



TJR APP -
Android



TJR APP -
iOS



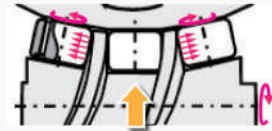
www.tjr.com.tw

The Features of Roller Drive System



- 01 Zero backlash
- 02 Wear-free durability
- 03 High productivity
due to lower speed reduction ratio
- 04 High torque capacity
- 05 Low Maintenance

- Over 90% of conduction efficiency.
- Reduce thermal displacement and non-performing rates, even at high speeds.



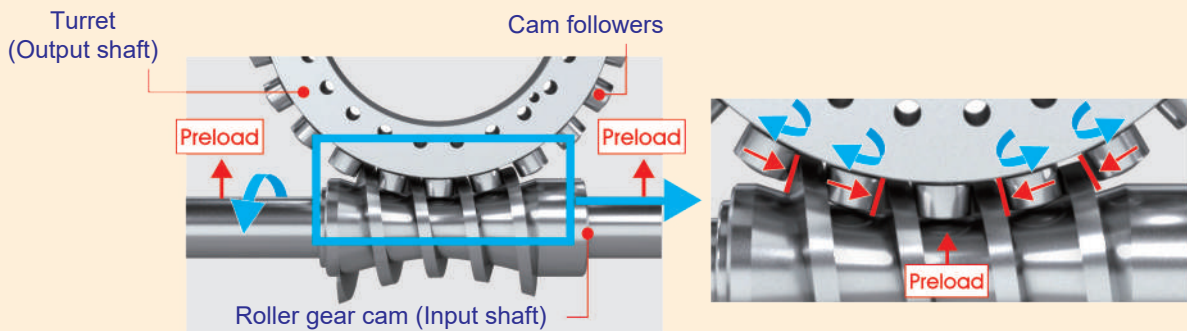
- Preload + Rolling contact**
- Achieves Zero-backlash and long life



- Shock resistant and high performance cam followers.

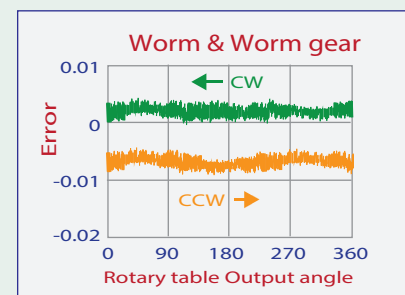
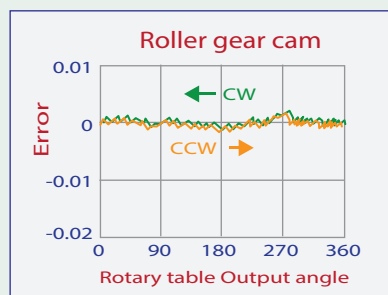
■ The Core of TJR RC Series Roller-Drive CNC Rotary Table Exclusive : Zero-Backlash Mechanism

By preloading the input and output shafts beforehand, the four cam followers can be always kept in contact with the cam surface, which eliminates backlash completely and provides high rigidity. TJR RC series roller gear cam rotary table with proprietary adjustment ensures the optimum preload. The cam followers planted in the turret employ internal roller bearings which can transmit the motor torque efficiently while rotating. Besides, the cam followers can be rotated at low torque for a long term. without wear and adjustment.



■ High accurate continuous cutting

Backlash can be eliminated with preloading the cam followers. Even machining with the turning direction in reverse will not adversely affect the machining surface.



Roller Gear Cam RC Series

Product lineup

RC Heavy duty & versatile model (Left / Right)



Table face plate

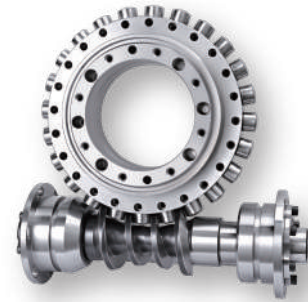
Ø170

Ø210

Ø255

Ø320

Ø400



Select Accessories

R
Right hand



Right Side Motor

N
Right hand



Right Side Motor with sheet metal cover reduction

L
Left hand



Left Side Motor

Use radial & axial bearings



Support Table



Trunnion application with RC-170R and a Support Table.



