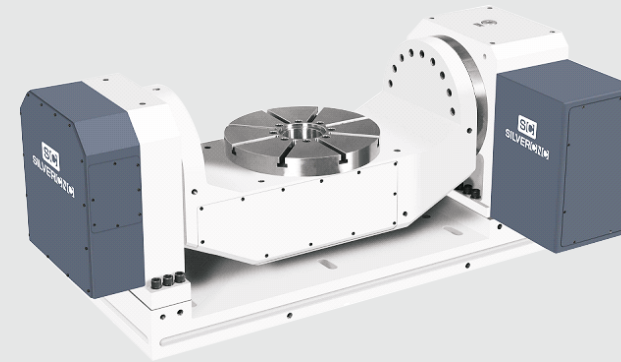




CNC Enhancement Accessories



Shenzhen SilverCNC Tech Co., Ltd.

Address : 4th Floor, Building 6, Huixin
Intelligent Industrial Park, Guangming
District, Shenzhen

Tel : +90 551 359 01 01

E-mail : turkey@silvercnc.com.tr

Web : www.silvercnc.com.tr



Rotary Table

www.silvercnc.com.tr

ROLLER CAM NO BACKLASH 4th/5th NC Rotary Table

SilverCNC rotary table

Silvercnc provide total rotary solution on your machine tool, 4th axis, 5th axis and horizontal rotary table ,Whatever your machine tool size and controller, there are always suitable models. By using Silvercnc rotary table solution can help to optimize your manufacturing process , reduce the cost and increase your profitability

Our Misslon: We hope to help customers solve problems, help our customers find the most approplate products, and help our customers reduce cost

Our Values: Honesty and win win, we belleve that honesty is very important.Honesty can make us trust each other more. Only win-win can make our relatnship more lasting

Content

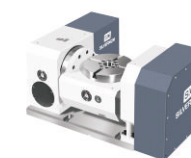
No backlash technology

- ◆ Roller driver technology basic
- ◆ Roller driver VS Worm gear
- ◆ Quality control

Rotary table models



4th axis rotary table



5th axis rotary table



Horizontal rotary table

Rotary table accessories

Rotary Tailstock



Manual tailstock



Chuck



Air-oil boost unit



Hydraulic unit



L block



Encoder

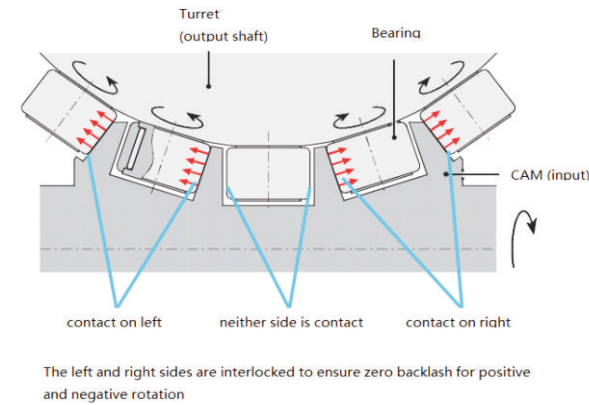


Rotary table technical tips

- ◆ Wiring Diagram
- ◆ Technical Term
- ◆ Before selection
- ◆ Selection guide form
- ◆ application case

Roller Driver Technology

The Roller Driver 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 (out shaft) fitted with roller followers. The roller followers are preloaded against a screw-like input shaft to completely eliminate backlash. The 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,



Composition of Roller Cam System

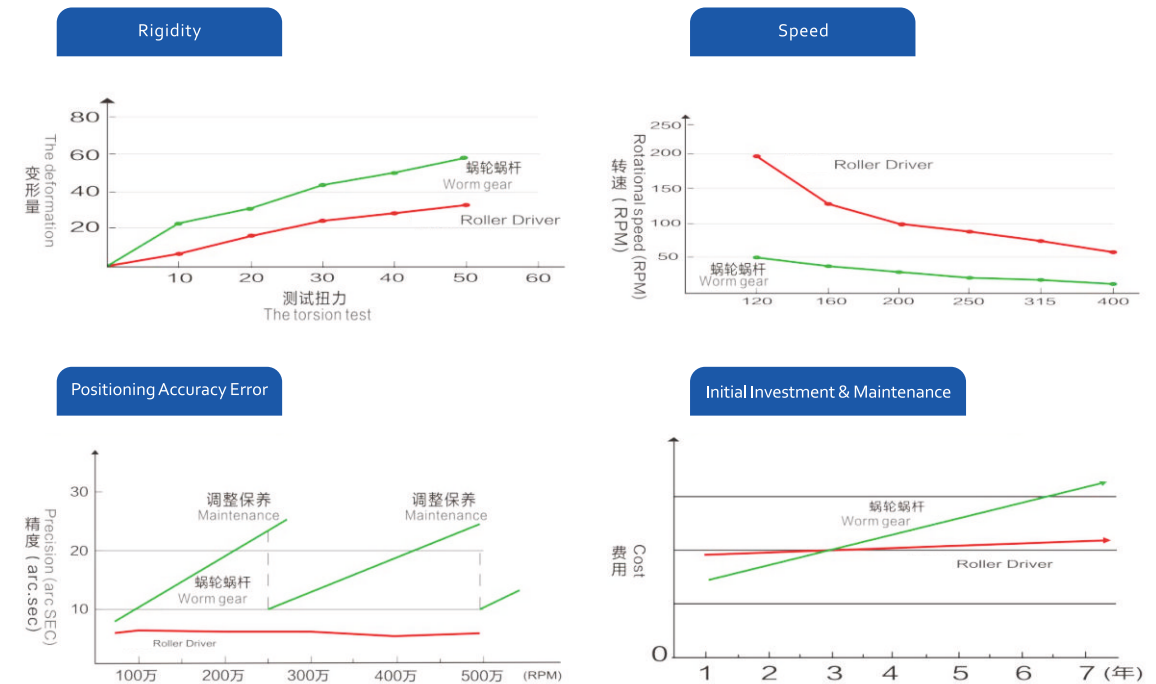


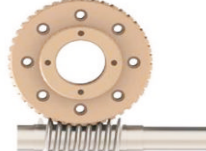
Advantages of Roller Cam

- No backlash technology
- No wear because torque transfers through rolling contact
- High accuracy and good efficiency to 90%
- There is pre pressure during the rollers and cams, which can eliminate the gap between the two parts and lead to high rigidity

Structure Analysis

Roller Driver VS Worm gear



Item	Roller CAM Driver	Worm Gear Type
Appearance		
Contact	rolling contact	Slide contact
Material	hardening steel ,HRC60	Hardening steel ,HRC60
Hardness of the contact part	bearing steel ,HRC60	Phosphor bronze,HB90
Preload	YES	NO
Transmission efficiency	Good	Worse
Backlash	Alway zero-backlash	Necessary for rub strock
Indexing accuracy	Under 20 arc-sec	12-20 arc-sec
High speed possibility	Fast	Slow
Flipping time	0.5sec	1.5sec
Heating possibility	Low	High
Rigidity	High	Low
Durability	Good	Worse
Backlash adustment	Unnecessary	Necessary
Expansion of 5th Axis	Yes	No

Quality Control/Accuracy Checklist

Strict Quality Management

SilverCNC precision values quality and creativenessas the essential foundation of our operation.IS0900 1:2015 quality management system isfully implemented here, from design,production, sales and aftersales processes. We have measuring instruments such as 2D and 3D dimensional tester, laser interferometers, etc.



Unint:mm				
No.	Instection Items	C120-C200	C250-C400	H400-H800
1	Run-out of center hole	0.01	0.01	0.01
2	Perpendicularity between table surface and base bottom	0.02	0.02	
3	Parallelism between center hole and center of guide block Deviation between center hole and center of guide block	0.015	0.02	0.015
4	Flatness of table surface	0.01	0.015	0.02
5	Parallelism between table surface and table base	0.015	0.02	0.01
6	Run-out of table surface Indexing accuracy	0.01	0.015	0.02
7	Indexing/Repeatability accuracy	Please refer to the specifications		

		T100-RT350	RT400-RT650
8	Run-out of table surface	0.01	0.01
9	Flatness of table surface	0.012	0.03
10	Flatness of table surface	0.02	0.05
11	Parallelism between table surface and table base	0.02	0.03
12	Indexing/Repeatability accuracy	Please refer to the specifications	
13	Parallelism between center line of tilt axis and base plate	0.02/Dia	

SC-C120 Specification

Introduction

1. Roller CAM struture, no backlash, high accuracy and efficiency
2. Platter Diameter 120mm, no brake
3. Suitable for installation on small mill machine

Dimensions	Table Diameter	mm	Ø120
	Diameter of Table Central Hole	mm	Ø30H7
	Center Height (Vertical)	mm	110
	T slot width	mm	12H7
	Guide Block width		14h7
	Net Weight (servo motor excluded)	kg	35

