R | AX-250R | AX-320R | AX-400R | AX-500R | AX-630R | AX-800R |
|---------------------------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Manual scroll chuck | Model No. | 585-106 | 585-106 | 585-108 | 585-112 | 585-112 | 585-112 | 585-112- | 585-112 |
| | Size | 6" | 7" | 8" | 12" | 12" | 12" | 12" | 12" |
| Hydraulic chuck (Non thru hole) | Model No. | 595-855 | 595-855 | 595-856 | 595-858 | 595-860 | 595-860 | - | - |
| | Size | 6" | 6" | 8" | 10" | 12" | 12" | 15" | 15" |
| Tailstock Type | Manual | TS-A135 | TS-A160 | TS-B185 | TS-B210 | TS-B250 | TS-C310 | TS-C400 | TS-C480 |
| | Pneumatic | TS-A135P | TS-A160P | TS-B185P | TS-B210P | TS-B250P | TS-C310P | TS-C400P | TS-C480P |
| | Hydraulic | TS-A135H | TS-A160H | TS-B185H | TS-B210H | TS-B250H | TS-C310H | TS-C400H | TS-C480H |
| | Strong (P/H) | TSA-200S | TSA-200S | TSA-251S | TSA-320S | TSA-251S | TSA-320S | TSA-320S | TSA-320S |

Yukiwa Chuck / Hydraulic Cylinder / Tailstock

| Suitable Rotary Table | | JNC140 | JNC170 | JNC200 | JNC250 | YNCP170 | YNCP200 | YNCP250 | BNC320 | TNT100 | TNT170 |
|---------------------------------|----------------------------------|-------------------|-------------------|---------------|---------------|-------------------|----------------|----------------|---------------|-------------------|---------------|
| Manual scroll chuck | Model No. | 585-004 & 585-005 | 585-105 & 585-106 | 585-106 | 585-108 | 585-105 & 585-106 | 585-106 | 585-108 | 585-112 | 585-004 & 585-005 | 585-106 |
| | Size | 4" & 5" | 5" & 6" | 6" | 8" | 5" & 6" | 6" | 8" | 12" | 4" & 5" | 6" |
| Hydraulic chuck (Non thru hole) | Model No. | N/A | 595-855 | 595-855 | 595-856 | 595-855 | 595-855 | 595-856 | 595-860 | N/A | 595-855 |
| | Size | 4" & 5" | 5" & 6" | 6" | 8" | 5" & 6" | 6" | 8" | 12" | 4" & 5" | 6" |
| Rotary hydraulic cylinder | Model No. | SJ4L | SJ6L/SJ6H | SJ6L/SJ6H | SJ6L/SJ6H | SJ6L/H | SJ6L/H | SJ6L/H | N/A | N/A | N/A |
| Tailstock Type | Manual | TSA110S | TSA135S/TSB135S | TSB160S | TSB200S | TSA135S/TSB135S | TSB160S | TSB200S | TSB230 | N/A | N/A |
| | Pneumatic | TPA110 | TPA135 | TPA160 | TPA200 | TPA135 | TPA160 | TPA200 | N/A | N/A | N/A |
| | Pneumatic w/ confirmation switch | TPB110 | TPB135 | TPB160 | TPB200 | TPB135 | TPB160 | TPB200 | N/A | N/A | N/A |
| | Side Spindle | SS110 | SS135 | SS160 | SS200 | SS135 | SS160 | SS200 | N/A | N/A | N/A |
| | Side Table | N/A | ST135 | ST160 | ST200 | ST135 | ST160 | ST200 | ST230 | N/A | N/A |

Accuracies

| Accuracy Standards (Unit: inch) | | | | | | | |
|---------------------------------|--------------------|---|--------------------------------|---|------------------|---|--|
| Model\Item | Table top flatness | Parallelism of table top and frame bottom | Runout of table spindle center | Perpendicularity of table top to frame bottom | Table top runout | Perpendicularity of table top to frame bottom guide block | Parallelism of center line between headstock & tailstock to frame bottom guide block |
| AX-120R | 0.0003 | 0.0003 | 0.0005 | 0.0004 | 0.0003 | 0.0007 | 0.0007 |
| AX-170R | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-200R | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-250R | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-320R | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-400R | 0.0005 | 0.0005 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-500R | 0.0005 | 0.0005 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-630R | 0.0009 | 0.0009 | 0.0003 | 0.0009 | 0.0007 | 0.0007 | 0.0007 |
| AX-800R | 0.0009 | 0.0009 | 0.0003 | 0.0009 | 0.0007 | 0.0007 | 0.0007 |
| AX-120RB | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-170RB | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-200RB | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-250RB | 0.0003 | 0.0003 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX-200R-3W | 0.0003 | 0.0007 | 0.0003 | 0.0004 | 0.0005 | 0.0007 | 0.0007 |