Tailstock



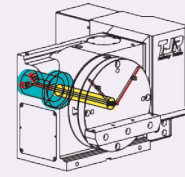
Scroll Chuck



Adapter



Rotary Joint



A rotary joint with at least 6 port is available for RC series.

Applications



- ◆ **Automotive parts**
High-speed positioning which reduces non-cutting time.



- ◆ **Cutting Tool Grinding**
Precision improved by continuous zero backlash machining.



- ◆ **Molding parts**
High speed & accurate continuous cutting.

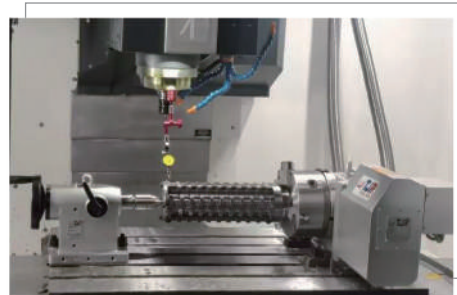


- ◆ **Turbine blade**
Fast-accelerated driven machining.

Example



▲ RC-170 + RTA-170



▲ RC-210 + TTJ-210

Roller Gear Cam RC Series



Air brake



Oil brake

Specifications

| Item / Code No. | Unit | RC-170R | RC-210R/L | RC-255R/N | RC-320R/N/L | RC-400R/N | |
|---|---------------------------|----------------------|----------------|----------------|----------------------|--------------------------|--------------------------|
| Table Diameter | mm | Ø170 | Ø210 | Ø255 | Ø320 | Ø400 | |
| Inner Diameter of Mandrel Sleeve | mm | Ø40H7 | Ø40H7 | Ø80H7 | Ø120H7x35 deep | Ø120H7 | |
| Diameter of Center Through Hole | mm | Ø40 | Ø40 | Ø80 Big Bore | Ø105 Big Bore | Ø120 Big Bore | |
| Center Height (Vertical) | mm | 135 | 160 | 160 | 210 | 255 | |
| Table Height (Horizontal) | mm | 152 | 152 | 200 | 235 | 250 | |
| Table T-slot Width | mm | 12H7 | 12H7 | 12H7 | 14H7 | 14H7 | |
| Guide Block Width | mm | 18h7 | 18h7 | 18h7 | 18h7 | 18h7 | |
| Min. Increment | deg. | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | |
| Indexing Precision | sec. | 30 | 30 | 20 | 20 | 20 | |
| Repeatability | sec. | 6 | 6 | 6 | 6 | 6 | |
| Clamping System (Pneumatic / Hydraulic) | kgf/cm ² | Pne.6 | Pne.6 / Hyd.35 | Hyd.35 | Hyd.35 | Hyd.35 | |
| Clamping Torque | kgf-m | 31 / 50 | 31 / 50 | 70 | 115 | 200 | |
| Servo Motor Model (*1) | FANUC | Taper shaft | αiF8 / βis8 | αiF8 / βis8 | αiF8 / βis12 (Taper) | αiF12 / βis22 (Straight) | αiF12 / βis22 (Straight) |
| | MITSUBISHI | Taper/Straight shaft | HG/HF-54 / 104 | HG/HF-54 / 104 | HG/HF-154 | HG/HF-204 | HG/HF-204 (Straight) |
| | SIEMENS | Straight shaft | 1FK7060 | 1FK7060 | 1FK7063 | 1FK7083 | 1FK7083 |
| | HEIDENHAIN | Straight shaft | QSY-116C | QSY-116C | QSY-130C | QSY-155B | QSY-155B |
| Speed Reduction Ratio | - | 1 : 36 | 1 : 36 | 1 : 60 | 1 : 90 | 1 : 90 | |
| Max. Rotation Rate of Table (*2) (Calculate with FANUC αMotor) | min ⁻¹ | 83.3 | 83.3 | 50 | 33.3 | 33.3 | |
| Allowable Inertia Load Capacity (Horizontal) | kg-cm-sec ² | 6.3 | 6.3 | 12 | 31.5 | 62.5 | |
| Allowable Workpiece Load (dynamic) | Vertical | kg | 75 | 75 | 100 | 150 | 200 |
| | with Tailstock | kg | 150 | 150 | 250 | 350 | 500 |
| | Horizontal | kg | 150 | 150 | 250 | 350 | 500 |
| Allowable Load (with clamping) | F | kgf | 1450 | 1450 | 2000 | 3000 | 4000 |
| | FxL | kgf-m | 110 | 110 | 150 | 300 | 400 |
| | FxL | kgf-m | 31 / 50 | 31 / 50 | 70 | 115 | 200 |
| Driving Torque | kgf-m | 37 | 37 | 55 | 107 | 140 | |
| Net Weight (Servo motor excluded) | kg | 44 | 52 | 110 | 187 | - | |
| Optional Rotary Joint | Available Number of Ports | 2,4 | 2,4 | 2,4,6,8 | 2,4,6,8,12 | 2,4,6,8,12 | |

