

CNC Tilting Rotary Tables
Min. indexing angle -0.001°

FAR Series Dual-axis dual-arm type (Powerful Pneumatic Brake)

FAR(s)-125/125B/170A/170/170B



Tilting axis
Rotary axis
Supporting axis



▲ FAR(s)-125



▲ FAR(s)-170A(compact type)

Rotary axis Dual-lead
Alloy steel worm gear
(Optional)



▲ FAR(s)-170



▲ Workpiece sample -
5 axis simultaneous
contouring

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FEATURES



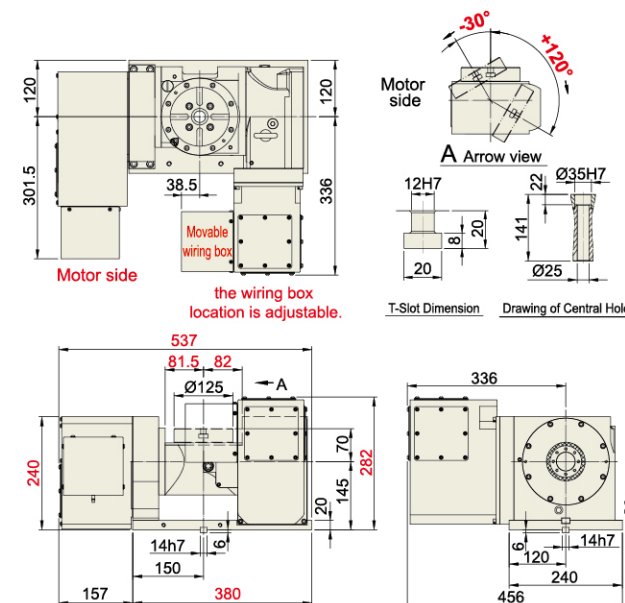
1 Both the tilting axis and rotary axis use radial & axial bearings.

2 Because the tilting axis normally needs to bear heavy load, Japanese-made worm and worm gear are employed to improve wear resistance and precision of tilting axis. **standard component**
(It's wear life is 2.6 times longer than aluminum bronze PBC3.)

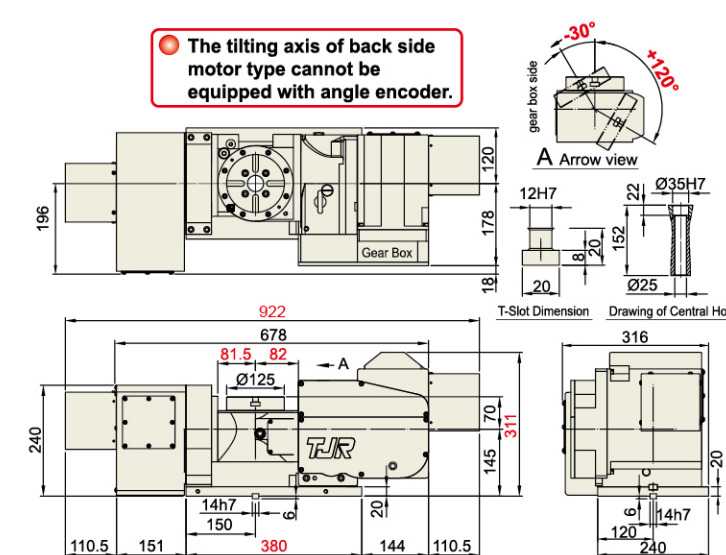
3 Anti-wear alloy steel worm gear is optional

4 A hydraulic brake for tilting axis is optional.

FAR(s)-125(Standard type)

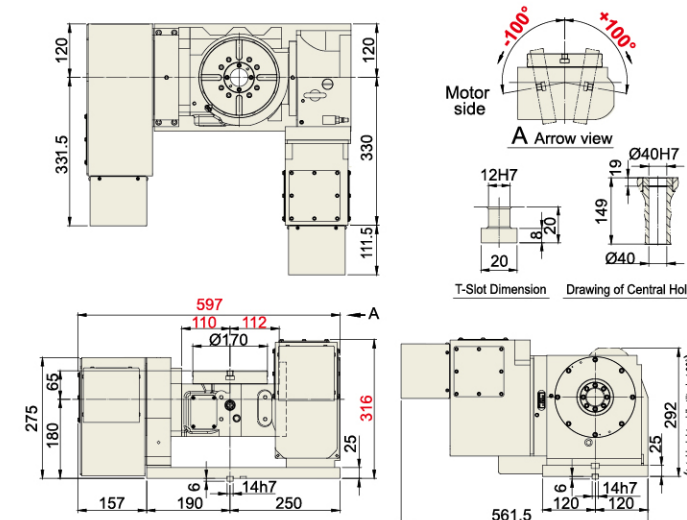


FAR(s)-125B (Back side motor type)



