



TJR APP



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**Product Code**

**RC - 170 - H - R - T**

Code No. of Transmission Mechanism Type  
**RC** : Roller Gear Cam  
**AR** : Worm & Worm Gear

Diamentor of the rotary table face plate (mm)

Alternative Hydraulic Brake  
 Refer to page2 Table3

Motor mounting location  
 Refer to page2 Table2

- R** Right Mount
- L** Left Mount
- B** Back Mount

Transmission Mechanisms Material  
 Refer to page1 Table1

- T** Taiwan-made
- J** Japan-made



AR-125 ▲

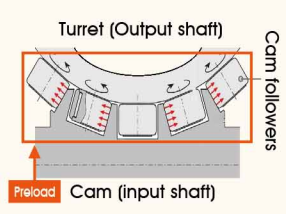


▲ RC-170

**RC Series**



Roller Gear Cam

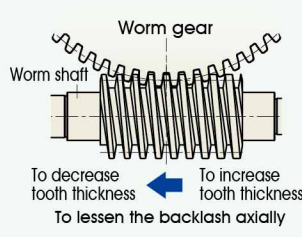


It consists of an input shaft and output turret with embedded roller followers. A cross-roller bearing supports the output turret with minimal run out and transmits power by rolling rather than sliding. Preloaded roller followers contact the input rib surfaces with a wedge-shaped cross section. It can 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

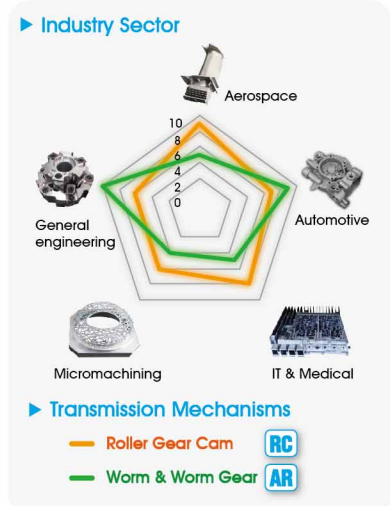


Table 1

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

	Worm & Worm Gear		Roller Gear Cam
Transmission Mechanism			
Material	<b>T</b> Taiwan Made	<b>J</b> Japan Made	<b>T</b> Taiwan Made <b>J</b> Japan Made
	Worm wheel : Aluminum Bronze		Worm wheel : Special high tensile brass
	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	★★★★	★★★★	★★

# Ø125, 170mm Models

## 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
Inner Diameter of Mandrel Sleeve	mm	Ø35H7	Ø40H7	Ø40H7
Diameter of Center Through Hole	mm	Ø25	Ø40	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	8
Clamping System	kgf/cm <sup>2</sup>	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 ais4 / bis4	aiF4 / aiF8 / bis8	aiF8 / bis8
	MITSUBISHI	Taper / Straight shaft HG / HF-75 / 105	HG / HF-54 / 104	HG / HF-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)	r.p.m	83.3 [33.3]	44.4 [33.3]	83.3
Allowable inertia load capacity (Horizontal)	kg · cm · sec <sup>2</sup>	2	5.4 2.7 *1	5.4
Allowable Workpiece Load	Vertical	kg	50	75
	With Tailstock	kg	100	150
	Horizontal	kg	100 NA *1	150 NA *1
Allowable Thrust Load (with Rotary Table Clamping)	F	kgf	1000	1450
	FxL	kgf·m	45	110
	FxL	kgf·m	13	31
Driving Torque	kgf·m	9 [3.7]	18 [14.6]	37
Net Weight (Servo motor excluded)		kg	34 41 *1	44 60 *1
	Optional Rotary Joint 	Available Number of Ports	2,4	2,4

\*1: When the motor mount location is BACK.