| Accuracy Standards (Unit: inch) | | | | | | | | |
|---------------------------------|--------------------|---|--------------------------------|------------------|--|--|--|---|
| Model/Item | Table top flatness | Parallelism of table top and frame bottom | Runout of table spindle center | Table top runout | Parallelism of tilting axis center line and frame bottom | Parallelism of table top to frame bottom guide | An encoder measuring instrument should be used for indexing accuracy measurements (Rotating) | An encoder measuring instrument should be used for indexing accuracy measurements (Tilting) |
| AX5-100 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 30" | 60" |
| AX5-200 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 25" | 50" |
| AX5-250 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | 50" |
| AX5-320T | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | 30" |
| AX5-450 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | 30" |
| AX5-630 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | 30" |
| AX5-800 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | 30" |
| AX4MT-201 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 25" | |
| AX4MT-250 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 25" | |
| AX4MT-320 | 0.0003 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | |
| AX4MT-400 | 0.0007 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | |
| AX4MT-500 | 0.0007 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | |
| AX4MT-630 | 0.0007 | 0.0007 | 0.0003 | 0.0005 | 0.0007 | 0.0007 | 15" | |

| Accuracy Standards (Unit: inch) | | | | | | | |
|---------------------------------|--------------------|---|--------------------------------|---|------------------|---|--|
| Model\Item | Table top flatness | Parallelism of table top and frame bottom | Runout of table spindle center | Perpendicularity of table top to frame bottom | Table top runout | Perpendicularity of table top to frame bottom guide block | Parallelism of center line between headstock & tailstock to frame bottom guide block |
| AX4H-250R | 0.0003 | 0.0003 | 0.0005 | 0.0005 | 0.0003 | 0.0007 | 0.0007 |
| AX4H-320R | 0.0003 | 0.0003 | 0.0003 | 0.0005 | 0.0003 | 0.0007 | 0.0007 |
| AX4H-400R | 0.0005 | 0.0005 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |
| AX4H-500R | 0.0005 | 0.0005 | 0.0003 | 0.0007 | 0.0005 | 0.0007 | 0.0007 |

Quote form

PIONEER

Rotary table inquiry form

Premium Work Holding Systems

Dealer: _____ End User: _____

Company: _____ Company: _____

Contact: _____ Contact: _____

Address: _____ Address: _____

City: _____ State: _____ Zip Code: _____ City: _____ State: _____ Zip Code: _____

Email: _____ Email: _____

Phone: _____ Cell: _____ Phone: _____ Cell: _____

Machine Tool Info

Manufacturer: _____ Model: _____ Year: _____

Control Make: _____ Model: _____

Machine condition: New / Existing or used

Please describe type of the machine. For example, 3 axis vertical machine, horizontal machine with C-axis, vertical with rotary pallet etc.

Table size: X _____ Y _____ Axis travel: X _____ Y _____ Z _____

Workpiece and Application Info

Workpiece dimension: _____

Material: _____ Weight: _____

Application is mainly: Drill / Mill

Contour milling: Yes / No

Please describe about your application:

Rotary table info

Size of face plate: _____ Number of axis: 4th / 4th & 5th

Motor orientation (4th axis models only) : Right(standard) / Left / Top / Back

Type of connection: Integrated 4th axis / Integrated 4th & 5th axis /Indexer with control box/ other

Special request

Rotary Table Interface and Installation RFQ Quick Check List

1. Information of the machine

Manufacturer: _____ Model: _____ Year: _____
 Control Make: _____ Model: _____

2. Can the customer or dealer send the data sheet of the machine that they can send? Data sheet is usually provided with the machine manual. Yes / No
3. Can the customer or dealer send the electrical manual and electric diagram of the machine? Yes/ No
4. Are these options on your control?
 - a. 4th axis select switch on the control panel Yes/ No
 - b. 5th axis select switch on the control panel Yes/No
 - c. 4th select switch axis on the MPG jog Yes/No
 - d. 5th axis select switch on the control panel Yes/No
 - e. None of above
5. Does the machine have bulkhead mount area for additional axis?
6. Does the machine have 4th and 5th axis software (PLC ladder) preinstalled?
7. Can the customer send pictures of the following?
 - a. Control panel and MPG jog
 - b. Machine table
 - c. Additional axis bulk head mount area
 - d. Inside the back cabinet to see amplifier terminals, I/O terminals etc.

Following control and machine builders are most popular machines we can offer installation. If your machine control or machine builder is not on the list, please contact us.

