



## 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

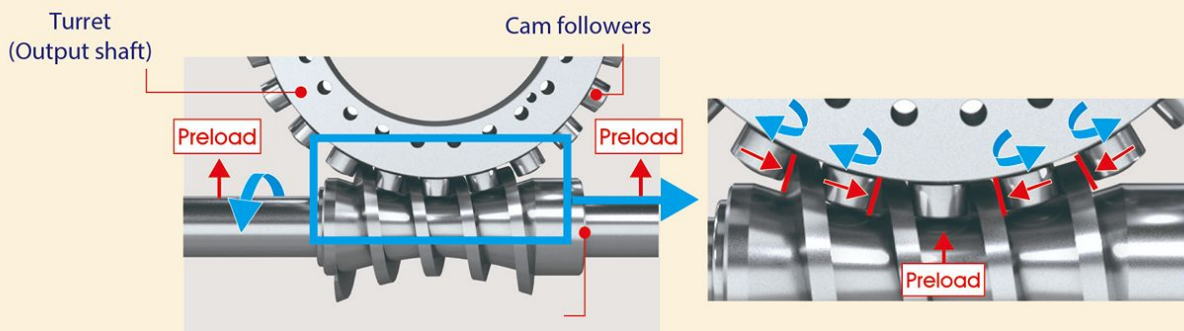


- Shock resistant and high performance cam followers.

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

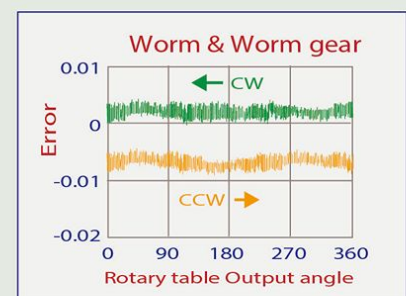
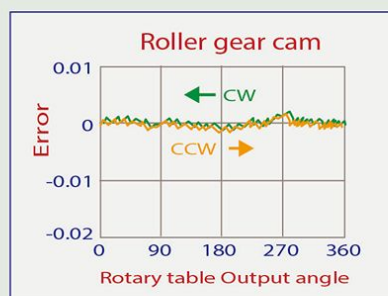
By preloading the input and output shafts beforehand, the four cam followers can be always kept in contact with the cam surface, which eliminates backlash completely and provides high rigidity.

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



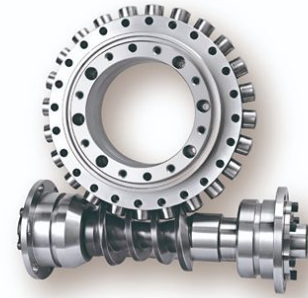
## Product lineup

### 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

Use radial & axial bearings

**L**  
Left hand

Left Side Motor

→

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.

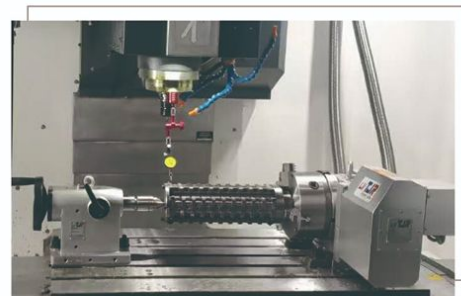
## Applications

	<p>◆ <b>Automotive parts</b> High-speed positioning which reduces non-cutting time.</p>
	<p>◆ <b>Cutting Tool Grinding</b> Precision improved by continuous zero backlash machining.</p>
	<p>◆ <b>Molding parts</b> High speed &amp; accurate continuous cutting.</p>
	<p>◆ <b>Turbine blade</b> Fast-accelerated driven machining.</p>