Table 2

Positioning	Code	Right Mount	Left Mount	Back Mount
Diagram				
<b>VERTICAL</b>		✓	✓	✓
<b>HORIZONTAL</b>		✓	✓	✗

## Model Name by brake mechanism

Table 3

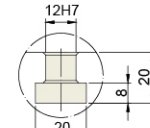
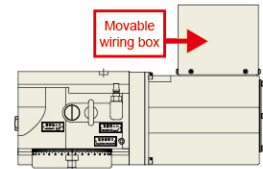
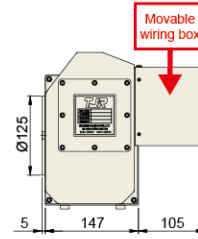
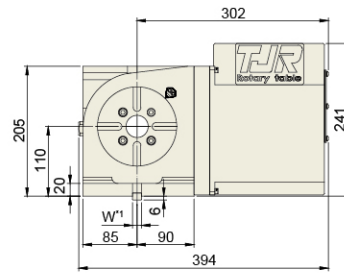
Brake type	Faceplate size	Ø125mm	Ø170mm	
		<b>Air brake</b>	AR-125	AR-170
<b>Oil brake</b>	NA	AR-170H	RC-170H	



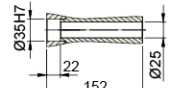
# Ø125mm Model Dimensions

## AR-125

**R**  
Right Hand



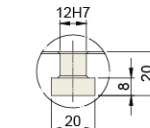
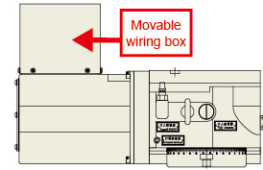
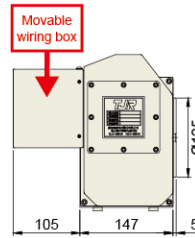
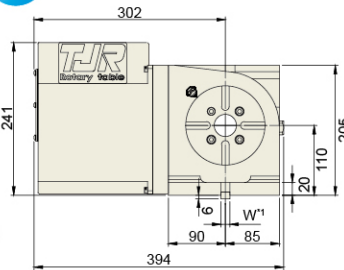
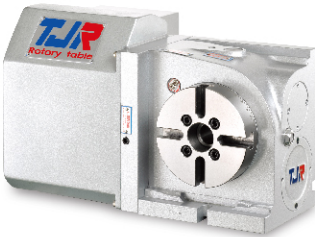
T-Slot Dimension(4:1)



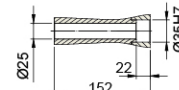
Drawing of Central Hole

## AR-125

**L**  
Left Hand



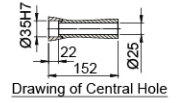
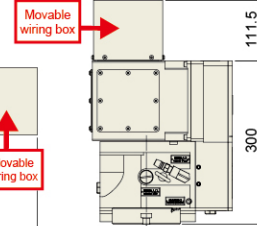
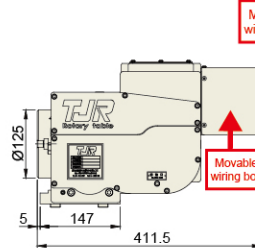
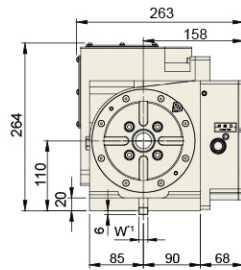
T-Slot Dimension(4:1)



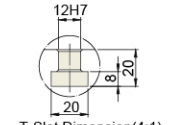
Drawing of Central Hole

## AR-125

**B**  
Back Side



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.

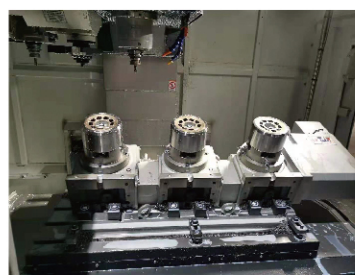
★ External dimensions depend on the type of the servo motor. Indicated dimensions are in case of FANUC. Please contact us for CAD files.



