TJR Rotary Table®

Extensive line-up of Ø125-170mm CNC Rotary Table to Match your own application.

TJR APP

www.tjr.com.tw

Product Code

RC - 170 - H - R - T

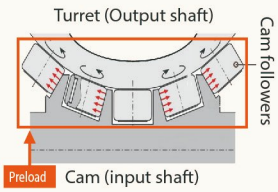
- **RC** — Code No. of Transmission Mechanism Type
  - RC : Roller Gear Cam
  - AR : Worm & Worm Gear
- **170** — Diamenter of the rotary table face plate (mm)
- **H** — Alternative Hydraulic Brake (Refer to page2 Table3)
- **R** — Motor mounting location (Refer to page2 Table2)
  - R Right Mount
  - L Left Mount
  - B Back Mount
- **T** — Transmission Mechanisms Material (Refer to page1 Table1)
  - T Taiwan-made
  - J Japan-made

AR-125

RC-170

RC Series

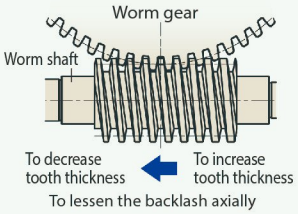
Roller Gear Cam



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.

AR 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

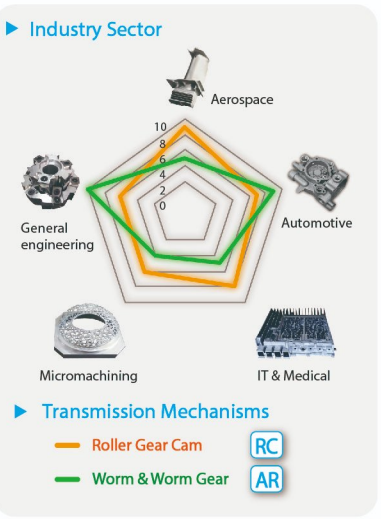


Table 1

Model				
	Ø125mm	AR-125-T	AR-125-J	-
	Ø170mm	AR-170-T	AR-170-J	RC-170-T / RC-170-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	T Taiwan Made 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

Ø125,170mm Models

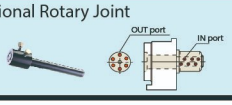
TJR Rotary Table

Specifications

Air brake

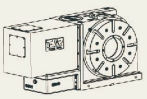
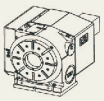
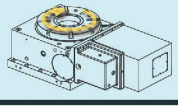
Oil brake

[ ]: Alloy Steel Worm & Gear series

Item / Code No.		Unit	AR(s)-125 R/L/B	AR(s)-170 R/L/B	RC-170 R
Table Diameter		mm	Ø125	Ø170	Ø170
Diameter of Table Center Hole		mm	NA	Ø67	Ø67
Inner Diameter of Mandrel Sleeve		mm	Ø35H7	Ø40H7	Ø40H7
Diameter of Center Through Hole		mm	Ø25 Blind hole Ø25 x 152 Deep*1	Ø40 Blind hole Ø40 x 152 Deep*1	Ø40
Center Height (Vertical)		mm	110	135	135
Table Height (Horizontal)		mm	152 NA *1	152 NA *1	152
Table T-slot Width		mm	12H7	12H7	12H7
Guide Block Width		mm	14h7	18h7	18h7
Min. Increment		deg.	0.001	0.001	0.001
Indexing Precision		sec.	40	20	30
Repeatability		sec.	6	6	6
Clamping System		kgf/cm²	Pne. 6	Pne. 6 / Hyd. 35	Pne. 6 / Hyd. 35
Clamping Torque		kgf·m	13	31 / 55	31 / 50
Servo Motor Model	FANUC	Taper shaft	αis4 / βis4	αiF4 / αiF8 / βis8	αiF8 / βis8
	MITSUBISHI	Taper / Straight shaft	HG -75 / 105	HG -54 / 104	HG -54 / 104
	SIEMENS	Straight shaft	1FK7042	1FK7060	1FK7060
	HEIDENHAIN	Straight shaft	QSY-96A	QSY-116C	QSY-116C
Speed Reduction Ratio		-	1 : 60	1 : 90	1 : 36
Max. Rotation Rate of Table (Calculate with Fanuc a Motor)		min-1	33.3	44.4 [33.3]	83.3
Allowable inertia load capacity (Horizontal)		kg-m²	0.28	0.63	0.63
Allowable Workpiece Load	Vertical	kg	50	75	75
	With Tailstock	kg	100	150	150
	Horizontal	kg	100 NA *1	150 NA *1	150
Allowable Thrust Load (with Rotary Table Clamping)	F	kgf	1000	1450	1450
	FxL	kgf·m	45	110	110
	FxL	kgf·m	13	31	31
Driving Torque		kgf·m	9 [3.7]	29 [14.6]	37
Net Weight (Servo motor excluded)		kg	34 44 *1	55 60 *1	44
Optional Rotary Joint 		Available Number of Ports	2,4	2,4	2,4

