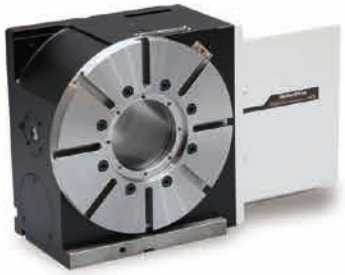
SANKYO SEISAKUSHO CO.

CNC ROTARY TABLE

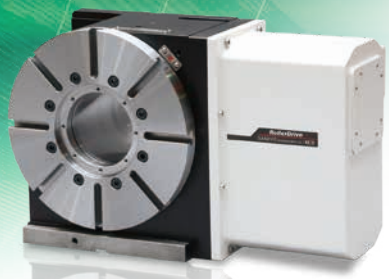
RollerDrive CNC™

RCD, RT series

For Compact Machining Center from Brother Industries



The Ultimate CNC Rotary Table



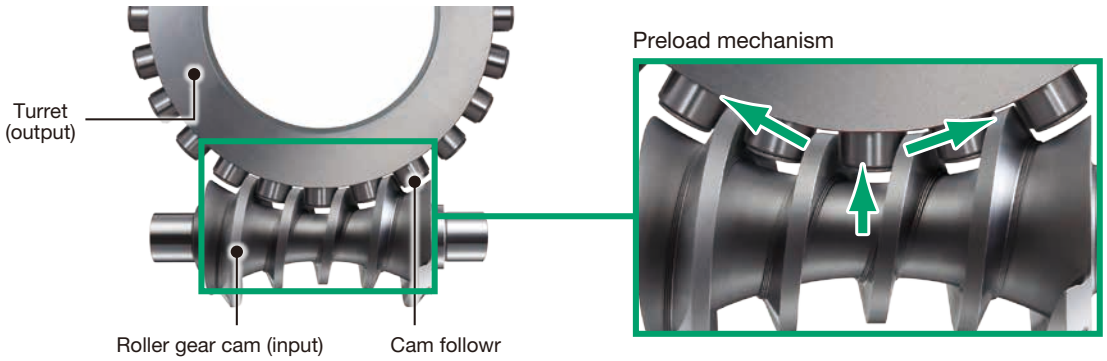
Zero-backlash Technology Delivers Unsurpassed Motion

The RollerDrive CNC is a rotary table designed to meet the requirements of machine tool manufacturers for greater speed and accuracy. The RollerDrive—Sankyo's zero-backlash reducer—delivers accurate output motion that stands up to external disturbances, unlike gearmotors or torque motors. It offers excellent rotary positioning accuracy of 10 seconds or less, and can hold up to heavy cutting forces on hard steel.
The heavy-duty RollerDrive CNC has no internal part wear and no loss of accuracy over long-term use, thus eliminating the need for regular calibration or adjustments.

Theory of Operation of the RollerDrive

The RollerDrive uses the roller gear mechanism, one of the finest motion control mechanisms available. The unit is constructed from an input shaft (the roller gear cam) and a turret (output shaft) fitted with roller followers. The roller followers are preloaded against a screw-like input shaft to completely eliminate backlash. Our proprietary adjustment mechanism provides optimum preload.
The roller followers planted in the turret use internal roller bearings to transfer torque while rotating. This ensures zero backlash, outstanding precision, and excellent efficiency without causing wear, while providing long-term consistent accuracy.

Exclusive zero-backlash construction



Features

Rolling contact

Preload

- ☑ No backlash (play).
- ☑ High accuracy and good efficiency.
- ☑ Preloadable for high rigidity.
- ☑ Clampless machining reduces positioning time.
- ☑ No deterioration of accuracy over time, initial accuracy is maintained for an extended period.

No Maintenance and Excellent Price Performance

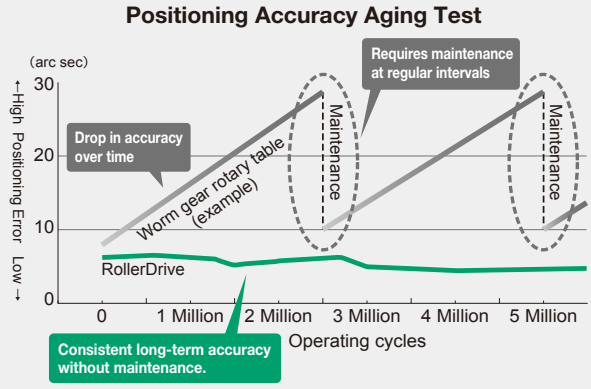
Consistent long-term accuracy without maintenance.

Worm gear models

Accuracy declines over time. Requires maintenance to achieve initial accuracy.

RollerDrive

Accuracy is consistent with no maintenance even after 5 million operation cycles.



The RollerDrive graph is based on internal testing. (Center distance of test unit: 170)

Cost Comparison with a Worm Gear Rotary Table

Offers Long-term Use without Maintenance

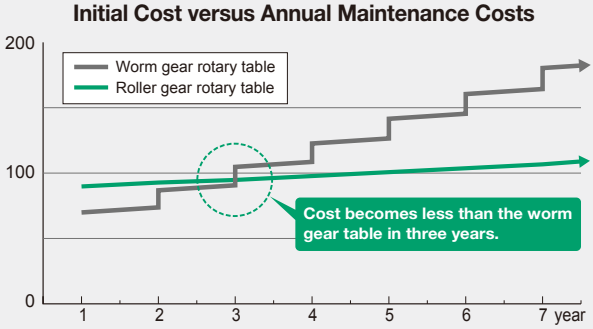
Worm gear models

Maintenance costs occur once or twice a year to adjust the backlash.

RollerDrive

Long-term use is possible without any mechanical maintenance.
Beats the cost of a worm gear even after adding annual running costs to the initial investment cost. Price performance continues thereafter.

(Based on internal calculations.)



①Worm gear rotary tables require maintenance twice a year.
②Assumes an annual running cost of 3% (oil changes, etc.) for both types.

Cost simulations are based on a table diameter of about 200 mm.

Shorter positioning time

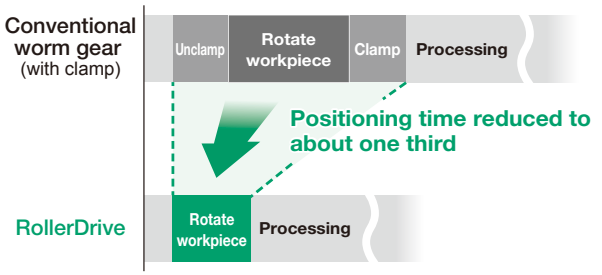
Time comparison for 90° positioning

Conventional worm gear

Clamping using hydraulic pressure or air pressure is required to suppress backlash.

RollerDrive

Zero backlash and high rigidity eliminate the need for clamping.
Compared to the worm gear type, positioning time is reduced to about one third.



(Based on in-house calculations)

Extended Accuracy

Compared against a worm gear for over 5 million indexes.

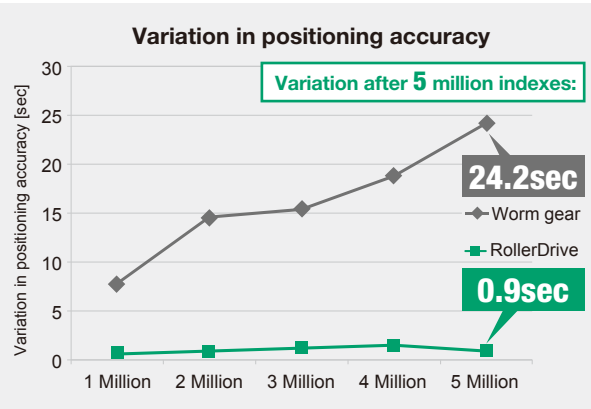
Test conditions

- Table size: Output table diameter: 170 mm
- Load inertia: 0.5 kgm^2
- Index angle: 36° (unidirectional)
- Indexing time: 0.35sec

Results after 5 million indexes:

Item	Worm gear	RollerDrive
Variation in positioning accuracy	24.2sec	0.9sec
Backlash (measured at R60)	18 µm (15 µm → 33 µm)	-

(Based on internal testing data.)



Sizing and Product Code

CNC Rotary Table Selection Chart

CNC Rotary Table		SPEEDIO					
		S300 X1(N)/X2	S500 X1(N)/X2	S700 X1(N)/X2	S1000 X1(N)	R450 X1(N)/X2	R650 X1(N)/X2
1-axis	RCD105	○				○	○
	RCD170	○	○	○	○	△ *	○
	RCD200	○	○	○	○		○
	RCD250		○	○	○		
	RCD300		○	○	○		
2-axis	RT080	○				○	
	RT100		○	○	○		○

* Contact Sankyo to install the RCD170 in the R450X1 (N).

Product Code [1-axis Series]

Rotary table

1 RCD105 - 2 D 3 R 4 B 5 F 6 1

1	2			3		4		5		6	
Model	Servo motor			Motor mounting side		Connector position		Connector type		Table shape	
	With brake	Without brake*1									
RCD105	D	D1	SANYO	R	Right	B	Rear	F	Flexible	1	Tapped holes
RCD170				L	Left	S	Side			2*2	T slot
RCD200											
RCD250											
RCD300											

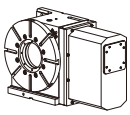
- 7 C 8 J - 9 X

7		8		9	
Options				Standard / Custom	
Air / Hydraulic clamping		Rotary joint*3			
C	With clamp	J	Internal type	Blank	Standard
Blank	None	H	External type	X	Custom
		Blank	None		

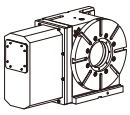
*1 Since the RCD105 motor is not installed the break, please note that the table may rotate depending on the position in case of a power failure or similar.
*2 For RCD105, the T slot table cannot be selected.
*3 There is no hollow bore in the table when the rotary joint is installed.

Motor mounting side

R

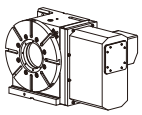


L

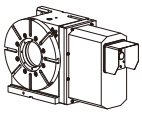


Connector position

B

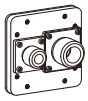


S



Connector type / shape

F

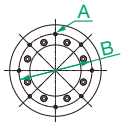


S : Straight

A : Angled

Table shape

1



	A	B
RCD105	(4)M8×1.25, 16DP	75
RCD170	(8)M8×1.25, 14DP	140
RCD200	(8)M8×1.25, 14DP	170
RCD250	(8)M10×1.5, 18DP	210
RCD300	(8)M10×1.5, 18DP	250

2*2 P6: Table with RCD dimensions

Support table

1 ST105A - 2 C 3 J - 4 X

1		2		3		4	
Model		Options				Standard / Custom	
		Air / Hydraulic clamping		Rotary joint			
ST105A	For RCD105	C	With clamp	J	Internal type	Blank	Standard
ST170A	For RCD170 and RCD200	Blank	None	H	External type	X	Custom
ST250A	For RCD250 and RCD300			Blank	None		

Tail stock

1 TSS105 - 2 M 3 R - 4 X

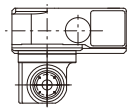
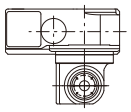
1		2		3		4	
Model		Type		Handle side		Standard / Custom	
TSS105	For RCD105	M	Manual	R	Right	Blank	Standard
TSS135	For RCD170 and RCD200			L	Left	X	Custom
TSS185	For RCD250 and RCD300						

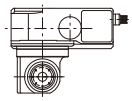
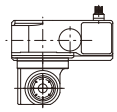
Product Code [2-axis Series]

Rotary table

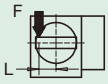
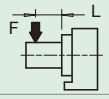
1 RT100	-	2 D	3 R	4 S	-	5 J
1		2	3	4		5
Model		Servo motor	Motor mounting side	Connector position		Options
						Rotary joint (Internal type)*1
RT080		D SANYO	R Right	S Rear		J Internal type
RT100			L Left	B Side		Blank None

*1 Use the rotary joint for the air supply. It is not suitable for supplying hydraulic oil. The rotary joint is not offered for the RT080.

Motor mounting side	
R	
L	

Connector position	
S	
B	

Specifications [1-axis Series]

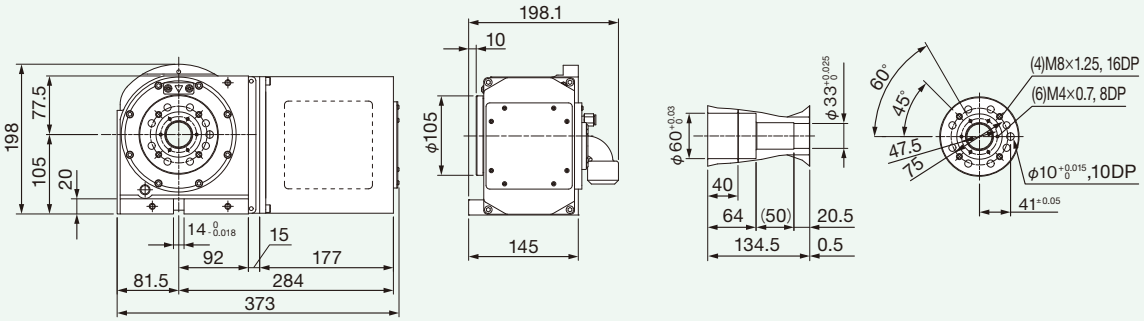
Specifications			RCD105	RCD170	RCD200	RCD250	RCD300
Table diameter		mm	Φ105	Φ170	Φ200	Φ250	Φ300
Table pilot bore diameter		mm	$\Phi60^{+0.03}_{0}$	$\Phi60^{+0.03}_{0}$	$\Phi60^{+0.03}_{0}$	$\Phi110^{+0.035}_{0}$	$\Phi110^{+0.035}_{0}$
Center height		mm	105	135	135	185	185
Table T slot width		mm	—	$12^{+0.018}_{0}$	$12^{+0.018}_{0}$	$12^{+0.018}_{0}$	$12^{+0.018}_{0}$
Keyway width		mm	$14^{0}_{-0.011}$	$14^{0}_{-0.011}$	$14^{0}_{-0.011}$	$14^{0}_{-0.011}$	$14^{0}_{-0.011}$
Clamp type (air 0.5 MPa, hydraulic 3.5 MPa)			Air / Hydraulic	Air / Hydraulic	Air / Hydraulic	Hydraulic	Hydraulic
Clamp torque*1		N·m	210	310	310	1100	1100
Motor shaft equivalent inertia*2,*3		$\times10^{-4}$ kg·m^2	0.87	1.88	1.88	5.70	5.70
Motor model (SANYO)*4			R2AAB8075HXPGYM	R2AAB8100FCPGYM	R2AAB8100FCPGYM	R2AA13180HCP9CM	R2AA13180HCP9CM
Minimum setting unit		deg	0.0001	0.0001	0.0001	0.0001	0.0001
Maximum table speed		min^{-1}	60	70	70	60	60
Gear ratio*2			1/50	1/60	1/60	1/60	1/60
Indexing accuracy		arc.sec	±15	±15	±15	±10	±10
Repeatability		arc.sec	8	8	8	4	4
Net weight		kg	30	57	59	110	115
Allowable payload	Upright position*5 	kg	50 (100)	70 (140)	70 (140)	255 (510)	255 (510)
	Horizontal position 	kg	100	140	140	510	510
Allowable load	F 	N	18200	21000	21000	52000	52000
	FxL with clamping 	N·m	210	310	310	1100	1100
	Continuous holding torque*2,*6	N·m	164	267	267	620	620
	Maximum output torque*2,*6,*7	N·m	253	501	501	998	998
	FxL 	N·m	900	1300	1300	5500	5500
Allowable workpiece inertia		kg·m^2	0.5	1.1	1.1	8.3	8.3
Extenal rotary joint (number of ports)			6+1	6+1	6+1	10+1	10+1
Internal rotary joint (number of ports)			4	6	6	8	8

*1 Values for RCD105, RCD170 and RCD200 are clamping torques when using an air hydro booster with a air pressure of 0.5 MPa as the supply source.
*2 Values for motor shaft equivalent inertia, and continuous / maximum holding torque are given for Sanyo motors. Please contact Sankyo if a different motor is to be used.
*3 Motor shaft equivalent inertia does not include the inertia of the motor shaft.
*4 Since the RCD105 motor is not installed the break, please note that the table may rotate depending on the position in case of a power failure or similar.
*5 The allowable payload value for upright mounting shown in brackets applies when a tail stock or support table is used.
*6 The continuous / maximum holding torque is the allowable load torque when a clamp is not used.
*7 Maximum holding torque should not exceed 10 seconds with 20% duty.

