德士凸輪股份有限公司

TE-SHIN CAM CO., LTD.

Strong Team --- High Quality --- Service

Brief

The Te-shin Cam Company was established in 1982 and commenced Cam Machining business in 1987. The company was engaged in the production/sales of ATC, Divider and Index Table in 1988 and 2010 respectively.

The Company has three factories to provide the on-line production which of the two were located at the Guishan district of Taoyuan, and another is at Kunshan city of Jiangsu, China. The plant area is up to 12,000. square meters and employed with 400 staffs. The company's captial is NT$480,000,000.

The company has accumulated 40 years of rich practices of experience in machining design manufacture. Especially to meet the demand of customers' in the cam manufacturing and the ATC in the machine industry or the index divider in the automatic equipments. Which the company has won the high praise with affirmation in various fields and hold the 75% of usage in the existing market as well.

As known, an outstanding team has to be able to manufacture excellent product in quality since we have strict requirement in quality control and to meet the needs of satisfaction with customers after goods sales-service.

Presently we are promoting the precision of power turrets, regardless in the positioning accuracy, cutting power, steel structural or the lifetime in usage can be compared with the famous European/American/Japan brands. Especially to be assigned to use by some customers in Dutch and USA.

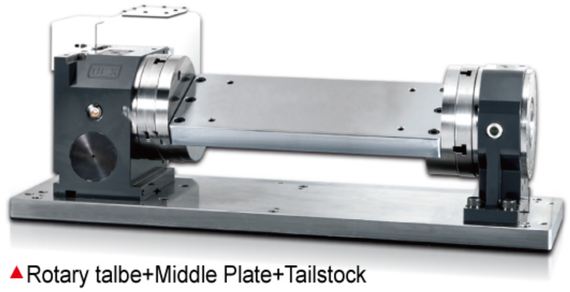
Milestones

1982	Dex Cams established：first to establish cam processing business.
1987	Starts producing and marketing **high speed roller ATC**.
1988	Expanding production and marketing **roller divider**.
2010	Continuing expanding production and marketing of **index table**.

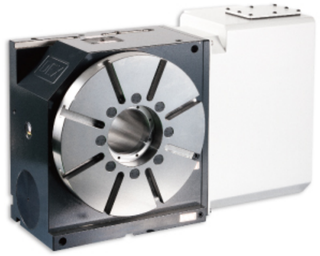
All series

40 years of expertise
Subverting tradition.
Create world-class products

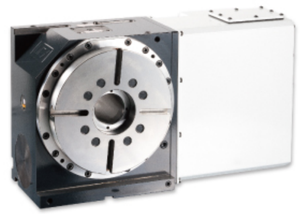
▲5 axis rotary table (AC400)



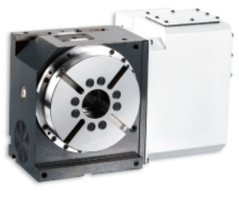
▲Rotary talbe+Middle Plate+Tailstock



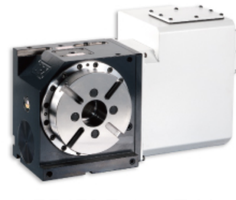
▲RD320 Rotary Table



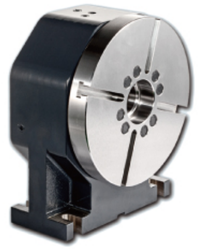
▲RD250 Rotary Table



▲RD200 Rotary Table



▲RD170 Rotary Table



▲Faceplate Tailstock 160

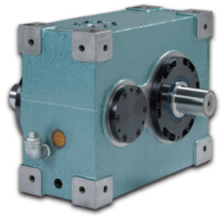
▲Manual Tailstock 185

▲BT 40 Vertical digital ATC tool changer

▲CNC machine horizontal ATC tool changer

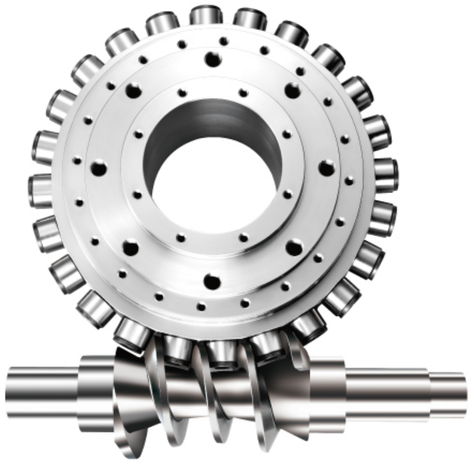
▲AD Series precision index divider

▲DF Series index divider



▲P Series Parallel cam divider

Compare structure & conduction

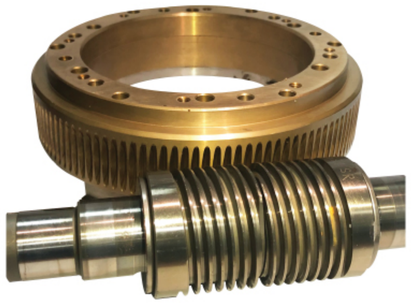


Rolling conduction
Conduction efficiency 90~95%

Roller cam drive

Features advantages:

1. Zero backlash:
   Rolling contact between the roller and the cam, no positive reversal backlash problem, greatly improving the ultra-precision characteristics of the roller cam, reducing the defect rate and improving the quality, which is a breakthrough for precision machining technology.
2. Ultra-high efficiency conduction:
   Roller cam type turret conducts in rolling mode, reduces wear, high transmission efficiency, high speed operation, and conduction efficiency of over 90%.
3. No thermal displacement:
   Even at high speeds, reduce friction, reduce thermal displacement, improve quality stability, and reduce non-performing rates.
4. Maintenance-free:
   Due to low wear and low aging, it can maintain initial accuracy for a long time.
5. Long life:
   Roller conduction method, can reduce wear and have long service life.
6. Braking performance:
   When the brake is positioned, the disc surface will not sway back and forth, and the positioning brake will remain within 2um, which can highly demonstrate the precision machining quality.

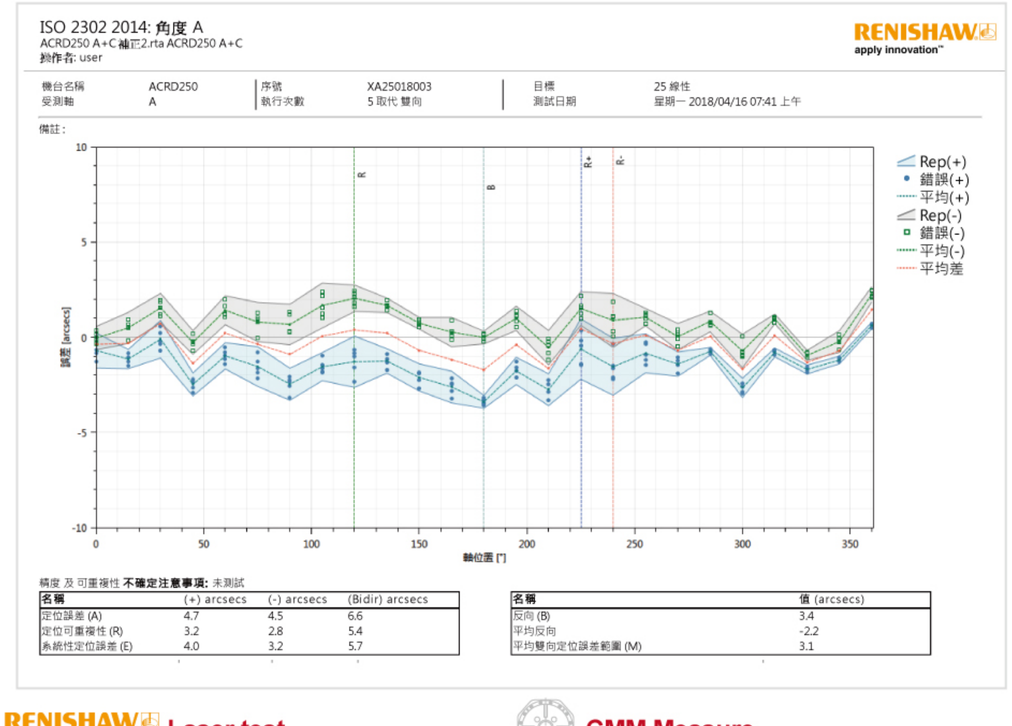


Friction extrusion
Conduction efficiency 50~60%

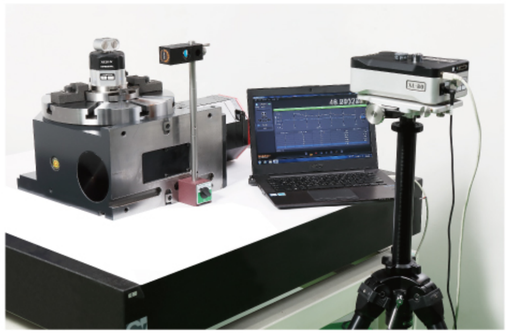
Worm & gear drive

1. Friction extrusion conduction, worm gear easy to wear and short life.
2. Conduction efficiency 50~60%
3. Accuracy reliability is not easy to maintain
4. For the high-precision machining, the reverse direction will produce backlash, which will affect the processing quality.
5. High-speed cutting is prone to process quality and thermal displacement.
6. Even if the optical scale is added, only the positioning accuracy can be solved, but when the backlash error is large, the vibration frequency during processing is high. (The surface roughness is poor), the optical ruler compensation compensates for the vibration frequency during processing and the wear of the tool is higher than roller cam type.