*1: When the motor mount location is BACK.

Table 2

Positioning \ Code	R Right Hand Right Mount	L Left Hand Left Mount	B Back Side Back Mount
Diagram			
VERTICAL	✓	✓	✓
HORIZONTAL 	✓	✓	✗

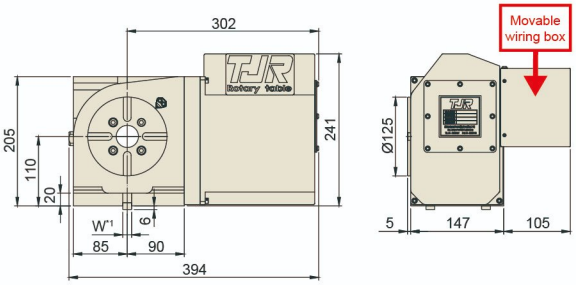
Model Name by brake mechanism

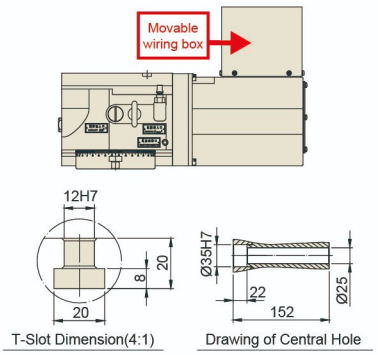
Table3

Brake type \ Faceplate size	Ø125mm	Ø170mm	
Air brake	AR-125	AR-170	RC-170
Oil brake	NA	AR-170H	RC-170H

