TJR® Rotary Table

Extensive line-up of Ø320-400mm CNC Rotary Table to Match your own application.

TJR APP

www.tjr.com.tw

Product Code

RC - 320 - R - T

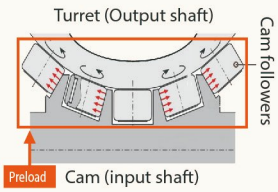
- **RC** — Code No. of Transmission Mechanism Type
  - RC : Roller Gear Cam
  - HR : Worm & Worm Gear
- **320** — Diamenter of the rotary table face plate (mm)
- **R** — Motor mounting location (Refer to page2 Table2)
  - R Right Mount
  - B Back Mount
  - L Left Mount
  - N Right Mount with sheet metal cover reduction
- **T** — Transmission Mechanisms Material (Refer to page1 Table1)
  - T Taiwan-made
  - J Japan-made

RC-320

RC-400

RC Series

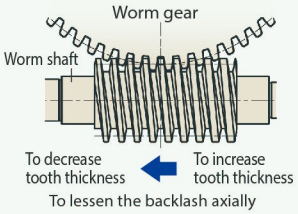
Roller Gear Cam



It consists of an input shaft and output turret with embedded roller followers. A cross-roller bearing supports the output turret with minimal run out and transmits power by rolling rather than sliding. Preloaded roller followers contact the input rib surfaces with a wedge-shaped cross section. It can be adjusted by moving the input axis, eliminating backlash completely. Clearly seen for CW and CCW rotation.

HR Series

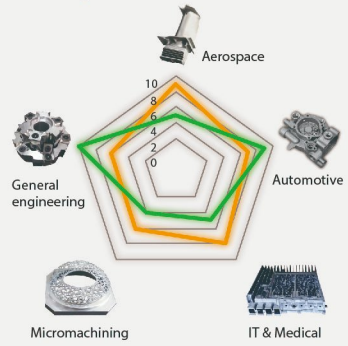
Worm & Worm Gear



Specially designed double-lead worm & gear with full-depth teeth. The worm gear with a large pitch diameter creates a large engagement area and less pressure on the contact surface, resulting in higher strength. By moving the worm shaft axially, the tooth engagement can be changed successively. As the backlash between worm and gear can be adjusted while keeping them in their proper positions, the ideal tooth engagement is maintained.

The sales of different models by major industry sector

▶ Industry Sector



▶ Transmission Mechanisms

- Roller Gear Cam — RC
- Worm & Worm Gear — HR

Table 1

Model				
	Ø320mm	HR-320-T	HR-320-J	RC-320-J
	Ø400mm	HR-400-T	HR-400-J	RC-400-J

Transmission Mechanism	Worm & Worm Gear		Roller Gear Cam
Material	T Taiwan Made Worm wheel : Aluminum Bronze	J Japan Made Worm wheel : Special high tensile brass	J Japan Made Turret, Roller Gear Cam, and Follower : **Case hardened alloy steel**
	Worm shaft : **Case hardened alloy steel**		
	The combination of iron and brass produces less friction. A more effective transfer of the motor torque is achieved.		The table runs on a series of rollers, meaning slick rolling surface operation with no backlash and wear.
Compact Footprint	–	–	–
Zero Backlash	–	–	★★★
Anti-Wear	★	★★	★★★
Maintenance	★	★	★★
Rotary Speed	★	★	★★
Indexing Precision / Repeatability	★★	★★	★★
Loading capacity	★★★	★★★	★★★
Driving Torque (without Brake)	★★★	★★★	★★
Popularity	★★★	★★★	★★

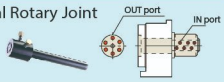
★★★ Excellent ★★ Good ★ Neutral

Ø320,400mm Models

TJR® Rotary Table

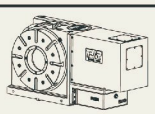
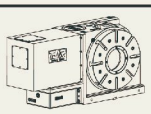
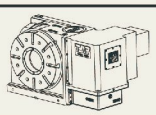
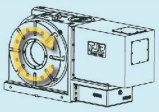
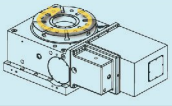
Oil brake