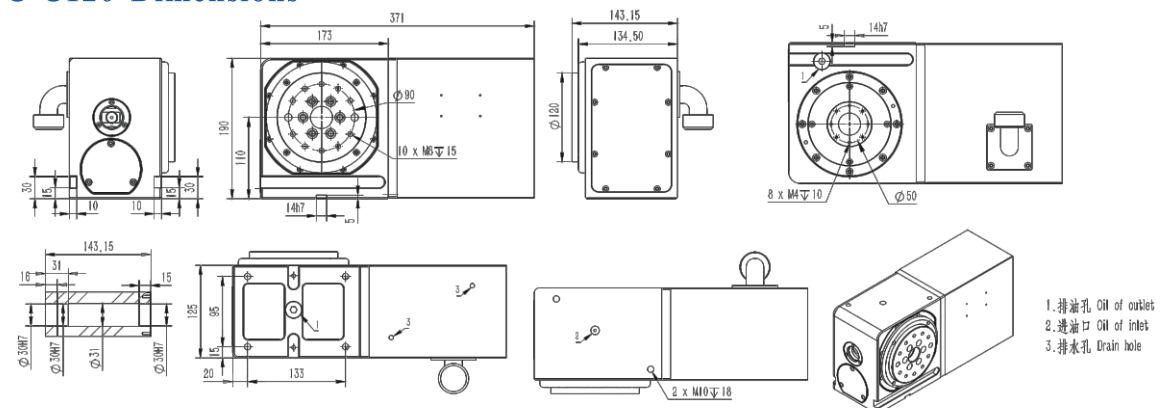
Roller CAM	Gear Ratio	/	32
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	90
	Resolution	°	0.001
	Indexing Precision	sec.	±40
	Repeatability	sec.	±6



Allowable Workpiece Load						Clamping system		Allowable load (rotary table clamping)					
Vertical/kg		Horizontal/kg		With tailstock/kg		pressure/MPa	Torque/N.m	F(N)		FXL(N.m)		FXL(N.m)	
	25		/		40	/	/		6400		150		300

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF2	β is4	HG96S-47	SGM7G-08A	1FK7042	S08-AM3-60	QSY-96A	80SJT-M024

SC-C120 Dimensions



SC-C170 Specification

Introduction

1. Roller CAM struture, no backlash, high accuracy and efficiency
2. Platter Diameter 170mm, pneumatic brake
3. Suitable for installation on drilling and tapping machines, Robodrill, Haas DT1

Dimensions	Table Diameter	mm	Ø170
	Diameter of Table Central Hole	mm	Ø40H7
	Center Height (Vertical)	mm	135
	T slot width	mm	12H7
	Guide Block width		14h7
	Net Weight (servo motor excluded)	kg	65

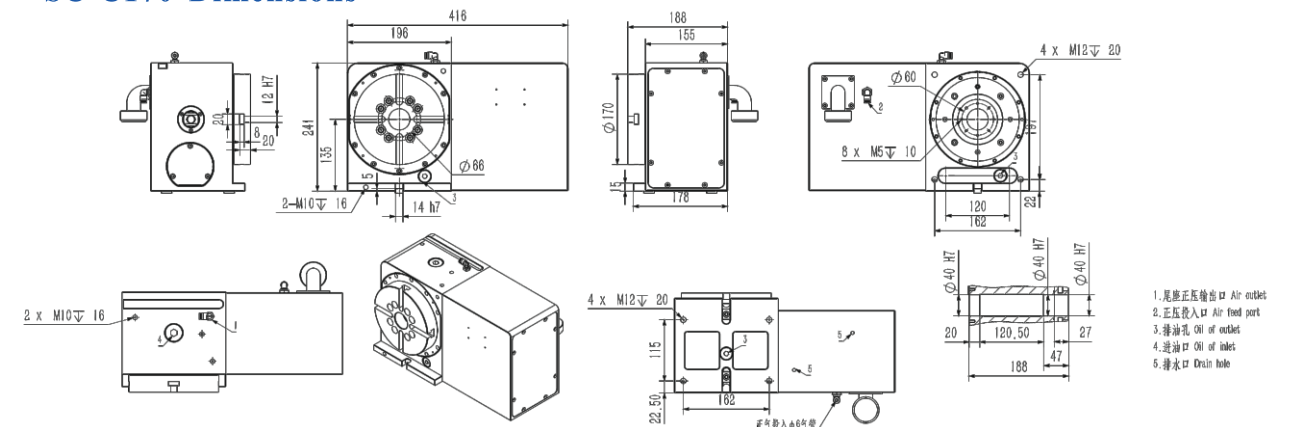
Roller CAM	Gear Ratio	/	40
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	75
	Resolution	°	0.001
	Indexing Precision	sec.	±25
	Repeatability	sec.	±4



Allowable Workpiece Load						Clamping system		Allowable load (rotary table clamping)					
Vertical/kg		Horizontal/kg		With tailstock/kg		pressure/MPa	Torque/N.m	F(N)		FXL(N.m)		FXL(N.m)	
	75		150		150	0.6±0.05	365		12000		365		850

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF4	β is8	HG105S/HG104S	SGM7J-09A	1FK7042	S08-AM5-40	QSY116C	130SJT-M050

SC-C170 Dimensions



SC-C180 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 180mm, hydraulic brake
- 3. Suitable for installation on drilling and tapping machines, 650mm travel VMC

Dimensions	Table Diameter	mm	Ø180
	Diameter of Table Central Hole	mm	Ø65H7
	Center Height (Vertical)	mm	150
	T slot width	mm	12H7
	Guide Block width		14h7
	Net Weight (servo motor excluded)	kg	78

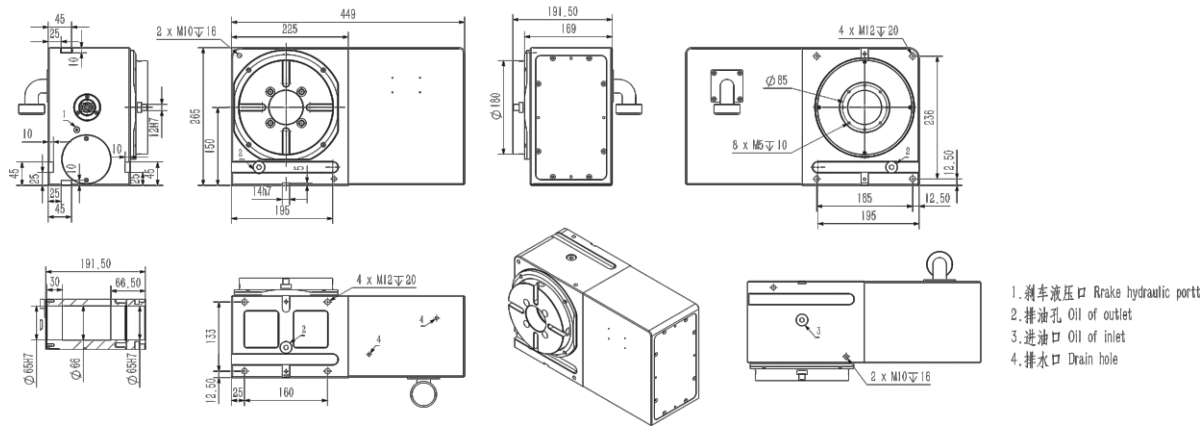
Roller CAM	Gear Ratio	/	50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60
	Resolution	°	0.001
	Indexing Precision	sec.	±20
	Repeatability	sec.	±4



Allowable Workpiece Load			Clamping system		Allowable load (rotary table clamping)		
Vertical/kg	Horizontal/kg	With tailstock/kg	pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)
100	200	200	4±0.5	530	16000	530	1100

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF4	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM5-40	QSY116C	130SJT-M075D

SC-C180 Dimensions



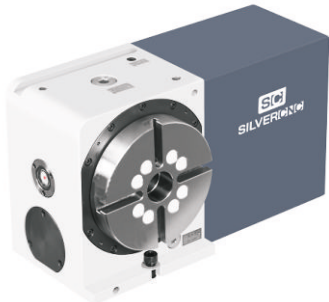
SC-C200 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 200mm, hydraulic brake
- 3. Suitable for installation on 850,650mm travel VMC

Dimensions	Table Diameter	mm	Ø200
	Diameter of Table Central Hole	mm	Ø75H7
	Center Height (Vertical)	mm	160
	T slot width	mm	12H7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	85

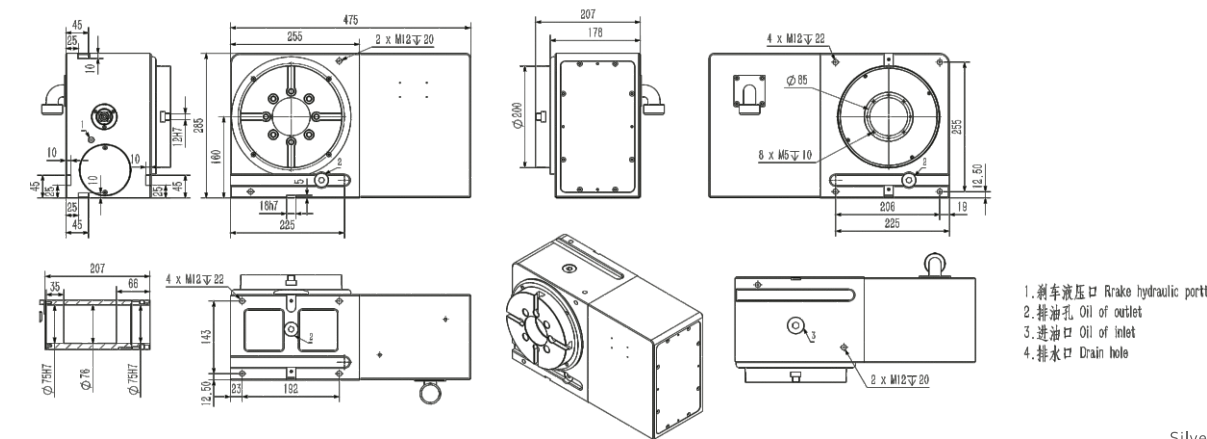
Roller CAM	Gear Ratio	/	50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60
	Resolution	°	0.001
	Indexing Precision	sec.	±20
	Repeatability	sec.	±4



Allowable Workpiece Load			Clamping system		Allowable load (rotary table clamping)		
Vertical/kg	Horizontal/kg	With tailstock/kg	pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)
120	260	260	4±0.5	700	19200	700	1300