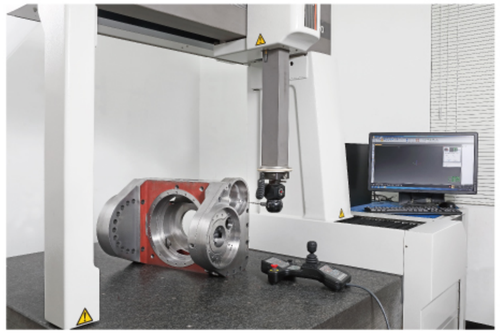
Laser test



RENISHAW apply innovation™ **Laser test**



CMM Measure

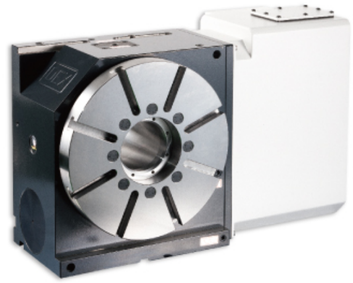


Producing Lines

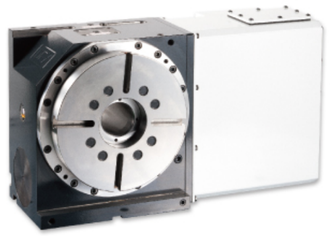
Roller cam rotary table (RD Series)

- Zero backlash
- Roller cam type turret conducts in rolling mode to reduces wear.
- Forward & reverse rotary are high accuracy and efficiency
- High rigidity
- Keeping high accuracy for long time
- Continuous processing for a long time, the accuracy is stable, there is no change the initial accuracy due to temperature rise

Item \ TYPE		Unit		RDE80R		RDE170R		RD170R		RDS200R		RD200R		RDS250R		RD250R		RD320R		RD400R	
Table Diameter		mm		80		170		170		200		200		250		250		320		400	
Center height		mm		80		135		135/160		160		160		160		185		210		255	
Center bore	**Front spindle hole**	mm		30H7		55H7		55H7		55H7		60H7		60H7		90H7		120H7		150H7	
	Through hole	mm		20H7		36H7		45H7		45H7		45H7		45H7		60H7		90H7		120H7	
T slot width		mm		N/A		12H7		12H7		12H7		12H7		12H7		12H7		14H7		14H7	
Guide block width		mm(h7)		14h7		14h7		14h7		14h7		18h7		18h7		18h7		18h7		18h7	
Servo Motor	FANUC	α	αiF2	□90	αiF4	□130	αiF4	□130	αiF4	□130	αiF4	□130	αiF8	□130	αiF8	□130	αiF12	□176	αiF12	□176	
		β	βiS2	□90	βiS8	□130	βiS8	□130	βiS8	□130	βiS8	□130	βiS8	□130	βiS8	□130	βis22	□176	βis22	□176	
	Mitsubishi		HF-75S	□90	HF-104T	□130	HF-104T	□130	HF-104T	□130	HF-104T	□130	HF-154T	□130	HF-154T	□130	HF-204S	□176	HF-204S	□176	
Motor interface	Siemens		N/A	N/A	1FK7060	□126	1FK7060	□126	1FK7060	□126	1FK7060	□126	1FK7063	□126	1FK7063	□126	1FK7083	□155	1FK7083	□155	
Gear ratio			1/24		1/36/45		1/36/45		1/36/45		1/60		1/50		1/60		1/72		1/120		
Table max.	r.p.m.		83		83		83		83		66		60		50		41		25		
Degree mini.	Degree		0.001		0.001		0.001		0.001		0.001		0.001		0.001		0.001		0.001		
Accuracy	Second		25		17		17		17		15		15		14		13		12		
Forward & Reverse repet.accuracy	Second		7		4		4		4		4		4		4		4		4		
Allowable cutting torque	【kgf-m】		【10】		【30】		【30】		【30】		【36】		【50】		【80】		【120】		【220】		
	N-m		98		294		294		294		352		490		784		1176		2156		
Clamp system	Pneumatic / Hydraulic		N / A		N / A		Pneumatic / Hydraulic		Pneumatic / Hydraulic		Pneumatic / Hydraulic		Pneumatic / Hydraulic		Pneumatic / Hydraulic		Hydraulic		Hydraulic		
Clamp output at brake	kg-cm²		N / A		N / A		6 / 30		6 / 30		6 / 30		6 / 30		6 / 30		30		30		
Clamp output torque at brake	【kgf-m】		N / A		N / A		【13 / 60】		【13 / 60】		【13 / 60】		【13 / 60】		【20 / 93】		【225】		【420】		
	N-m		N / A		N / A		127 / 588		127 / 588		127 / 588		127 / 588		196 / 911		2205		4116		
Allowable work weight (Radial) Straight	kg		30		80		90		90		125		125		160		190		270		
Allowable work weight (Tailstock applied)	kg		60		160		180		180		250		250		300		370		540		
Allowable work weight (Axial) Flat	kg		60		160		180		180		250		250		300		370		540		
Allowable load (table clamped)	F	Kgf	N / A		N / A		1250		1250		2800		2800		3600		4600		8000		
		N	N / A		N / A		12250		12250		27440		27440		35280		45000		78400		
	FxL	Kgf-m	N / A		N / A		【13 / 60】		【13 / 60】		【13 / 60】		【13 / 60】		【20 / 93】		【225】		【420】		
		N-m	N / A		N / A		127/588		127/588		127/588		127/588		196/911		2205		4116		
	FxL	Kgf-m	N / A		N / A		45		45		125		125		130		300		650		
		N-m	N / A		N / A		441		441		1225		1225		1274		2940		6370		
Weight	kg		25		60		60		65		70		80		126		186		310		
Allowable inertia force	kg-m²		0.2		0.6		0.6		0.6		1.2		1.5		2		4.5		10		



▲RD320 Rotary table



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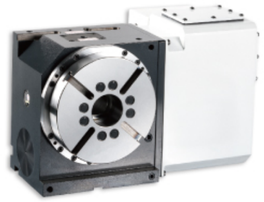
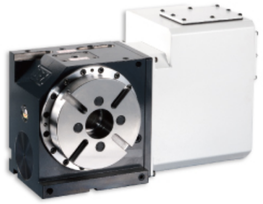
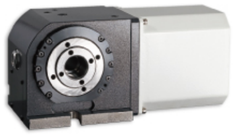


▲RD200 Rotary table



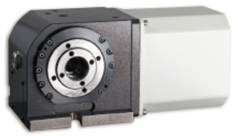
▲RD170 Rotary table

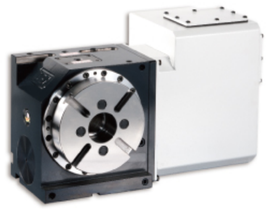


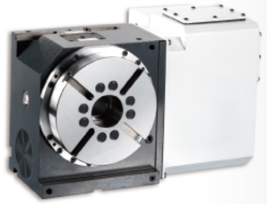
▲RDE80 Rotary table

Specification

Unit : mm







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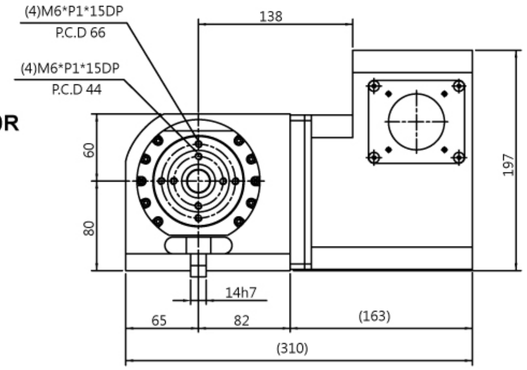

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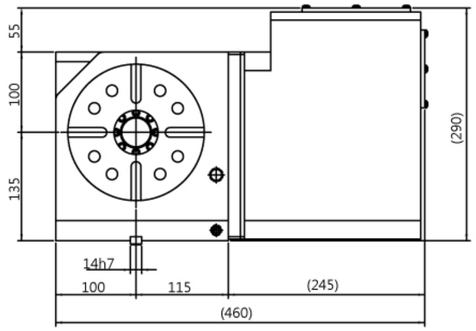

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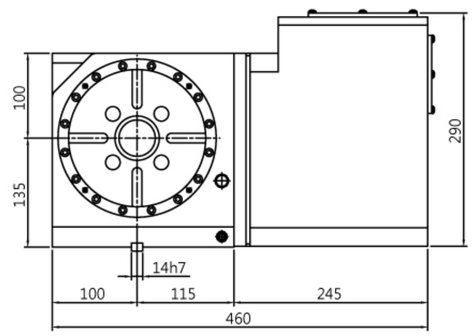

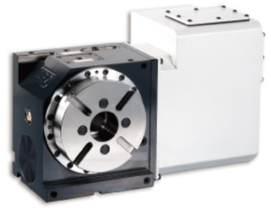

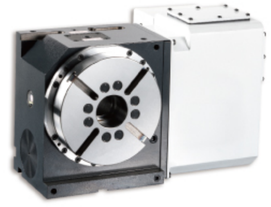

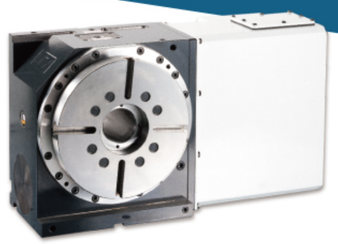

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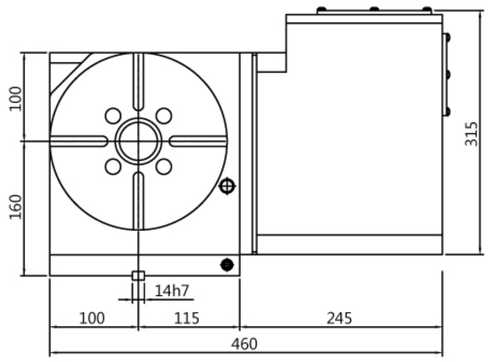