*1: For this series of rotary tables, if sudden power outages may occur in the operating environment, motors equipped with a brake function are recommended to prevent displacement or slipping of the rotary or tilting axis during power loss, which could lead to collisions or other accidents.

*2: The structural limit value, while the actual operating speed will vary depending on the motor.

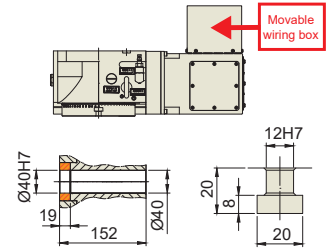
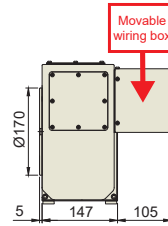
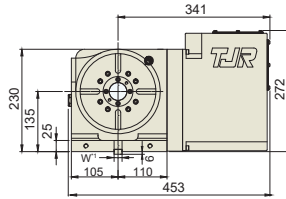
| Code No. | Motor Mounting Location | Diagram | VERTICAL | HORIZONTAL |
|----------|--|---------|----------|------------|
| R | Right Mount | | ✓ | ✓ |
| L | Left Mount | | ✓ | ✓ |
| N | Right Mount with sheet metal cover reduction | | ✓ | ✗ |

Model Name by brake mechanism

| Brake type | Faceplate size | Ø170mm | Ø210mm | Ø255mm | Ø320mm | Ø400mm |
|------------|----------------|---------|---------|--------|--------|--------|
| | Air brake | | RC-170 | RC-210 | NA | NA |
| Oil brake | | RC-170H | RC-210H | RC-255 | RC-320 | RC-400 |

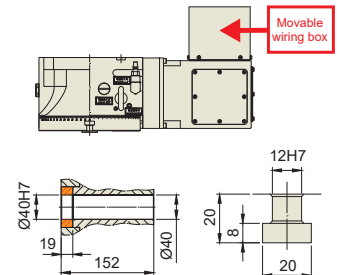
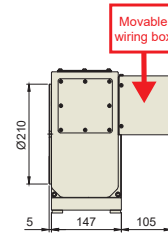
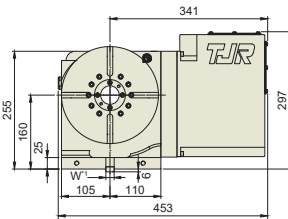
Roller Gear Cam RC Series

RC-170 **R** Right hand



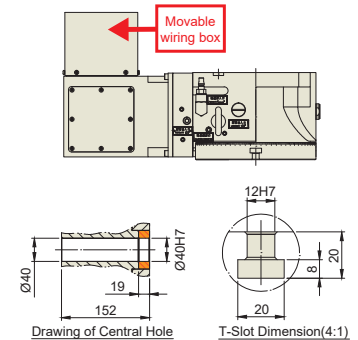
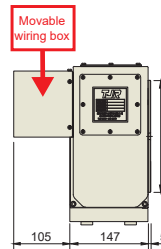
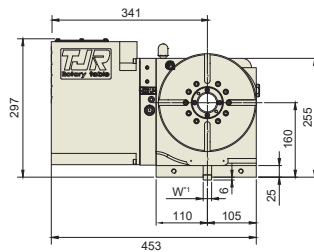
Drawing of Central Hole T-slot Dimension