▲ AR-125 + 5C



▲ AR-125-2W + TTJ-125



▲ AR-125-3W

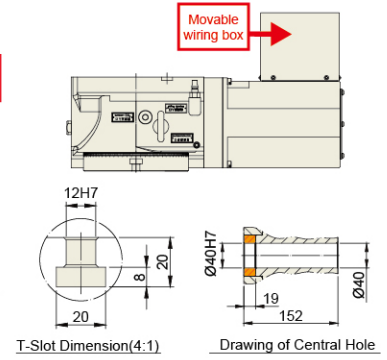
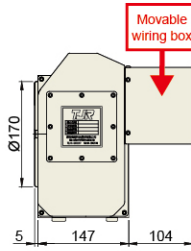
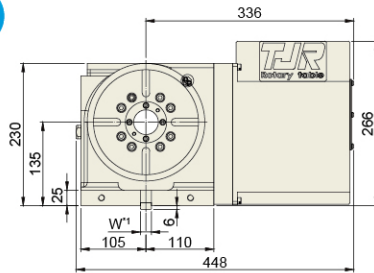
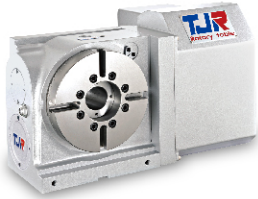


▲ AR-125-4W + ATTJ-125

# Ø170mm Model Dimensions



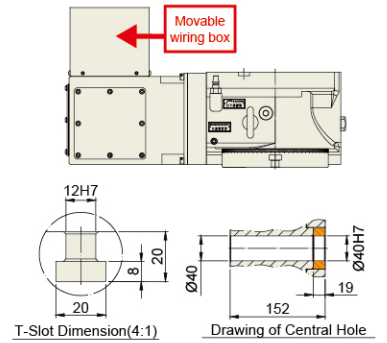
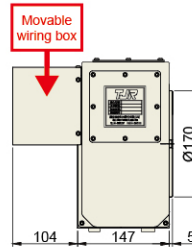
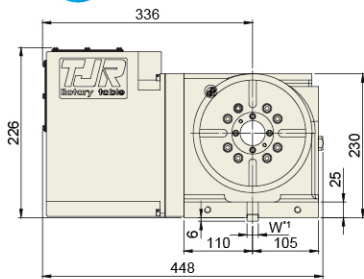
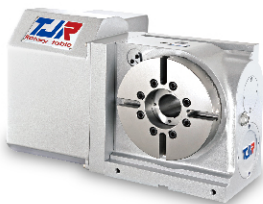
## AR-170 R Right Hand



T-Slot Dimension(4:1)

Drawing of Central Hole

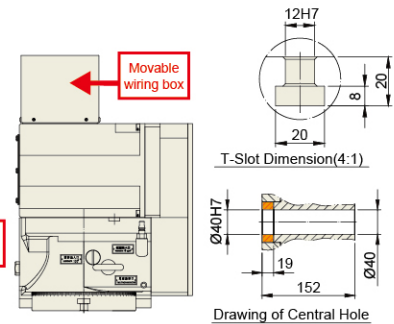
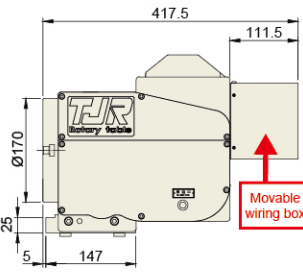
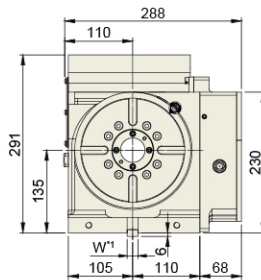
## AR-170 L Left Hand



T-Slot Dimension(4:1)

Drawing of Central Hole

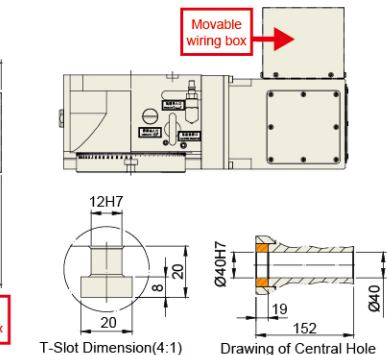
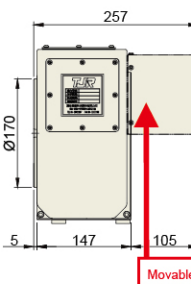
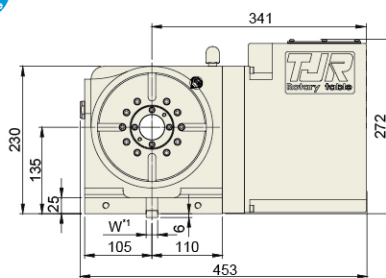
## AR-170 B Back Side



T-Slot Dimension(4:1)

Drawing of Central Hole

## RC-170 R Right Hand



T-Slot Dimension(4:1)

Drawing of Central Hole

\*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.