Specifications

Item / Code No.		Unit	HR-320 R/N/B	RC-320 R/L/N	HR-400 R/N/B	RC-400 R/N
Faceplate diameter		mm	Ø320	Ø320	Ø400	Ø400
Diameter of Table Center Hole		mm	Ø150	Ø150	Ø150	Ø150
Inner Diameter of Mandrel Sleeve		mm	Ø120H7	Ø120H7x 35 Deep*1	Ø120H7	Ø120H7
Diameter of Center Through Hole		mm	Ø120 Blind hole Ø120 x 217 Deep*1	Ø105	Ø120*1 Blind hole Ø120 x 220 Deep*1	Ø120
Center Height (Vertical)		mm	210 255 *1	210	255	255
Table Height (Horizontal)		mm	235 NA *1	235	250 NA *1	250
Table T-slot Width		mm	14H7	14H7	14H7	14H7
Guide Block Width		mm	18h7	18h7	18h7	18h7
Min. Increment		deg.	0.001	0.001	0.001	0.001
Indexing Precision		sec.	15	20	15	20
Repeatability		sec.	6	6	6	6
Clamping System (Hydraulic)		kgf/cm²	35	35	35	35
Clamping Torque		kgf·m	115	115	200	200
Servo Motor Model	FANUC	Taper shaft	αiF12/βis22	αiF12/βis22	αiF12/βis22	αiF12/βis22
	MITSUBISHI	Taper / Straight shaft	HG-204	HG -204	HG -204	HG -204
	SIEMENS	Straight shaft	1FK7083	1FK7083	1FK7083	1FK7083
	HEIDENHAIN	Straight shaft	QSY-155B	QSY-155B	QSY-155B	QSY-155B
Speed Reduction Ratio		-	1 : 120 1 : 150 *1	1 : 30	1 : 120 1 : 150 *2	1 : 90
Max. Rotation Rate of Table (Calculate with Fanuc a Motor)		min-1	25	33.3	25	33.3
Allowable inertia load capacity (Horizontal)		kg-m²	3.1	3.15	6.2	6.25
Allowable Workpiece Load	Vertical	kg	150	150	200	200
	With Tailstock	kg	350	350	500	500
	Horizontal	kg	350 NA *1	350	500 NA *1	500
Allowable Thrust Load (with Rotary Table Clamping)	F	kgf	3000	3000	4000	4000
	FxL	kgf·m	300	300	400	400
	FxL	kgf·m	115	115	200	200
Driving Torque		kgf·m	80	107	170	140
Net Weight (Servo motor excluded)		kg	204 NA *2	187	286 281 *2	308
Optional Rotary Joint 		Available Number of Ports	2.4.6.8.12	2.4.6.8.12	2.4.6.8.12	2.4.6.8.12

*1: HR-400A is another option that incorporates a Ø150mm center through hole.
*2: When the motor mount location is BACK.

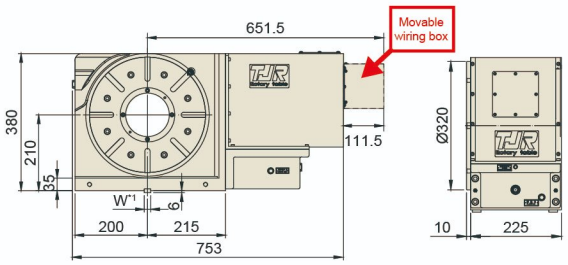
Table 2

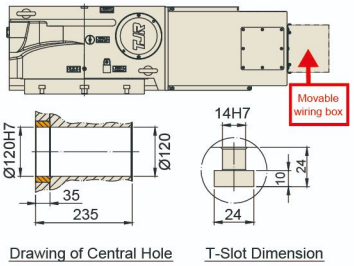
Positioning \ Code	R Right Hand Right Mount	L Left Hand Left Mount	N Right Hand Right Mount with sheet metal cover reduction	B Back Side Back Mount
Diagram				
VERTICAL 	✓	✓	✓	✓
HORIZONTAL 	✓	✓	✗	✗