## Example



▲ RC-170R + RTA-170



▲ RC-210R + TTJ-210

# Roller Gear Cam RC Series



## Specifications



Air brake



Oil brake

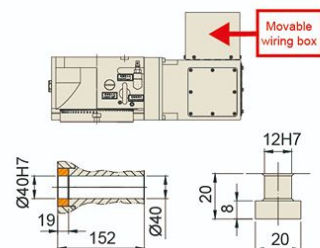
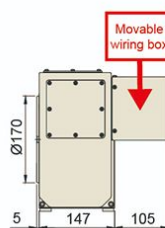
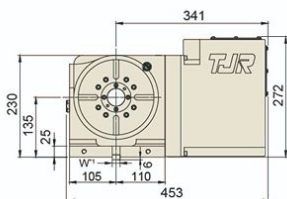
Item / Code No.	Unit	RC-170R	RC-210R/L	RC-255R/N	RC-320R/N/L	RC-400R/N	
Table Diameter	mm	Ø170	Ø210	Ø255	Ø320	Ø400	
Inner Diameter of Mandrel Sleeve	mm	Ø40H7	Ø40H7	Ø80H7	Ø120H7x35 deep	Ø120H7	
Diameter of Center Through Hole	mm	Ø40	Ø40	Ø80 Big Bore	Ø105 Big Bore	Ø120 Big Bore	
Center Height (Vertical)	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 <sup>2</sup>	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	FANUC	Taper shaft	αiF8 / βis8	αiF8 / βis8	αiF8 / βis12 (Taper)	αiF12 / βis22 (Straight)	αiF12 / βis22 (Straight)
	MITSUBISHI	Taper/Straight shaft	HG/HF-104 / 154	HG/HF-104 / 154	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 (Calculate with FANUC αMotor)	min <sup>-1</sup>	83.3	83.3	50	33.3	33.3	
Allowable Inertia Load Capacity (Horizontal)	kg·cm·sec <sup>2</sup>	4.5	4.5	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	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	

Code No.	Motor Mounting Location	Diagram	VERTICAL	HORIZONTAL
<b>R</b>	Right Mount		✓	✓
<b>L</b>	Left Mount		✓	✓
<b>N</b>	Right Mount with sheet metal cover reduction		✓	✗

# Roller Gear Cam RC Series

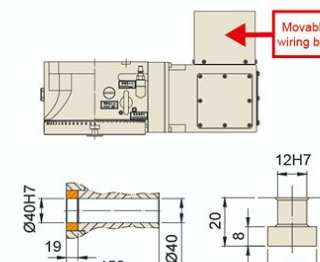
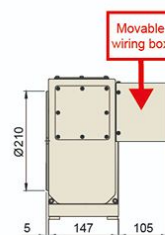
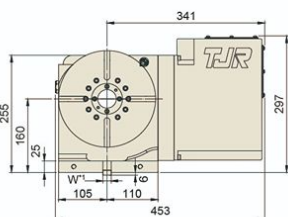


**RC-170** **R**  
Right hand



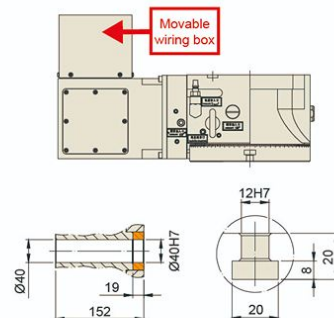
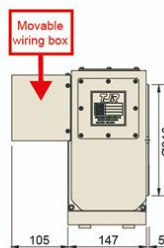
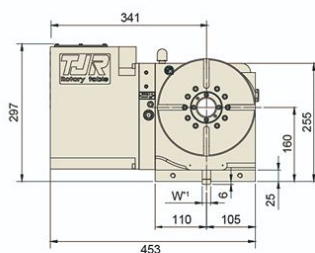
Drawing of Central Hole T-slot Dimension