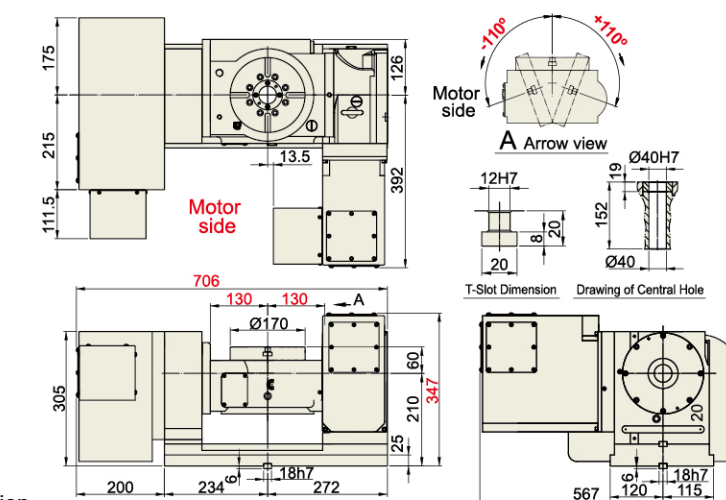
FAR(s)-170A

FAR(s)-170HA
(Compact type)



FAR(s)-170

FAR(s)-170HB
(Standard type)



Item / Model		Unit	FAR(s)-125/125B		FAR(s)-170A(Compact type)		FAR(s)-170(Standard type)/FAR(s)-170B(Back side motor type)	
Table Diameter		mm	Ø125		Ø170		Ø170	
Inner Diameter of Mandrel Sleeve		mm	Ø 35H7 (Diameter of Table Central Hole)		Ø40H7		Ø40H7	
Diameter of Center Through Hole		mm	Ø25		Ø40		Ø40	
Table Height (Horizontal)		mm	215		245		270	
Table T-slot Width		mm	12H7		12H7		12H7	
Guide Block Width		mm	14h7		18h7		18h7	
Axis		-	Rotation		Rotation	Tilt $\pm 100^\circ$	Rotation	Tilt $\pm 100^\circ$
Min. Increment		deg.	0.001		0.001	0.001	0.001	0.001
Indexing Precision (while tilt $0^\circ \sim +90^\circ$)		sec.	40		20	60^{*1}	20	60^{*1}
Repeatability		sec.	6		6	8	6	8
Clamping System (Pneumatic)		kgf/cm ²	6		6	6	6	6
Clamping Torque		kgf-m	13		25	31	31	31
Servo Motor Model	FANUC	Taper/Straight shaft	αis4 / βis4	αiF4 / βis8	αiS4 / βis4	αiF4 / βis8	αiF4 / βis8	αiF8 / αis12 / βis12
	MITSUBISHI	Taper/Straight shaft	HG/HF-75 / 105	HG/HF-54 / 104	HG/HF-75 / 105	HG/HF-54 / 104	HG/HF-54 / 104	HG/HF-104
Speed Reduction Ratio		-	1 : 60		1 : 72	1:120 / SIEMENS 1:90	1 : 90	1 : 90
Max. Rotation Rate of Table (Calculate with Fanuc α Motor)		r.p.m	44.4 *(33.3)		33.3 *(33.3)	25 *(16.6)	33.3 *(33.3)	33.3 *(16.6)
Allowable Inertia Load Capacity (Horizontal)		kg.cm.sec ²	0.97		2.2		2.7	
Allowable Workpiece Load	0° Horizontal	kg	50		60		75	
	0°~90° Tilt	kg	35		40		50	
Allowable Thrust Load (with Rotary Table Clamping)	F	kgf	400		600		750	
	FxL	kgf-m	31		31		31	
	FxL	kgf-m	13		25		31	
Driving Torque (Rotary axis)		kgf-m	9 *(3.7)		18 *(14.6)		18 *(14.6)	
Net Weight (servo motor excluded)		kg	97 / -		125		153	

*() Alloy Steel worm & gear series

*1. Indexing precision can be better after installing an additional angle encoder.
Please refer to the table on page 70 for more details.

★ Dual-lead alloy steel worm & gear for the rotary axis is optional.

★ In accordance with the foreign trade control ordinance, permission of the ministry of economy, trade and industry is required when exporting dual-axis products overseas.