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF4	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM8-40	QSY116C	130SJT-M075D

SC-C200 Dimensions



SC-C250 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 250mm, hydraulic brake
- 3. Suitable for installation on 850,1050mm travel VMC

Dimensions	Table Diameter	mm	Ø250
	Diameter of Table Central Hole	mm	Ø75H7
	Center Height (Vertical)	mm	160
	T slot width	mm	12H7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	87

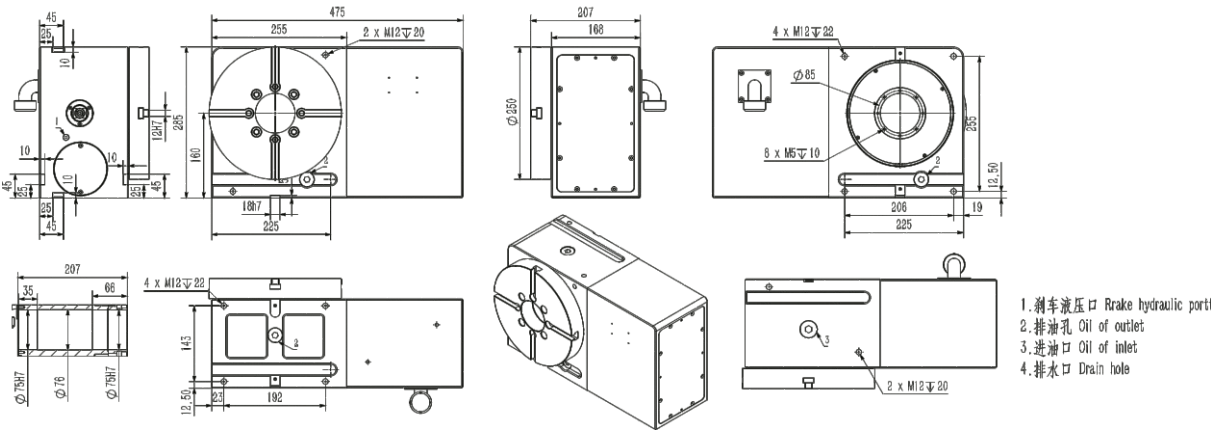
Roller CAM	Gear Ratio	/	50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60
	Resolution	°	0.001
	Indexing Precision	sec.	±20
	Repeatability	sec.	±4



Allowable Workpiece Load			Clamping system		Allowable load (rotary table clamping)		
Vertical/kg	Horizontal/kg	With tailstock/kg	pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)
120	260	260	4±0.5	700	19200	700	1300

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF4	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM8-40	QSY116C	130SJT-M075D

SC-C250 Dimensions



SC-C255 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 255mm, hydraulic brake
- 3. Suitable for installation on 1050mm travel VMC

Dimensions	Table Diameter	mm	Ø255
	Diameter of Table Central Hole	mm	Ø75H7
	Center Height (Vertical)	mm	210
	T slot width	mm	12H7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	125

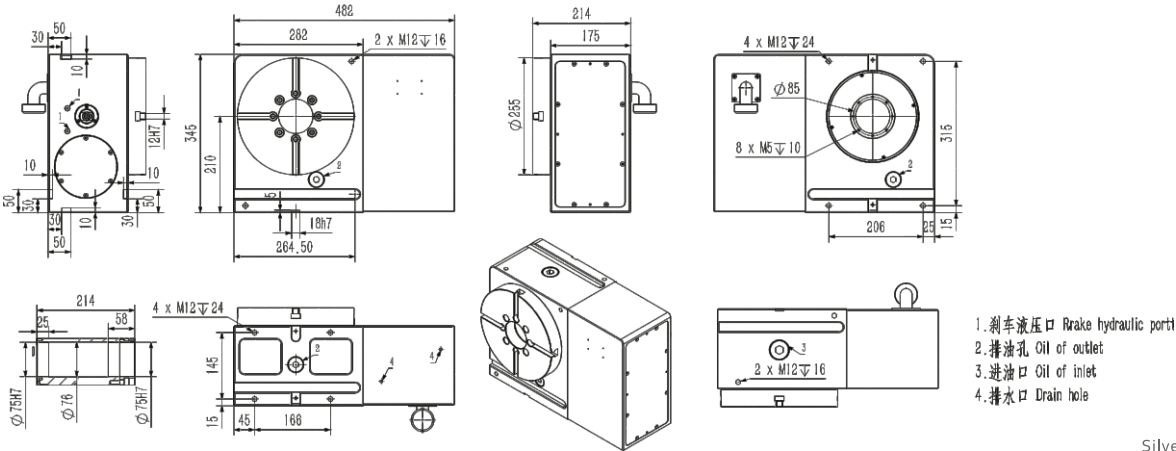
Roller CAM	Gear Ratio	/	50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60
	Resolution	°	0.001
	Indexing Precision	sec.	±20
	Repeatability	sec.	±4



Allowable Workpiece Load			Clamping system		Allowable load (rotary table clamping)		
Vertical/kg	Horizontal/kg	With tailstock/kg	pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)
150	300	300	4±0.5	980	24000	980	1650

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF8	βis12	HG154S-D47	SGM7G-09A	1FK7063	S08-AM11-30	QSY116E	130SJT-M100D

SC-C255 Dimensions



SC-C320 Specification

Introduction

1. Roller CAM struture, no backlash, high accuracy and efficiency
2. Platter Diameter 320mm, hydraulic brake
3. Suitable for installation on 1050mm travel VMC

Dimensions	Table Diameter	mm	Ø320
	Diameter of Table Central Hole	mm	Ø80H7
	Center Height (Vertical)	mm	210
	T slot width	mm	14H7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	180

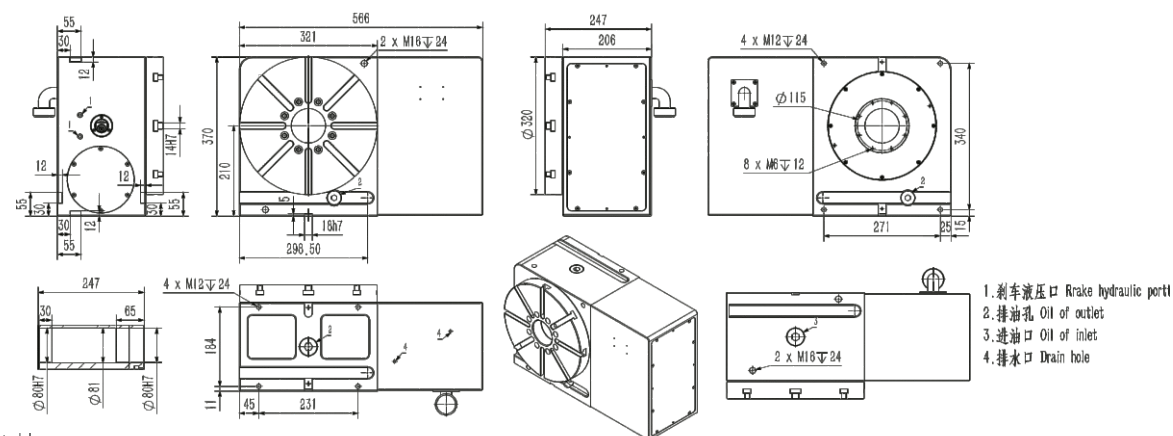
Roller CAM	Gear Ratio	/	50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60
	Resolution	°	0.001
	Indexing Precision	sec.	±20
	Repeatability	sec.	±4



Allowable Workpiece Load						Clamping system		Allowable load (rotary table clamping)					
Vertical/kg		Horizontal/kg		With tailstock/kg		pressure/MPa	Torque/N.m	F(N)		FXL(N.m)		FXL(N.m)	
	220		440		440	4.5±0.5	1300		30000		1300		2100

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF12	β is22	HG204S-D47	SGM7G-30A	1FK7083	S08-AM18-30	QSY155B	130SJT-M150D

SC-C320 Dimensions



SC-C400 Specification

Introduction

1. Roller CAM struture, no backlash, high accuracy and efficiency
2. Platter Diameter 400mm, hydraulic brake
3. Suitable for installation on 1050, 1200mm travel VMC

Dimensions	Table Diameter	mm	Ø400
	Diameter of Table Central Hole	mm	Ø120H7
	Center Height (Vertical)	mm	255
	T slot width	mm	14H7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	280

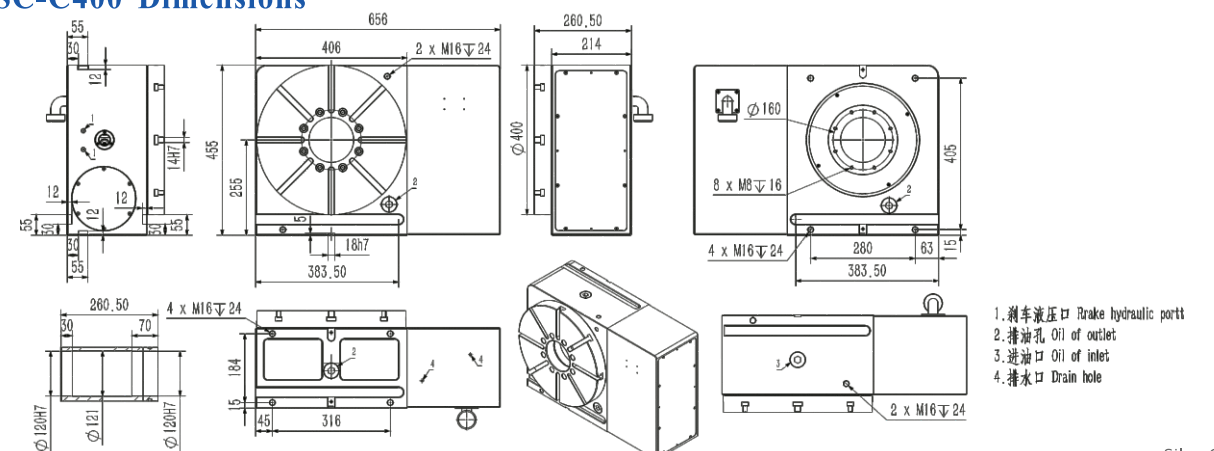
Roller CAM	Gear Ratio	/	50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60
	Resolution	°	0.001
	Indexing Precision	sec.	±20
	Repeatability	sec.	±4