**RC-210** **R**  
Right hand



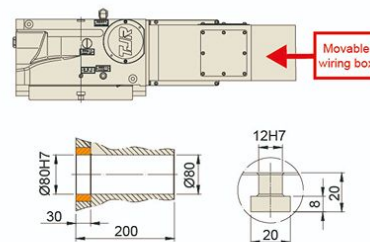
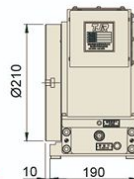
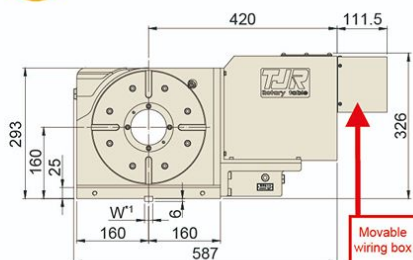
Drawing of Central Hole T-slot Dimension

**RC-210** **L**  
Left hand



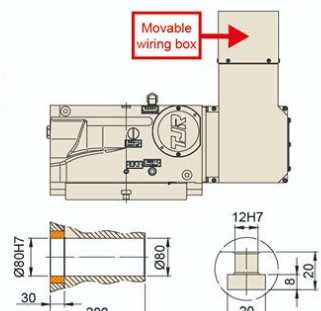
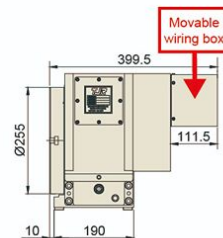
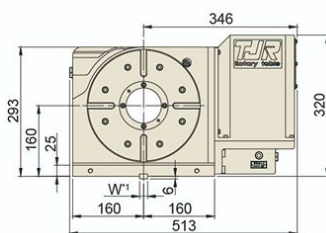
Drawing of Central Hole T-Slot Dimension(4:1)

**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.

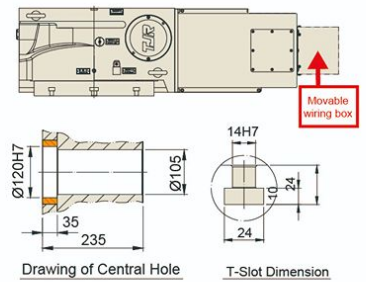
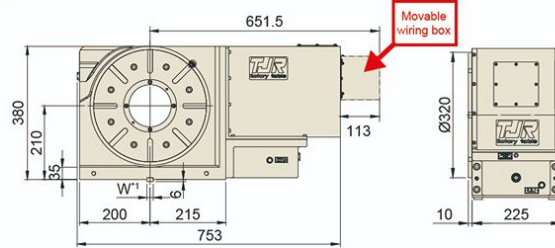
★ Air purge function is provided inside the motor cover as standard.

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

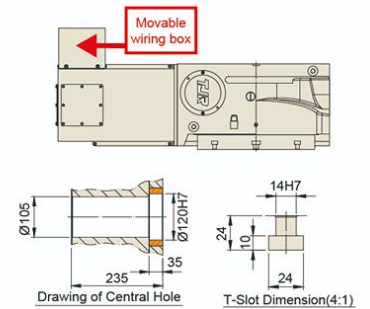
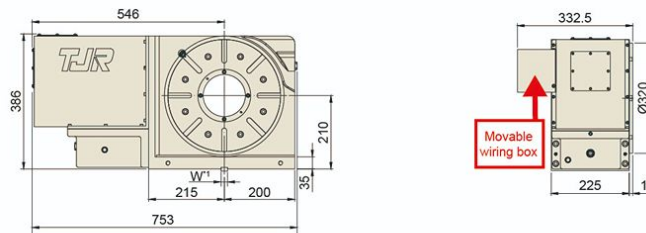
# Roller Gear Cam RC Series



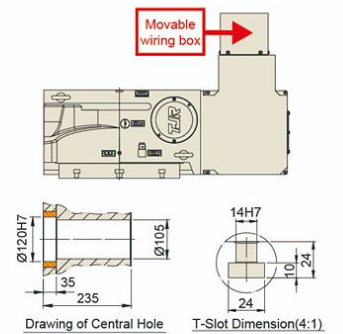
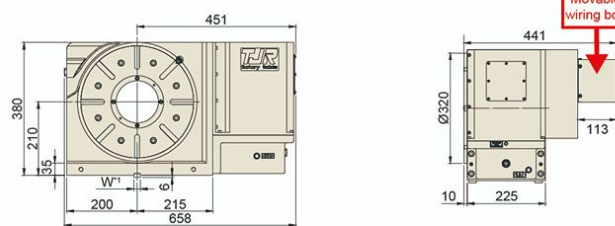
RC-320