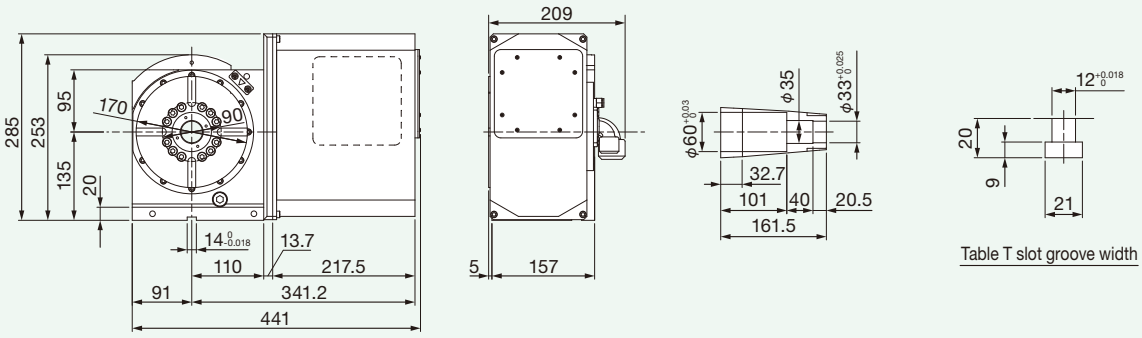
Dimensions [1-axis Series]

The drawings apply to the following specifications: R side motor mounting, rear connector.

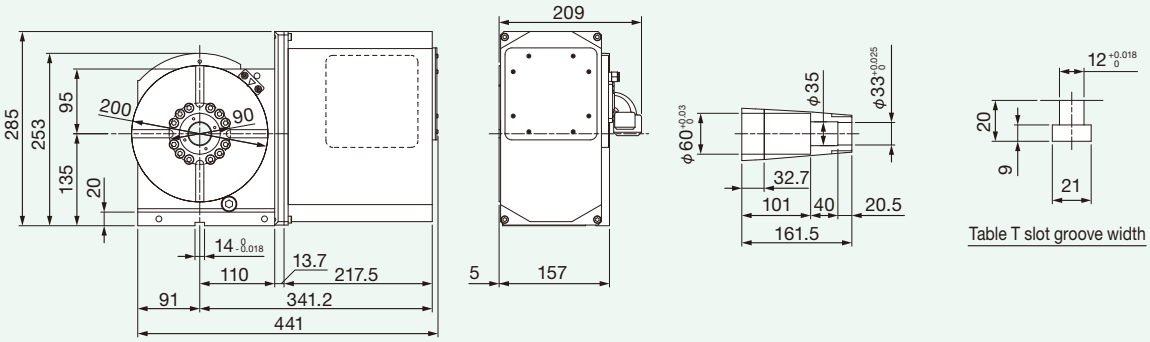
RCD105



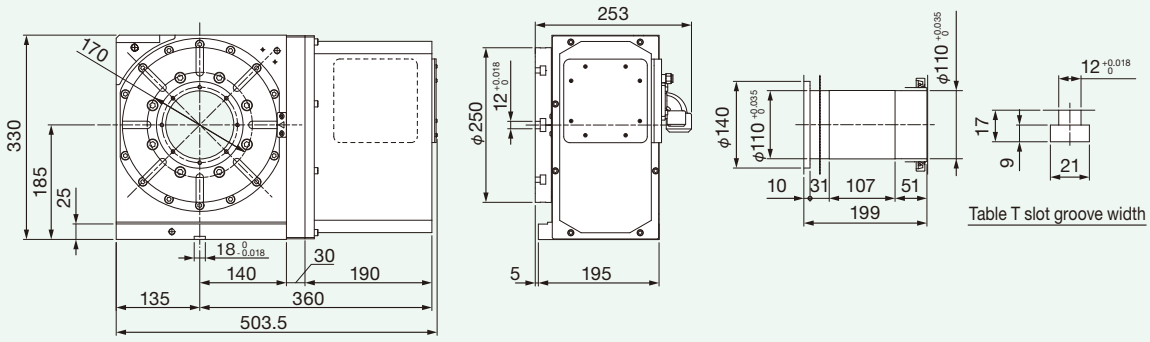
RCD170



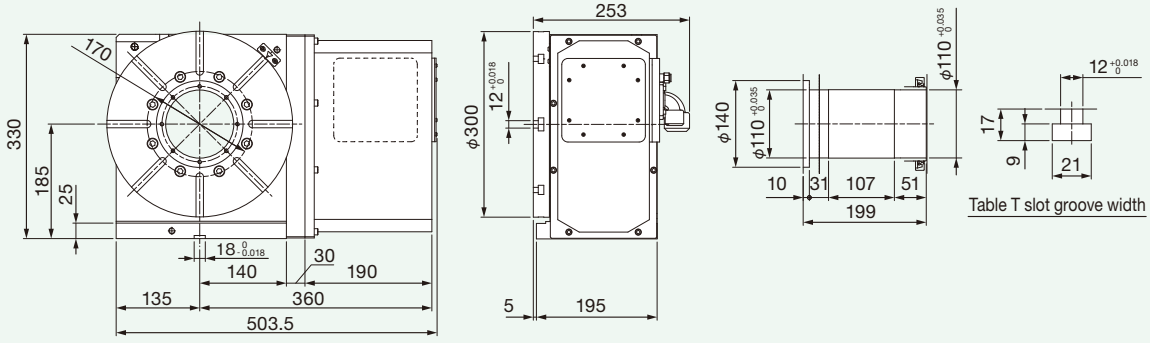
RCD200



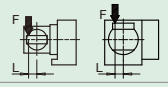
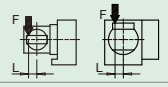
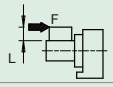
RCD250



RCD300



Specifications [2-axis Series]

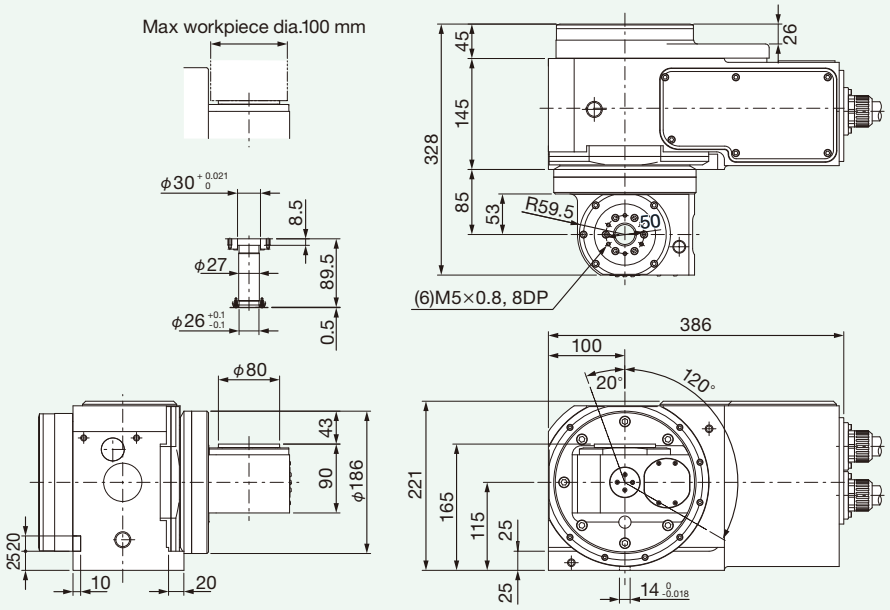
Specifications			RT080		RT100	
			Rotary axis	Tilt axis	Rotary axis	Tilt axis
Tilting angle		deg	-20~ +120		-20~ +120	
Table diameter		mm	Φ80		Φ100	
Table pilot bore diameter		mm	$\Phi30^{+0.021}_{0}$		$\Phi40^{+0.025}_{0}$	
Center height (90 degrees)		mm	115		132	
Table surface height (0 degree)		mm	165		197	
Keyway width		mm	$14^{0}_{-0.011}$		$14^{0}_{-0.011}$	
Motor shaft equivalent inertia*1		$\times10^{-4}$ kg·m^2	0.28	1.12	0.92	1.98
Motor model (SANYO)			R2AA06040FXPGYM8	R2AA08075FCPHEM6	R2AAB8075HXPGYM	R2AAB8100FCPGYM
Minimum setting unit		deg	0.0001	0.0001	0.0001	0.0001
Maximum table speed		min^{-1}	100	80	60	55 (50)*4
Gear ratio			1/48	1/60	1/48	1/90
Indexing accuracy		arc.sec	±20	±15	±15	±10
Repeatability		arc.sec	8	8	8	4
Net weight		kg	70		91	
Allowable payload	0 degree 	kg	10		30	
	90 degree 	kg	10		30	
Allowable load	F 	N	3760		6016	
	FxL Continuous holding torque 	N·m	58	182	132	318 (279)*4
	FxL Maximum output torque*2 	N·m	103	298	234	575 (497)*4
	FxL 	N·m	141		290	
Allowable workpiece inertia		kg·m^2	0.01		0.1	
Internal rotary joint (number of ports)*3			—		2	—

1 Motor shaft equivalent inertia does not include the inertia of the motor shaft.
*2 Maximum holding torque should not exceed 10 seconds with 20% duty.
*3 Use the rotary joint for the air supply. It is not suitable for supplying hydraulic oil.
*4 Value for ( ) is the value when mounting R650X1 (N).

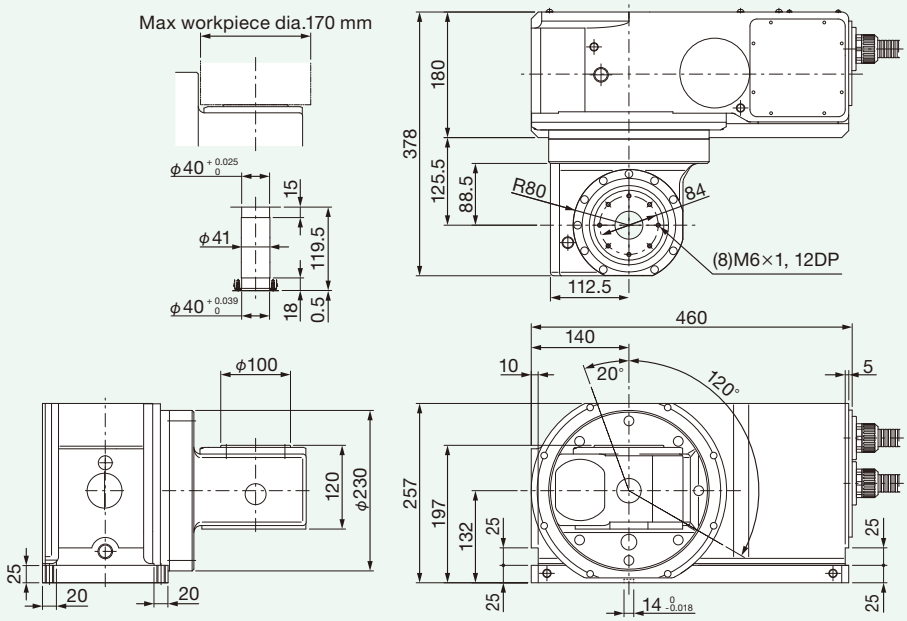
Dimensions [2-axis Series]

The drawings apply to the following specifications: R side motor mounting, side connector.

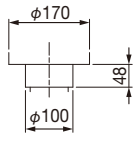
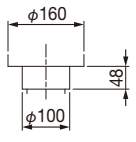
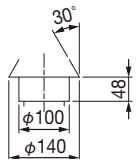
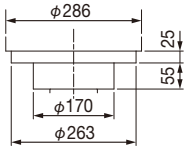
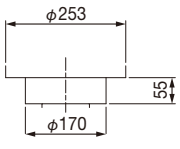
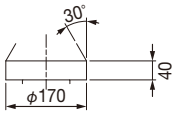
RT080



RT100



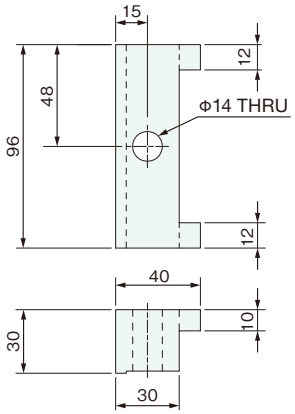
Workpiece interference region for tilting

	Tilting angle		
	-20° ~ 45°	-20° ~ 90°	-20° ~ 120°
RT080			
RT100			

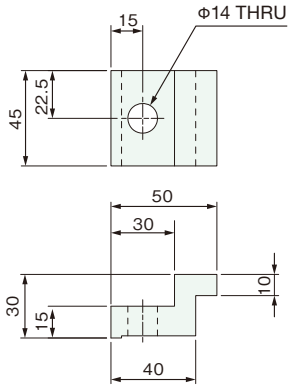
Mount clamps (Accessories)

Model	Size	Mount clamps type / Qty. used
RCD	105	g, h (1 pc. each)
	170	g, h (1 pc. each)
	200	g, h (1 pc. each)
	250	i (4 pcs.)
	300	i (4 pcs.)
RT	080	e (4 pcs.)
	100	b (4 pcs.)

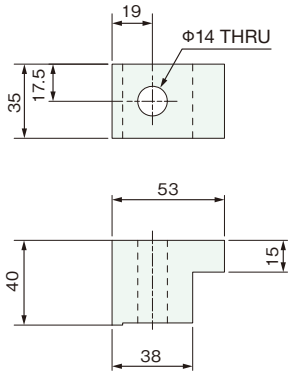
g



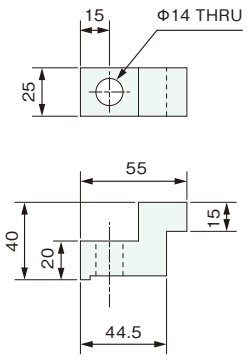
h



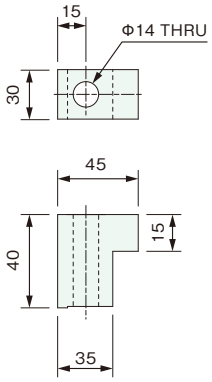
i



e

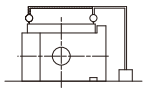
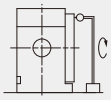
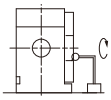
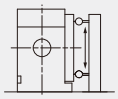
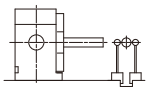
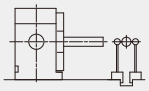
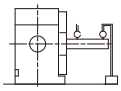


b

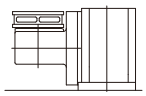
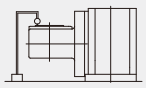
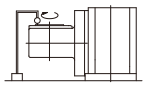
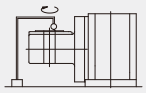
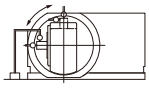
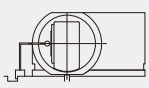


Precision Ratings

1-axis Series

NO.	Measurement	Method	RCD105	RCD170	RCD200	RCD250	RCD300
1	Parallelism between table top and reference surface for upright mounting		0.015mm	0.015mm	0.015mm	0.02mm	0.02mm
2	Runout of table top		0.01mm	0.01mm	0.01mm	0.01mm	0.01mm
3	Runout of table reference bore		0.01mm	0.01mm	0.01mm	0.01mm	0.01mm
4	Perpendicularity between table top and reference surface for upright mounting		0.02mm (must not lean forward)	0.02mm (must not lean forward)	0.02mm (must not lean forward)	0.02mm (must not lean forward)	0.02mm (must not lean forward)
5	Parallelism between rotary axis and guide blocks for reference surface for upright mounting		0.02mm/150mm	0.02mm/150mm	0.02mm/150mm	0.02mm/150mm	0.02mm/150mm
6	Deviation between rotary axis and guide blocks for reference surface for upright mounting		0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
7	Parallelism between rotating center and reference surface for upright mounting		0.02mm/150mm	0.02mm/150mm	0.02mm/150mm	0.02mm/150mm	0.02mm/150mm
8	Indexing accuracy		±15arc.sec	±15arc.sec	±15arc.sec	±10arc.sec	±10arc.sec
9	Repeatability		8arc.sec	8arc.sec	8arc.sec	4arc.sec	4arc.sec