CNC Tilting Rotary Tables Min. indexing angle -0.001°

FAR Series

Dual-axis single-arm type
(Pneumatic Brake)

FAR(s)-160SN

Dual-axis dual-arm type
(Powerful Pneumatic Brake)

FAR(s)-210/210B/210L

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FEATURES



Rotary axis Dual-lead
Alloy steel worm gear
(Optional)

1 Both the tilting axis and rotary axis use **radial & axial bearings**.

2 Because the **tilting axis** normally needs to bear heavy load, **Japanese-made** worm and worm gear are employed to improve wear resistance and precision of tilting axis. **standard component** (It's wear life is **2.6** times longer than aluminum bronze PBC3.)

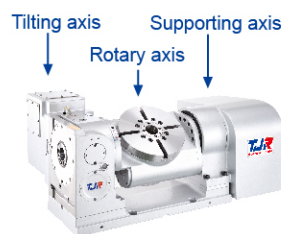
3 Anti-wear alloy steel worm gear is optional

4 A hydraulic brake for tilting axis is optional.



▲ FAR(s)-160SN
(single-arm type)

Alloy steel worm gear
(Optional)



▲ FAR(s)-210 (Standard type)

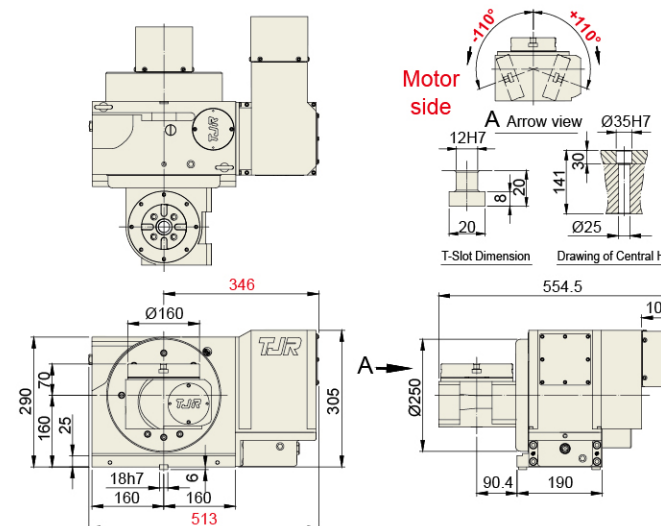


▲ FAR(s)-210B
(Back side motor type)



Installation of
5C Chuck

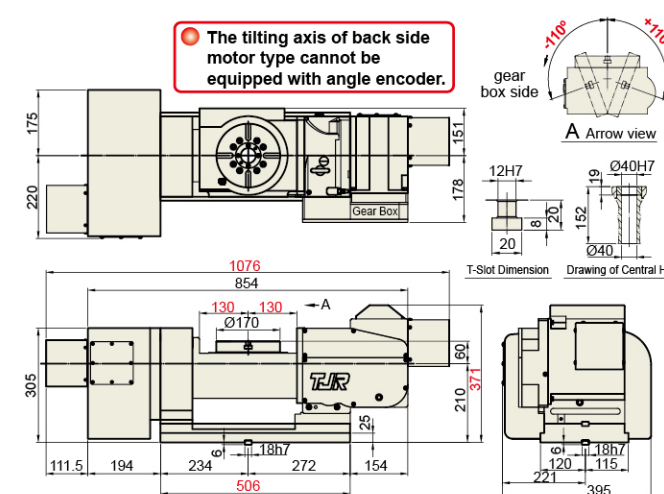
FAR(s)-160SN (Single-arm type)



FAR(s)-170B FAR(s)-170HB (Back side motor type)

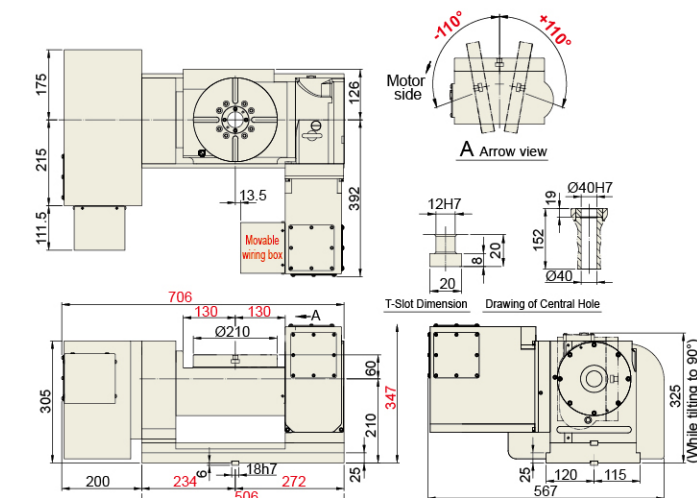


The tilting axis of back side motor type cannot be equipped with angle encoder.