Allowable Workpiece Load						Clamping system		Allowable load (rotary table clamping)					
Vertical/kg		Horizontal/kg		With tailstock/kg		pressure/MPa	Torque/N.m	F(N)		FXL(N.m)		FXL(N.m)	
	320		640		640	4.5±0.5	2250		45000		2250		4800

Servo motor							
FANUC		MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
α	β						
aiF12	β is22	HG204S-D47	SGM7G-30A	1FK7083	S08-AM18-30	QSY155B	130SJT-M150D

SC-C400 Dimensions



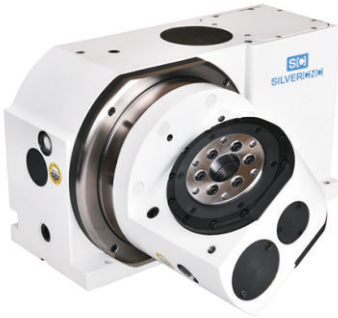
SC-T100 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 100mm, No brake
- 3. Suitable for installation on drilling and tapping machines, 650mm travel VMC

Dimensions	Table Diameter	mm	Ø100
	Diameter of Table Central Hole	mm	Ø40H7
	Rotary Table Total Height	mm	202
	T slot width	mm	/
	Guide Block width		14h7
	Net Weight (servo motor excluded)	kg	210

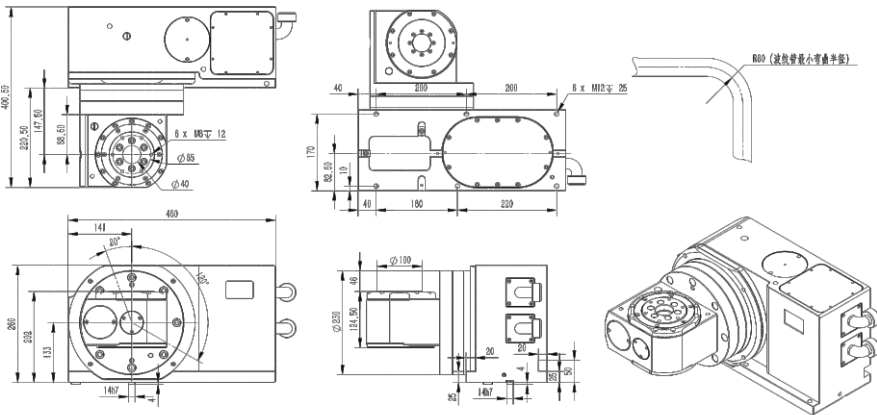
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	20°~-120
	Gear Ratio	/	1:48	1:60
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60	60
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±30	±35
	Repeatability	sec.	±3	±4



Allowable Workpiece Load		Clamping system		Allowable load (rotary table clamping)			
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)	FXL(N.m)
	50		35	/	/		3500
							150
							260

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis2	KP43	SGM7J-04A	/	S08-AM1-50	QSY96A	130SJT-M075D
Tilting axis	βis4	KP73	SGM7J-08A	/	S08-AM3-60	QSY-116C	130SJT-M075D

SC-T100 Dimensions



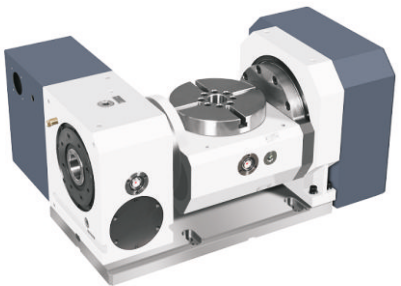
SC-RT170 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 170mm, pneumatic brake
- 3. Suitable for installation on 650,850mm travel VMC

Dimensions	Table Diameter	mm	Ø170
	Diameter of Table Central Hole	mm	Ø45H7
	Rotary Table Total Height	mm	258
	T slot width	mm	12h7
	Guide Block width		14h7
	Net Weight (servo motor excluded)	kg	150

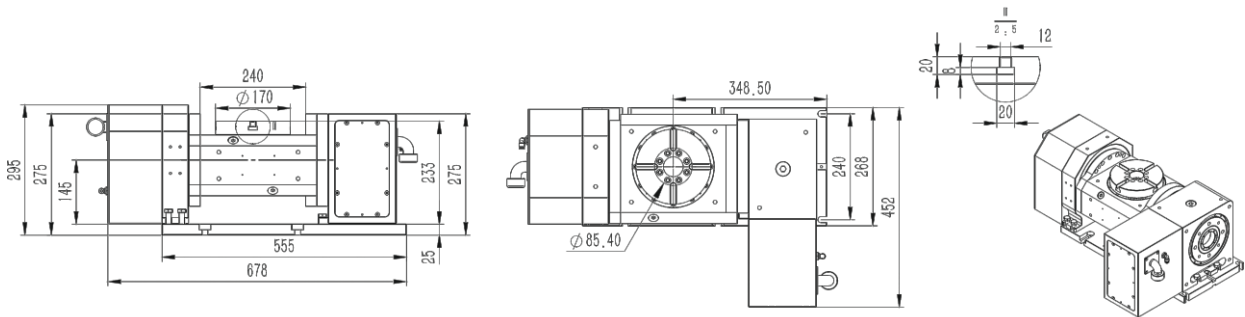
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	115°~-115°
	Gear Ratio	/	1:30	1:48
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	75	62.5
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±35
	Repeatability	sec.	±3	±4



Allowable Workpiece Load		Clamping system		Allowable load (rotary table clamping)			
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)	FXL(N.m)
	90		65	0.6±0.05	350		14000
							365
							600

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM8-40	QSY-116C	130SJT-M075D
Tilting axis	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM8-40	QSY-116C	130SJT-M075D

287SC-RT170 Dimensions



SC-RT200 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 200mm, pneumatic brake
- 3. Suitable for installation on 850mm travel VMC

Dimensions	Table Diameter	mm	Ø200
	Diameter of Table Central Hole	mm	Ø40H7
	Rotary Table Total Height	mm	260
	T slot width	mm	12h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	210

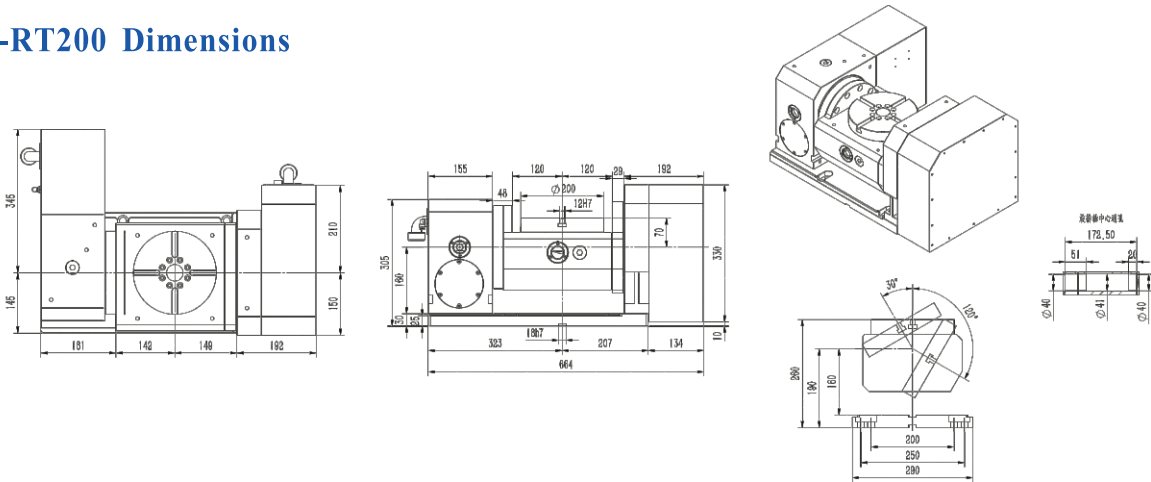
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	30°~-120°
	Gear Ratio	/	1:40	1:40
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	75	75
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±35
	Repeatability	sec.	±3	±4



Allowable Workpiece Load		Clamping system		Allowable load (rotary table clamping)		
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	
	100		70	0.6±0.05	350	

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM8-40	QSY116E	130SJT-M075D
Tilting axis	βis8	HG104S-D47	SGM7G-09A	1FK7060	S08-AM8-40	QSY116E	130SJT-M075D

SC-RT200 Dimensions



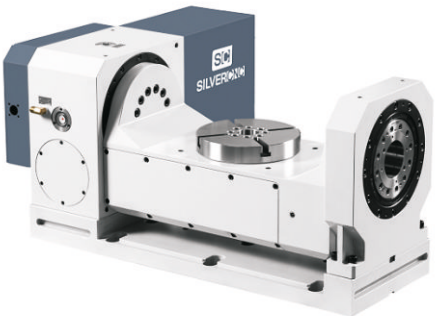
SC-RT200CL Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 200mm, hydraulic brake
- 3. can installed as A+B type 5th axis rotary tabe, suitable machine tools include: Haas VF3,