2-axis Series

NO.	Measurement		Method	RT080	RT100
1	Straightness of table top			0.01mm over full length	0.01mm over full length
2	Parallelism between table top and bottom surface of base			0.01mm	0.01mm
3	Runout of table top			0.01mm	0.01mm
4	Runout of table reference bore			0.01mm	0.01mm
5	Parallelism between tilt axis center line and bottom surface of base			0.02mm over full length	0.02mm over full length
6	Parallelism between table top and guide block			0.02mm	0.02mm
7	Indexing accuracy	Rotary axis		±20arc.sec	±15arc.sec
		Tilt axis		±15arc.sec	±10arc.sec
8	Repeatability	Rotary axis		8arc.sec	8arc.sec
		Tilt axis		8arc.sec	4arc.sec

Main unit options — Rotary joint

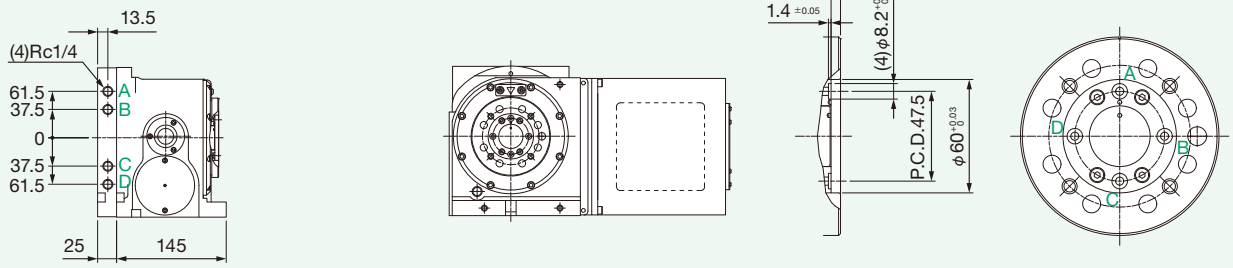
Specifications

Product type	Size	Max. number of ports		Maximum actuation pressure
		Internal type	External type	
RCD	105	4	6+1[*1]	Fluid: Air 0.7 MPa / Hydraulic 6 MPa
	170	6	6+1[*1]	
	200	6	6+1[*1]	
	250	8	10+1[*1]	
	300	8	10+1[*1]	
RT	80[*5]	-	-	-
	100	2	-	Fluid: Air 0.7 MPa[*4]

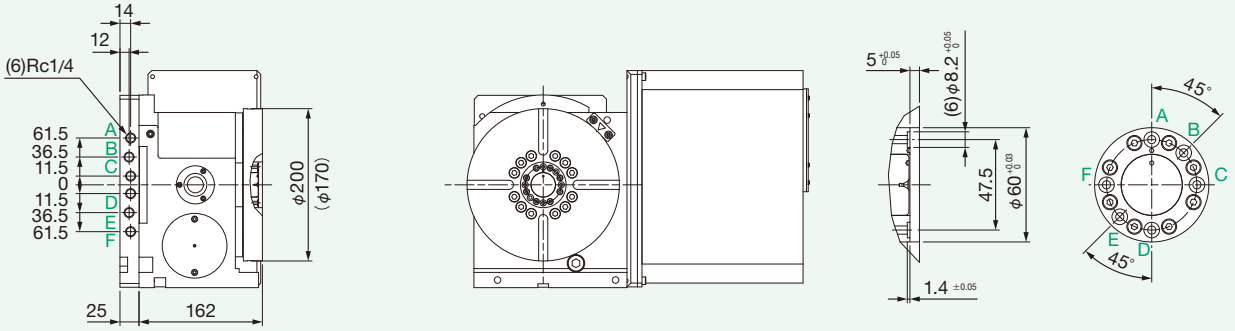
*1 The +1 indicates the port in the center bore.
*2 Make sure to furnish a line filter in the air supply line.
*3 Under prolonged use a small amount of actuation oil may leak from the oil port toward the adjacent air port. If possible, the adjacent ports should be left open for use as drain ports.
*4 Use the rotary joint for the air supply. It is not suitable for supplying hydraulic oil.
*5 The rotary joint is not offered for the RT080.

Internal type

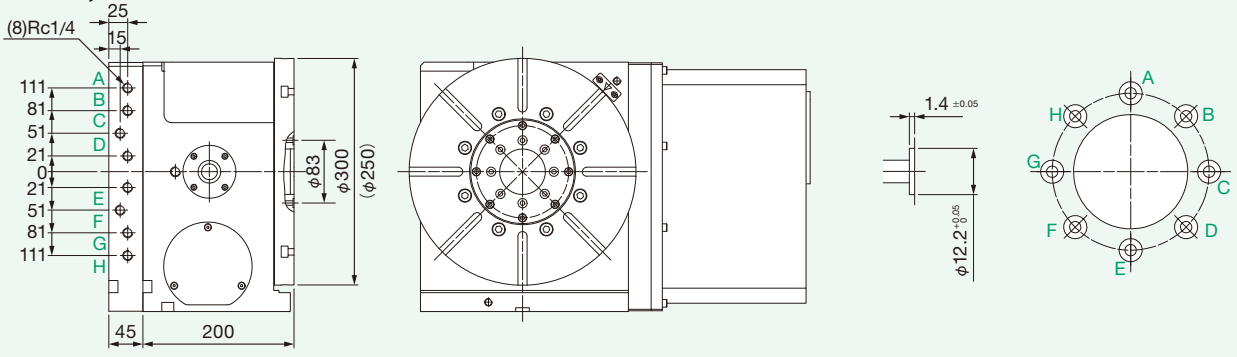
RCD105



RCD170,200

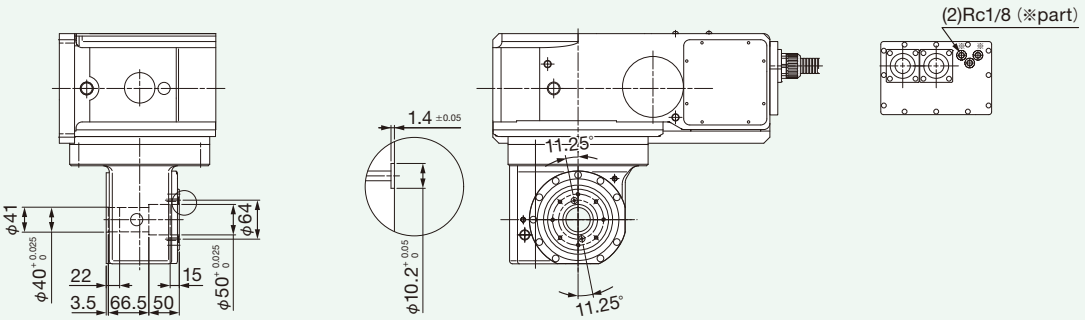


RCD250,300



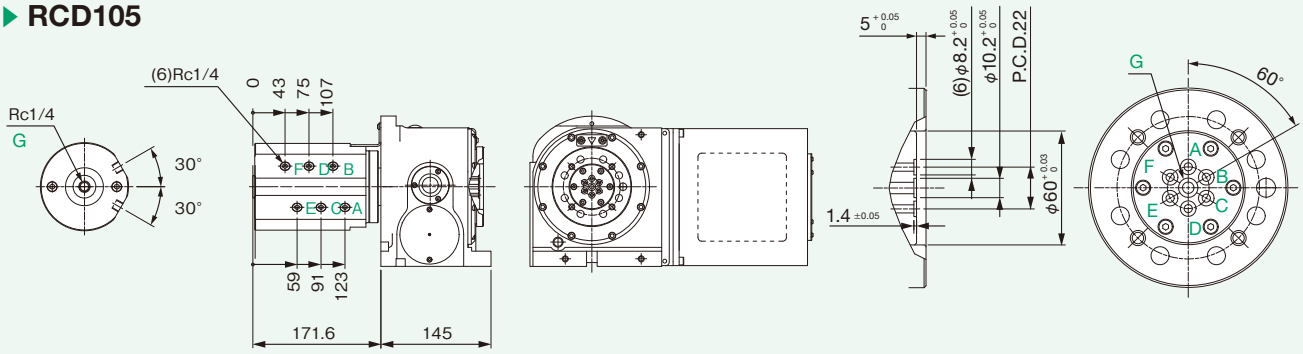
Internal type

RT100

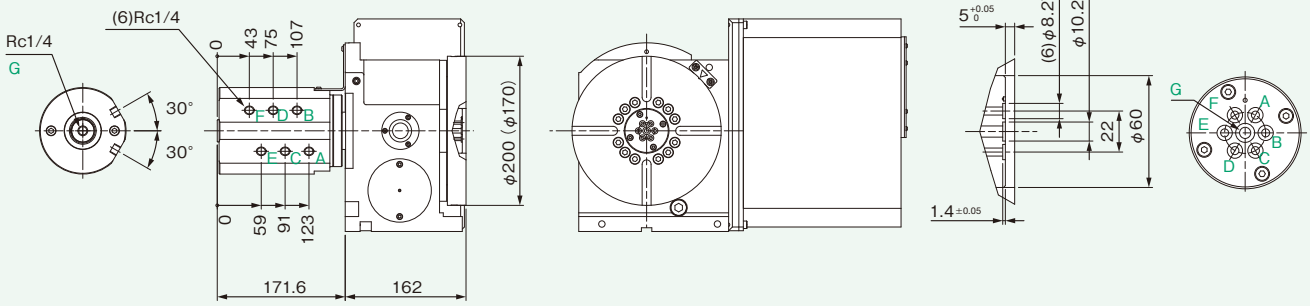


External type

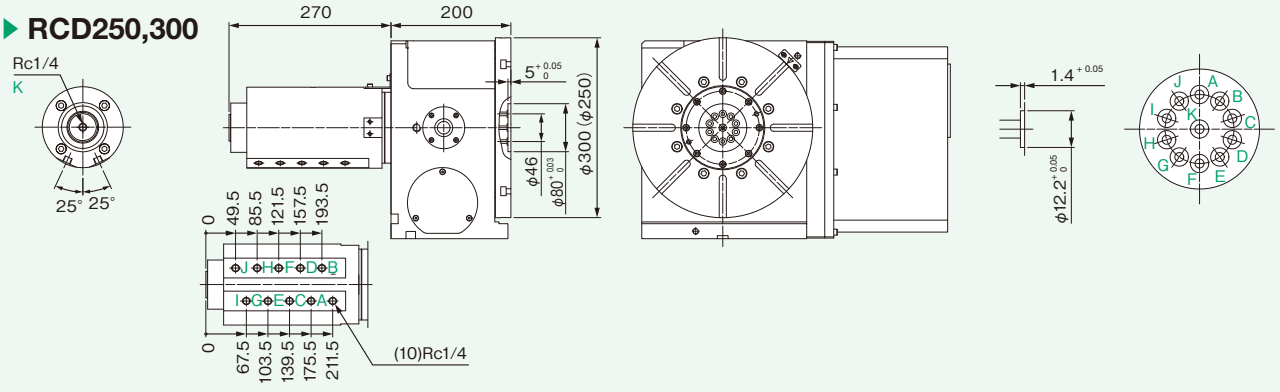
RCD105



RCD170,200

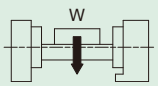
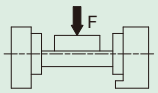
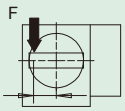


RCD250,300



Auxiliary equipment — Support table

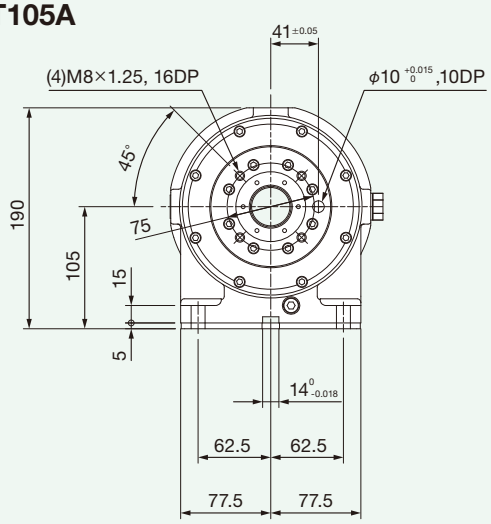
Specifications

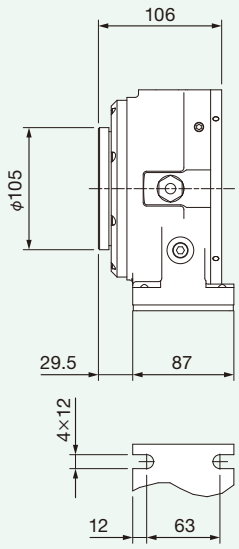
Specifications			ST105A	ST170A		ST250A	
Rotary table model			RCD105	RCD170	RCD200	RCD250	RCD300
Table diameter		mm	Φ105	Φ170		Φ250	
Table pilot bore diameter		mm	$\Phi 60^{+0.03}_{0}$	$\Phi 60^{+0.03}_{0}$		$\Phi 110^{+0.035}_{0}$	
Center height		mm	105	135		185	
Table T slot width		mm	-	$12^{+0.018}_{0}$		$12^{+0.018}_{0}$	
Keyway width		mm	$14^{0}_{-0.011}$	$14^{0}_{-0.011}$		$14^{0}_{-0.011}$	
Clamp type (air 0.5 MPa, hydraulic 3.5 MPa)			Air / Hydraulic	Air / Hydraulic		Hydraulic	
Clamp torque*1		N·m	210	310		1200	
Inertia of rotating output part		$\times 10^{-2}$kg·m^2	0.54	2.10		20.00	
Maximum table speed		min^{-1}	100	70		60	
Net weight		kg	14	24		54	
Allowable payload*2		kg	100	140		510	
Allowable load*2	F 	N	16400	18900		46300	
	F×L with clamping 	N·m	420	620		2400	
	Continuous holding torque*3	N·m	139	326		620	
	Maximum holding torque*3,*4	N·m	215	515		998	
External rotary joint (number of ports)			6+1	6+1		10+1	
Internal rotary joint (number of ports)			4	4		6	

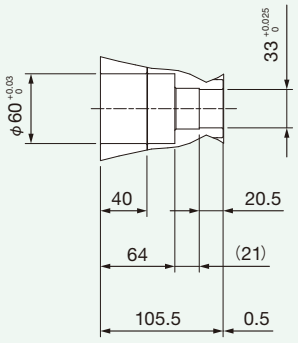
*1 Values for ST105A and ST170A is clamping torques when using an air hydro booster with a air pressure of 0.5 MPa as the supply source.
*2 The allowable payload and allowable load values apply to the entire set including the rotary table.
*3 The continuous / maximum holding torque is the allowable load torque when a clamp is not used.
*4 Maximum holding torque should not exceed 10 seconds with 20% duty.