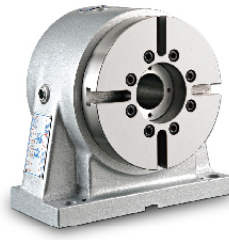




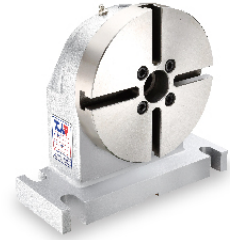
# Support Table & Corresponding Accessories



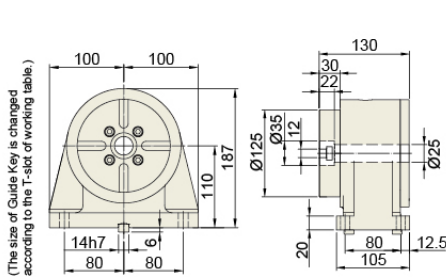
**RTA-125** Air brake



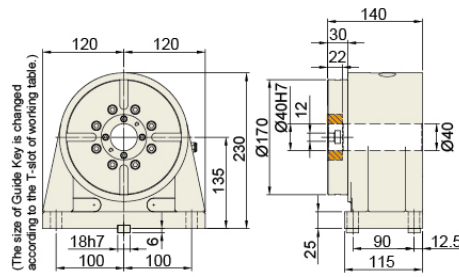
**RTA-170** Air brake Oil brake



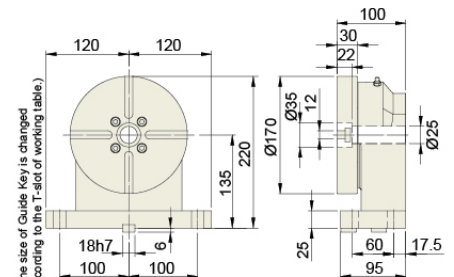
**RT-170F** No Brake



Weight :18kg

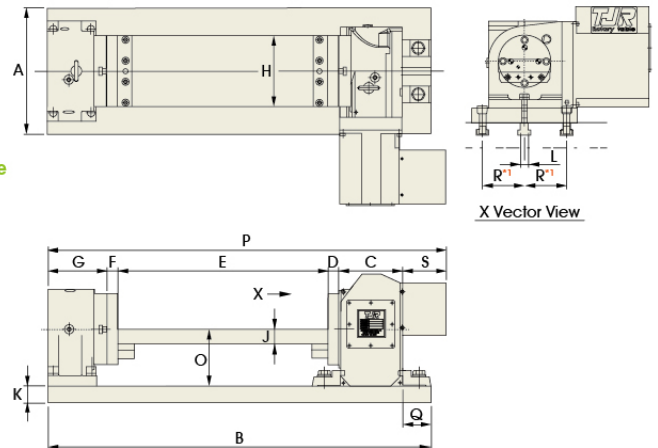
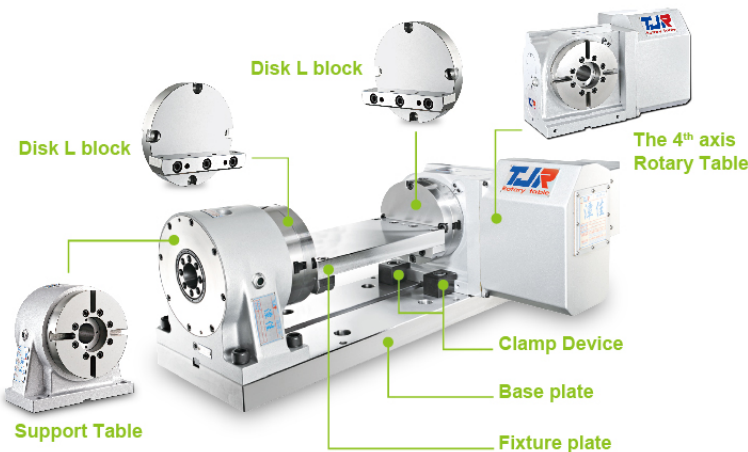


Weight :29kg



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" 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.