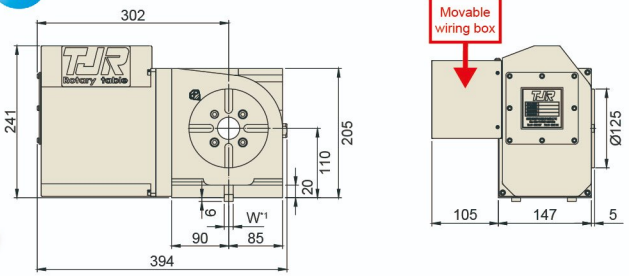
Ø125mm Model Dimensions

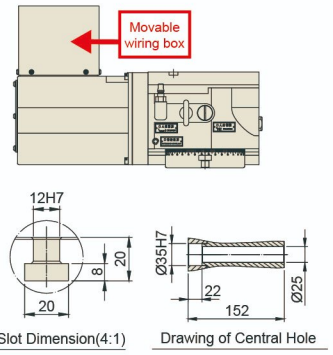
AR-125



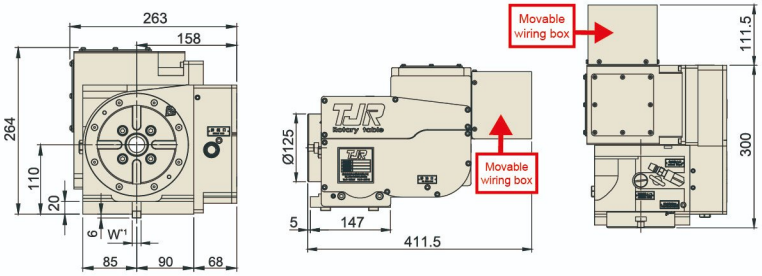


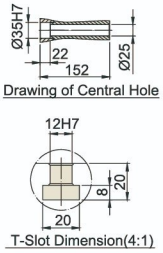
AR-125





AR-125



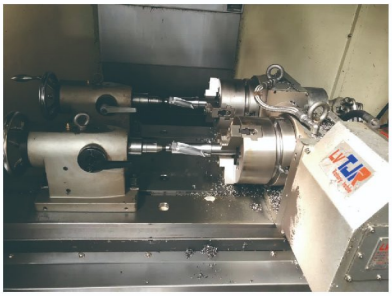


*1: The Guide Key size can be changed basd on the T-slot of work table.