ø320mm Model Dimensions

TJR Rotary Table

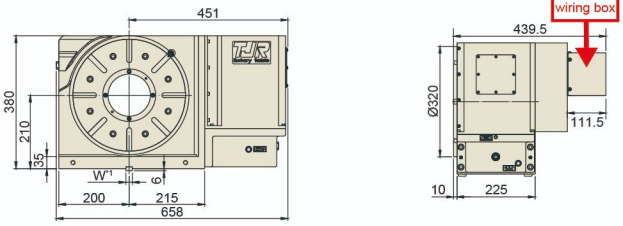
RC-320 R Right Hand — Oil brake

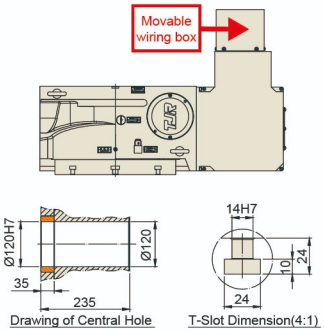




Drawing of Central Hole　T-Slot Dimension

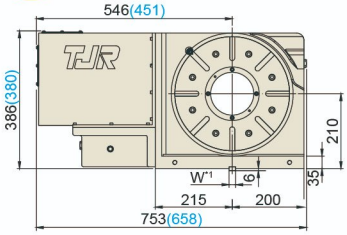
RC-320 N Right Hand — Oil brake

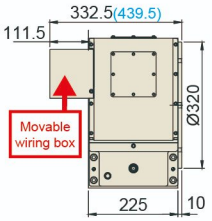


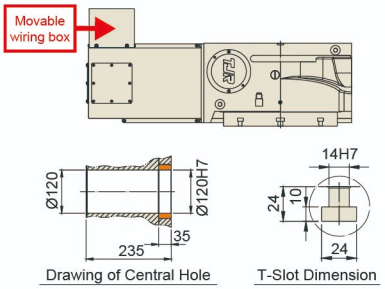


Drawing of Central Hole　T-Slot Dimension(4:1)

RC-320 L Left Hand N Right Hand — Oil brake



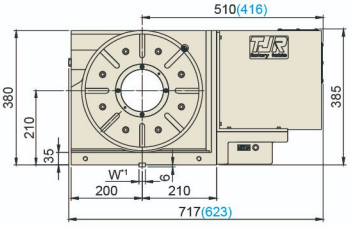


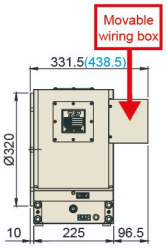


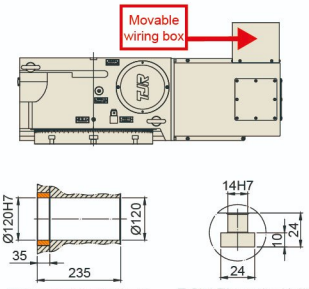
Drawing of Central Hole　T-Slot Dimension

N ( ):When the sheet metal cover is reduced.

HR-320 R Right Hand N Right Hand — Oil brake



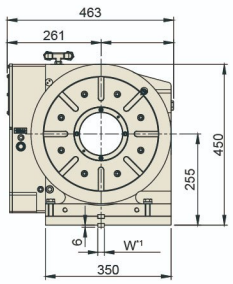


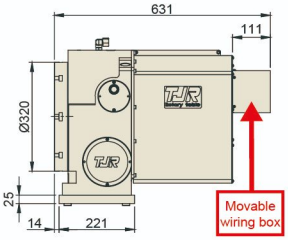


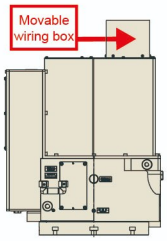
Drawing of Central Hole　T-Slot Dimension(4:1)

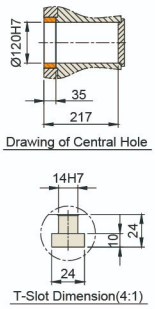
N ( ):When the sheet metal cover is reduced.

HR-320 B Back Side — Oil brake









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

*1: The Guide Key size can be changed basd 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.