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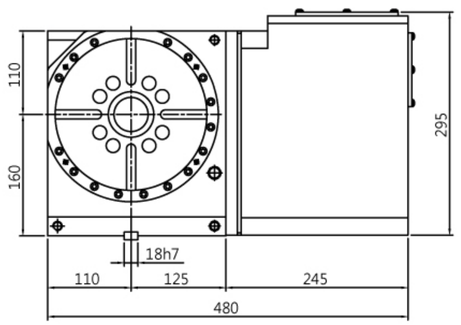

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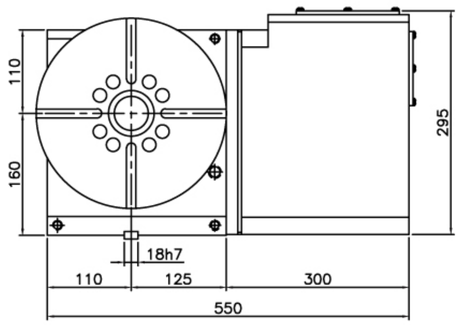
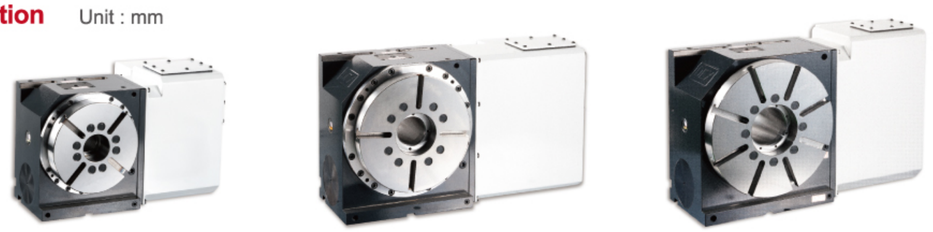
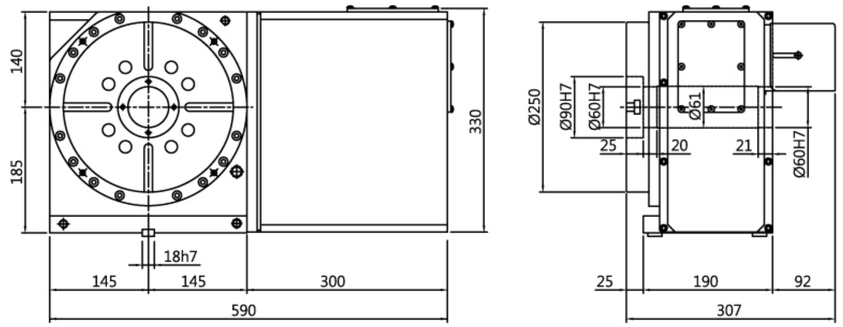


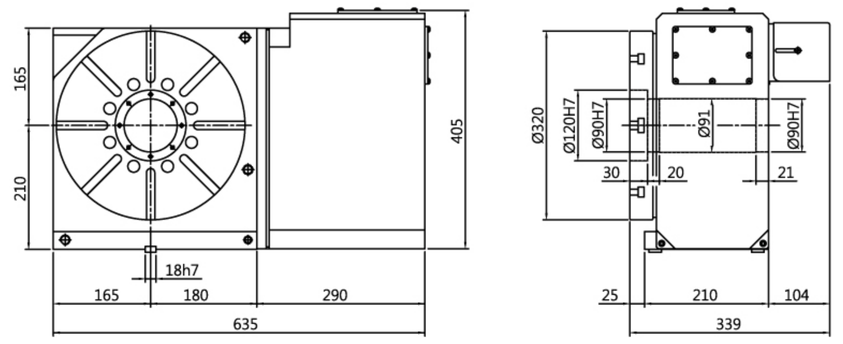
Specification Unit : mm



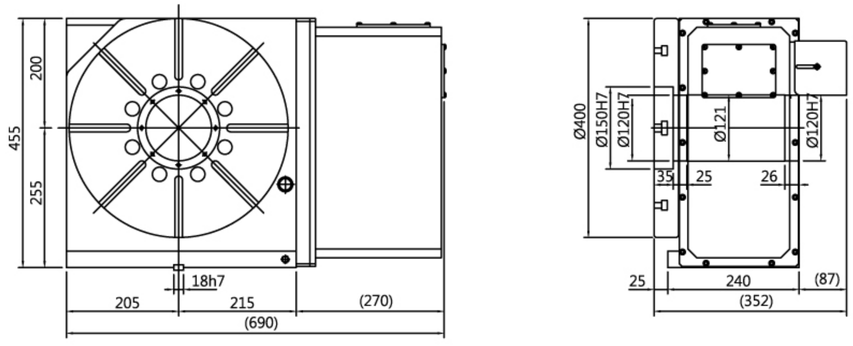
RD250R



RD320R



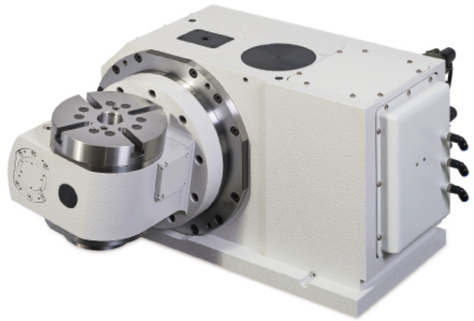
RD400R

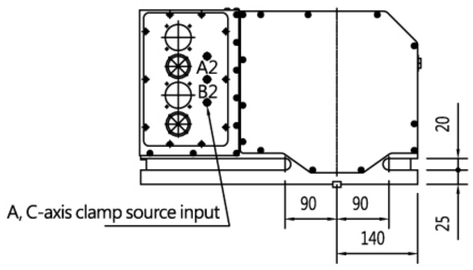


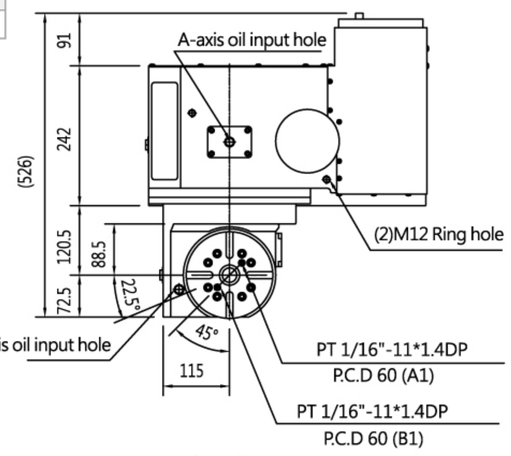
CNC 5 axis Rotary Tilting Tables ACU Series

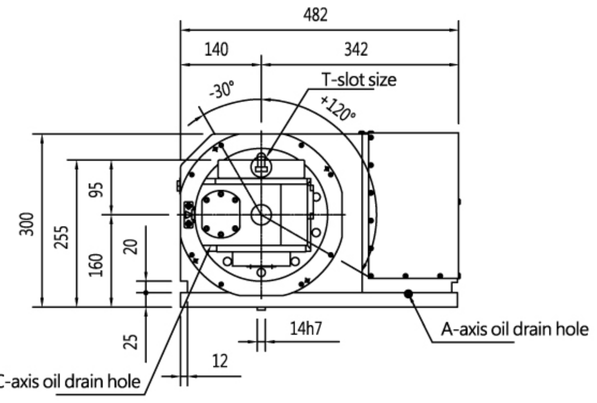
ACU150

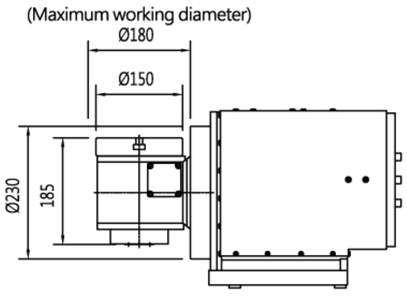
Item	Unit	Specification			
Table diameter	mm	Φ150			
Table center Height	mm	255			
Datum hole	mm	Φ35H7			
Through-hole	mm	Φ25H7			
T-slot on table	mm	12H7			
Datum positioning key	mm	14h7			
Allowable work-piece load	kg	40			
Allowable cutting torque	kg-m	12			
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),-30°to +120°	
Servo motor (Option)	FANUC	α iF2	Motor interface	α iF4	Motor interface
		β iS2	□ 90	β iS8	□ 130
	Mitsubishi	HF-KP43	□ 60	HF-104	□ 130
	Siemens	1FK7034	□ 72	1FK7060	□ 126
Total reduction ratio		1/48		1/60	
Maximum rpm	rpm	83		66	
Clamp power source		Pneumatic		Pneumatic	
Clamp pressure	kg / cm²	6		6	
Clamp torque	kg-m	5		20	
Index accuracy	sec	20		15 (-30°~+120°)	
Repetition accuracy	sec	8		4	
Product weight	kg	175			