Auxiliary equipment — Support table dimensions

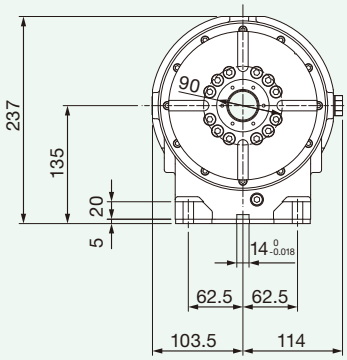
ST105A

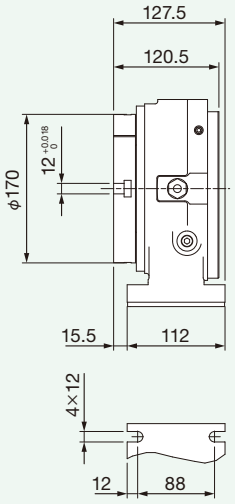






ST170A





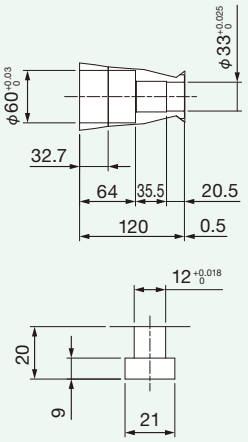
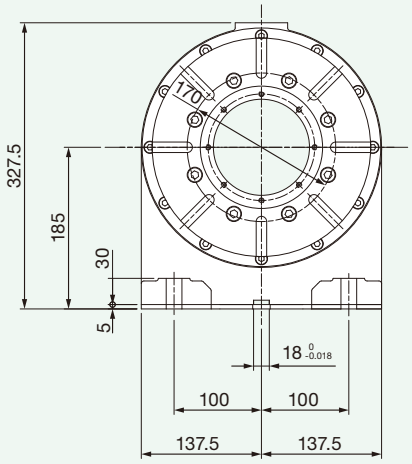
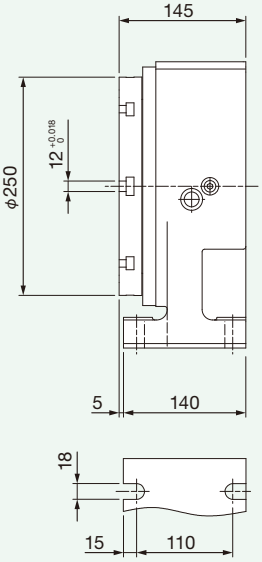


Table T slot groove width

ST250A





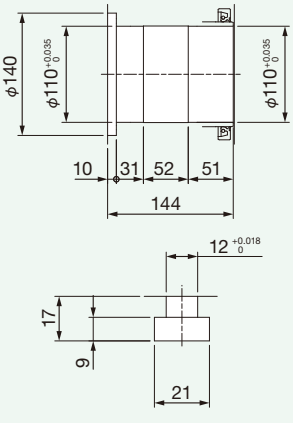


Table T slot groove width

Support table options — Rotary joint

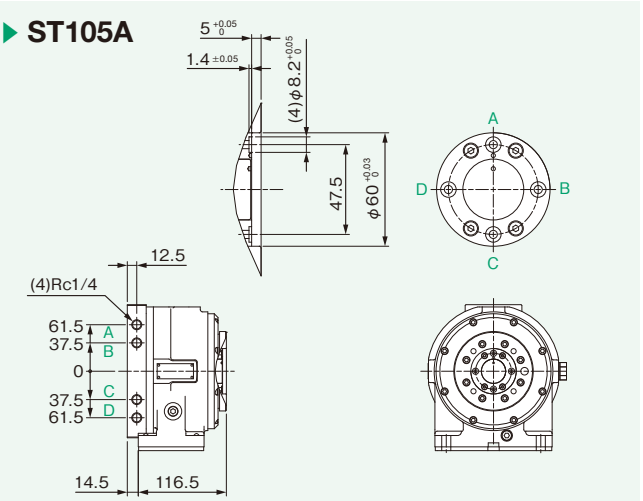
Specifications

Product type	Size	Max. number of ports		Maximum actuation pressure
		Internal type	External type	
ST	105A	4	6+1*1	Fluid: Air 0.7 MPa / Hydraulic 6 MPa
	170A	4	6+1*1	
	250A	6	10+1*1	

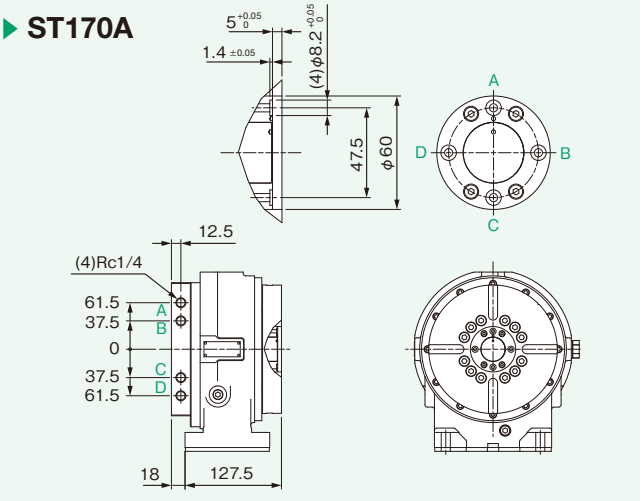
*1 The "+1" indicates a port using the center bore.
*2 Be sure to use a line filter in the air supply.
*3 During prolonged use, a small amount of actuation oil may leak from an oil port to an adjacent air port.
If possible, the adjacent port should be left open as a drain port.

Internal type

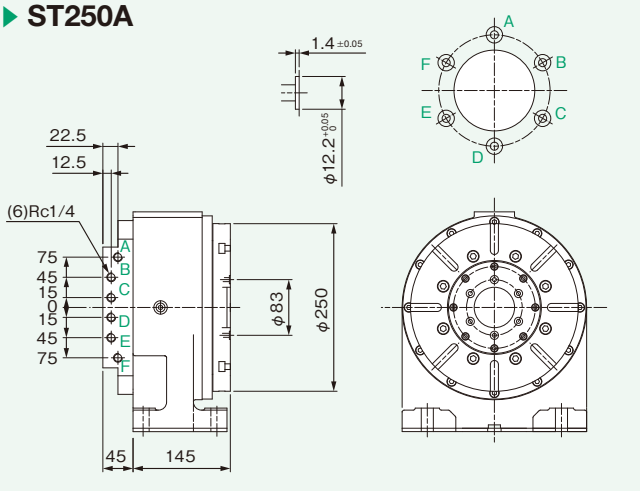
ST105A



ST170A

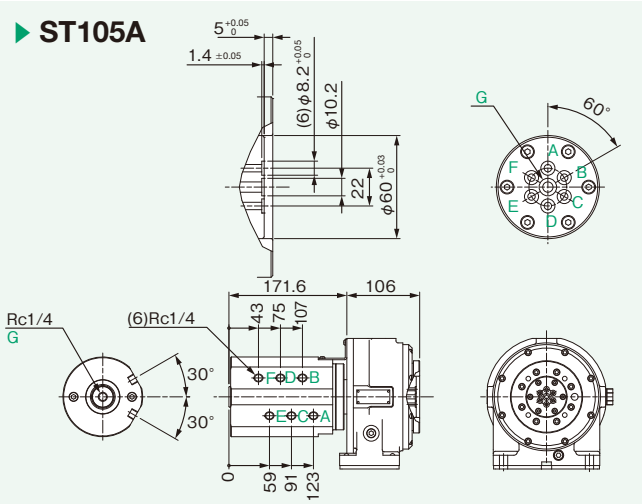


ST250A

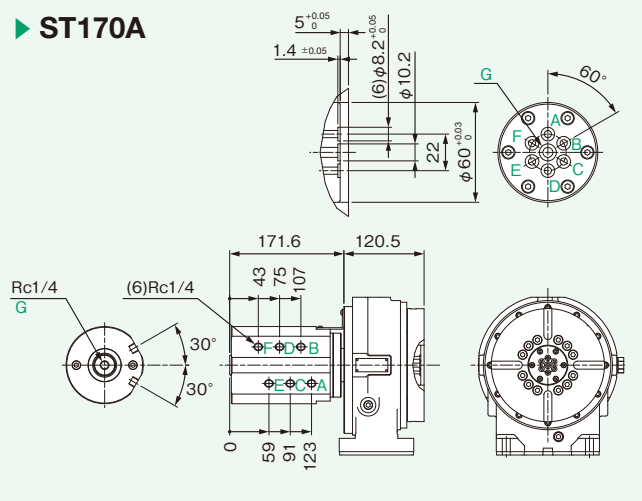


External type

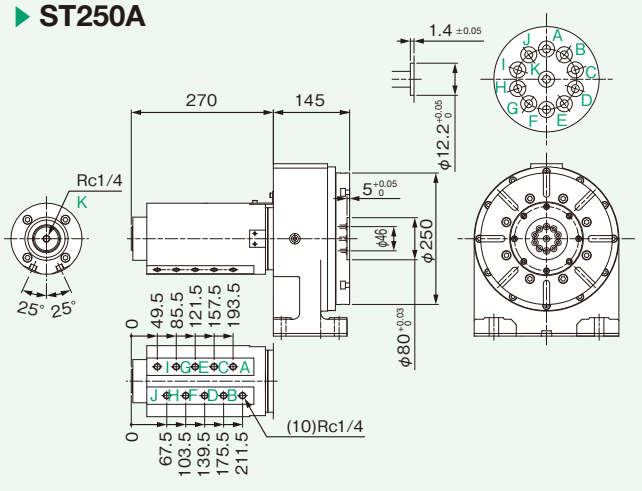
ST105A



ST170A

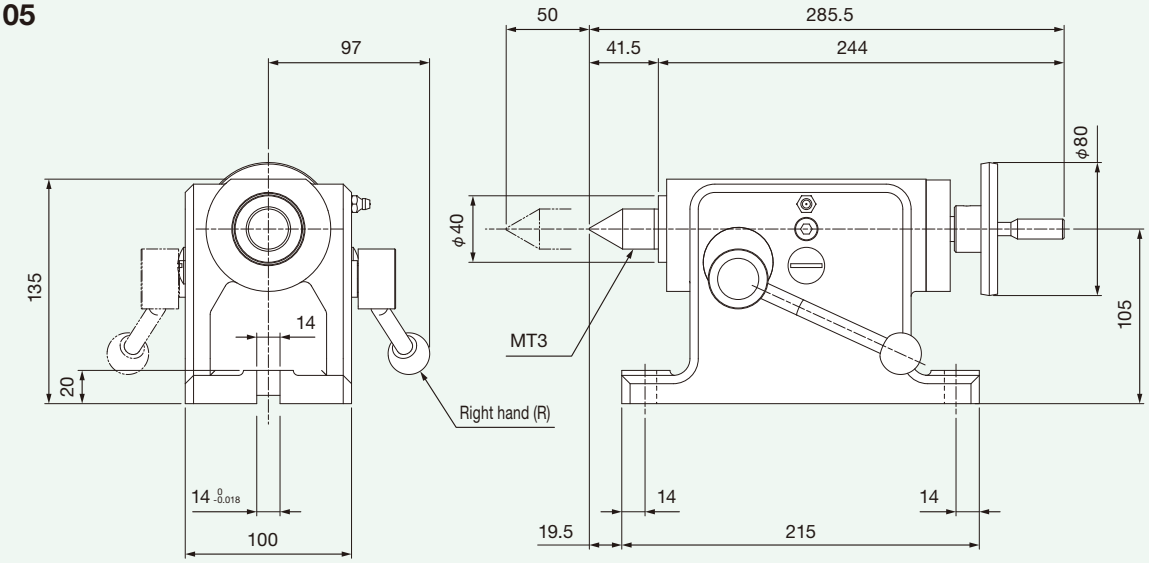


ST250A

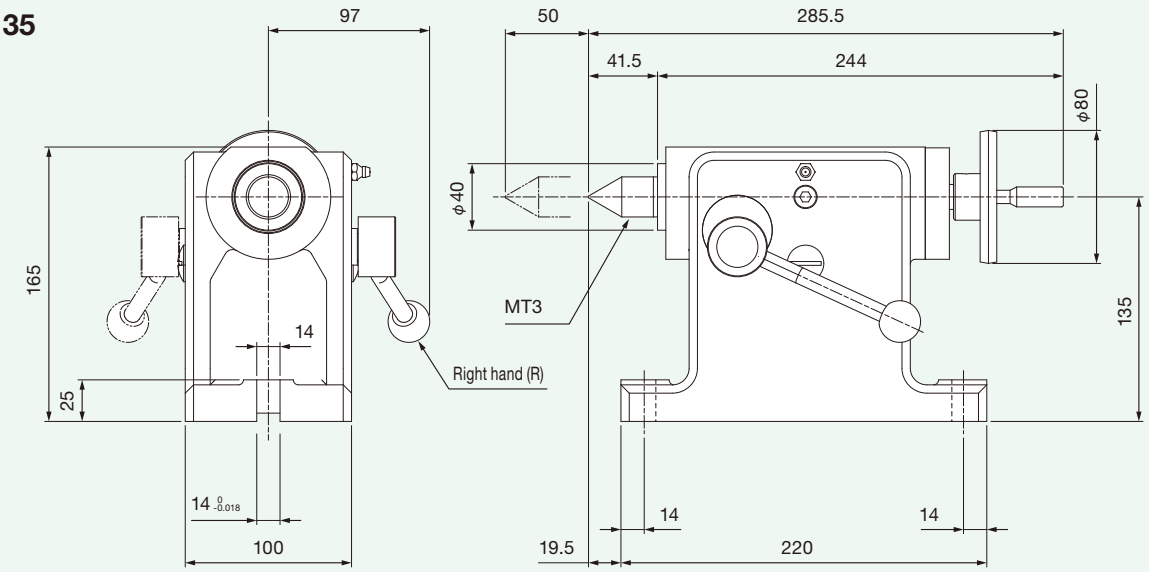


Auxiliary equipment — Tail stock dimensions

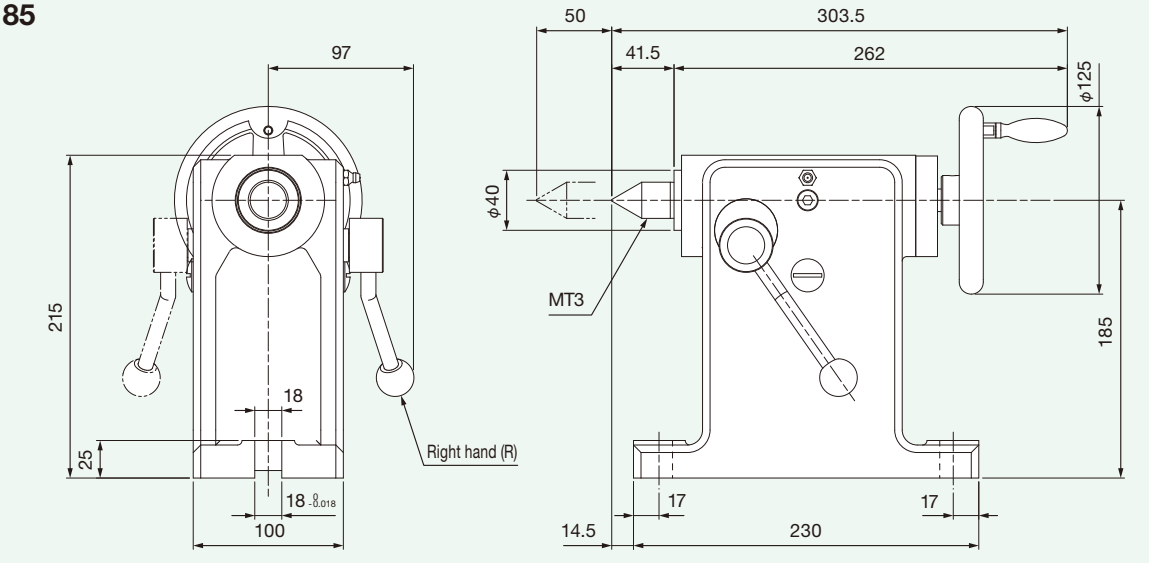
TSS105



TSS135



TSS185



CNC rotary table
Control methods for air / hydraulic table clamping

▶ Introduction

This section provides information as well as precautions about generally recommended control methods that can be used with Sankyo CNC rotary tables that support air or hydraulic table clamping or motor braking.Because the RollerDrive type CNC rotary tables do not have any structural backlash, clamping is not necessary within certain conditions. This approach eliminates the time required for clamping and unclamping.It allows positioning at maximum speed, while also consuming no energy for a air or hydraulic system.

However, if a very high holding torque to maintain the table at the stop position is required, table clamping can be selected as an optional specification.

* In actual use, the characteristics of the equipment installed by the customer and the functions that are targeted are also relevant. Please use the information provided here as a reference in setting up the appropriate control sequence for the specific application.