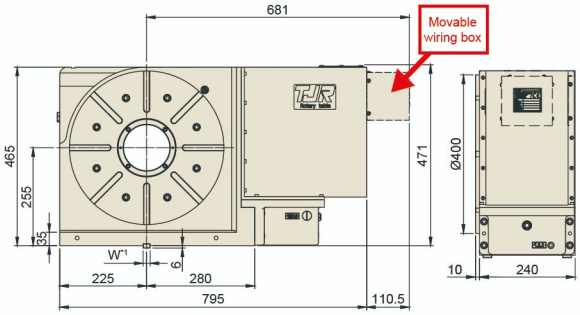
ø400mm Model Dimensions

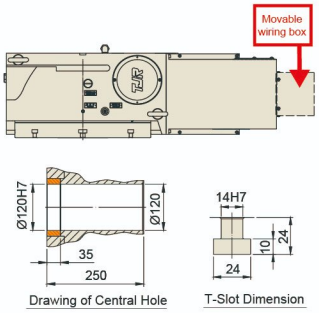
TJR Rotary Table

RC-400

R Right Hand

Oil brake

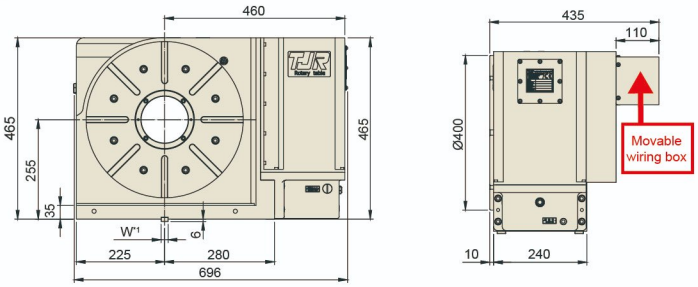


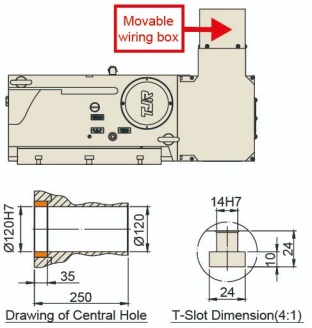


RC-400

N Right Hand

Oil brake

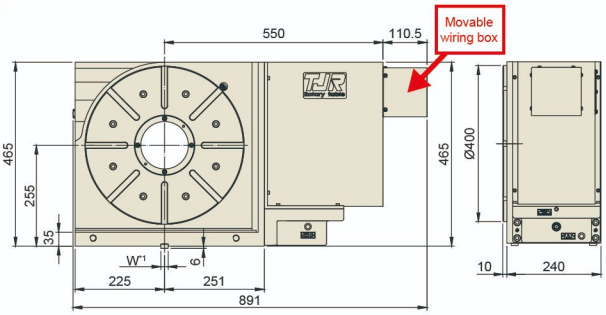


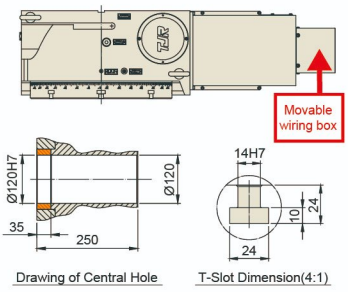


HR-400

R Right Hand

Oil brake

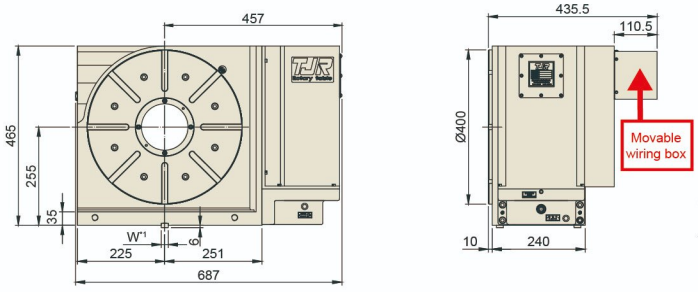


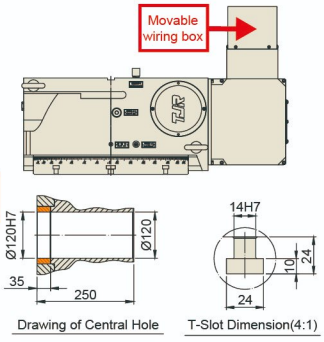


HR-400

N Right Hand

Oil brake

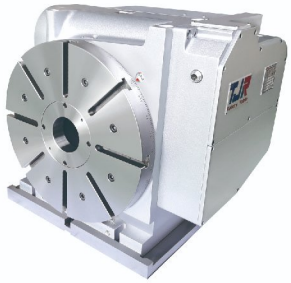


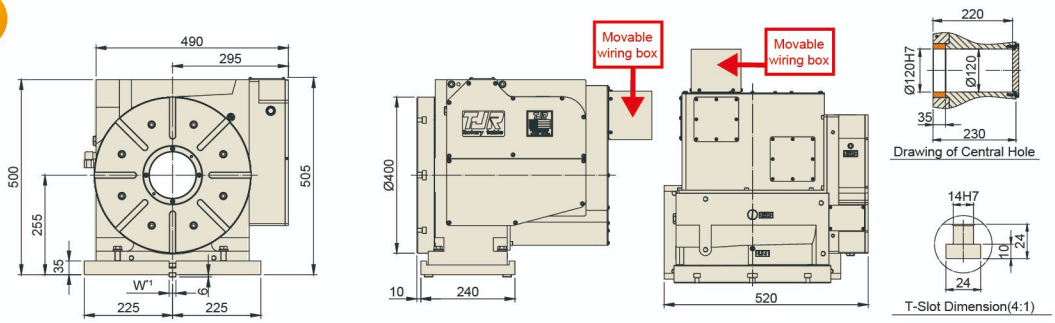


HR-400

B Back Side

Oil brake





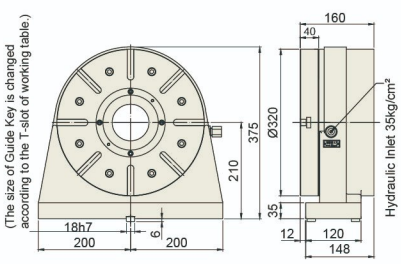
*1: The Guide Key size can be changed basd on the T-slot of work table.