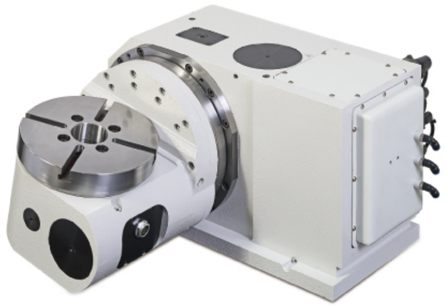


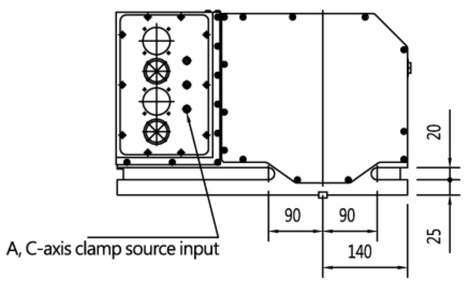


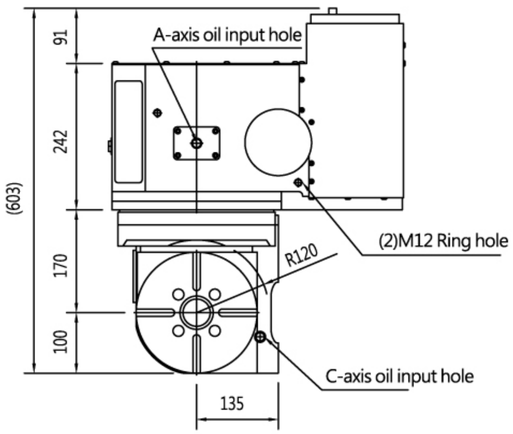


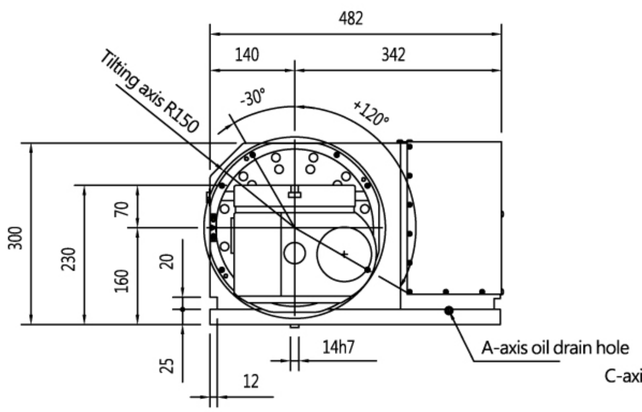
ACU200

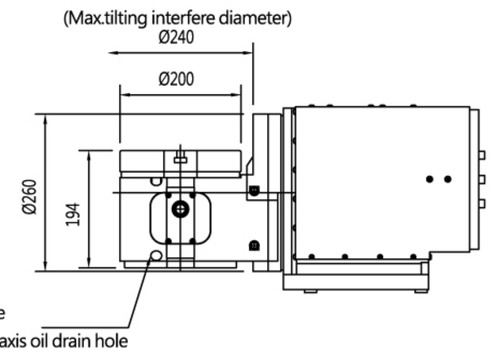
Item	Unit	Specification			
Table diameter	mm	Φ200			
Table center Height	mm	230			
Datum hole	mm	Φ55H7			
Through-hole	mm	Φ45H7			
T-slot on table	mm	12H7			
Datum positioning key	mm	14h7			
Allowable work-piece load	kg	60			
Allowable cutting torque	kg-m	12			
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),-30°to +120°	
Servo motor (Option)	FANUC	α iF2	Motor interface	α iF4	Motor interface
		β iS4	□ 90	β iS8	□ 130
	Mitsubishi	HF-KP73	□ 80	HF-104	□ 130
	Siemens	1FK7034	□ 72	1FK7060	□ 126
Total reduction ratio		1/45		1/60	
Maximum rpm	rpm	83		66	
Clamp power source		Pneumatic		Pneumatic	
Clamp pressure	kg / cm²	6		6	
Clamp torque	kg-m	13		20	
Index accuracy	sec	20		15 (-30°~+120°)	
Repetition accuracy	sec	8		4	
Product weight	kg	207			







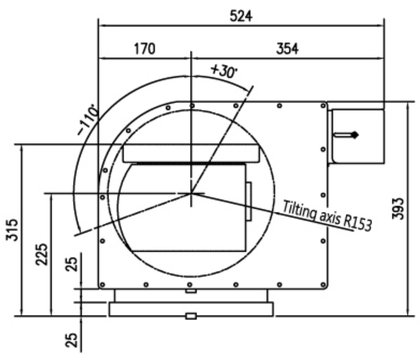


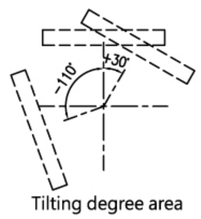


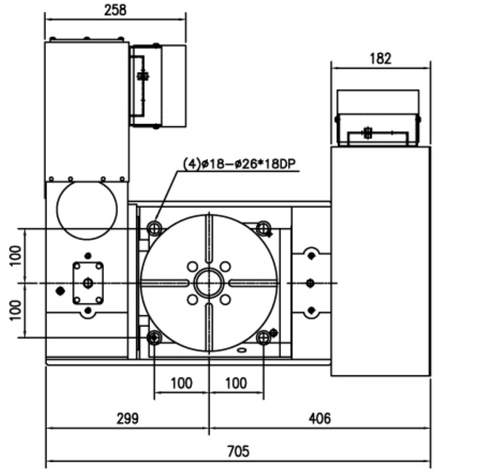
CNC 5 axis Rotary Tilting Tables ACU Series

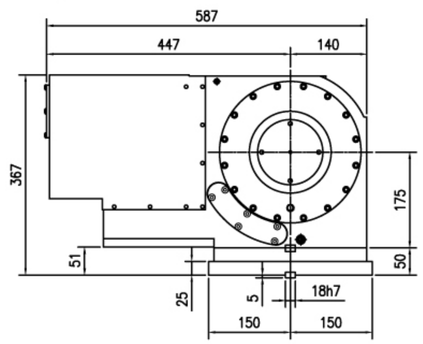
ACU250

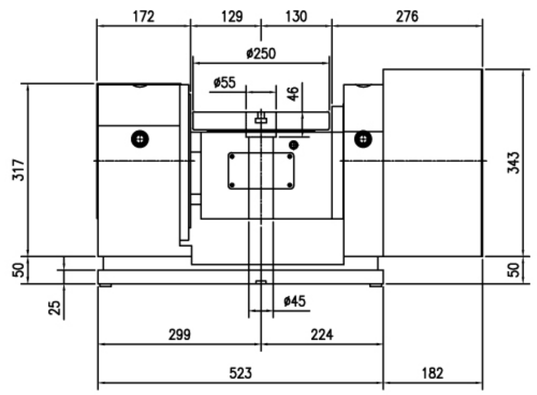
Item	Unit	Specification			
Table diameter	mm	Φ250			
Table center Height	mm	315			
Datum hole	mm	Φ55H7			
Through-hole	mm	Φ45H7			
T-slot on table	mm	12H7			
Datum positioning key	mm	18h7			
Allowable cutting torque	kg-m	30			
Allowable work-piece load	kg	0°/ 120kg		90°/ 80kg	
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),+30°to -110°	
Servo motor (Option)	FANUC	α 4iF	Motor interface	α 4iF	Motor interface
		β 8iS	□ 130	β 8iS	□ 130
	Mitsubishi	HF-154S		HF-154S	
	Siemens	1FK7060	□ 126	1FK7060	□ 126
	Heidenhain	QSY116C	□ 116	QSY116C	□ 116
Total reduction ratio		1/45		1/96	
Mini. degree	Degree	0.001		0.001	
Maximum rpm	rpm	44.4(200rpm)		20.8(200rpm)	
Clamp power source		Pneumatic		Pneumatic	
Clamp pressure	kg / cm²	6		6	
Clamp torque	kg-m	20		45	
Index accuracy	sec	20		15 (+30°~-110°)	
Repetition accuracy	sec	4		4	
Product weight	kg	280			