RC-210 **R** Right hand



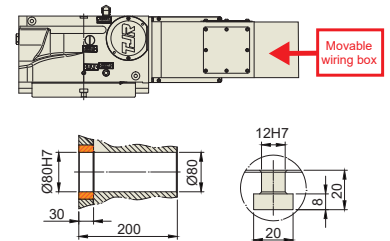
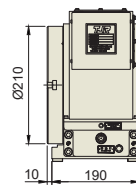
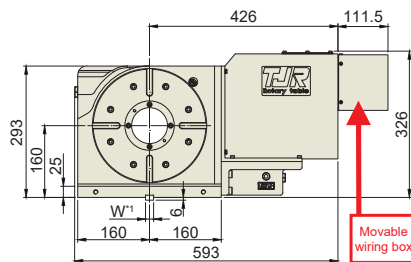
Drawing of Central Hole T-slot Dimension

RC-210 **L** Left hand



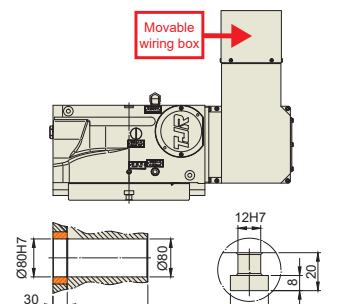
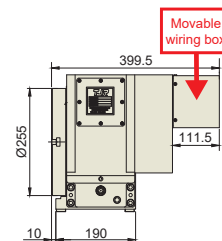
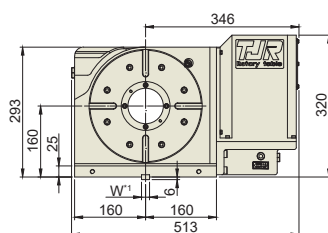
Drawing of Central Hole T-Slot Dimension(4:1)

RC-255 **R** Right hand



Drawing of Central Hole T-Slot Dimension

RC-255 **N** Right hand



Drawing of Central Hole T-Slot Dimension(4:1)

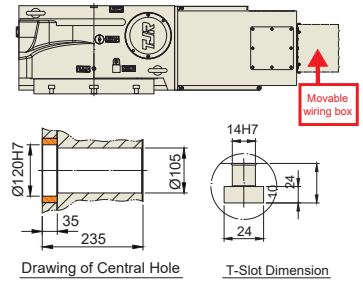
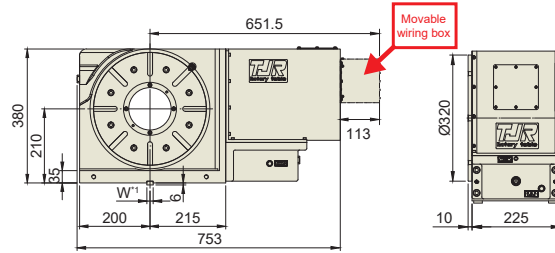
*1 : The Guide Key size can be changed based on the T-slot of work table.

★ Air purge function is provided inside the motor cover as standard.

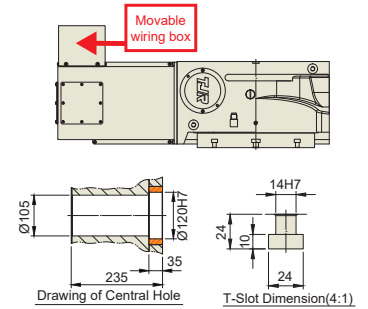
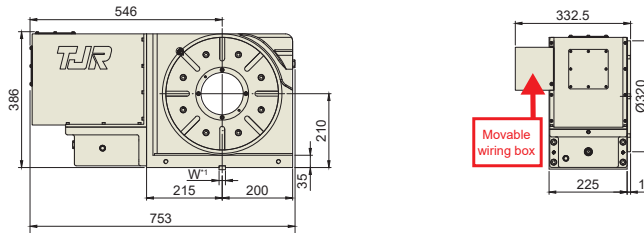
★ External dimensions depend on the type of the servo motor. Indicated dimensions are in case of FANUC. Please contact us for CAD files.