Dimensions	Table Diameter	mm	Ø200
	Diameter of Table Central Hole	mm	Ø40H7
	Rotary Table Total Height	mm	260
	T slot width	mm	12h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	290

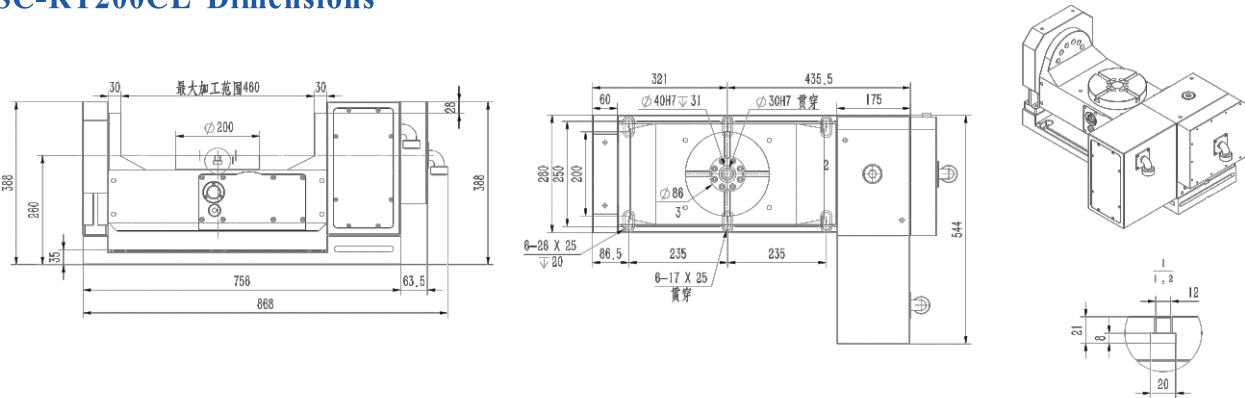
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	30°~-120°
	Gear Ratio	/	1:40	1:50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	75	60
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±40
	Repeatability	sec.	±3	±4



Allowable Workpiece Load		Clamping system		Allowable load (rotary table clamping)		
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	
	100		70	4±0.5	460	

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC		GSK
Rotary axis	βis4	HG96S-D47	SGM7G-08A	1FK7060	S08-AM3-60	QSY-116C	80SJT-M024E
Tilting axis	βis8	HG104S-D47	SGM7G-13A	1FK7060	S08-AM8-40	QSY-116C	130SJT-M075D

SC-RT200CL Dimensions



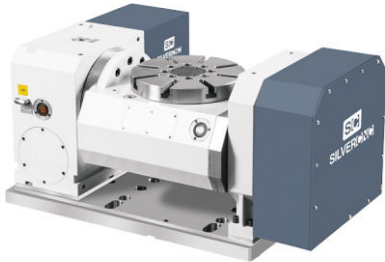
SC-RT250 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 250mm, hydraulic brake
- 3. Can installed as A+B type 5th axis rotary tabe, suitable machine tools include: Haas VF3,

Dimensions	Table Diameter	mm	Ø250
	Diameter of Table Central Hole	mm	Ø65H7
	Rotary Table Total Height	mm	260
	T slot width	mm	14h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	310

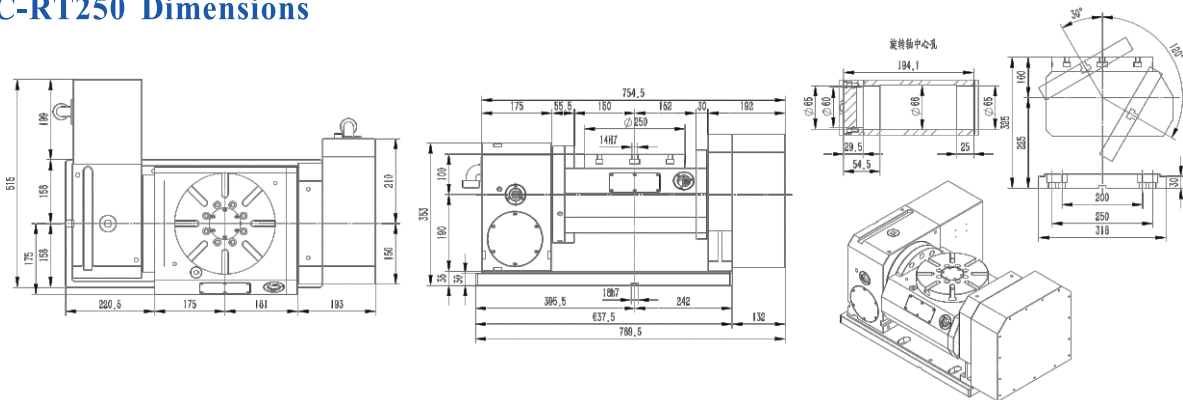
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	30°~ -120°
	Gear Ratio	/	1:48	1:50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	60	60
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±40
	Repeatability	sec.	±3	±4



Allowable Workpiece Load				Clamping system		Allowable load (rotary table clamping)			
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)	
	120		90	4±0.5	1000		14000		460

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis8	HG154S-D47	SGM7G-13A	1FK7060	S08-AM8-40	QSY116E	130SJT-M075D
Tilting axis	βis8	HG154S-D47	SGM7G-20A	1FK7063	S08-AM8-40	QSY116E	130SJT-M100D

SC-RT250 Dimensions



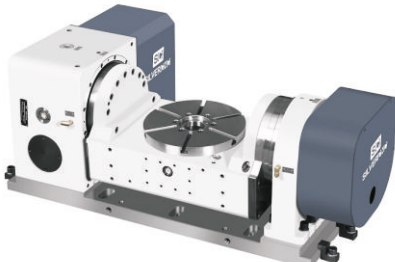
SC-RT300 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 300mm, hydraulic brake
- 3. Suitable machine tools include: Haas VF3, Doosan DNM5700 series , and other 1100mm travels VMC

Dimensions	Table Diameter	mm	Ø300
	Diameter of Table Central Hole	mm	Ø60H7
	Rotary Table Total Height	mm	280
	T slot width	mm	14h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	580

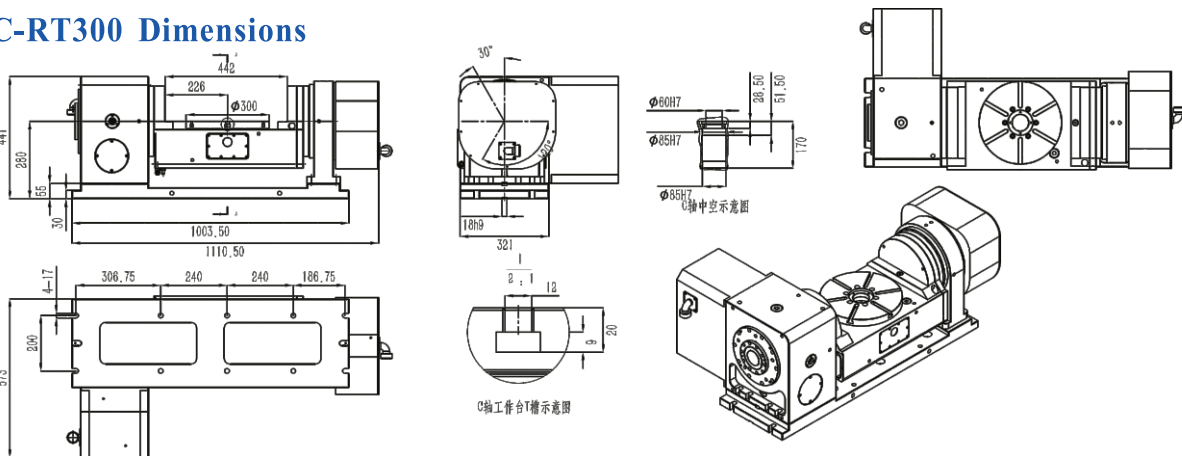
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	30°~ -120°
	Gear Ratio	/	1:60	1:60
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	50	50
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±40
	Repeatability	sec.	±3	±4



Allowable Workpiece Load				Clamping system		Allowable load (rotary table clamping)			
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)	
	100		80	4±0.5	590		14000		590

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis12	HG154S-D47	SGM7G-20A	1FK7063	S08-AM11-40	QSY116E	130SJT-M100D
Tilting axis	βis22	HG204S-D47	SGM7G-30A	1FK7083	S08-AM18-30	QSY-155B	130SJT-M150D

SC-RT300 Dimensions



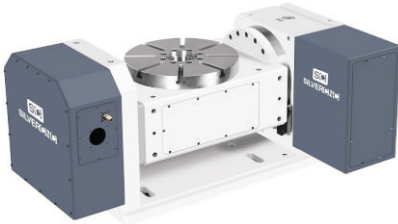
SC-RT350 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 350mm, hydraulic brake
- 3. High rigidity, suitable machine tools include: Haas VF4, Doosan DNM5700L and other 1200mm travels VMC

Dimensions	Table Diameter	mm	Ø350
	Diameter of Table Central Hole	mm	Ø75H7
	Rotary Table Total Height	mm	385
	T slot width	mm	14h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	580