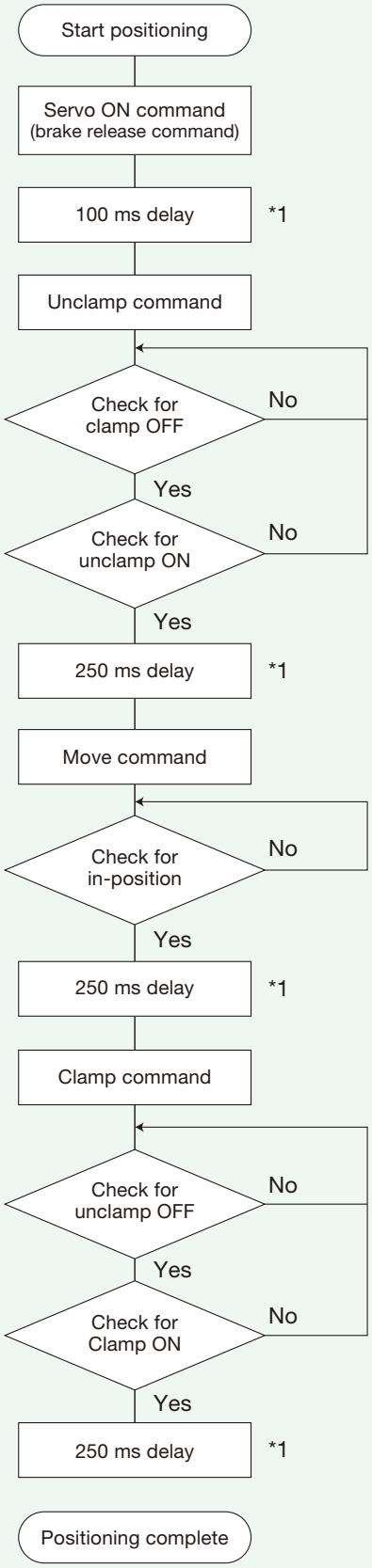
▶ Table clamping

Application	Serves for holding the table at the stop position during machining.
Recommended application	After checking the in-position signal of the drive motor, output the clamp command for the table clamp and check pressure with the pressure sensor. After a specific interval, establish the clamp complete (positioning complete) state.
Using a machine tool servo motor	In principle, servo should be ON, but it is recommended to make provision for servo to be switched OFF if the table clamp was activated while unbalanced torque is generated and the motor current exceeds 70% of the rated value. (The servo motor should be designed for absolute movement and the operation commands must also be issued as absolute values.)
Using a general type servo motor	The following two types of servo motor control are recommended. (1) If servo ON is to be maintained, change proportional integral control to proportional control. This will prevent overload problems. (2) If servo is to be set to OFF, the servo motor's coordinates would be lost if the servo motor is designed for relative movement. To prevent this, an absolute movement type servo motor must be used, and commands must be issued as absolute values.
Points to note	The system is designed for the following operation sequence: Air/Hydraulic pressure ON → Clamp, Air/Hydraulic pressure OFF → Unclamp. Clamping can therefore not be performed when power or the air pressure source will go OFF.

▶ Motor braking

Application	Serves for holding the table at the stop position during power off or servo off.
Recommended application	Use a servo amplifier or a servo ON/OFF signal from higher-level equipment to turn the motor brake on or off. Braking operation is taken to be completed after a specific interval has elapsed.
Using a machine tool servo motor	The ON timing should be as follows. First use the servo ON signal to enable servo, verify that servo is ON, then release the brake. After a specific interval for brake release has elapsed, the operation is taken to be completed. The OFF timing should be as follows. Use the servo OFF signal to set the brake to ON, and take servo OFF to be completed after a specific interval has elapsed.
Using a general type servo motor	
Points to note	Due to the characteristics of the motor brake function, it cannot be used for holding the table in the stop position during machining or for table control. Otherwise machining accuracy may be affected.

▶ Control flowchart (for type with table clamp, motor brake, and machine tool servo motor)



The timing should be as follows. Use servo ON signal to enable servo, verify that servo is ON, then release brake.

After a specific interval for brake release has elapsed, the operation is taken to be completed.

Issue the unclamp command for the hydraulic clamp.

Check for clamp OFF with pressure sensor (1).

Check for clamp ON with pressure sensor (2).

The operation is taken to be completed after a specific interval has elapsed.

Issue the move command (index command).

Verify that the in-position (move complete) state has been reached.

The operation is taken to be completed after a specific interval has elapsed.

Issue the clamp command for the hydraulic clamp.

Check for clamp ON with pressure sensor (2).

Check for clamp OFF with pressure sensor (1).

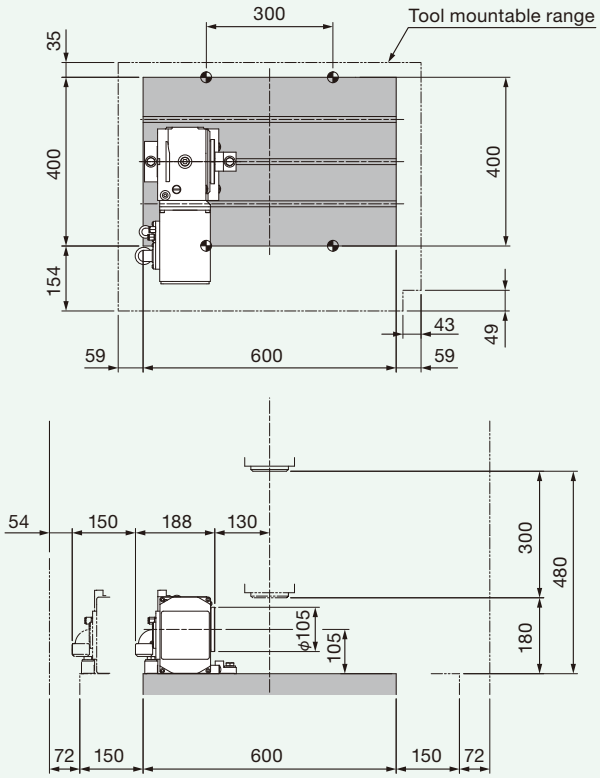
The move operation is taken to be completed after a specific interval has elapsed.

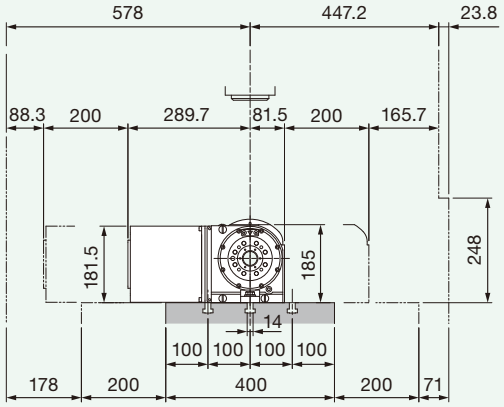
*1 This value is given only for reference and will depend on actual conditions. Also check the servo motor documentation for recommended values.

Layout dimensions on machine

S300X1(N)/X2【RCD105L】

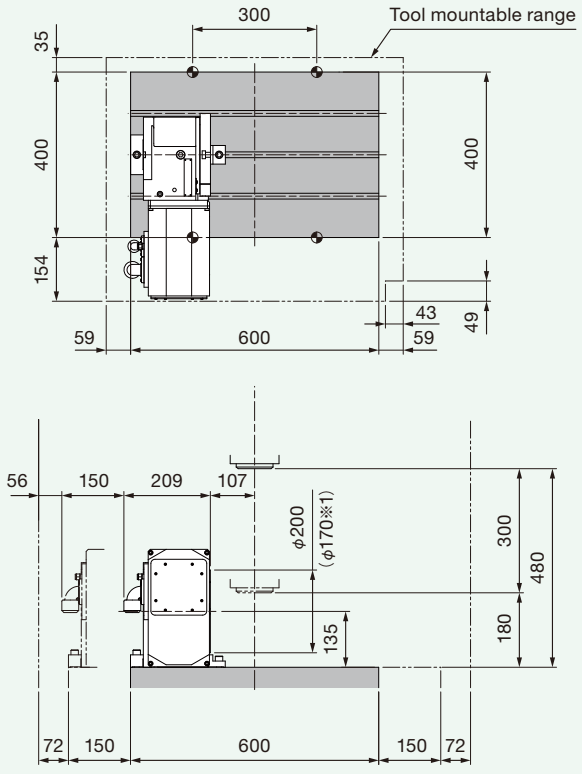
The drawings apply to the following specifications:
L side motor mounting, rear connector.

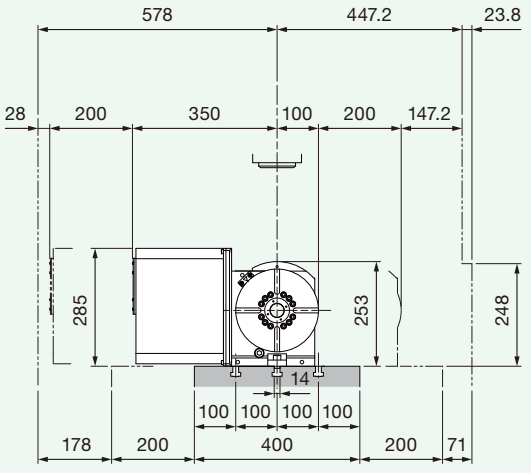




S300X1(N)/X2【RCD200L (RCD170L)】

The drawings apply to the following specifications:
L side motor mounting, rear connector.

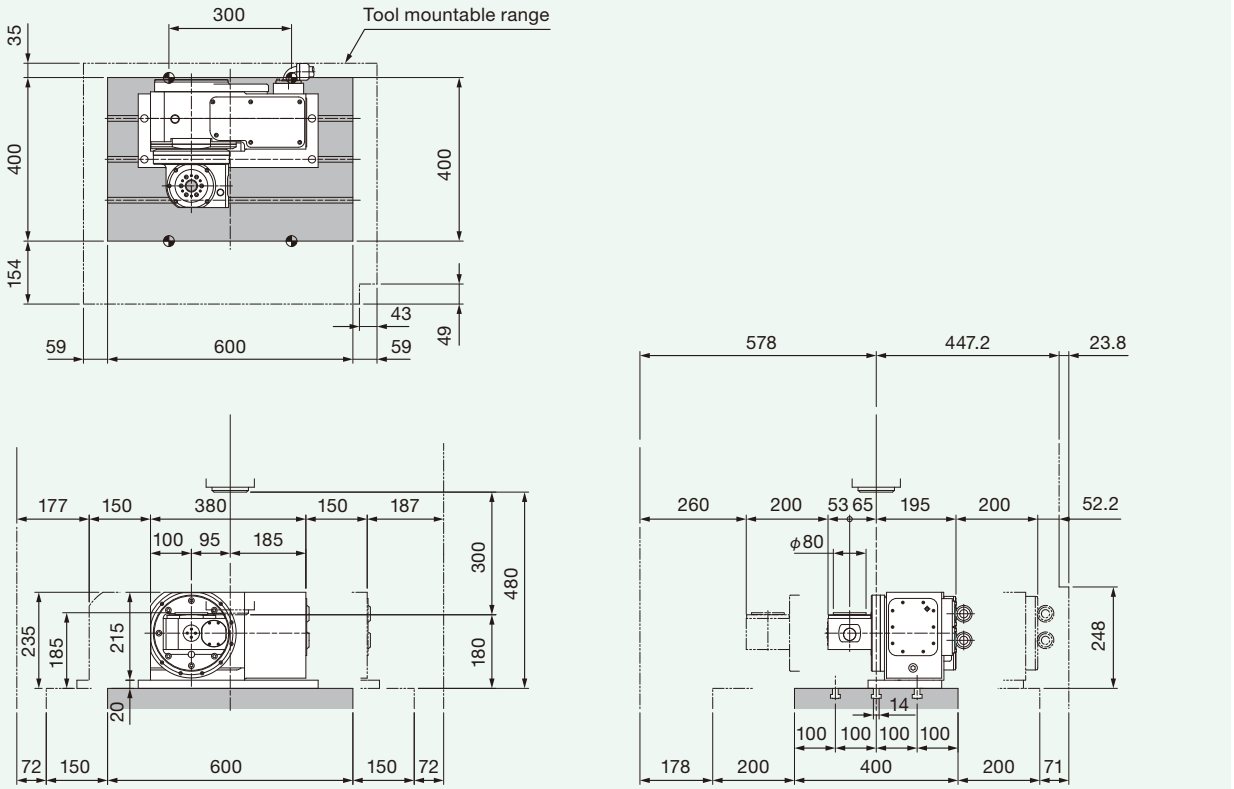




(※ 1) RCD170L dimensions.

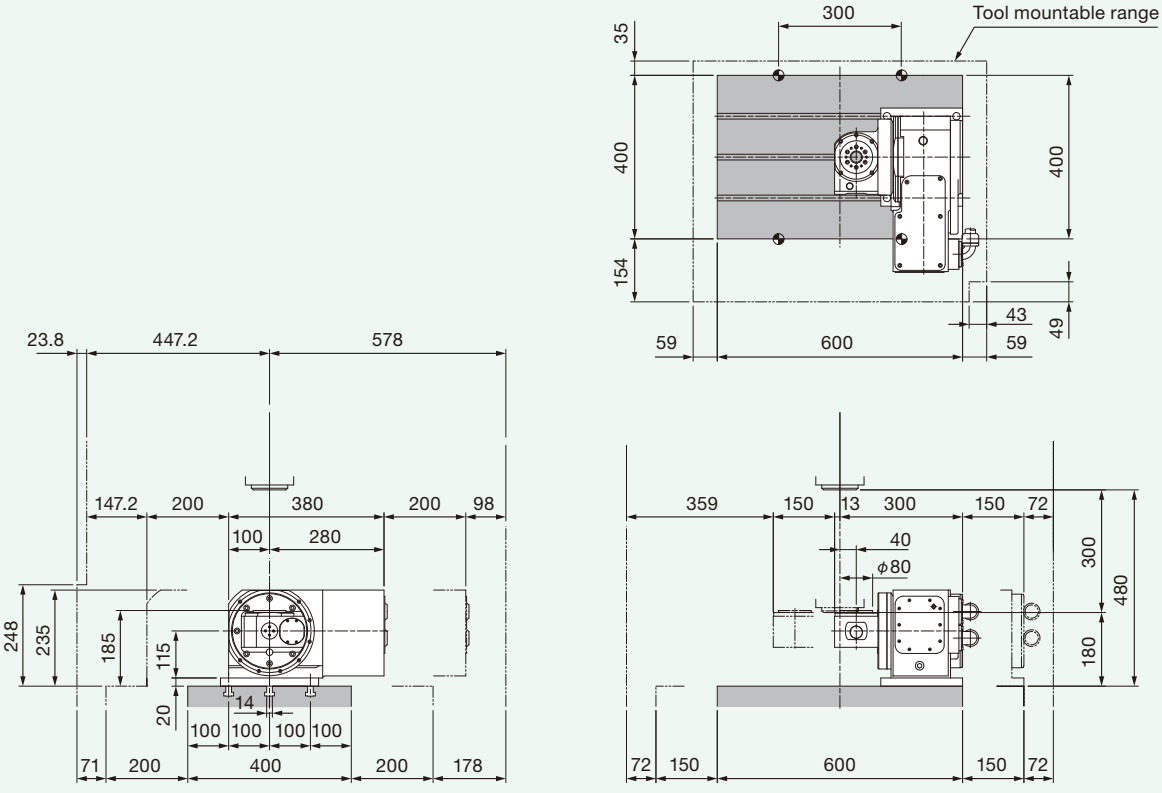
S300X1(N)/X2【RT080R (BC axis)】

The drawings apply to the following specifications:
R side motor mounting, rear connector.



S300X1(N)/X2【RT080R (AC axis)】

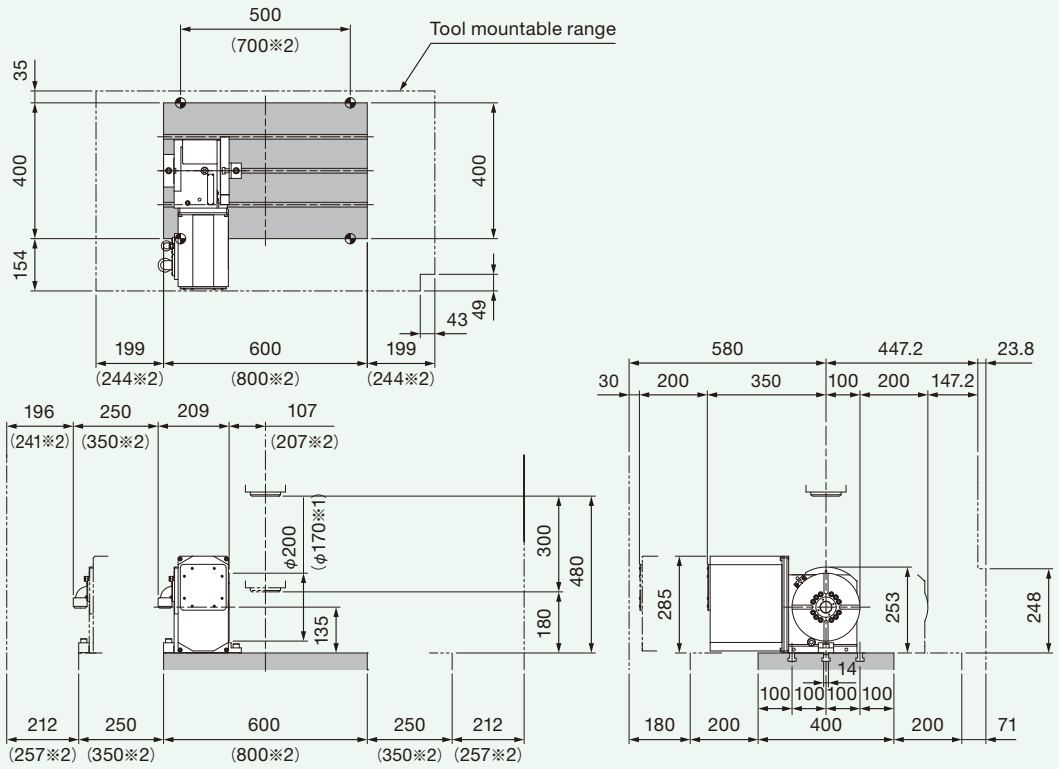
The drawings apply to the following specifications:
R side motor mounting, rear connector.