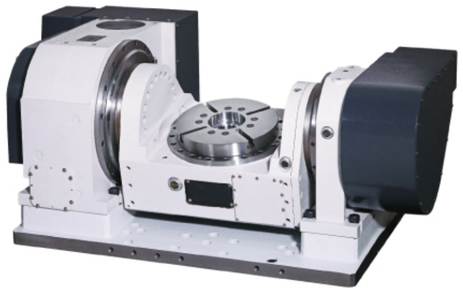


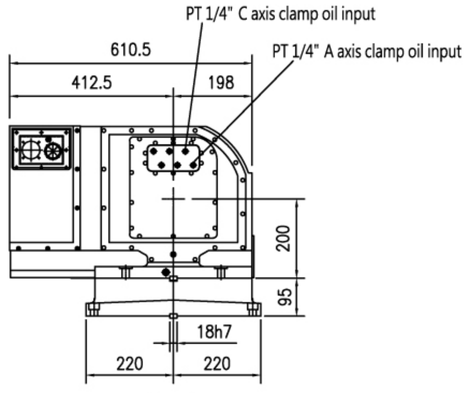


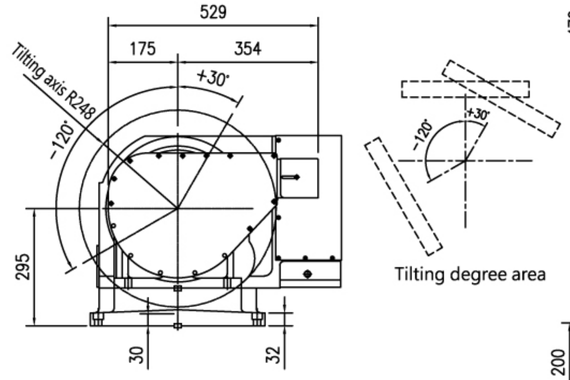


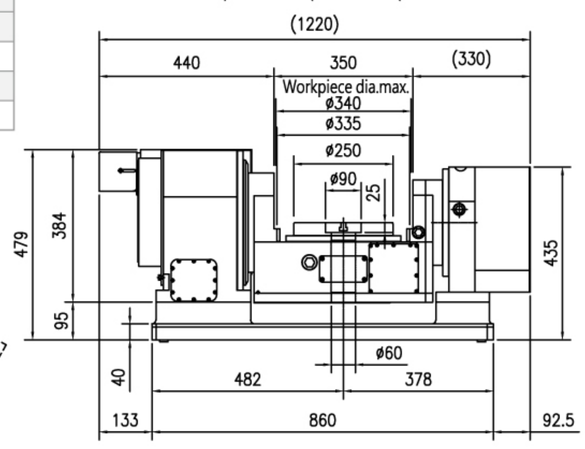
AC250

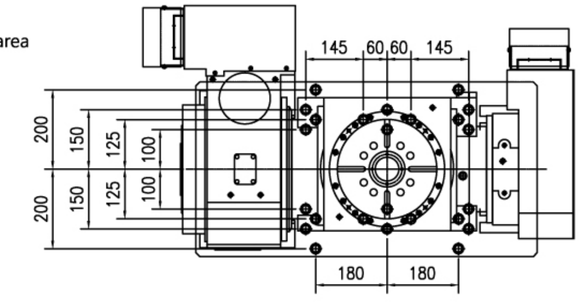
Item	Unit	Specification			
Workpiece dia.max.	mm	Φ340			
Table diameter	mm	Φ250			
Table center Height	mm	295			
Datum hole	mm	Φ90H7			
Through-hole	mm	Φ60H7			
T-slot on table	mm	12H7			
Datum positioning key	mm	18h7			
Allowable cutting torque	kg-m	50			
Allowable work-piece load	kg	0°/ 170kg		90°/ 140kg	
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),+30°to -120°	
Servo motor (Option)	FANUC	α 4iF	Motor interface	α 8iF+B	Motor interface
		β 8iS	□ 130	β 8iS+B	□ 130
	Mitsubishi	HF-154S		HF-154BS	
	Siemens	1FK7060	□ 126	1FK7063+B	□ 126
	Heidenhain	QSY116C	□ 116	QSY116J+B	□ 116
Total reduction ratio		1/60		1/120	
Mini. degree	Degree	0.001		0.001	
Maximum rpm	rpm	50		25	
Clamp power source		Hydraulic		Hydraulic	
Clamp pressure	kg / cm²	25		25	
Clamp torque	kg-m	60		180	
Index accuracy (with Encoder)	sec	15		20 (+30°~-120°)	
		5		5 (+30°~-120°)	
Repetition accuracy	sec	4		4	
Encoder(Option)	Heidenhain	RCN2000 (±2.5")		RCN2000 (±2.5")	
Product weight	kg	480			





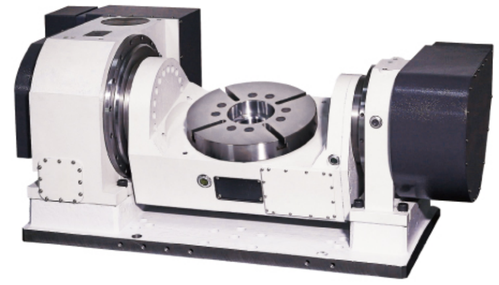


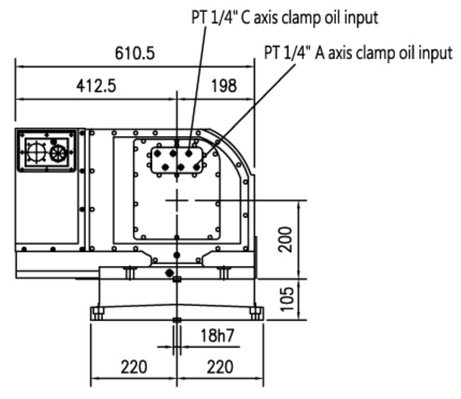


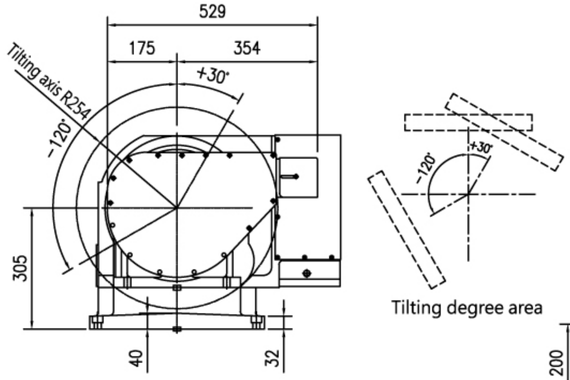


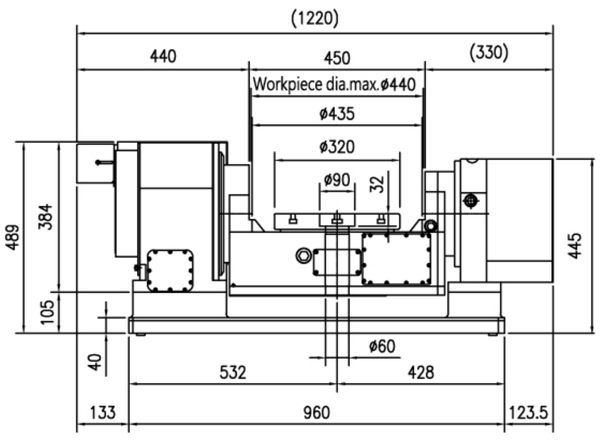
AC320

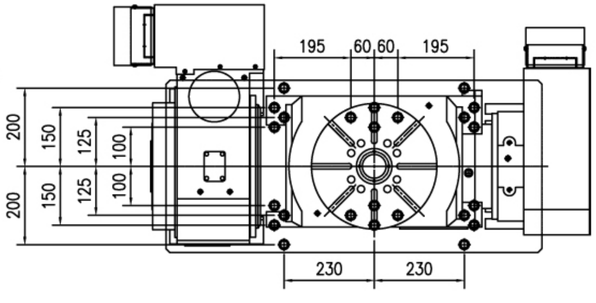
Item	Unit	Specification			
Workpiece dia.max.	mm	Φ440			
Table diameter	mm	Φ320			
Table center Height	mm	305			
Datum hole	mm	Φ90H7			
Through-hole	mm	Φ60H7			
T-slot on table	mm	14H7			
Datum positioning key	mm	18h7			
Allowable cutting torque	kg-m	81			
Allowable work-piece load	kg	0°/ 220kg		90°/ 170kg	
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),+30°to -120°	
Servo motor (Option)	FANUC	α iF8	Motor interface	α iF8+B	Motor interface
		β iS8	□ 130	β iS8+B	□ 130
	Mitsubishi	HF-154S		HF-154BS	
	Siemens	1FK7063	□ 126	1FK7063+B	□ 126
	Heidenhain	QSY116J	□ 116	QSY116J+B	□ 116
Total reduction ratio		1/60		1/120	
Mini. degree	Degree	0.001		0.001	
Maximum rpm	rpm	50		25	
Clamp power source		Hydraulic		Hydraulic	
Clamp pressure	kg / cm²	25		25	
Clamp torque	kg-m	60		180	
Index accuracy (with Encoder)	sec	15		20 (+30°~-120°)	
		5		5 (+30°~-120°)	
Repetition accuracy	sec	4		4	
Encoder(Option)	Heidenhain	RCN2000 (±2.5")		RCN2000 (±2.5")	
Product weight	kg	540			