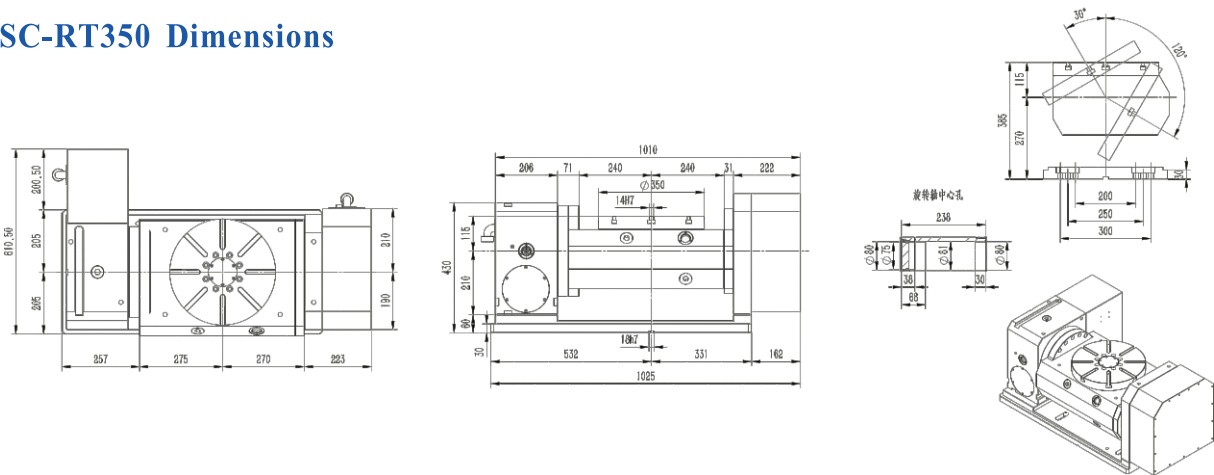
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	30°~120°
	Gear Ratio	/	1:50	1:50
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	50	50
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±30
	Repeatability	sec.	±3	±4



Allowable Workpiece Load				Clamping system		Allowable load (rotary table clamping)			
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)	
	200		150	4±0.5	1600		22000		1600

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis12	HG154S-D47	SGM7G-20A	1FK7063	S08-AM11-40	QSY-155B	130SJT-M100D
Tilting axis	βis22	HG204S-D47	SGM7G-30A	1FK7083	S08-AM18-30	QSY-155B	130SJT-M150D

SC-RT350 Dimensions



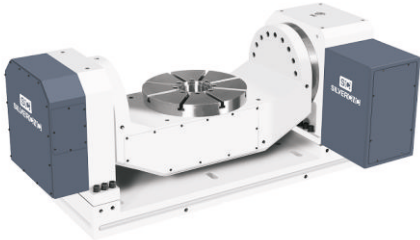
SC-RT400 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 400mm, hydraulic brake
- 3. Cradle structure design, machining range can reach 740mm, which is used for gantry machining centers

Dimensions	Table Diameter	mm	Ø360-420
	Diameter of Table Central Hole	mm	Ø100H7
	Rotary Table Total Height	mm	370
	T slot width	mm	14h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	980

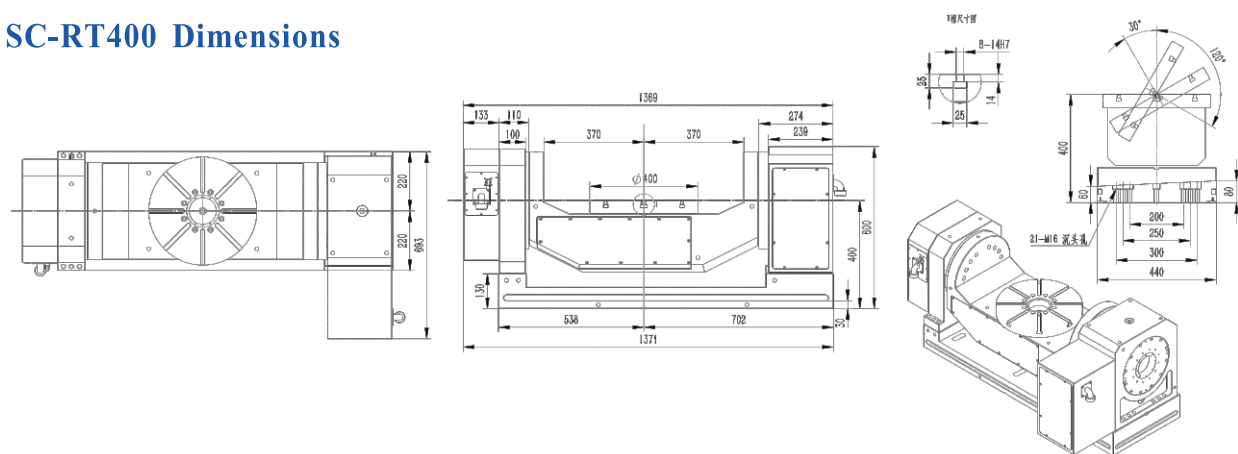
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	30°~120°
	Gear Ratio	/	1:48	1:72
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	50	50
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±30
	Repeatability	sec.	±3	±4



Allowable Workpiece Load				Clamping system		Allowable load (rotary table clamping)			
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)	FXL(N.m)	FXL(N.m)	
	255		200	4±0.5	1800		22000		1800

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis12	HG154S-D47	SGM7G-20A	1FK7063	S08-AM11-40	QSY116E	130SJT-M100D
Tilting axis	βis22	HG303S-D47+B	SGM7G-30A+B	1FK7084+B	S08-AM18-30+B	QSY-155B	130SJT-M150D+B

SC-RT400 Dimensions



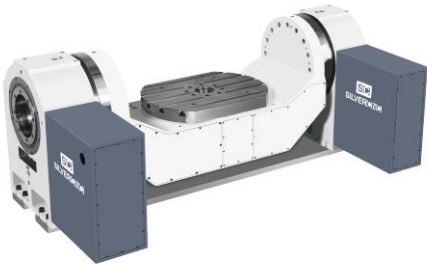
SC-RT650 Specification

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Platter Diameter 650mm, hydraulic brake
- 3. Double-drive (4-axis and tailstock dual-motor drive at the same time to increase rigidity and torque)

Dimensions	Table Diameter	mm	Ø650*480
	Diameter of Table Central Hole	mm	Ø120H7
	Rotary Table Total Height	mm	350
	T slot width	mm	18h7
	Guide Block width		18h7
	Net Weight (servo motor excluded)	kg	1800

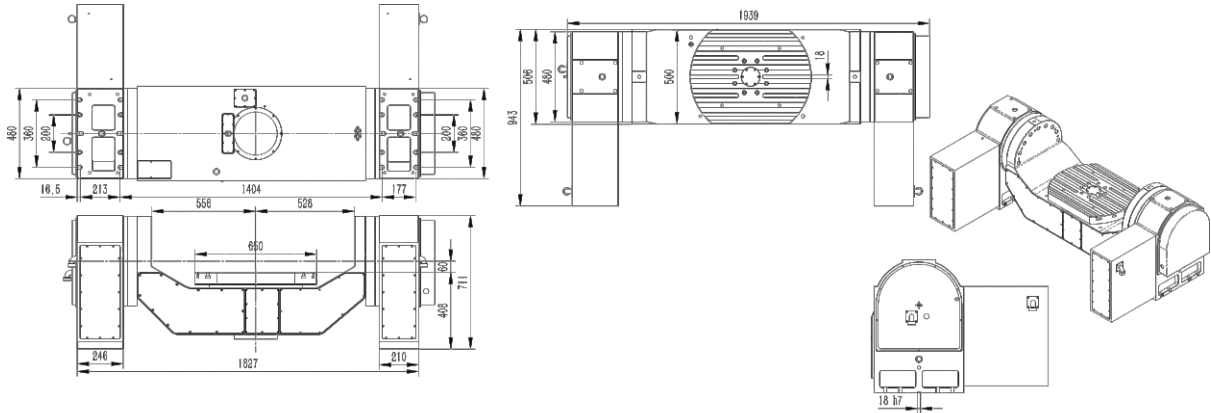
Roller CAM	axis		rotary axis	Tilt axis
	Indexing	°	0-360°	120°~ -120°
	Gear Ratio	/	1:120	1:180
	Max. Rotation(Calculate with Fanuc α Motor)	rpm	16.6	11.1
	Resolution	°	0.001	0.001
	Indexing Precision	sec.	±20	±30
	Repeatability	sec.	±3	±4



Allowable Workpiece Load				Clamping system		Allowable load（rotary table clamping）					
Horizontal/kg		Tilting/kg		pressure/MPa	Torque/N.m	F(N)		FXL(N.m)		FXL(N.m)	
	500		350	4±0.5	5000		22000		1800		2000

Axis	Servo motor						
	FANUC	MITSUBISHI	YASKAWA	SIMENS	SYNTEC	HEIDENHAIN	GSK
Rotary axis	βis22	HG204S-D47	SGM7G-30A	1FK7083	S08-AM18-40	QSY-155B	130SJT-M150D+B
Tilting axis	2-βis30+B	2-HG303S-D47+B	2-SGM7G-44A+B	2-1FK7101+B	2-S08-AM28-40+B	QSY-155D	2-130SJT-M300B+B

SC-RT650 Dimensions



H series Horizontal Nc Rotary Table

Introduction

- 1. Roller CAM struture, no backlash, high accuracy and efficiency
- 2. Used on HMC machine, in order to facilitate machining operations
- 3. Hydraulic brake system for rigid clamping during machining
- 4. The H Series is available with table tops ranging from 400mm to 1200mm square.