Roller Gear Cam RC Series

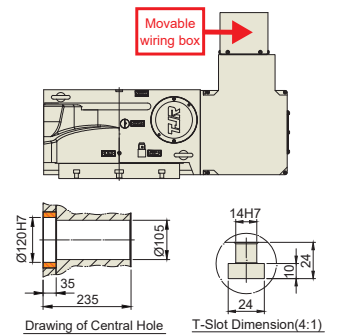
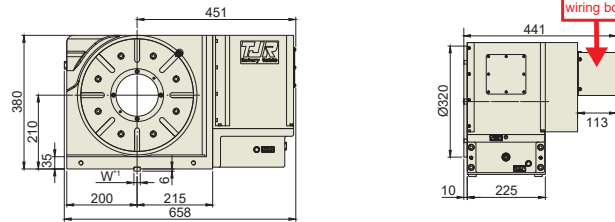
RC-320 **R**



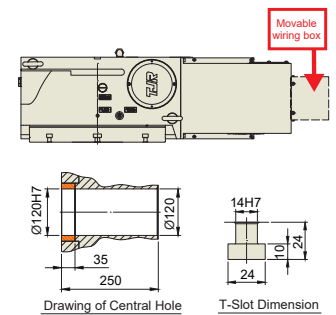
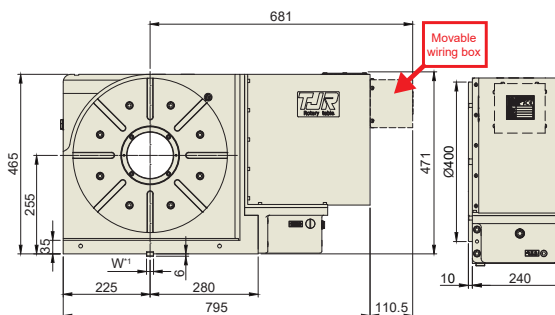
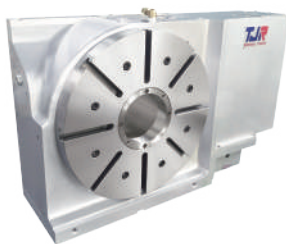
RC-320 **L**



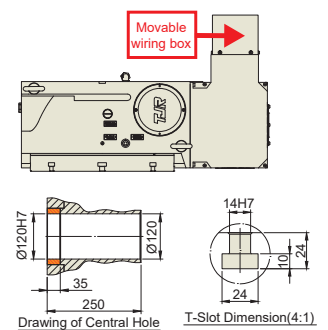
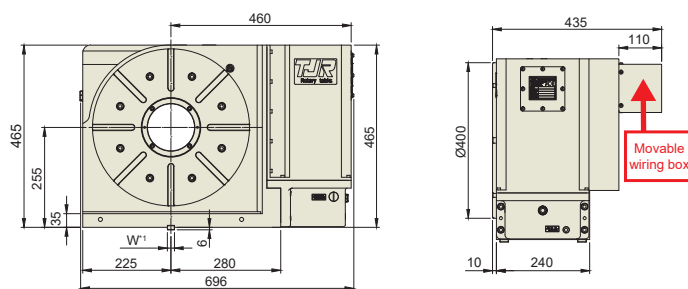
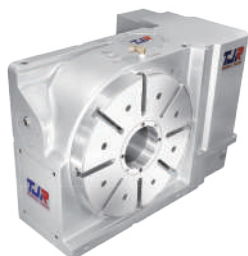
RC-320 **N**



RC-400 **R**



RC-400 **N**



*1 : The Guide Key size can be changed based on the T-slot of work table.

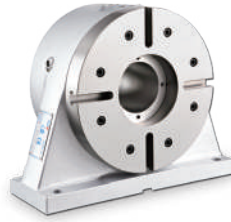
★ Air purge function is provided inside the motor cover as standard.

★ External dimensions depend on the type of the servo motor. Indicated dimensions are in case of FANUC. Please contact us for CAD files.