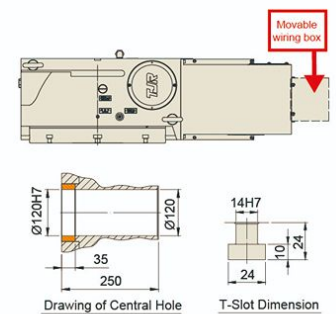
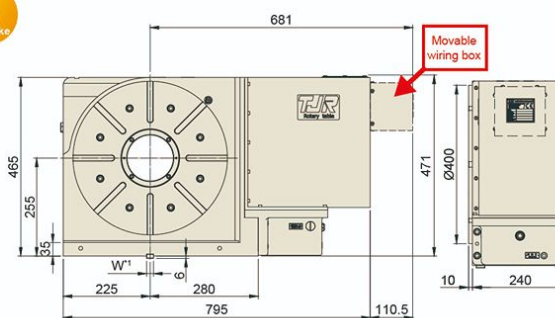
RC-320



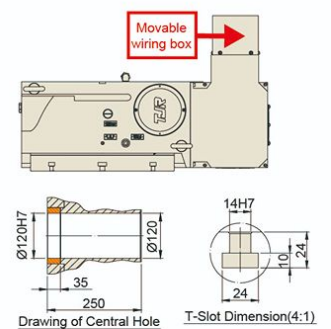
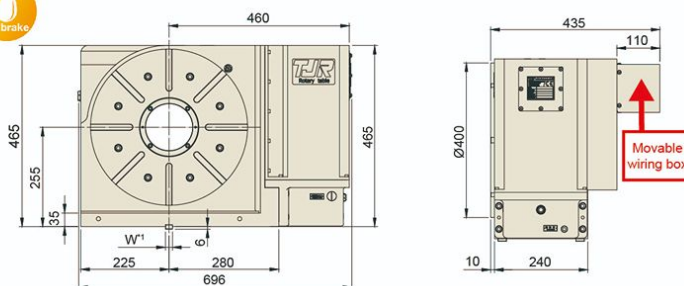
RC-320