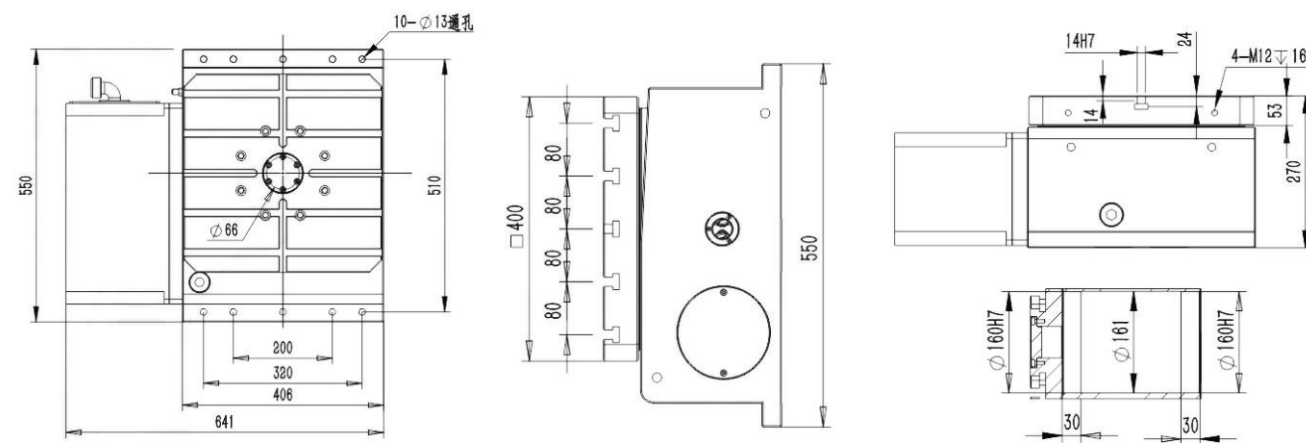


Specification

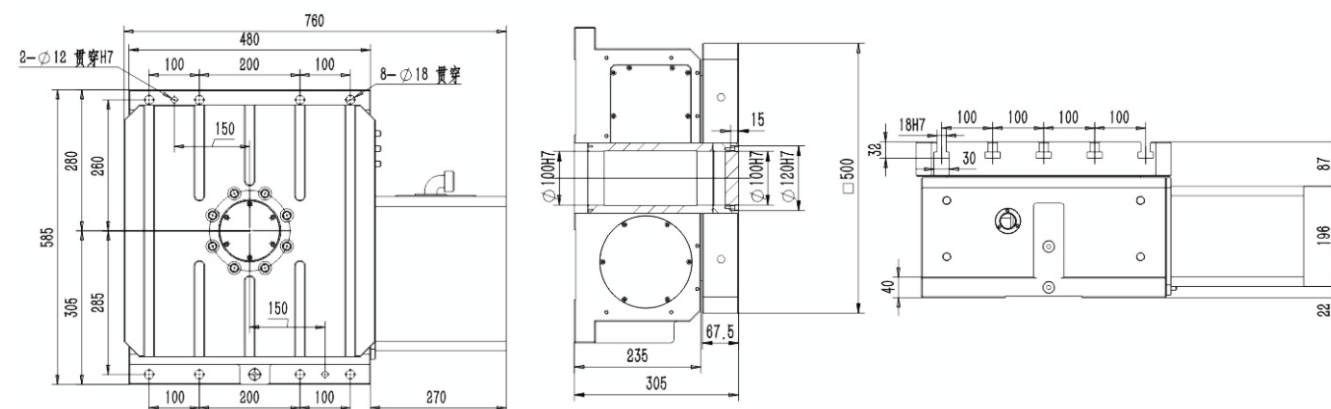
Description		unit	SC-H400	SC-H500	SC-H630	SC-H800
Table Diameter		mm	400	500	630	800
Allowable Workpiece Load		kg	460	600	1200	2500
Plate Height		mm	270	305	340	390
Min. Increment		deg	0.001°	0.001°	0.001°	0.001°
T-Slot		mm	14H7	18H7	18H7	22H7
Indexing Precision		arc.sec.	±15	±15	±15	±15
Repeatability		arc.sec.	±4	±4	±4	±4
Speed Reduction Ratio		/	1/60	1/90	1/120	1/180
Rated / Max. Speed		rpm	33.3	22.2	16.7	11.1
Diameter of Table Central Hole		mm	Ø50H7	Ø100H7	Ø120H7	Ø120H7
Net Weight (servo motor excluded)		kg	330	430	640	1260
Strength of Roller Gear Cam		N.m	1200	2650	4600	7600
Clamping System(Hydraulic)		Mpa	4.5±0.5	4.5±0.5	4.5±0.5	4.5±0.5
Clamping Torque		N.m	365	2650	4600	7600
Servo Motor	FANUC	Taper/straight	α12if/βis22	α12if/βis22	α12if/βis22	α22if/βis30
	MITSUBISHI	straight	HG204S-D47	HG204S-D47	HG303S-D47	HG354S-D47
	SIEMENS	straight	1FK7083	1FK7083	1FK7101	1FK7105
	YASKAWA	straight	SGM7G-30A	SGM7G-30A	SGM7G-30A	SGM7G-40A