Support Table & Corresponding Accessories



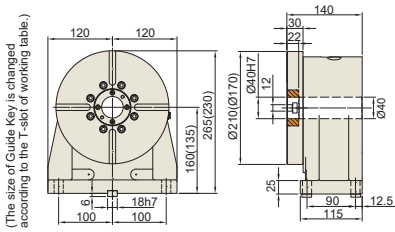
RTA-170/210 Air brake Oil brake



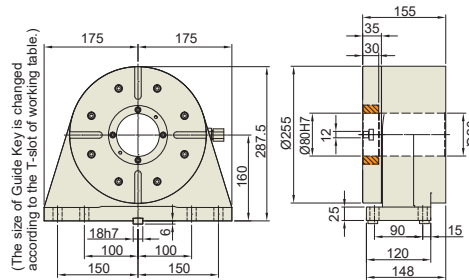
RTH-255 Oil brake



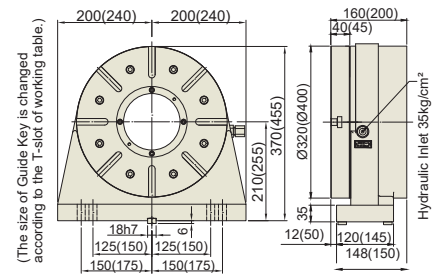
RTH-320/400 Oil brake



*():The dimension of Model RTA-170 **Weight : 35kg(29kg)**

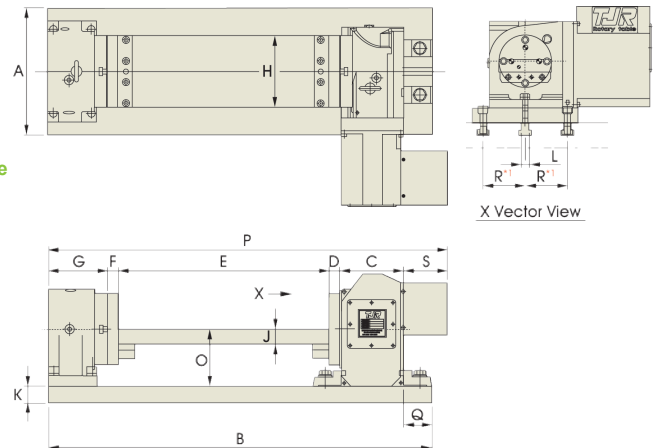
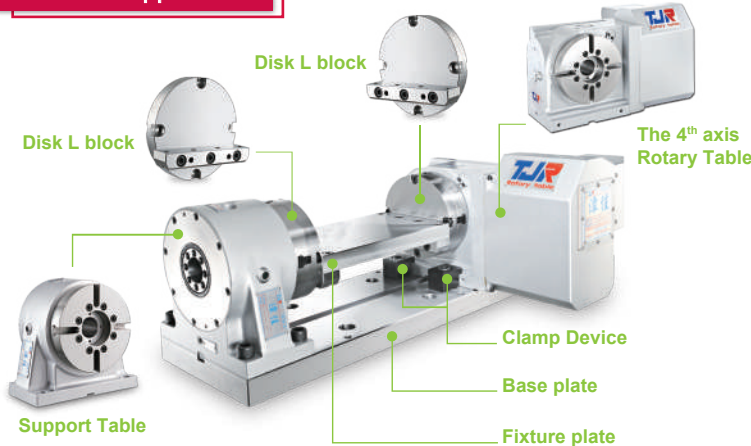


Weight : 57kg



*():The dimension of Model RTH400 **Weight : 83kg(165kg)**

Trunnion Application



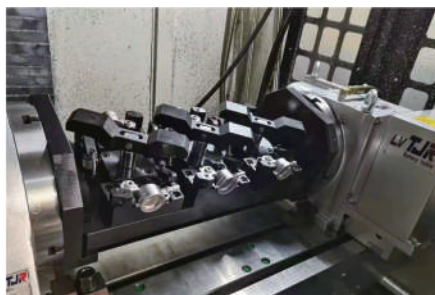
| Rotary Table Model | Tailstock Model | A | B | C | D | E | F | G | H | J | K | L | N | O | P | Q | S |
|--------------------|-----------------|-----|------|-----|----|-----|----|-----|-----|----|----|----|----|-----|------|----|-----|
| RC-170 | RTA-170 | 300 | 911 | 152 | 25 | 500 | 25 | 140 | 170 | 35 | 40 | 18 | 18 | 135 | 947 | 69 | 105 |
| RC-210 | RTA-210 | 300 | 1011 | 152 | 25 | 600 | 25 | 140 | 200 | 40 | 40 | 18 | 18 | 135 | 1047 | 69 | 105 |
| RC-255 | RTH-255 | 350 | 1148 | 200 | 25 | 700 | 25 | 155 | 250 | 45 | 40 | 18 | 18 | 160 | 1306 | 69 | 201 |
| RC-320 | RTH-320 | 400 | 1297 | 235 | 30 | 800 | 30 | 160 | 300 | 45 | 40 | 18 | 18 | 210 | 1461 | 69 | 206 |
| RC-400 | RTH-400A | 450 | 1455 | 250 | 30 | 900 | 30 | 175 | 400 | 45 | 40 | 18 | 18 | 255 | 1573 | 69 | 188 |

*1: "R" depends on the size of machine worktable.