Layout dimensions on machine

S500X1(N)/X2 and S700X1(N)/X2【RCD200L (RCD170L)】

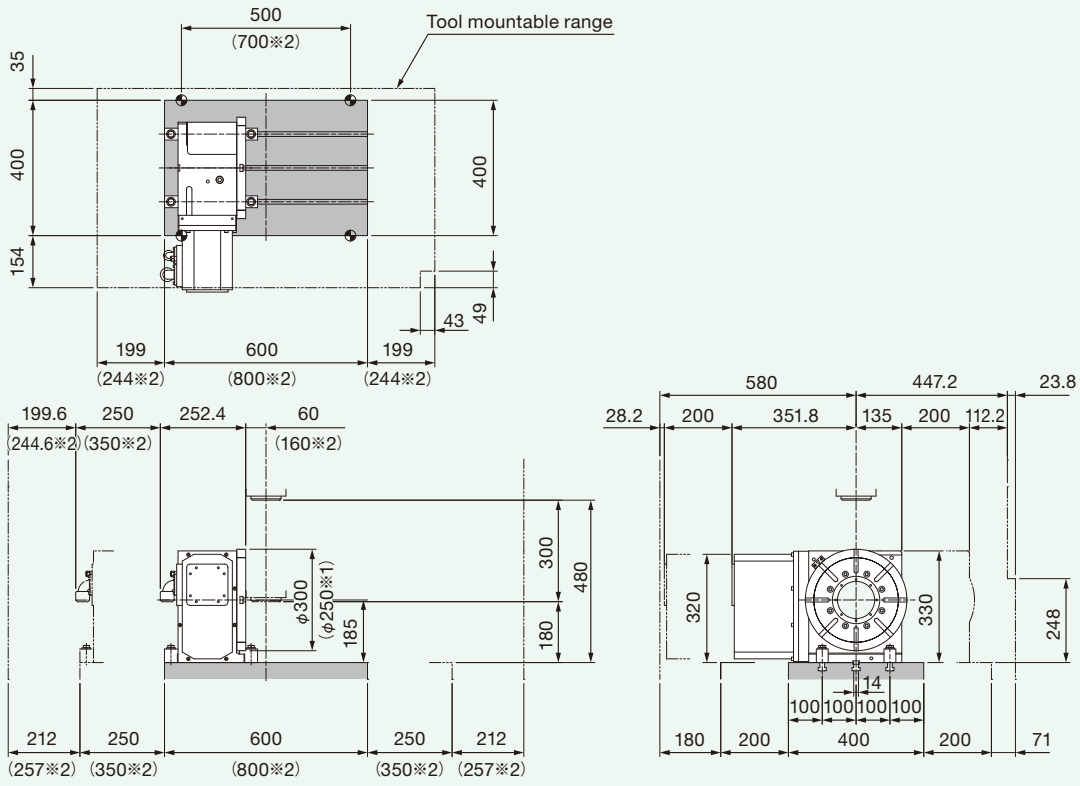
The drawings apply to the following specifications:
L side motor mounting, rear connector.



(※ 1) RCD170L dimensions. (※ 2) S700X1 dimensions.

S500X1(N)/X2 and S700X1(N)/X2【RCD300L (RCD250L)】

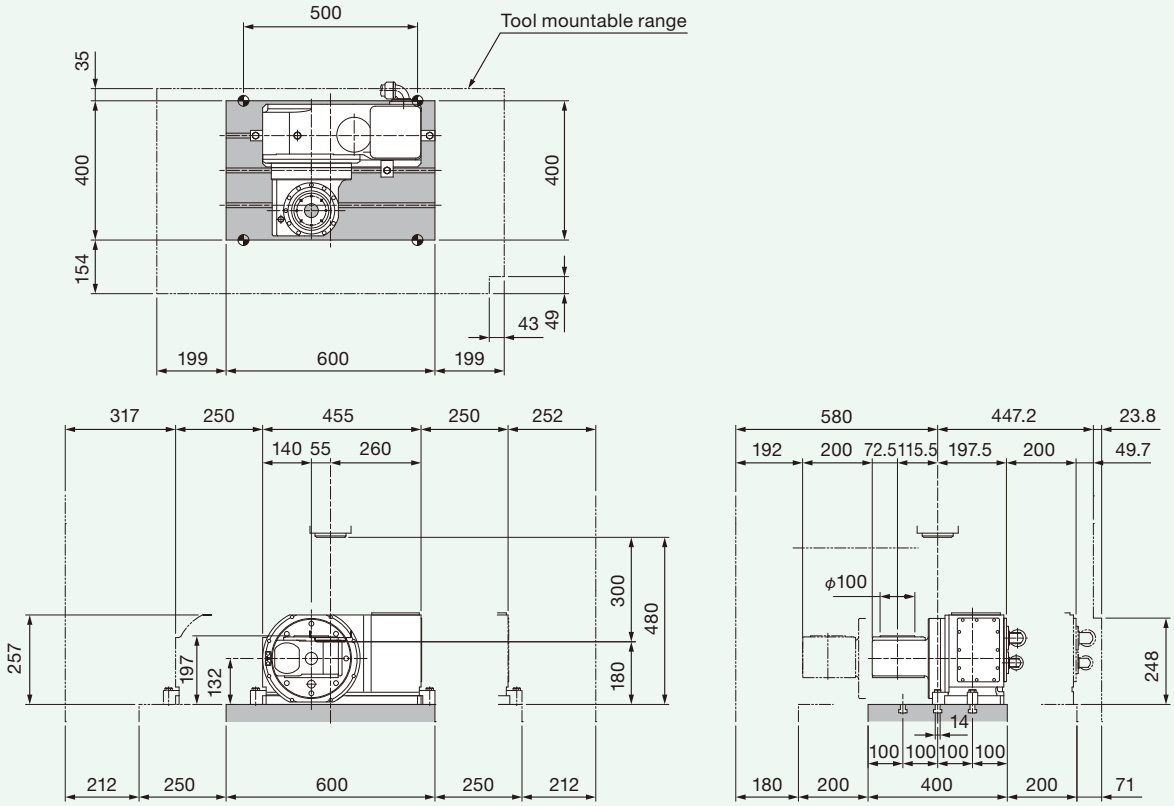
The drawings apply to the following specifications:
L side motor mounting, rear connector.



(※ 1) RCD250L dimensions. (※ 2) S700X1 dimensions.

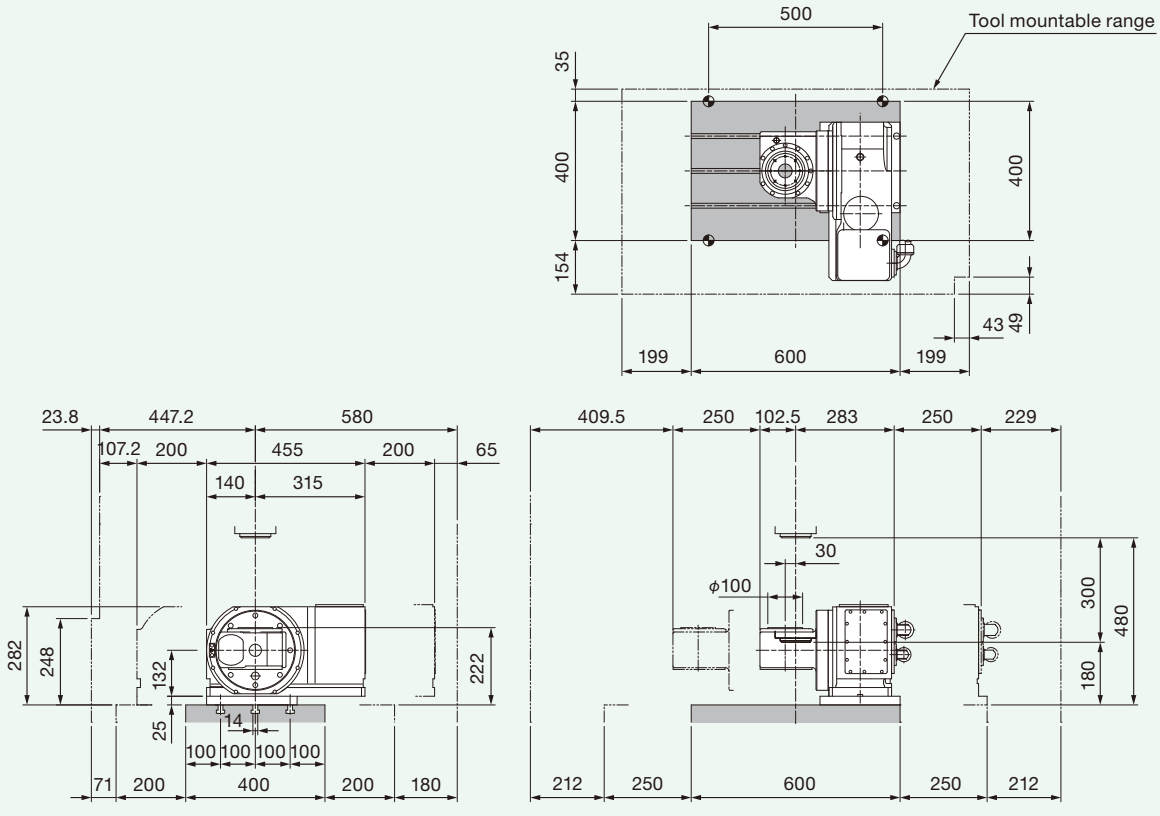
S500X1(N)/X2【RT100R (BC axis)】

The drawings apply to the following specifications:
R side motor mounting, rear connector.



S500X1(N)/X2【RT100R (AC axis)】

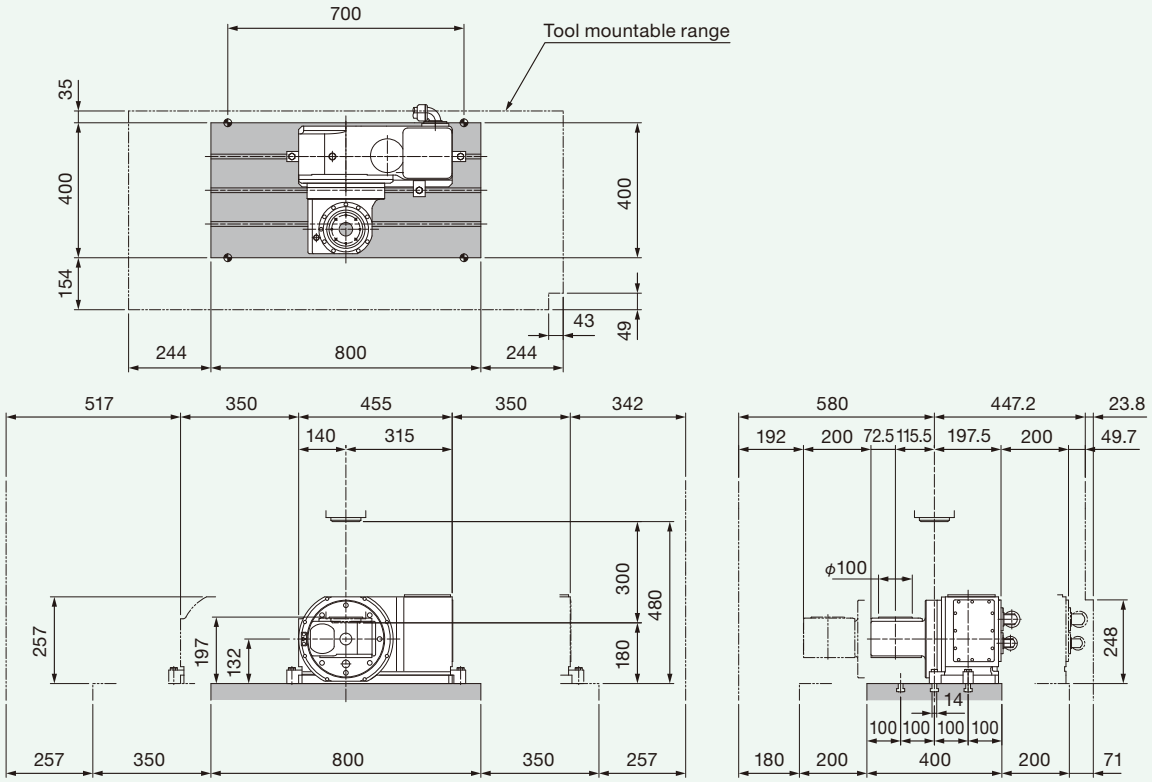
The drawings apply to the following specifications:
R side motor mounting, rear connector.



Layout dimensions on machine

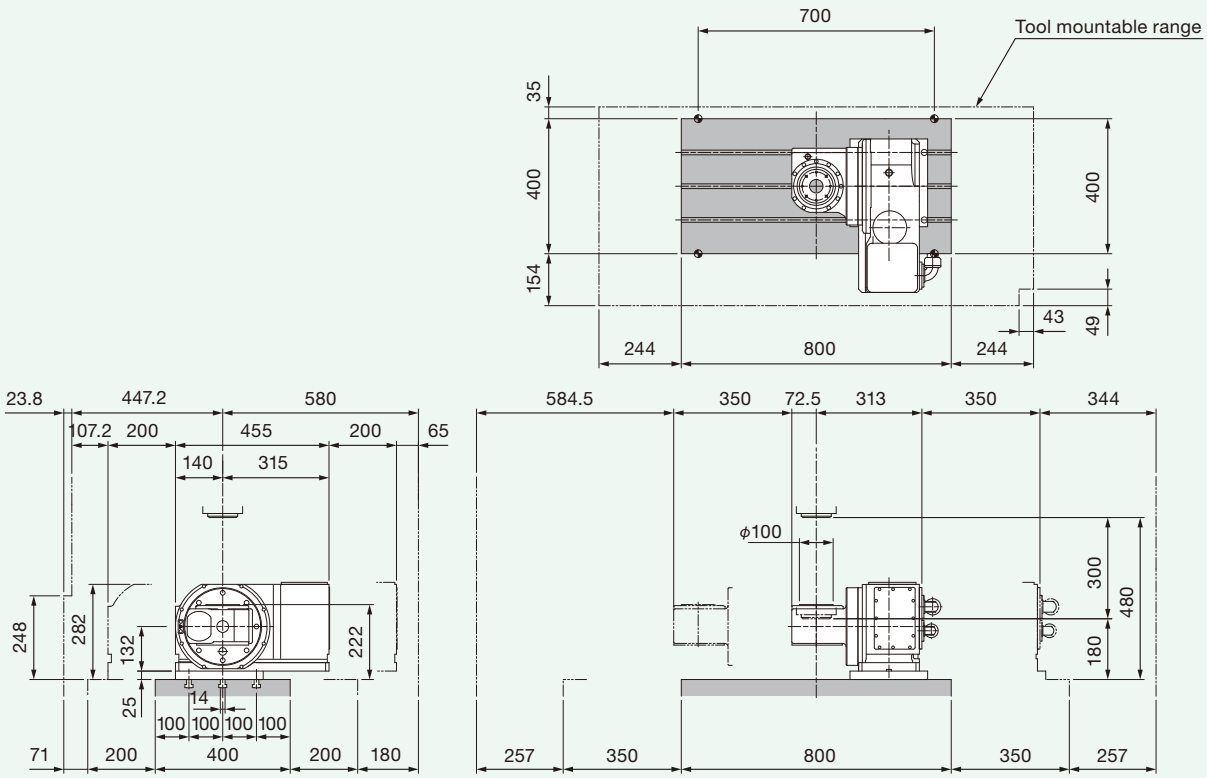
S700X1(N)/X2【RT100R (BC axis)】

The drawings apply to the following specifications:
R side motor mounting, rear connector.