★ 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.

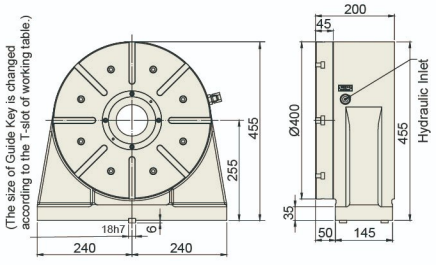
Support Table & Corresponding Accessories

RTH-320 Oil brake



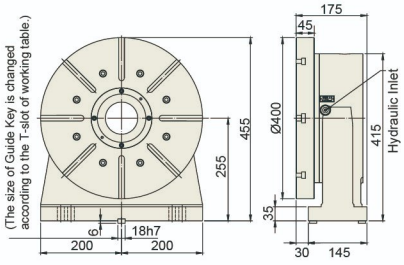
Weight : 83kg

RTH-400 Oil brake



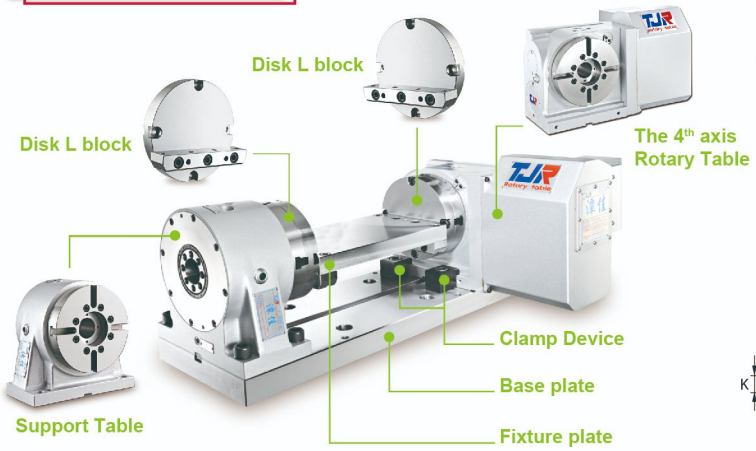
Weight :165kg

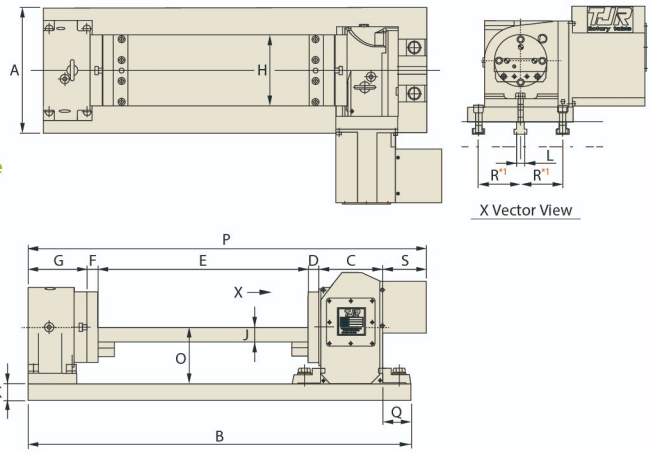
RTH-400A Oil brake



Weight :113kg

Trunnion Application

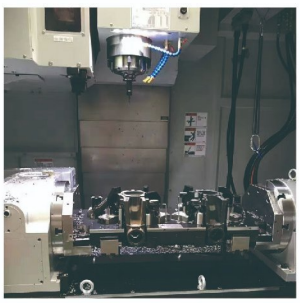




Rotary Table Model	Tailstock Model	A	B	C	D	E	F	G	H	J	K	L	N	O	P	Q	S
HR-320 RC-320	RTH-320	400	1297	235	30	800	40	160	300	45	40	18	18	210	1460	69	206
HR-400 RC-400	RTH-400A	450	1455	250	30	900	45	175	400	45	40	18	18	255	1572	69	188

*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.