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

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

▲ AR-125 + 5C



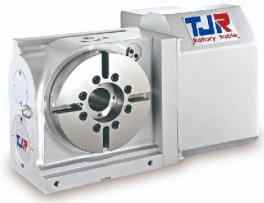
▲ AR-125-2W + TTJ-125

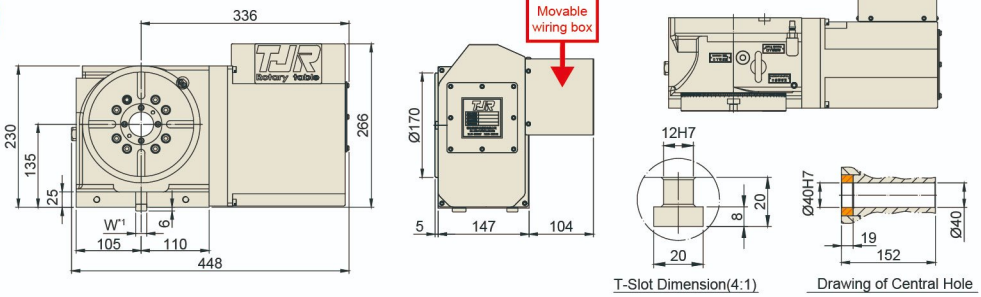
▲ AR-125-3W

▲ AR-125-4W + ATTJ-125

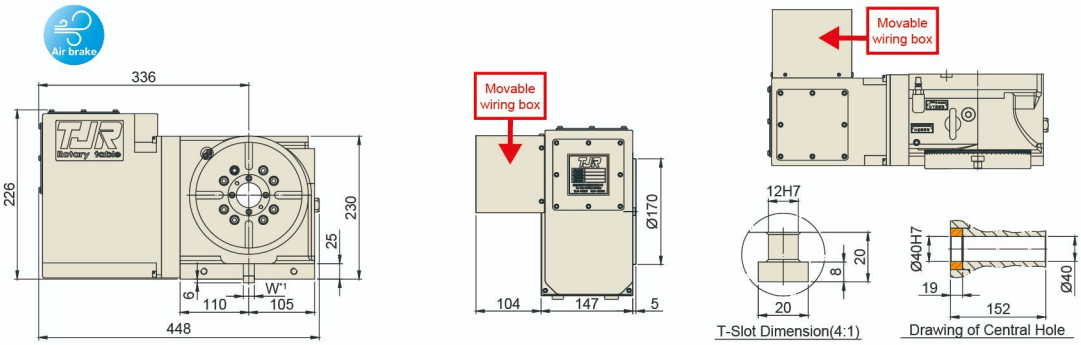
Ø170mm Model Dimensions

AR-170 R Right Hand

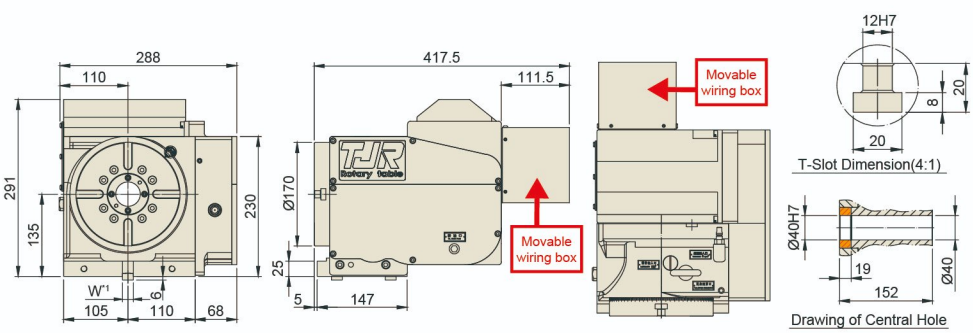




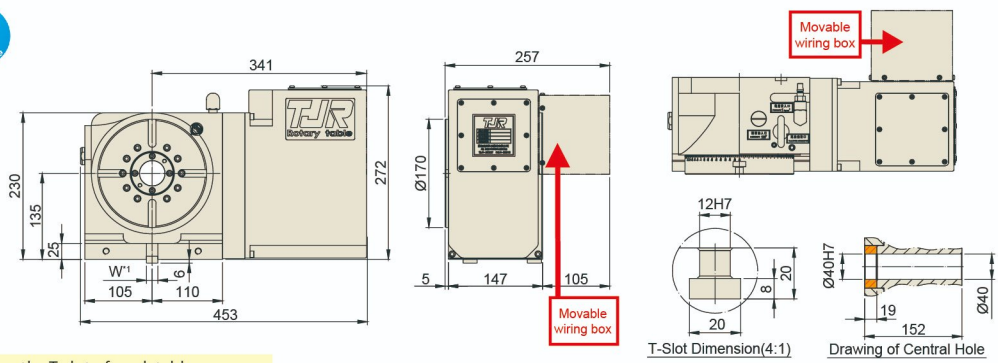
AR-170 L Left Hand



AR-170 B Back Side



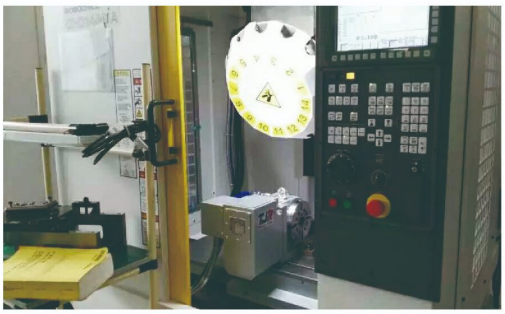
RC-170 R Right Hand



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

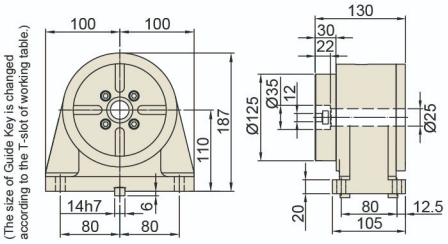
★Air purge function is provided inside the motor cover as standard.