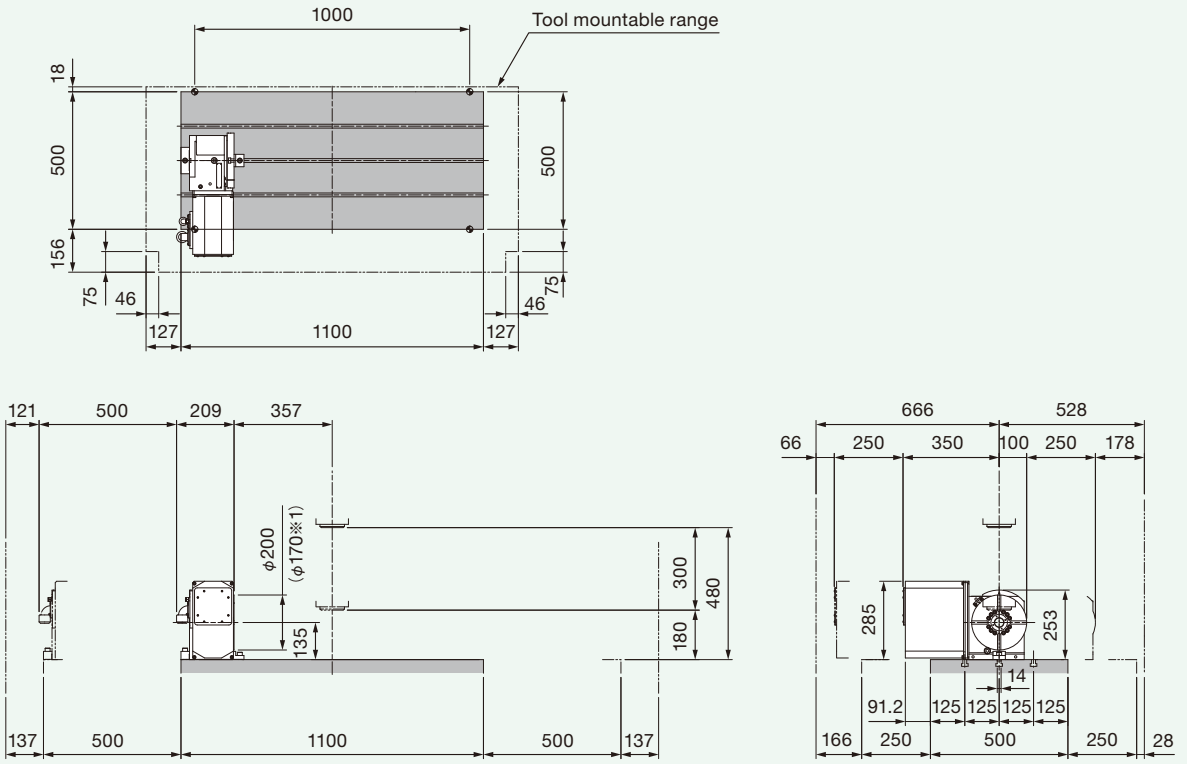
S700X1(N)/X2【RT100R (AC axis)】

The drawings apply to the following specifications:
R side motor mounting, rear connector.



S1000X1(N)【RCD200L (RCD170L)】

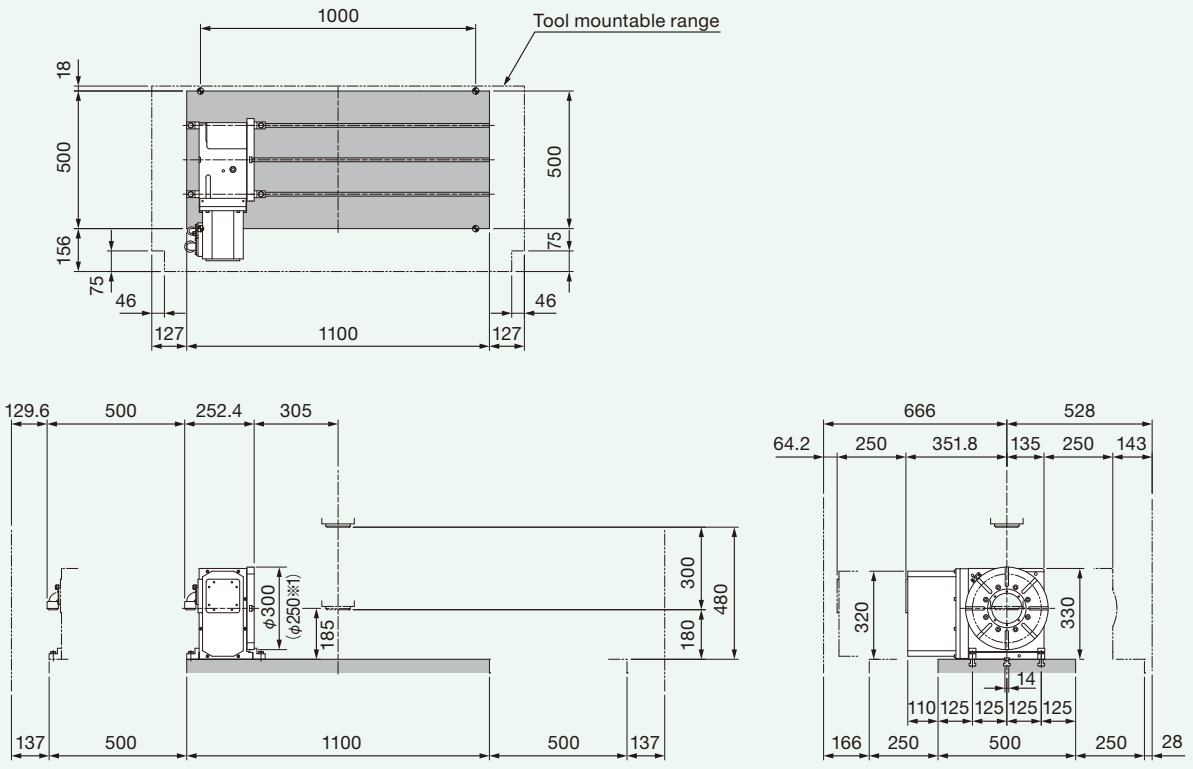
The drawings apply to the following specifications:
L side motor mounting, rear connector.



(※ 1) RCD170L dimensions.

S1000X1(N)【RCD300L (RCD250L)】

The drawings apply to the following specifications:
L side motor mounting, rear connector.

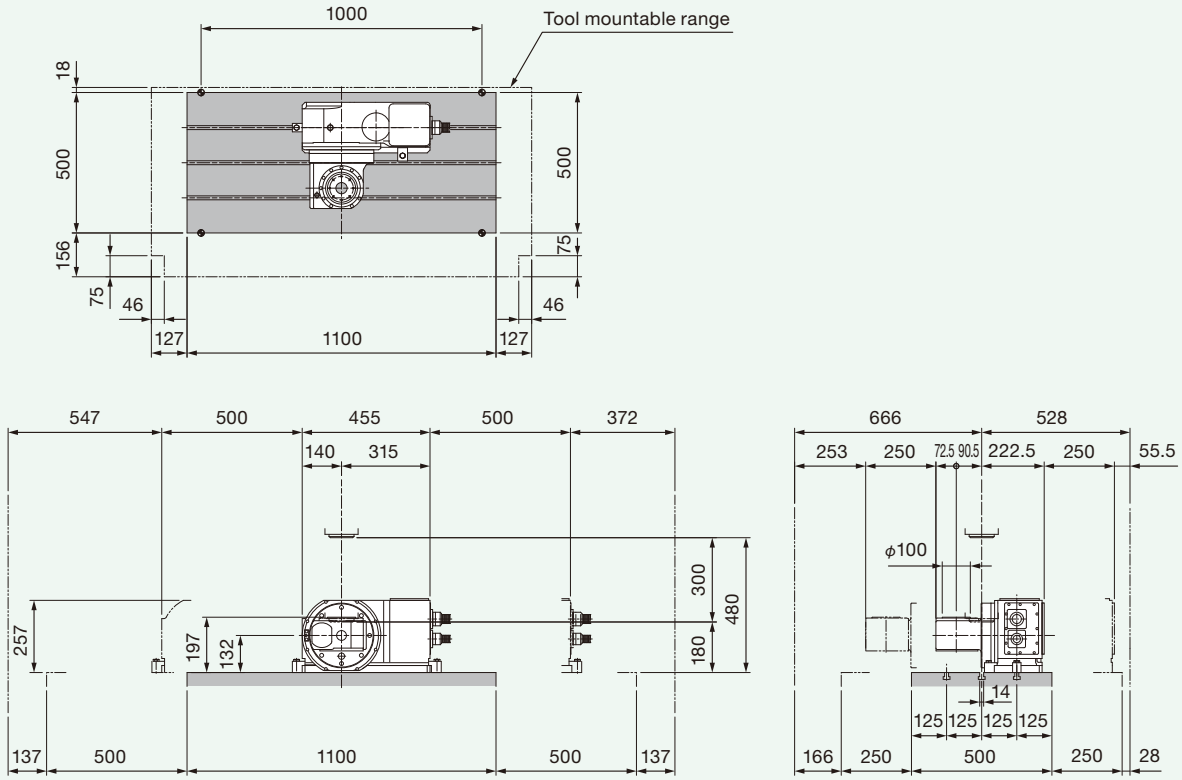


(※ 1) RCD250L dimensions.

Layout dimensions on machine

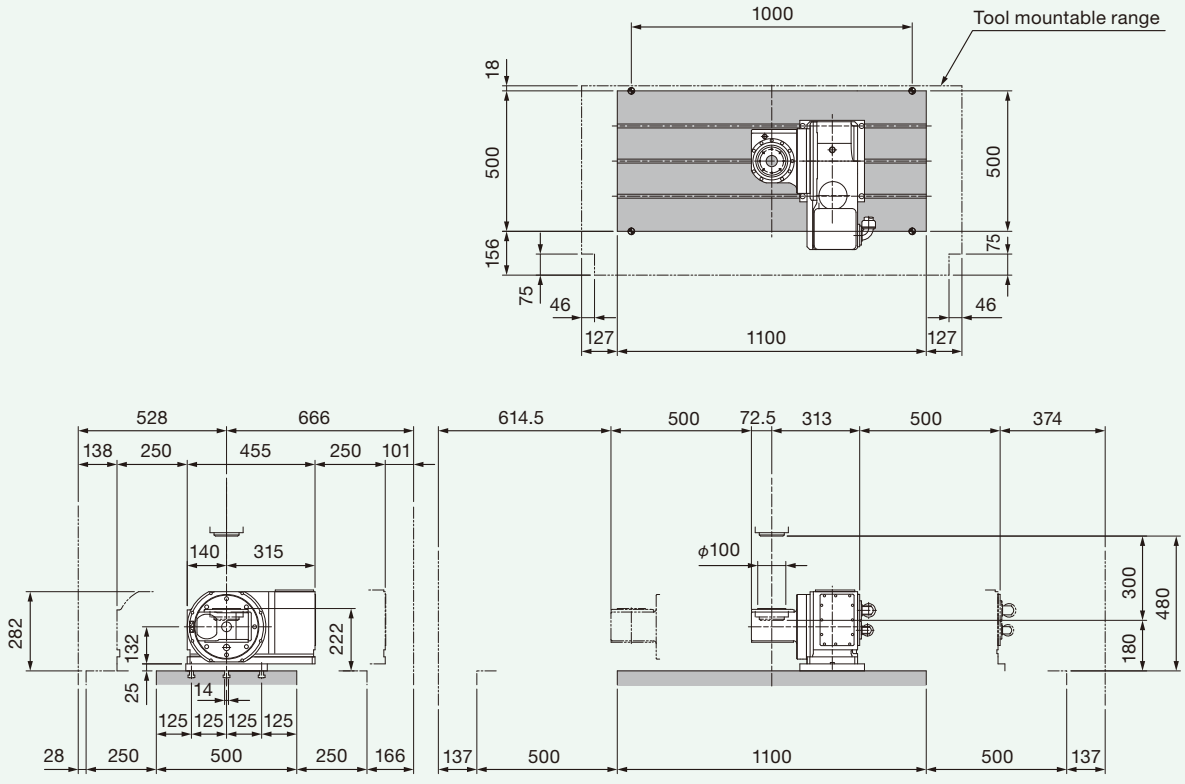
S1000X1(N) 【RT100R (BC axis)】

The drawings apply to the following specifications:
R side motor mounting, side connector.



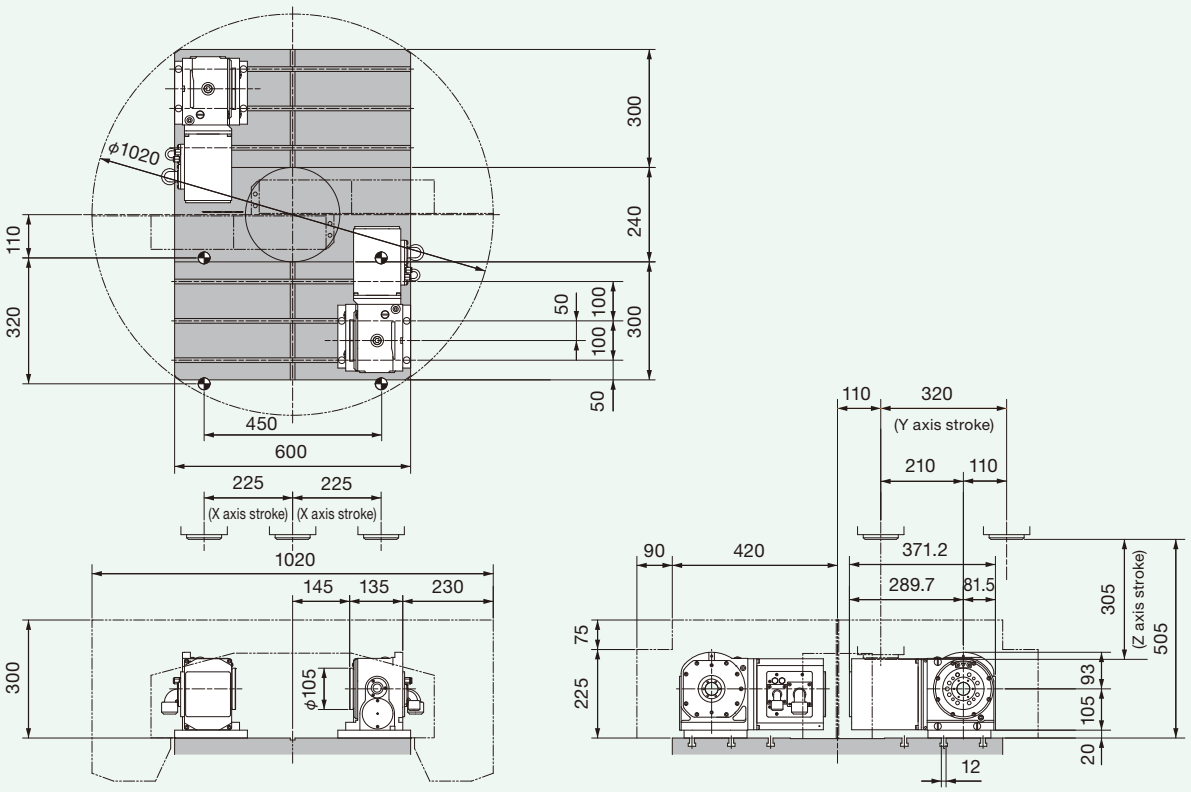
S1000X1(N) 【RT100R (AC axis)】

The drawings apply to the following specifications:
R side motor mounting, rear connector.