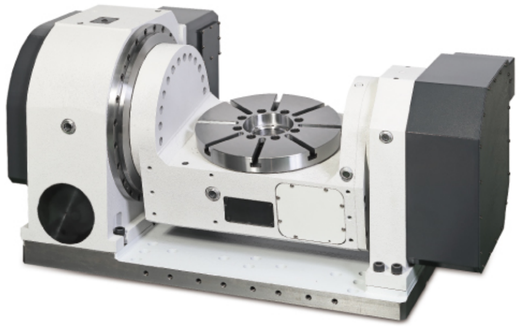


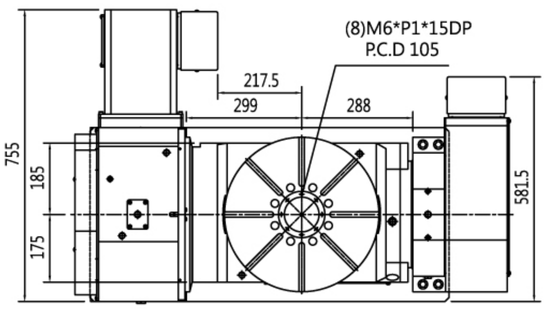


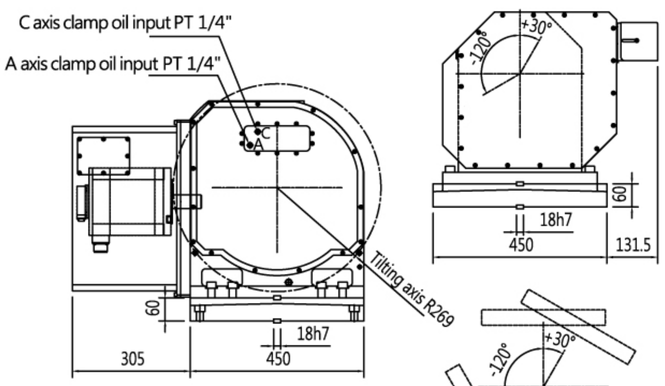


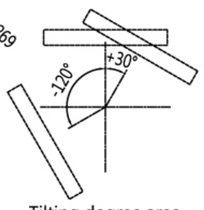
AC400

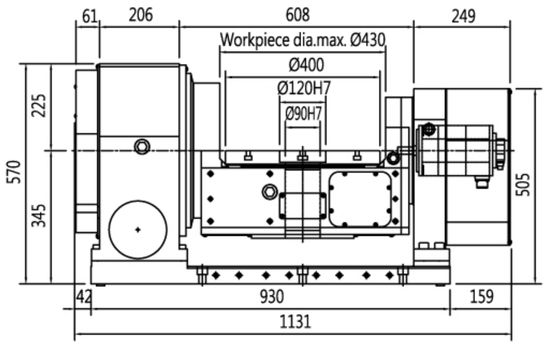
Item	Unit	Specification			
Workpiece dia.max.	mm	Φ430			
Table diameter	mm	Φ400			
Table center Height	mm	345			
Datum hole	mm	Φ120H7			
Through-hole	mm	Φ90H7			
T-slot on table	mm	14H7			
Datum positioning key	mm	18h7			
Allowable cutting torque	kg-m	91			
Allowable work-piece load	kg	0°/ 260kg		90°/ 200kg	
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),+30°to -120°	
Servo motor (Option)	FANUC	α iF8	Motor interface	α iF12+B	Motor interface
		β iS12	□ 130	β iS22+B	□ 176
	Mitsubishi	HF-154S		HF-204BS	
	Siemens	1FK7063	□ 126	1FK7083+B	□ 155
	Heidenhain	QSY116J	□ 116	QSY155C+B	□ 155
Total reduction ratio		1/80		1/120	
Mini. degree	Degree	0.001		0.001	
Maximum rpm	rpm	37		25	
Clamp power source		Hydraulic		Hydraulic	
Clamp pressure	kg / cm²	35		35	
Clamp torque	kg-m	220		710	
Index accuracy	sec	15		20 (+30°~-120°)	
(with Encoder)		5		5 (+30°~-120°)	
Repetition accuracy	sec	4		4	
Encoder(Option)	Heidenhain	RCN2000 (±2.5")		RCN2000 (±2.5")	
Product weight	kg	640			

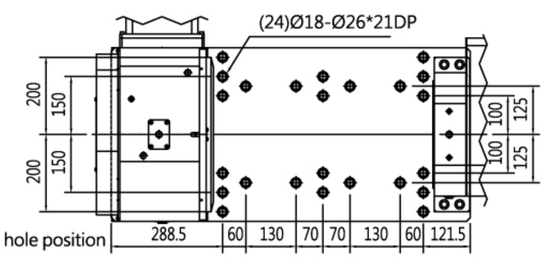








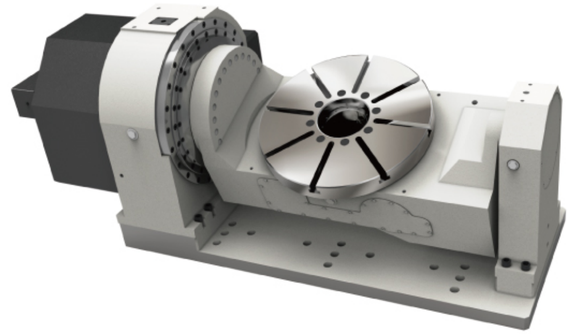


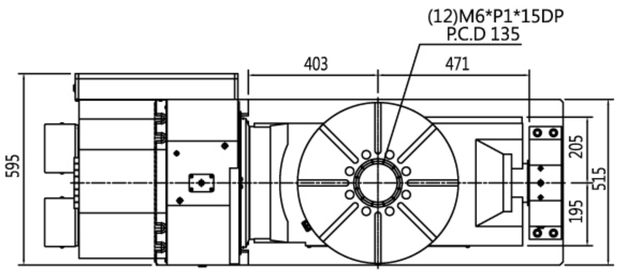


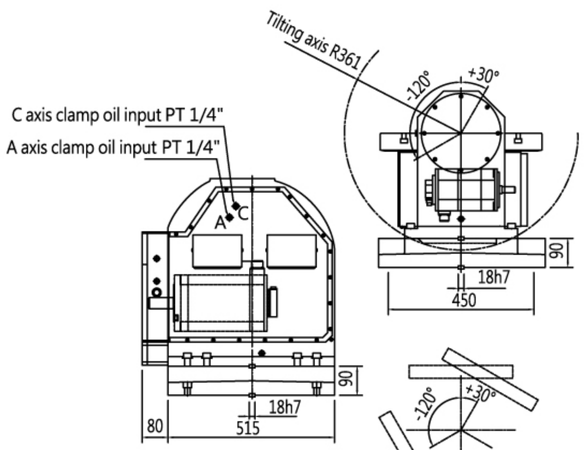
CNC 5 axis Rotary Tilting Tables AC Series

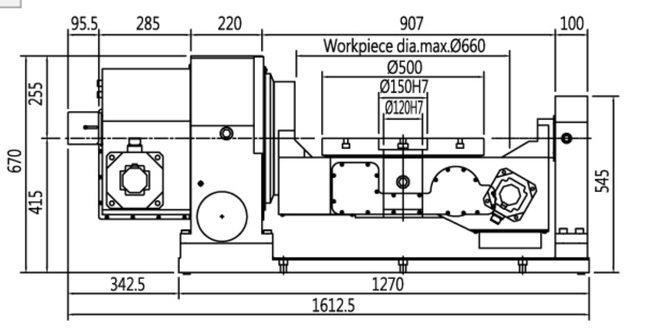
AC500

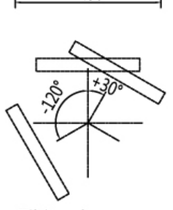
Item	Unit	Specification			
Workpiece dia.max.	mm	Φ660			
Table diameter	mm	Φ500			
Table center Height	mm	415			
Datum hole	mm	Φ150H7			
Through-hole	mm	Φ120H7			
T-slot on table	mm	18H7			
Datum positioning key	mm	18h7			
Allowable cutting torque	kg-m	195			
Allowable work-piece load	kg	0°/ 500kg		90°/ 340kg	
Axis	Degree	Rotating axis (C-axis), 360°		Tilt axis (A-axis),+30°to -120°	
Servo motor (Option)	FANUC	α iF8	Motor interface	α iF22+B	Motor interface
		β iS12	□ 130	β iS22+B	□ 176
	Mitsubishi	HF-154S		HF354BS	
	Siemens	1FK7063	□ 126	1FK7101+B	□ 192
	Heidenhain	QSY130C	□ 130	QSY190C+B	□ 192
Total reduction ratio		1/96		1/120	
Mini. degree	Degree	0.001		0.001	
Maximum rpm	rpm	31		25	
Clamp power source		Hydraulic		Hydraulic	
Clamp pressure	kg / cm²	35		35	
Clamp torque	kg-m	250		710	
Index accuracy	sec	15		20 (+30°~-120°)	
(with Encoder)		5		5 (+30°~-120°)	
Repetition accuracy	sec	4		4	
Encoder(Option)	Heidenhain	RCN2000 (±2.5")		RCN2000 (±2.5")	

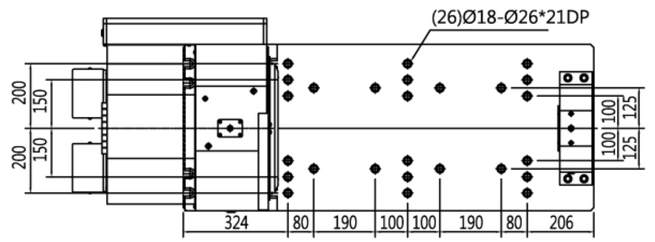










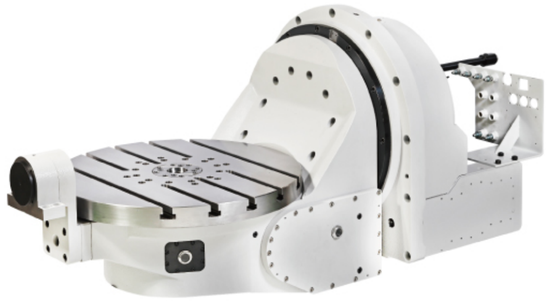


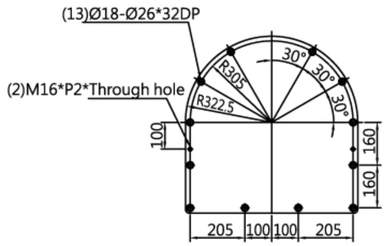
CNC 5 axis Rotary Tilting Tables ACL Series