▲ AR-125 + RTA-125

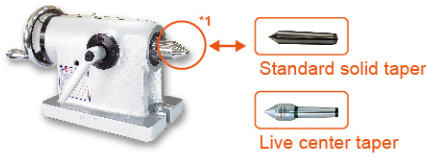


▲ AR-170 + RTA-170



▲ RC-170 + RTA-170

# Manual Tailstock & Corresponding Accessories



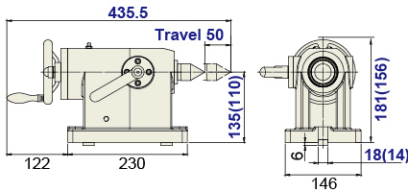
TTJ-125/170



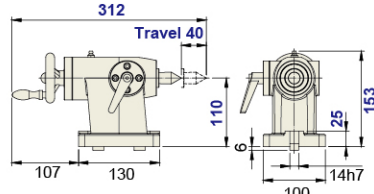
TTJ-125A



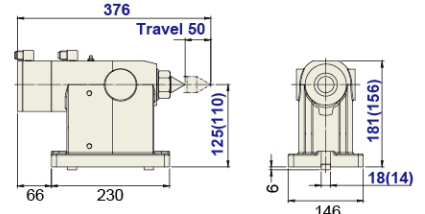
ATTJ-125/170  
(With Pneumatic switching valve)



Weight : 23kg(21.5kg)



Weight : 8.5kg



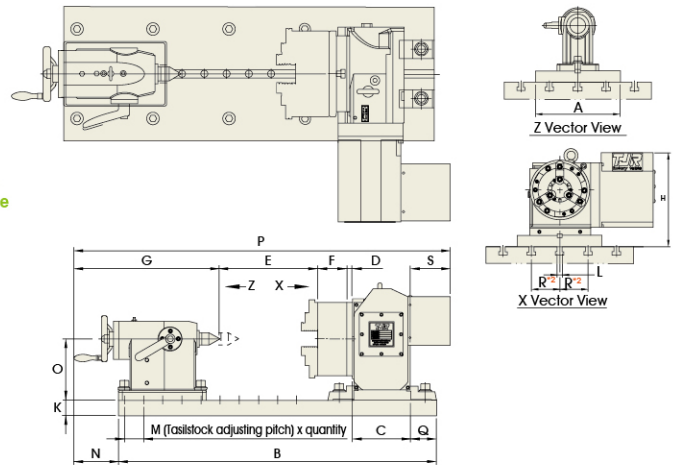
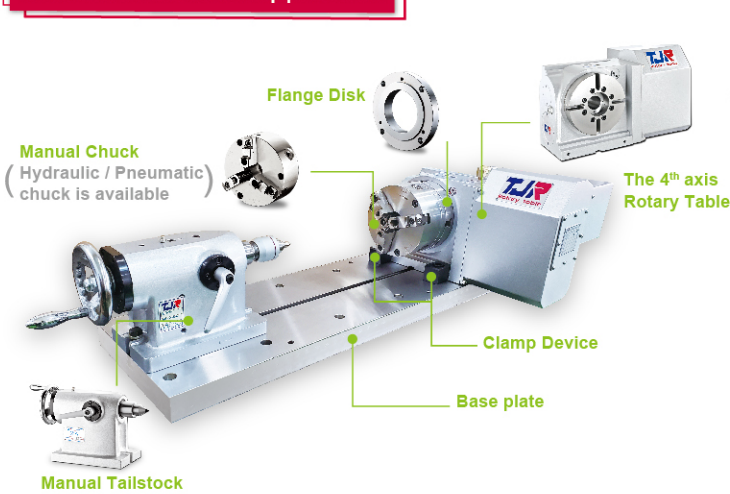
Weight : 23kg(21kg)

\*(): the dimension of Model TTJ-125

\*(): the dimension of Model ATTJ-125

\*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