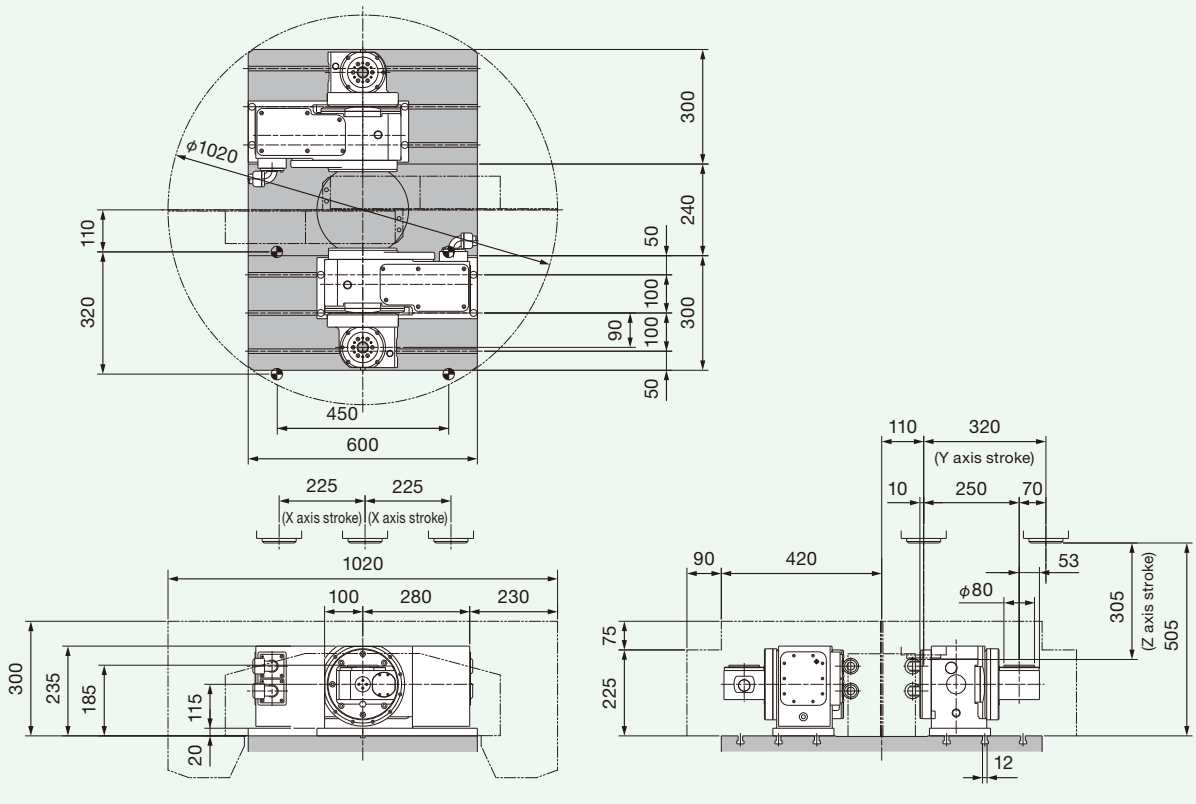
R450X1(N)/X2【RCD105L】

The drawings apply to the following specifications:
L side motor mounting, rear connector.



R450X1(N)/X2【RT080R (BC axis)】

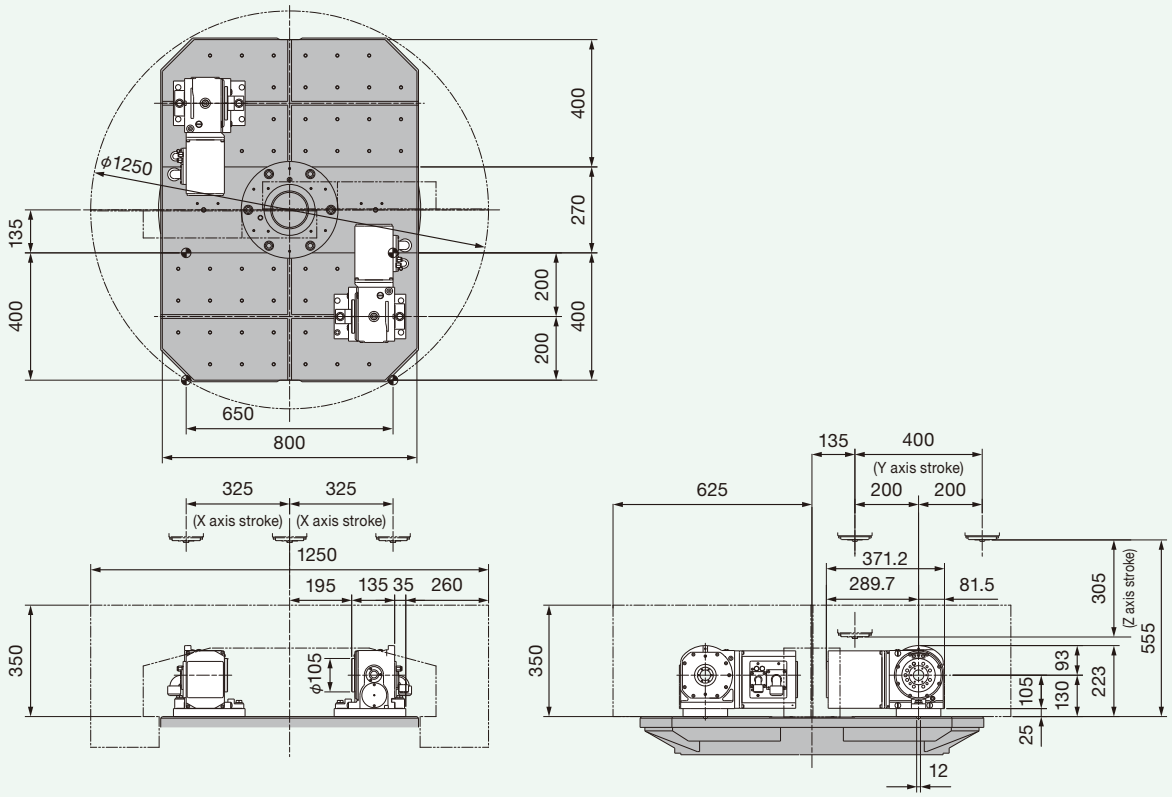
The drawings apply to the following specifications:
R side motor mounting, rear connector.



Layout dimensions on machine

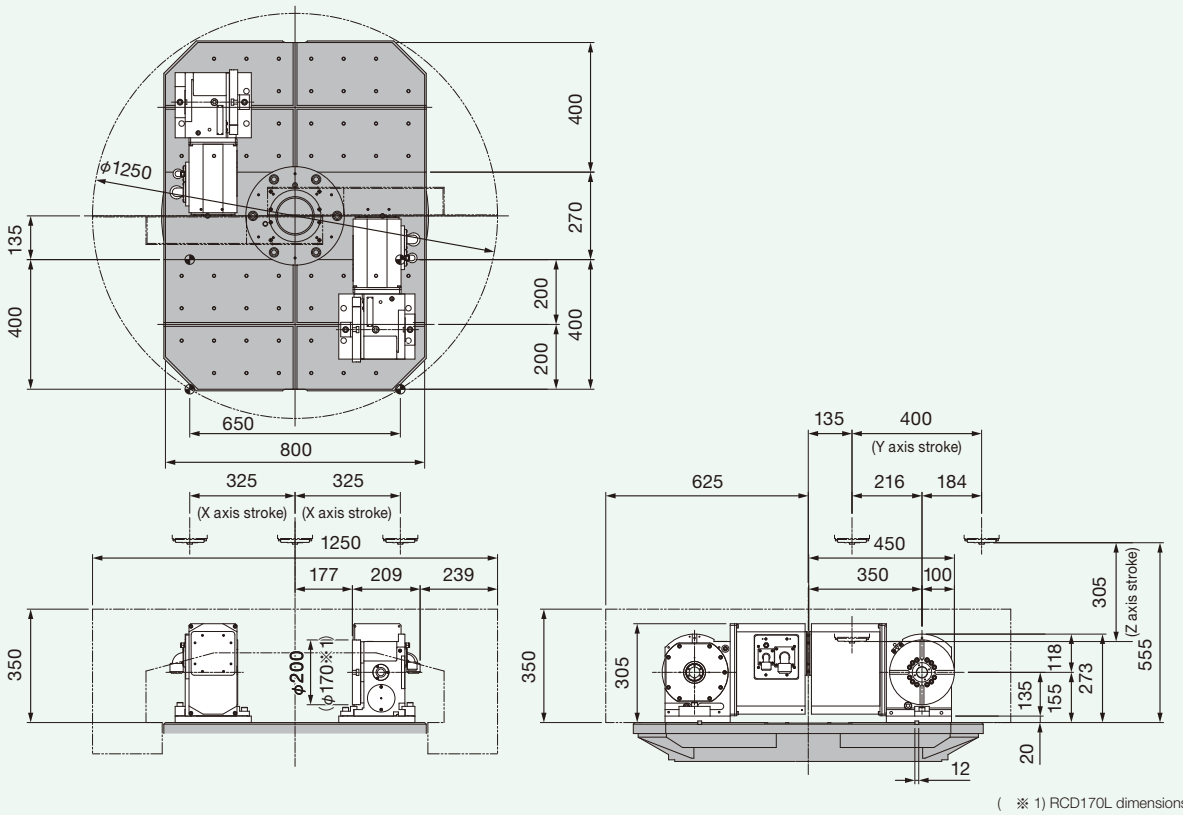
R650X1(N)/X2【RCD105L】

The drawings apply to the following specifications:
L side motor mounting, side connector.



R650X1(N)/X2【RCD200L (RCD170L)】

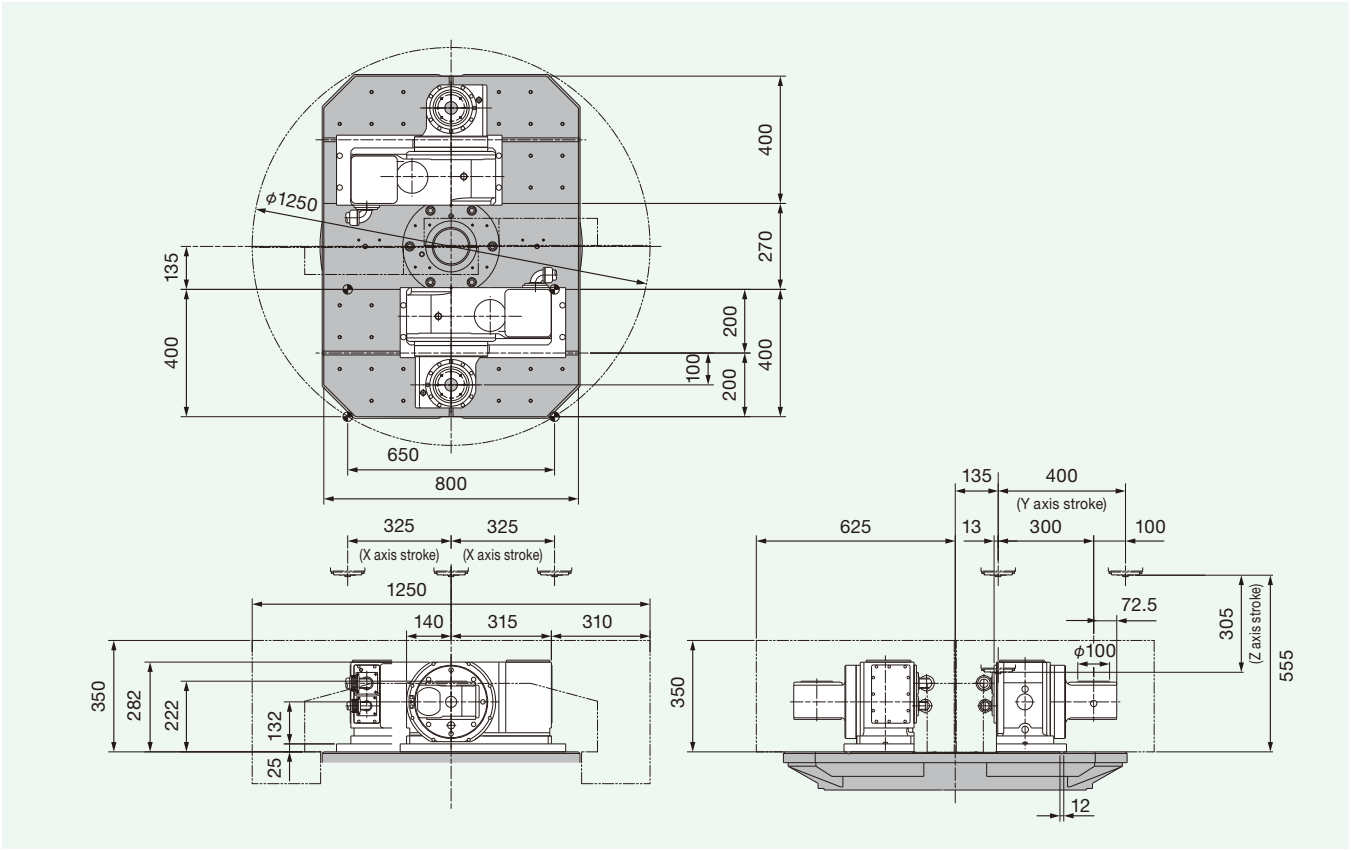
The drawings apply to the following specifications:
L side motor mounting, rear connector.



(※1) RCD170L dimensions.

R650X1(N)/X2【RT100R (BC axis)】

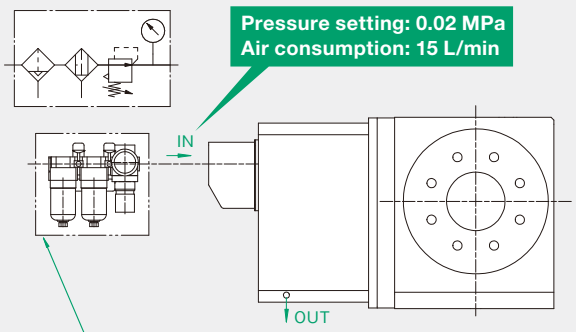
The drawings apply to the following specifications:
R side motor mounting, rear connector.



Precautions

Air supply

Sankyo's CNC rotary tables come standard equipped with an air purge outlet. (Use it to blow out condensation and coolant to prolong the life of electrical parts and prevent rust in the motor housing.) Supply clean air for the air purge by referring to the drawing shown.
(Do NOT block the exhaust outlet.)



Lubrication

Sankyo's CNC rotary tables use high-performance lubrication oil. Although the lubricant is chemically and thermally stable, it should be changed every 3,000 hours of operation in order to ensure longer product life. Even if operated less than 3,000 hours, the oil should be changed once per year. The condition of the oil can be checked with the oil level gauge while the unit is in the stop condition. Check the oil level and color. If the level is low or the color has changed, change the oil regardless of the number of operation hours. Some air bubbles may form in the oil during operation. This is normal and does not affect quality.

* Be sure to use only the lubricant specified below. Otherwise service life may be reduced and parts may deteriorate.

Specified lubricant: Mobil SHC629 (VG150)

Use in grinding machines

When used in grinding machines, the seal device on the outer periphery of the table may become damaged. The warranty does not cover such damage.

Maximum rotation speed

The maximum rotation speed for the table given in the specifications refers to the indexing speed. Consult with Sankyo if the table is to be rotated continuously. Otherwise, the table will heat up and lose accuracy, causing overload alarms with the servo motor.

General Precautions

- Under the Japanese trade regulation, RollerDrive CNC can be restricted to supply or export to a country which may produce weapons or related products.
- Dimensions and specifications are subjected to be modified without notice.
- Contents of this catalogue is published in March 2021.
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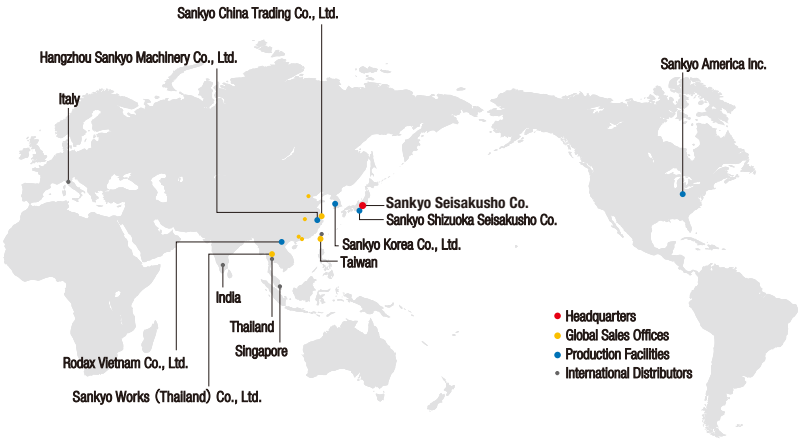
Global network



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