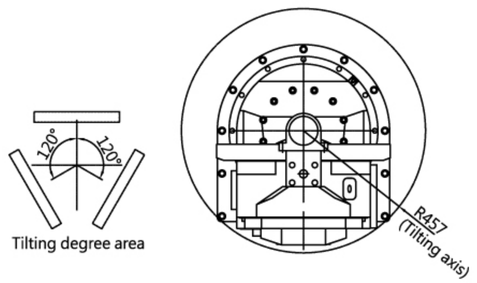
ACL630

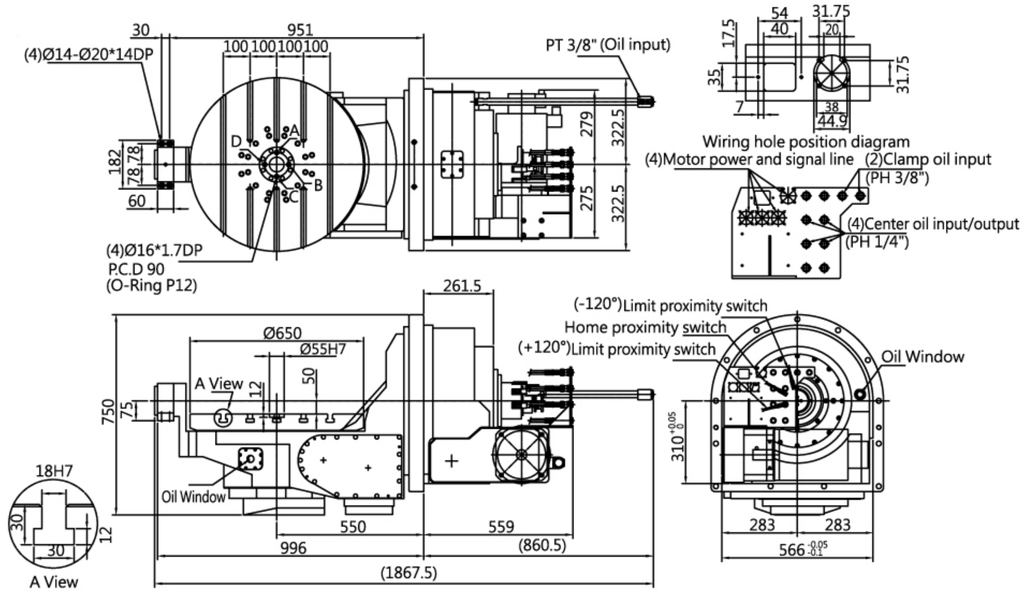
Item		Specification	
Table diameter		Φ650mm	
Table center Height		760mm	
Table total height		-50mm	
Total length		1867.5mm	
Datum hole		Ø55H7 x 12 mm/Deep	
T-slot on table		18H7mm	
Axis		Rotating axis	Tilt axis
Servo motor (Option)	FANUC	a12iF	a40i+Fan
	Mitsubishi	HF204S	HF703S
	Siemens	1FK7083	1FK7105
	Heidenhain	QSY155C	QSY190D
Total reduction ratio		1 : 60	1 : 120
Maximum rpm		25(1500rpm)	25(3000rpm)
Index accuracy		15	45 (±120°)
Encoder		5	5 (±120°)
Repetition accuracy		4	4
Titling degree without fixture & workpiece		+120° ~ -120°	
Clamp torque	☐Pneumatic(6kg/cm²)		
	☐Hydraulic(40kg/cm²)	262	458
Encoder(Option)	☐RCN2590 (±2.5")	(Option)	
Suitable work temp.		18°C ~ 40°C	
Allowable load	Level(0-45°)	300kg	
	Titling(60-90°)	200kg	
Product weight		1200kg	

※ACLS650 High rigidity, high accuracy, long life (option type), please contact us.

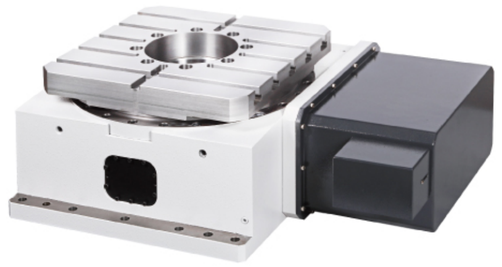






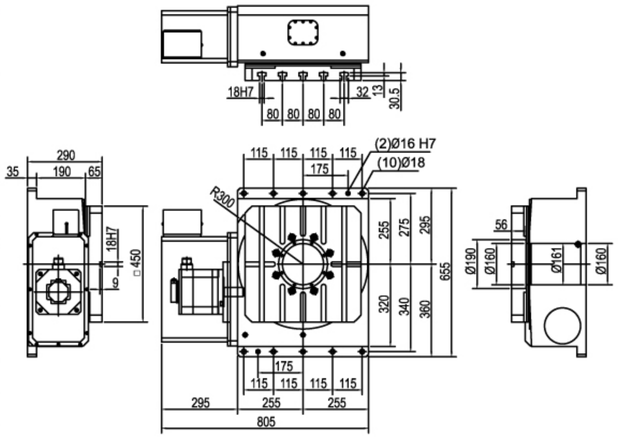


CNC Horizontal Rotary Tables HRD Series



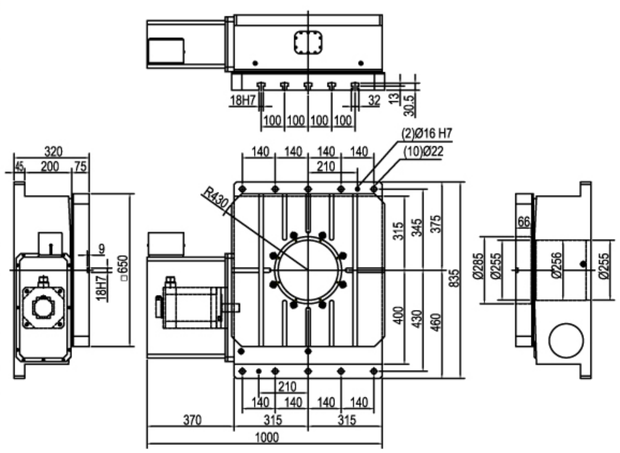
HRD450

Item	Unit	Specification	
Table diameter	mm	☐450	
T-slot on table	mm	18H7	
Servo motor (Option)	FANUC	α iF12	Motor interface ☐176
		β is22	
	Mitsubishi	HF-204S	
	Siemens	1FK7083	☐155
	Heidenhain	QSY155B	
Total reduction ratio		96	
Maximum rpm	rpm	20.8(2000rpm)	
Index accuracy mini.	deg	0.001°	
Allowable load	kg	600kg	
Clamp power source		Hydraulic	
Clamp pressure	kg / cm²	20	
Clamp torque	kg-m	400	
Index accuracy	sec	13	
Repetition accuracy	sec	4	



HRD650

Item	Unit	Specification	
Table diameter	mm	☐650	
T-slot on table	mm	18H7	
Servo motor (Option)	FANUC	α iF22	Motor interface ☐176
		β is22	
	Mitsubishi	HF-354S	
	Siemens	1FK7101	☐192
	Heidenhain	QSY190C	
Total reduction ratio		120	
Maximum rpm	rpm	16.6(2000rpm)	
Index accuracy mini.	deg	0.001°	
Allowable load	kg	1200kg	
Clamp power source		Hydraulic	
Clamp pressure	kg / cm²	20	
Clamp torque	kg-m	700	
Index accuracy	sec	13	
Repetition accuracy	sec	4	



Faceplate Tailstock CR Series

▲Faceplate Tailstock 185

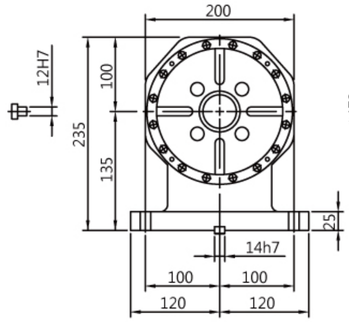
▲Faceplate Tailstock 160

▲Faceplate Tailstock 135

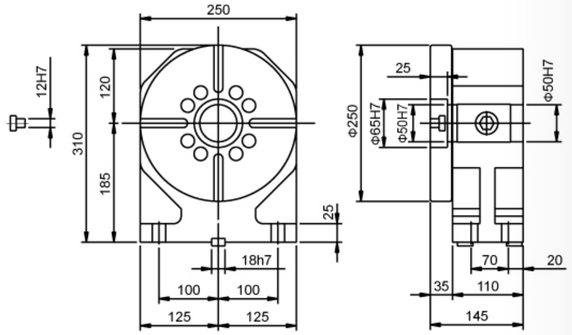
CR series tailstock with different center heights and are able to be matched alll kinds of rotary table. To assemble on fourth axis RD series and Fixtures to be perfect performance and effective working time and cost savings.

Type	Size/Center height
CR170 P/H	135mm
CR200 P/H	160mm
CR250 P/H	185mm
CR320 P/H	210mm

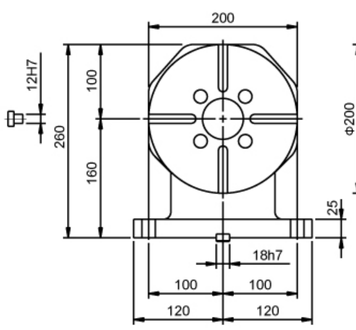
CR170



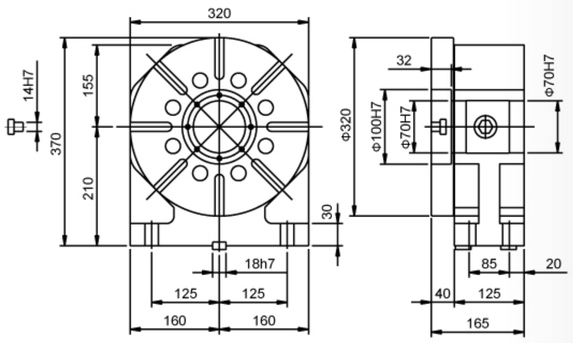
CR250



CR200

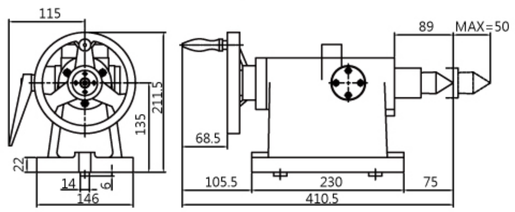


CR320

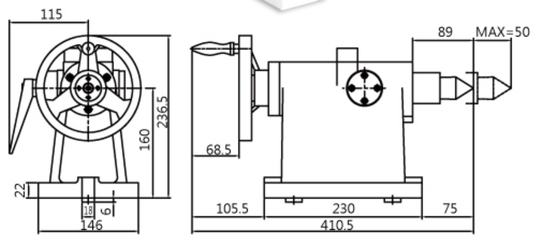


Manual Tailstock MT Series

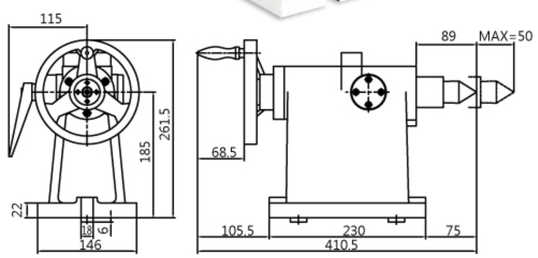
MT135



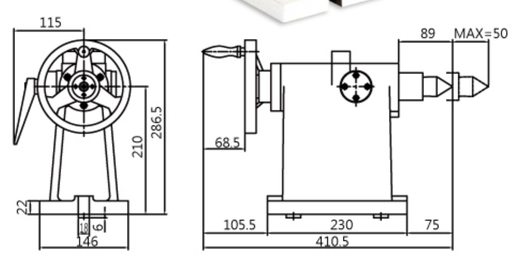
MT160



MT185



MT210



▲Thimble type automatic tailstock (Pneumatic or Hydraulic)