Remark: Please refer to Page 32 for the specification of FAR-170B

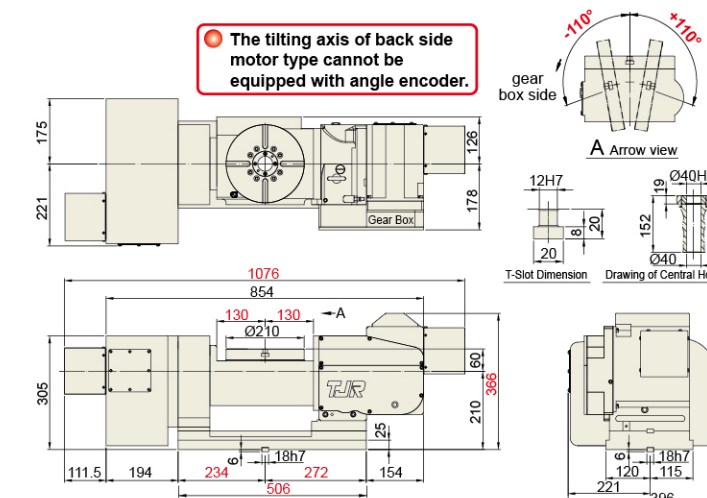
FAR(s)-210 FAR(s)-210H (Standard type)



FAR(s)-210B FAR(s)-210HB (Back side motor type)



The tilting axis of back side motor type cannot be equipped with angle encoder.



Item / Model		Unit	FAR(s)-160SN(single-arm type)		FAR(s)-210 (Standard type)		FAR(s)-210B (Back side motor type)	
Table Diameter	mm		Ø160		Ø210		Ø210	
Inner Diameter of Mandrel Sleeve	mm		Ø35H7x30 deep (Diameter of Table Central Hole)		Ø40H7		Ø40H7	
Diameter of Center Through Hole	mm		Ø25		Ø40		Ø40	
Table Height (Horizontal)	mm		230		270		270	
Table T-slot Width	mm		12H7		12H7		12H7	
Guide Block Width	mm		18h7		18h7		18h7	
Axis	-		Rotation	Tilt $\pm 110^\circ$	Rotation	Tilt $\pm 100^\circ$	Rotation	Tilt $\pm 100^\circ$
Min. Increment	deg.		0.001	0.001	0.001	0.001	0.001	0.001
Indexing Precision (while tilt $0^\circ \sim +90^\circ$)	sec.		40	60	20	60^{+1}	20	60^{+1}
Repeatability	sec.		6	8	6	8	6	8
Clamping System (Pneumatic)	kgf/cm ²		Pne.5	35	6	6 / Hyd.35 (optional)	6	6 / Hyd.35 (optional)
Clamping Torque	kgf-m		13	70	31	31 / Hyd.55	31	31 / Hyd.55
Servo Motor Model	FANUC	Taper/Straight shaft	αis4 / βis4	αiF8 / βis8	αiF4 / βis8	αiF8 / αis12 / βis12	αiF4 / βis8	αiF8 / αis12 / βis12
	MITSUBISHI	Taper/Straight shaft	HF-KP43JW04-S6 / HG-56	HF/HG-154	HG/HF-54/104	HG/HF-104	HG/HF-54/104	HG/HF-104
Speed Reduction Ratio	-		1 : 60	1 : 120	1 : 90	1 : 90	1 : 90	1 : 90
Max. Rotation Rate of Table (Calculate with Fanuc α Motor)	r.p.m		44.4 *(33.3)	16.6 *(11.1)	33.3 *(33.3)	33.3 *(16.6)	33.3 *(33.3)	33.3 *(16.6)
Allowable Inertia Load Capacity (Horizontal)	kg.cm.sec ²		0.8		4.13		4.13	
Allowable Workpiece Load	0° Horizontal	kg	25		75		75	
	0°~90° Tilt	kg	20		50		50	
Allowable Thrust Load (with Rotary Table Clamping)	F	kgf	600		750		750	
	FxL	kgf-m	25		Pne.31 / Hyd.55		Pne.31 / Hyd.55	
	FxL	kgf-m	13		31		31	
Driving Torque (Rotary axis)	kgf-m		9(3.7)		18 *(14.6)		18 *(14.6)	
Net Weight (servo motor excluded)	kg		116		160		163	

*() Alloy Steel worm & gear series

*1. Indexing precision can be better after installing an additional angle encoder. Please refer to the table on page 70 for more details.

★ The shown dimensional drawings of FAR-160SN are not suitable for Fanuc but most of servo control. Another dimensional drawing can be given when Fanuc motors are employed.