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

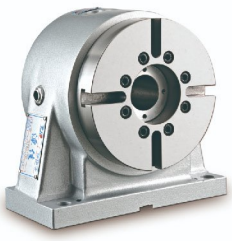


Support Table & Corresponding Accessories

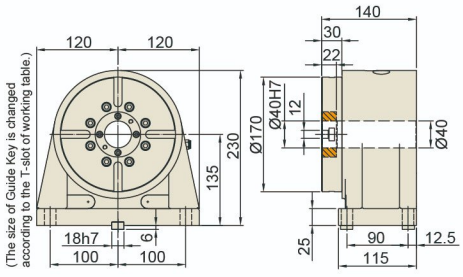
RTA-125 Air brake



Weight :18kg

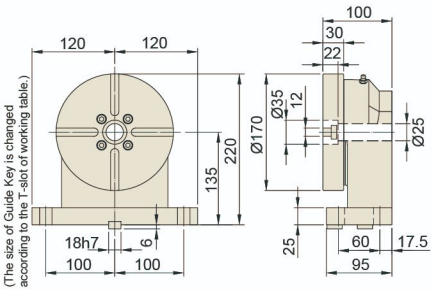


RTA-170 Air brake Oil brake



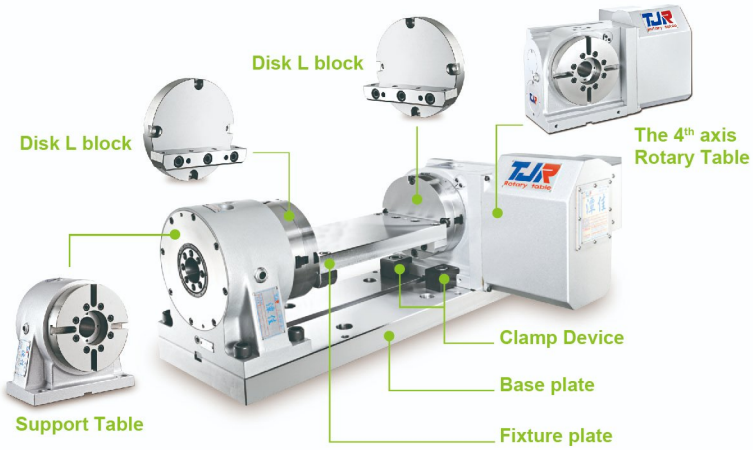
Weight :29kg

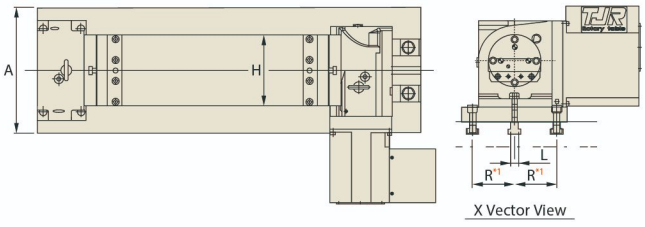
RT-170F No Brake

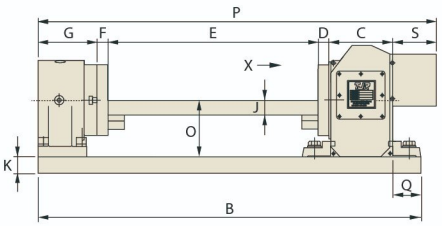


Weight :18kg

Trunnion Application





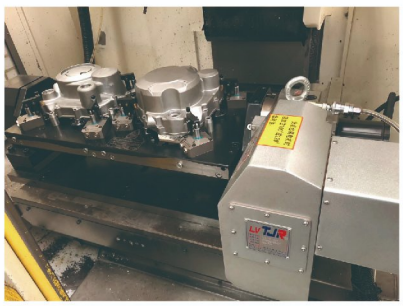


Rotary Table Model	Tailstock Model	A	B	C	D	E	F	G	H	J	K	L	N	O	P	Q	S
AR-125	RTA-125	250	725	152	20	400	30	130	125	30	35	14	14	115	828	0	106
AR-170 RC-170	RTA-170	300	911	152	25	500	30	140	170	35	40	18	18	135	947	69	106

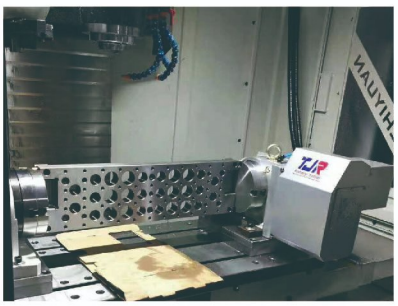
*1: "R" deoends on the size of machine worktable.

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

▲ AR-125 + RTA-125

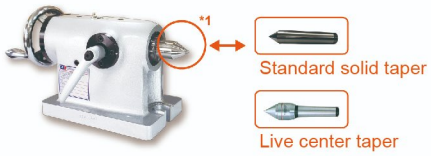


▲ AR-170 + RTA-170



▲ RC-170 + RTA-170

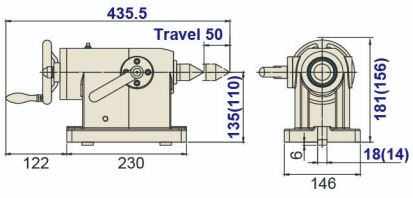
Manual Tailstock & Corresponding Accessories



TTJ-125/170

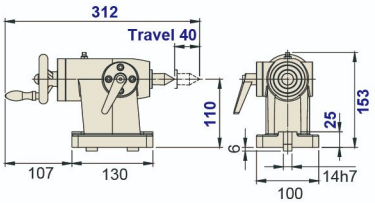
TTJ-125A

ATTJ-125/170
(With Pneumatic switching valve)