RC-400



RC-400



\*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



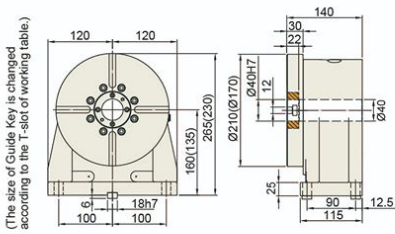
**RTA-170/210** Air brake Oil brake



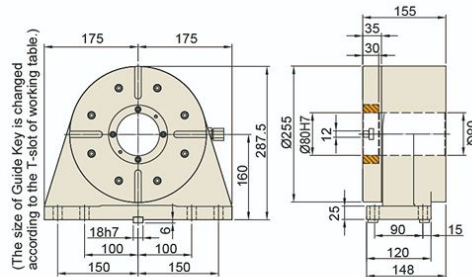
**RTH-255** Oil brake



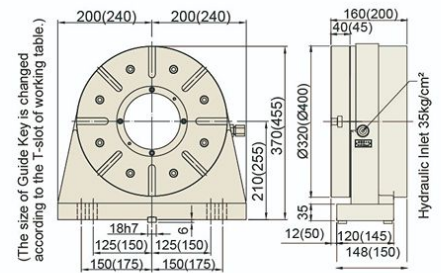
**RTH-320/400** Oil brake



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

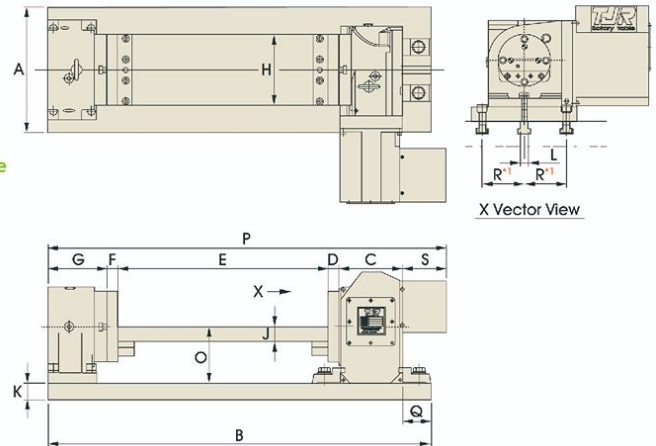
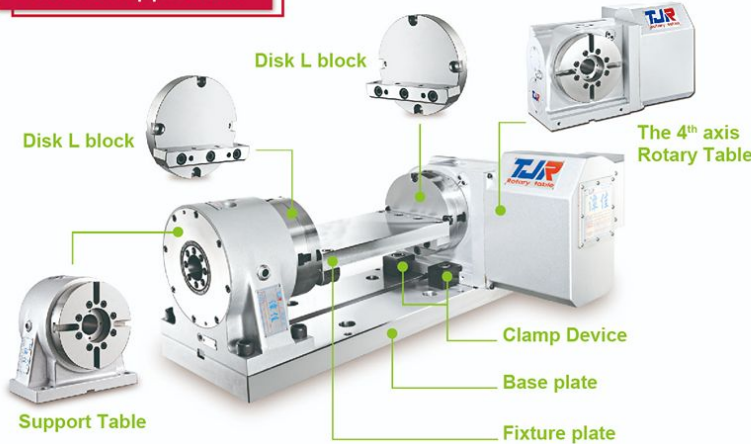


**Weight : 57kg**



\*():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	30	140	170	35	40	18	18	135	947	69	106
RC-210	RTA-210	300	1011	152	25	600	30	140	200	40	40	18	18	160	1047	69	106
RC-255	RTH-255	350	1148	200	25	700	35	155	250	45	40	18	18	160	1305	69	201
RC-320	RTH-320	400	1297	235	30	800	40	160	300	45	40	18	18	210	1460	69	206
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.



▲ RC-170 + RTA-170



▲ RC-255 + RTH-255



▲ RC-320 + RTH-320

# Manual Tailstock & Corresponding Accessories



TTJ-170/210/255



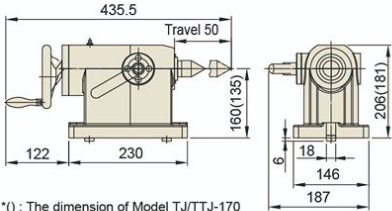
TTJ-320/400



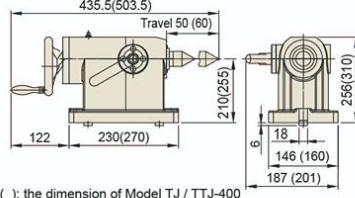
ATTJ-170/210  
HTTJ-210/255  
(With Pneumatic switching valve)



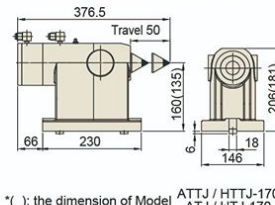
HTTJ-320/400  
(With Hydraulic switching valve)



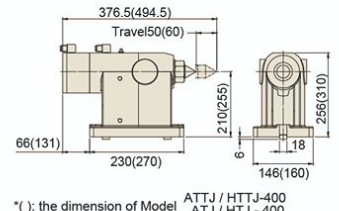
\*(): The dimension of Model TJ/TTJ-170  
Weight : 25kg(23kg)