Control make

- Fanuc OiM series / 16i / 18i / 21i
- Some models of Yaskawa
- Some models of Mitsubishi

Machine builders

- | | |
|---|--|
| <ul style="list-style-type: none"> • Mori Seiki • Kitamura • Fanuc RoboDrill • OKK • Enshu • Toyoda | <ul style="list-style-type: none"> • Bridgeport • Doosan • Daewoo • Hyundai-Wia • YCM • Johnford |
|---|--|

Additional products available upon request from Pioneer:



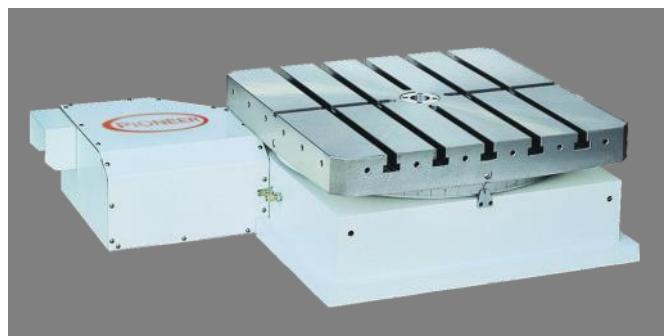
Yukiwa ERB90 EDM Table

- Stainless Steel Body
- Low Profile
- Fully submersible w/ Auto Air Purge
- Super high resolution accuracy optional



Pioneer NC Hirth Coupling Indexer

- Integrated Hirth coupling for exceptional indexing accuracy
- Positive angular location lock



Pioneer Horizontal Index Center Table

- Available in 400, 500, 630 & 800mm
- Rotation speeds up to 33.3 RPM
- 2X brake system with large clamping contact surface
- Hirth coupling available

**Pioneer Horizontal AX Rotary Table**

- Available in 400, 500, 630, 800, 1000, 1500, 2000 & 2500mm
- Hi Accuracy
- Custom designs available

**Pioneer Index Table**

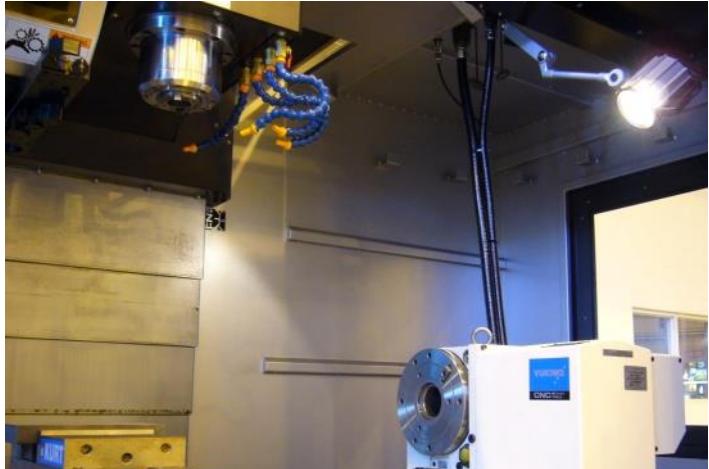
- Available in 450, 600, 700, 800, 1000 & 1200mm
- Designed for hi accuracy machining
- Hirth coupling clamping system with accuracy +/- 3 seconds

**Pioneer Machining Table w/ Pallets**

- Available in 400, 500, 630, 800 & 1000mm
- Designed for hi accuracy machining
- High accuracy 4 piece cones/caps
- Hydraulic 4 piece clamp plate system