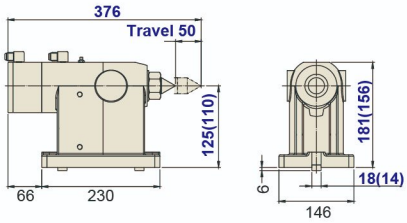


*( ): the dimension of Model TTJ-125

Weight : 23kg(21.5kg)



Weight : 8.5kg

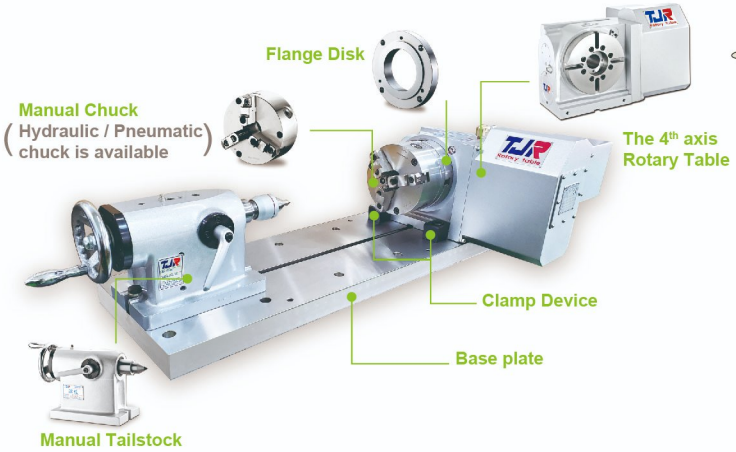


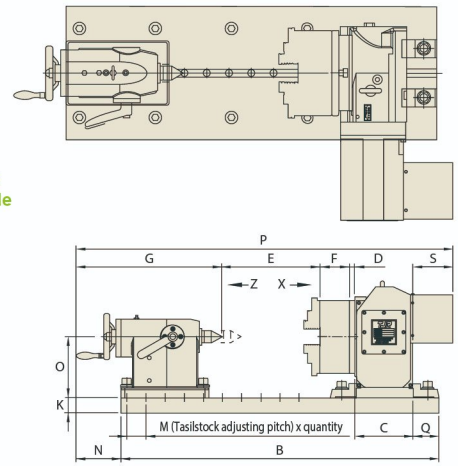
*( ): the dimension of Model ATTJ-125

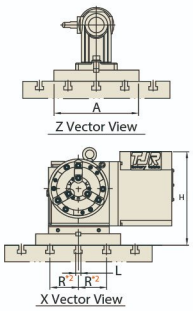
Weight : 23kg(21kg)

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

Chuck and Tailstock Application



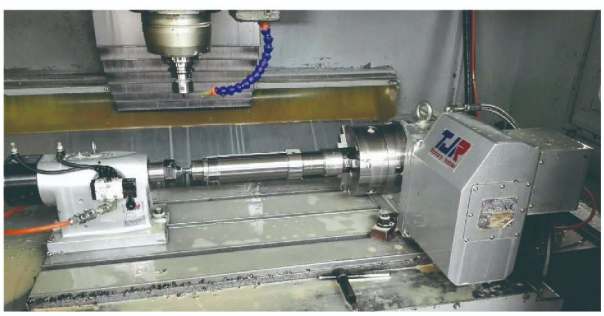




Rotary Table Model	Tailstock Model	Chuck Model	A	B	C	D	E	F	G	K	N	O	P	Q	S
AR-125	TTJ-125	SK-4	250	725	152	16	226	60	381	35	110	110	941	0	106
		SK-5	250	725	152	16	226	60	381	35	110	110	941	0	106
AR-170 RC-170	TTJ-170	SK-6	300	911	152	16	336	67	381	40	110	135	1058	69	106
		SK-7	300	911	152	14	329	76.5	381	40	110	135	1058	69	106
		SK-8	300	911	152	14	329	76.5	381	40	110	135	1058	69	106

*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 + ATTJ-170

▲ AR-170 + TTJ-170

▲ AR-170 + TTJ-170