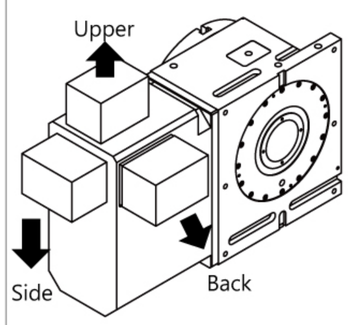
▲Pneumatic/hydraulic converter (8 times)
- Air pressure source 6kg/cm²
- Solenoid valve DC24V or AC110 / 220V

▲Hydraulic device
- 1HP x 4P, 12 liter / min, 40L
- 2HP x 4P, 30 liter / min, 70L

Motor Type specification

Machine Specification	Machine Table Specification	Brand		Model	
	Machine Controller	☐FANUC ☐Mitsubishi ☐Siemens ☐Heidenhain ☐Others _____			
	Driver and cables	☐None ☐Cables only ☐Driver and cables			
Machine Table	T-slot width(A)	☐14mm ☐16mm ☐18mm ☐22mm (Fig. II)			
	T-slot pitch size (B)	☐100mm ☐150mm ☐Others _____ (Fig. II)			
	T-slot amount on table	☐3 ☐4 ☐5 ☐6 ☐Others _____ Provide machine table dimension			
NC Rotary Table (4 axis)	Rotary table model number	RD80 RDE170 (no brake)			
		☐RD170 ☐RDS200 ☐RDS250 ☐RD200 ☐RD250 ☐Pneumatic brake ☐Hydraulic brake			
		☐RD320 ☐RD400 (Hydraulic brake)			
NC Rotary Table (5 axles)	Rotary table model number	☐ACU150 ☐ACU200 ☐Pneumatic brake			
		☐AC320 ☐AC400 ☐AC650 ☐Pneumatic brake ☐Hydraulic brake (cradle 5-axis rotary table)			
	Clamping type	☐Pneumatic ☐Hydraulic			
	Solenoid valve pneumatic lock	☐AC110V ☐AC220V ☐DC24V			
	Outlet way of power/signal wires (P58)	☐Military standard connector (Japan system) ☐Defensive device on tilt axle (standard) ☐Others _____			
		☐On-wall connector (EU standard)			
	Mitsubishi system connecting	☐17PIN ☐19PIN			
	Limit angle and switch type	☐Standard (according to catalog spec) ☐Others _____			
		☐2-line NC (standard) ☐Others _____			
FANUC	αiF2/5000	αiF4/5000	αiF8/3000	αiF12/4000	αiF22/3000
	(αiS2/5000)	(αiS4/5000)	(αiS8/4000)	(αiS12/4000)	(αiS22/4000)
Mitsubishi	HF75T	HF54T	HF104T	HF204S	HF354S
Yaskawa	SGMPS-04	SGMGV-05	SGMGV-09	SGMGV-20	SGMGV-30
Siemens	1FK7042	1FK7060	1FK7063	1FK7083	1FK7101
Heidenhain	QSY96A	QSY116C	QSY116E	QSY155B	QSY155D
Tailstock (special attachment)	Changeable thimble manual tailstock (MT)	☐MT-135 ☐MT-160 ☐MT-185 ☐MT-210			
	Faceplate braking tailstock	☐CR-135 ☐CR-160 ☐CR-185 ☐CR-210 ☐Pneumatic brake ☐Hydraulic brake			
	Attachment OK				

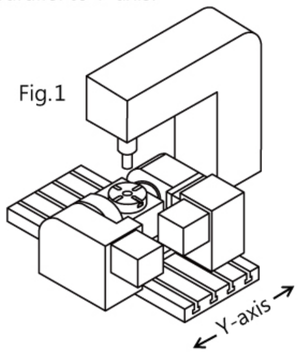
Motor junction box
☐Upper ☐Side ☐Back



Mounting location of 5-axis NC rotary table and machine
☐(Fig. 1) ☐(Fig. 2)

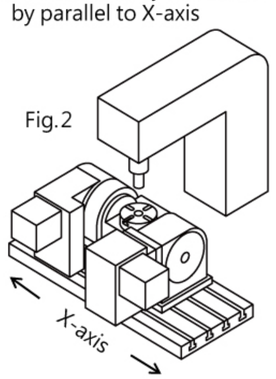
1.5-axis NC rotary table is installed by parallel to Y-axis.

Fig.1

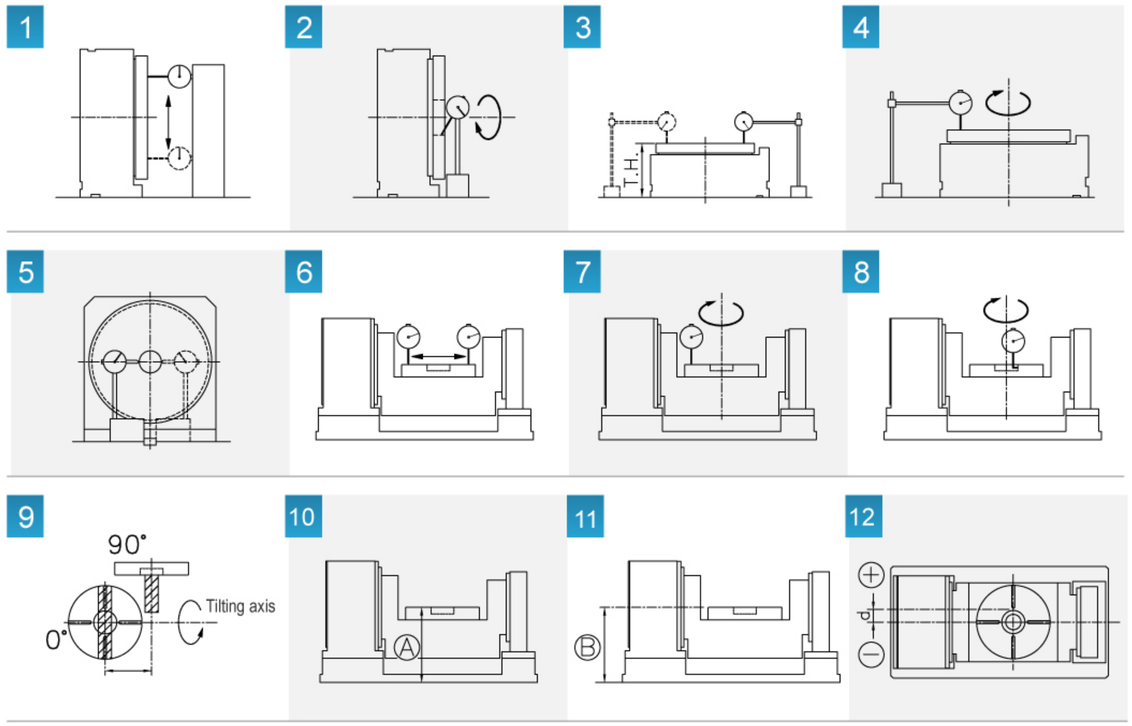


2.5-axis NC rotary table is installed by parallel to X-axis

Fig.2



Accuracy inspection diagram



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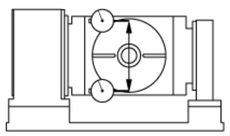

Unit : mm

		RDE80~RD400
1	Verticality of rotary table surface and body bottom	0.02
2	Rotating yaw of table center hole	0.01
3	Parallelism of rotary table surface and body	0.015
4	Amplitude of table surface	0.015
5	Parallelism of table center and datum block	0.02
	Sides tolerance of table center and datum block	0.02
		AC(5-axis model)
6	Verticality of table surface and bottom	0.01
7	Plate Amplitude of table in rotating	0.02
8	Concentricity of table internal hole in rotating	0.01
9	Change location of tilting axis (0° ~+/-90°) in rotating	0.02
10	Height of table and datum block	A±0.5
11	Height of tilting axis center & rotating axis center	B±0.5
12	Yaw distance of tilting axis center & rotating axis center	0.02
13	Perpendicular tolerance of table when tilting axis 90° (test from our plant)	0.02
14	Index accuracy — Rotating axis	see specification table
	Index accuracy — Tilting axis	see specification table
	Repetition accuracy — Rotating axis	see specification table
	Repetition accuracy — Tilting axis	see specification table