★ A suitable raiser for either rotary table or manual tailstock can be customized to increase the center height.



▲ RC-170 + RTA-170

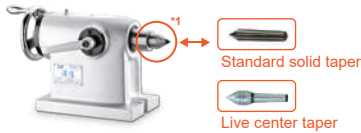


▲ RC-255 + RTH-255

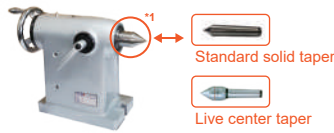


▲ RC-320 + RTH-320

Manual Tailstock & Corresponding Accessories



TTJ-170/210/255



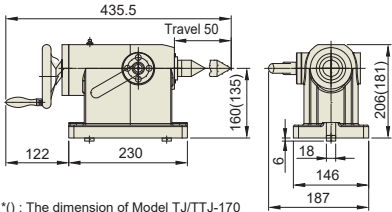
TTJ-320/400



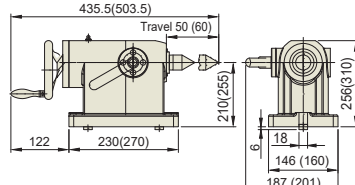
ATTJ-170/210
HTTJ-210/255
(With Pneumatic switching valve)



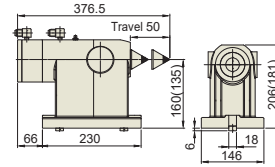
HTTJ-320/400
(With Hydraulic switching valve)



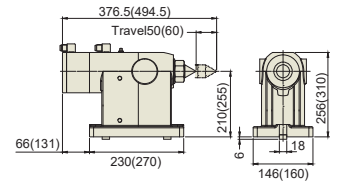
*(): The dimension of Model TTTJ-170
Weight : 25kg(23kg)



*(): the dimension of Model TTJ / TTJ-400
Weight : 29kg(48kg)



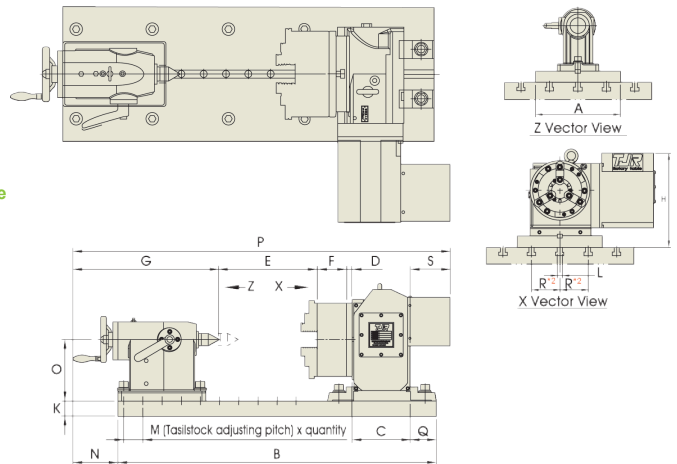
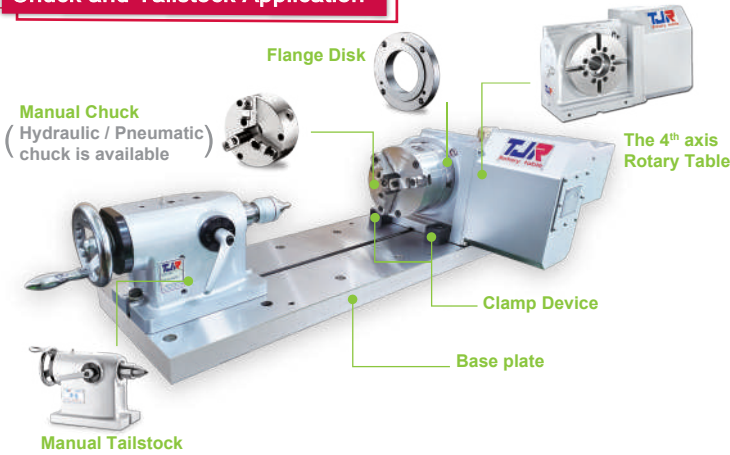
*(): the dimension of Model ATTJ / HTTJ-170
ATJ / HTJ-170
Weight : 25kg(23kg)



*(): the dimension of Model ATTJ / HTTJ-400
ATJ / HTJ - 400
Weight : 29kg(50kg)

*1: The taper is replaceable. The standard one is a solid taper. Moreover, the live center taper can be optional.