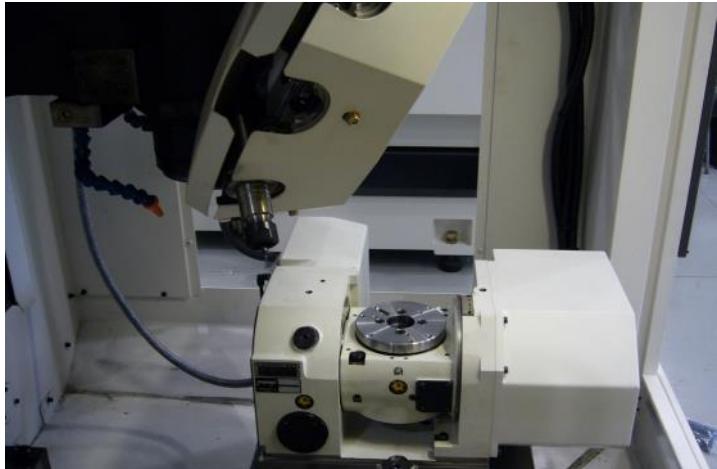


Vertical / Horizontal Machining Center



Vertical Machining Center

YUKIWA
by PIONEER
www.PioneerNA.com



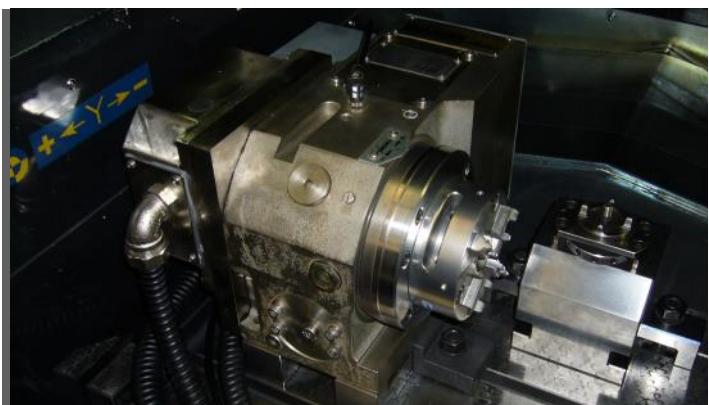
Vertical Machining Center



Vertical Machining Center



Vertical Machining Center



Rotary Scale Option for Graphite Application



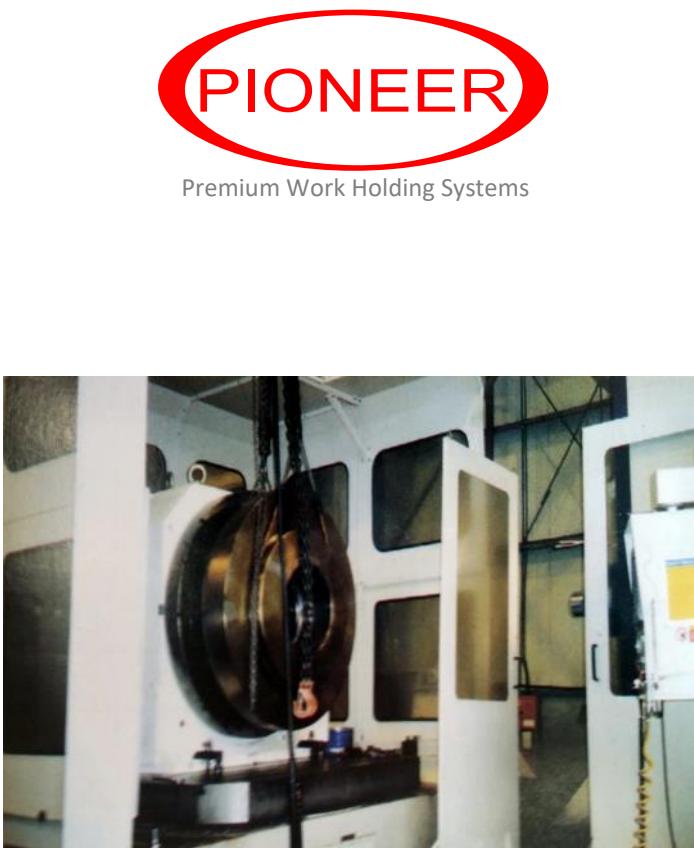
Vertical Machining Center



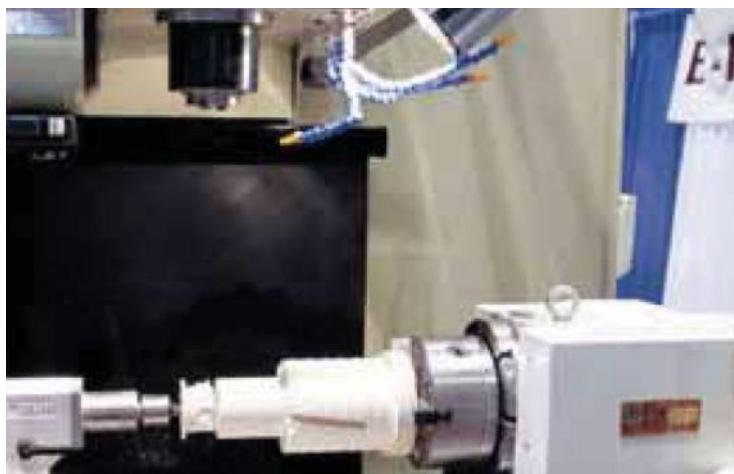
Horizontal Machining Center



Vertical Machining Center



AX-1500RV + Horizontal Machining Center



Vertical / Horizontal Machining Center



Horizontal Machining Center



Vertical / Horizontal Machining Center



Large Size Machining Center

PIONEER

Premium Work Holding Systems



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