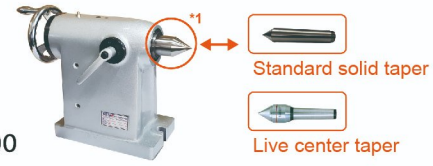


▲ HR-320 + RTH-320

▲ HR-320 + RTH-320

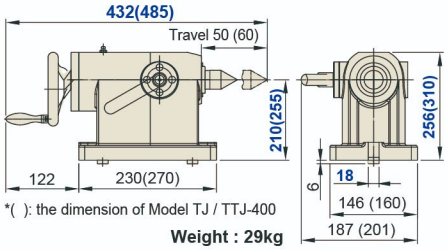
▲ HR-320 + RTH-320

Manual Tailstock & Corresponding Accessories



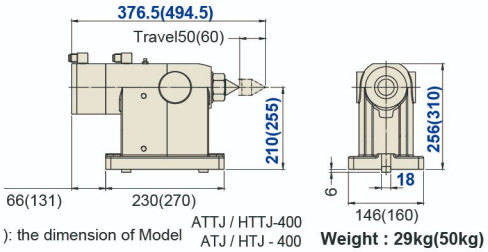
TTJ-320/400

HTTJ-320/400
(With Hydraulic switching valve)



*( ): the dimension of Model TJ / TTJ-400

Weight : 29kg

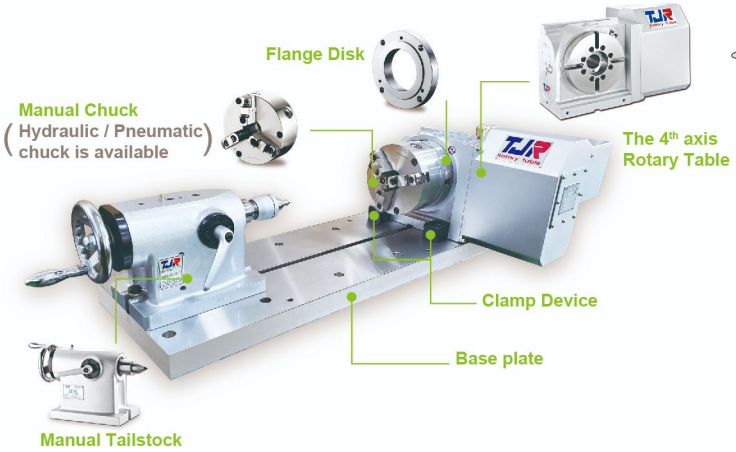


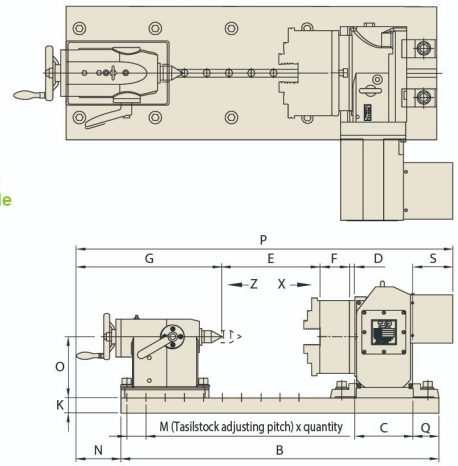
*( ): the dimension of Model ATTJ / HTTJ-400 ATJ / HTJ - 400

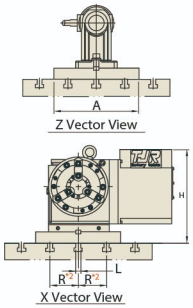
Weight : 29kg(50kg)

*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
HR-320 RC-320	TTJ-320	SK-9	400	1297	235	20	618	84	381	40	110	210	1544	69	260
		SK-10	400	1297	235	25	610	87	381	40	110	210	1544	69	206
HR-400 RC-400	TTJ-400	SK-12	450	1455	250	25	680	96	457	40	122	255	1696	69	188
		SK-16	450	1455	250	28	651	122	457	40	122	255	1696	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.

▲ HR-320 + TTJ-320

▲ HR-320 + TTJ-320

▲ HR-400+TTJ-400