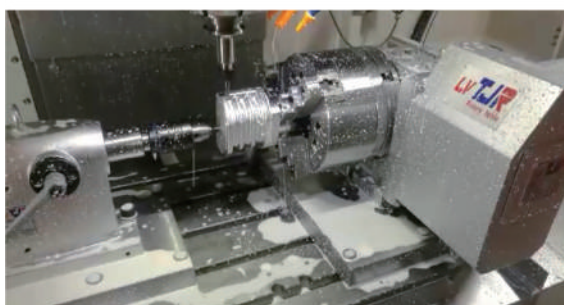
Chuck and Tailstock Application



| Rotary Table Model | Tailstock Model | Chuck Model | A | B | C | D | E | F | G | K | N | O | P | Q | S |
|--------------------|-----------------|-------------|-----|------|-----|----|-------|------|-------|----|-----|-----|------|----|-----|
| RC-170 | TTJ-170 | SK-6 | 300 | 911 | 152 | 16 | 346.5 | 67 | 382.5 | 40 | 122 | 135 | 1069 | 69 | 105 |
| | | SK-7 | 300 | 911 | 152 | 16 | 337 | 76.5 | 382.5 | 40 | 122 | 135 | 917 | 69 | 105 |
| | | SK-8 | 300 | 911 | 152 | 16 | 337 | 76.5 | 382.5 | 40 | 122 | 135 | 917 | 69 | 105 |
| RC-210 | TTJ-210 | SK-7 | 300 | 1011 | 152 | 16 | 437 | 76.5 | 382.5 | 40 | 122 | 160 | 1265 | 69 | 201 |
| | | SK-8 | 300 | 1011 | 152 | 16 | 437 | 76.5 | 382.5 | 40 | 122 | 160 | 1017 | 69 | 201 |
| RC-255 | TTJ-255 | SK-7 | 350 | 1148 | 200 | 20 | 522 | 76.5 | 382.5 | 40 | 122 | 160 | 1402 | 69 | 201 |
| | | SK-8 | 350 | 1148 | 200 | 20 | 522 | 76.5 | 382.5 | 40 | 122 | 160 | 1202 | 69 | 201 |
| | | SK-9 | 350 | 1148 | 200 | 20 | 514.5 | 84 | 382.5 | 40 | 122 | 160 | 1202 | 69 | 201 |
| | | SK-10 | 350 | 1148 | 200 | 20 | 511.5 | 87 | 382.5 | 40 | 122 | 160 | 1202 | 69 | 201 |
| RC-320 | TTJ-320 | SK-9 | 400 | 1297 | 235 | 25 | 623.5 | 84 | 382.5 | 40 | 122 | 210 | 1556 | 69 | 206 |
| | | SK-10 | 400 | 1297 | 235 | 25 | 620.5 | 87 | 382.5 | 40 | 122 | 210 | 1321 | 69 | 206 |
| RC-400 | TTJ-400 | SK-12 | 450 | 1455 | 250 | 25 | 711.5 | 96 | 436.5 | 40 | 133 | 255 | 1707 | 69 | 188 |
| | | SK-16 | 450 | 1455 | 250 | 28 | 682.5 | 122 | 436.5 | 40 | 133 | 255 | 1457 | 69 | 188 |

*2: "R" depends on the size of machine worktable.

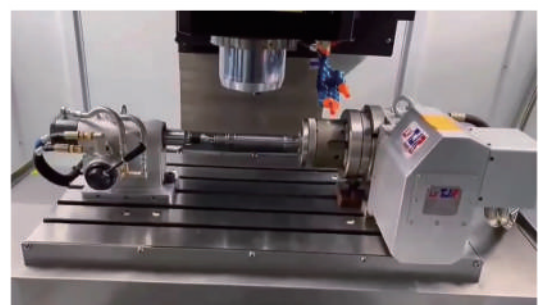
★ A suitable raiser for either rotary table or manual tailstock can be customized to increase the center height.



▲ RC-170 + TTJ-170



▲ RC-210 + ATTJ-210



▲ RC-210 + HTTJ-210