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



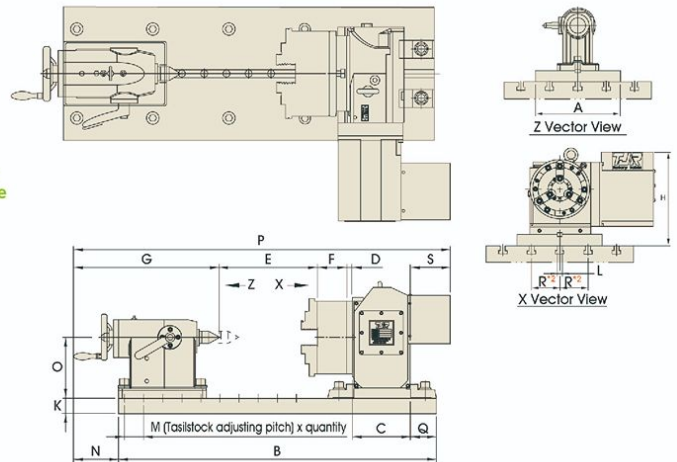
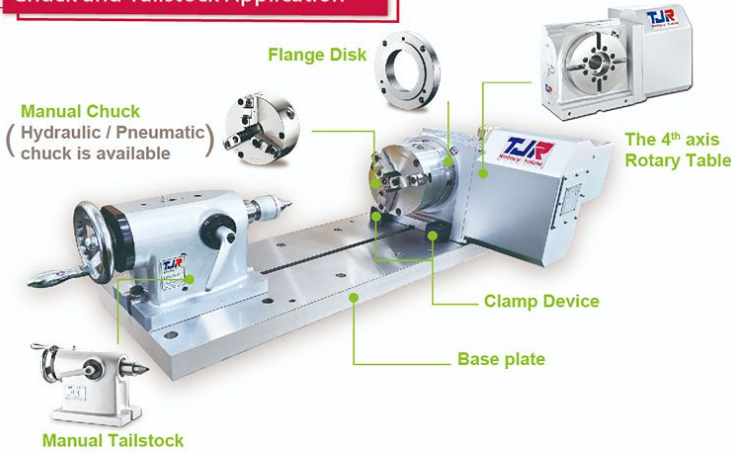
\*(): the dimension of Model ATTJ / HTTJ-170  
ATJ / HTJ-170  
Weight : 25kg(23kg)



\*(): 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.

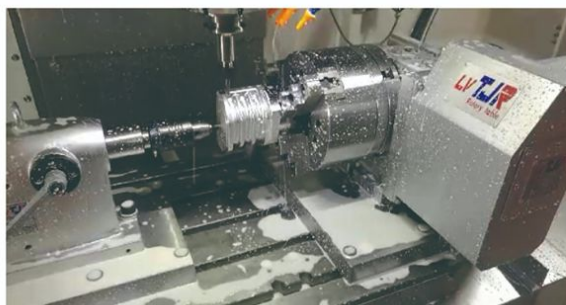
## Chuck and Tailstock Application



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	336	67	381	40	110	135	1058	69	106
		SK-7	300	911	152	14	329	76.5	381	40	110	135	1058	69	106
		SK-8	300	911	152	14	329	76.5	381	40	110	135	1058	69	106
RC-210	TTJ-210	SK-7	300	1011	152	14	429	76.5	381	40	110	160	1158	69	106
		SK-8	300	1011	152	14	429	76.5	381	40	110	160	1158	69	106
RC-255	TTJ-255	SK-7	350	1148	200	20	512	76.5	381	40	110	160	1390	69	201
		SK-8	350	1148	200	20	512	76.5	381	40	110	160	1390	69	201
		SK-9	350	1148	200	20	504	84	381	40	110	160	1390	69	201
		SK-10	350	1148	200	20	501	87	381	40	110	160	1390	69	201
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
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.



▲ RC-170 + TTJ-170



▲ RC-210 + ATTJ-210



▲ RC-210 + HTTJ-210