Dimensions

SC-H400 Dimensions

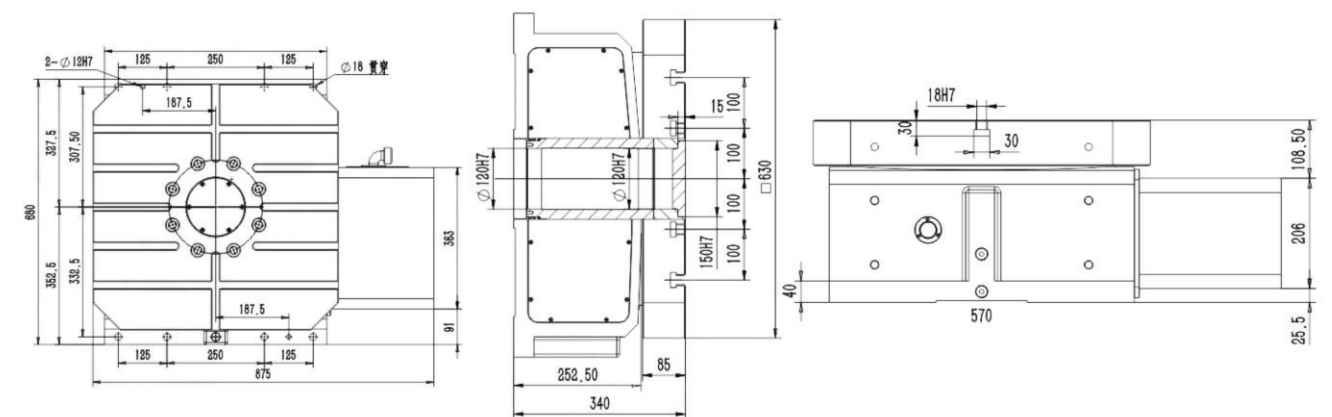


SC-H500 Dimensions

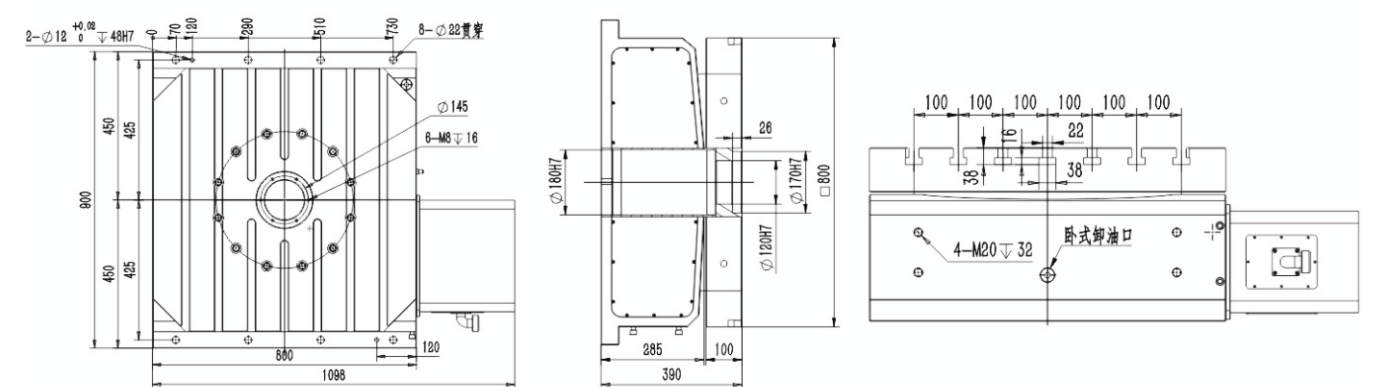


Dimensions

SC-H630 Dimensions

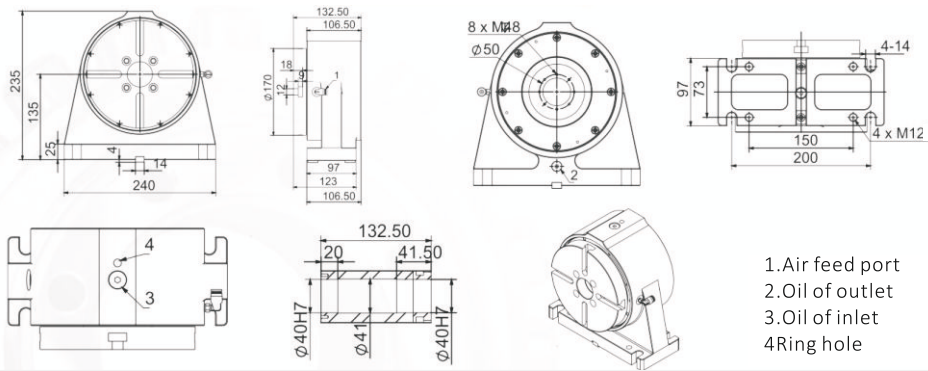


SC-H800 Dimensions

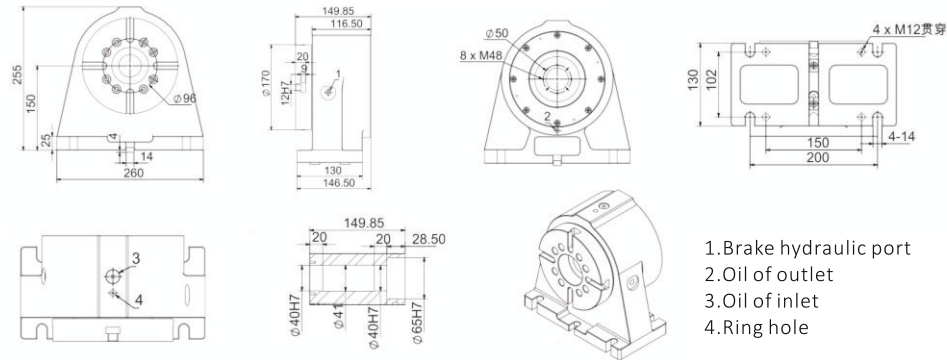


Tailstock

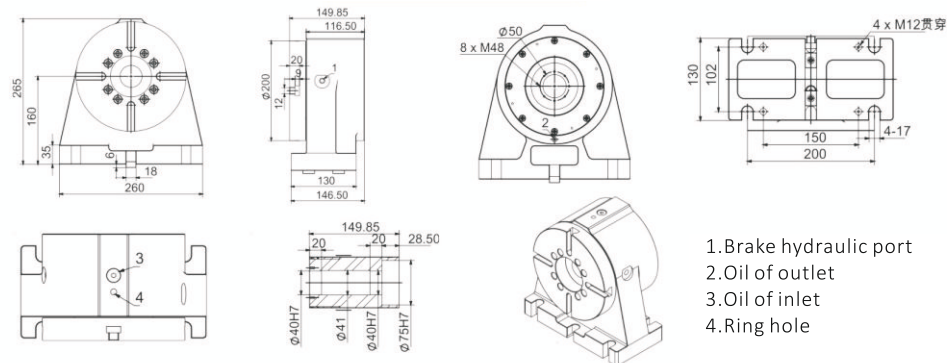
RS170



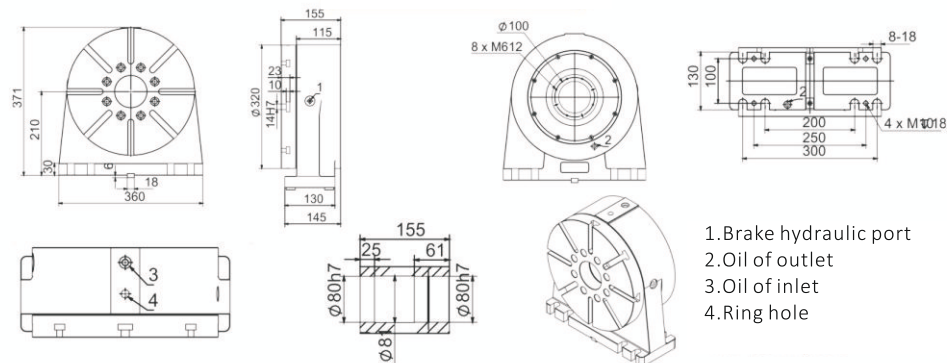
RS180



RS200(250)



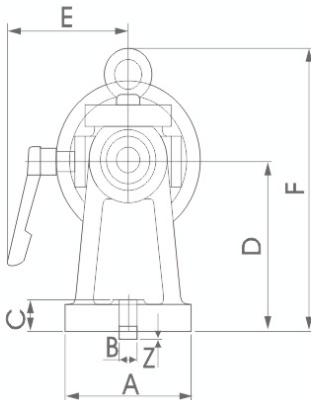
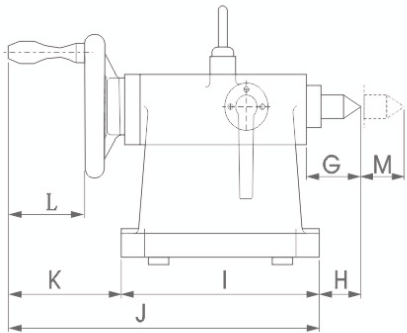
RS255(320)



Manual Tailstock

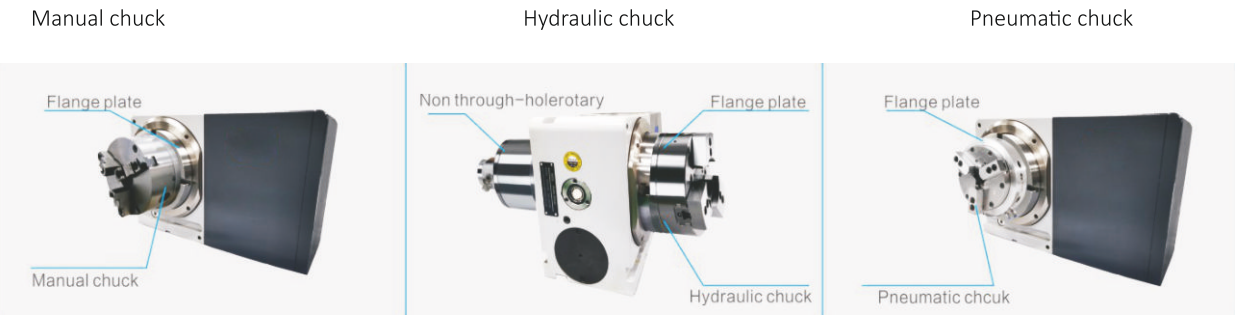
Characteristics

- 1. Using imported of imported bearing parts, more stable quality.
- 2. "The fixed type (without ""S"") or the replacement type (with "" S"") can be selected."
- 3. Optional air or oil pressure.



Model/Size	RD-110/110S	RD-135/135S	RD-160/160S	RD-210/210S	RD-255S
A	100	130	130	146	200
B	14	18	18	18	18
C	23	23	30	30	30
D	110	135	160	210	255
E	103	103	125	125	135
F	161	205	267	317	394
G	67	67	64	64	122
H	36	36	47	47	132
I	135	240	230	230	285
J	247	340	362	362	482
K	112	112	132	132	197
L	60	60	90	90	90
M	30	50	50	50	110
N	7	7	7	7	7
Thimble	2"	2"	3"	3"	4"
Net	10	15	19	26	53

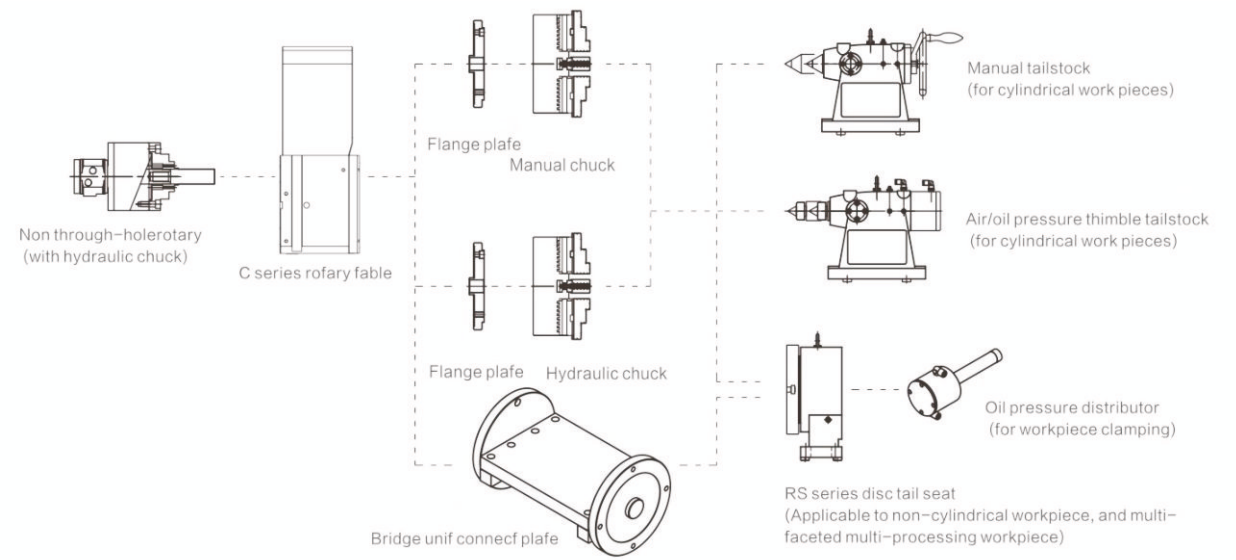
SC-RT650 Specification



Specification of Manual Three-jaw Chuck

Compatible rotary table specs	Model-Dimension	Grip Range of Inner Diameter (Straight)	Grip Range of Outer Diameter (Reverse)	Manual chuck thickness	Through hole of chuck	Weight/kg	Max. speed r.p.m/min
C120	SK-04	Ø3-Ø100	Ø35-Ø93	58	Ø24	3.45	2500
	SK-05	Ø3-Ø123	Ø43-Ø120	60	Ø32	5	2500
C170	SK-06	Ø8-Ø160	Ø55-Ø150	66	Ø45	8.6	2000
C170/C180	SK-07	Ø8-Ø180	Ø62-Ø170	76	Ø58	12.8	2000
C200/C250	SK-08	Ø8-Ø180	Ø62-Ø170	76	Ø58	14.1	2000
C250/C255	SK-09	Ø11-Ø220	Ø70-Ø210	84	Ø70	20.4	2000
C320/C400	SK-10	Ø12-Ø260	Ø80-Ø250	86	Ø89	26.7	1800
	SK-12	Ø15-Ø300	Ø90-Ø290	96	Ø105	39.3	1800

Diagram of chuck connection



Brake System Accessories

Air-Oil Booster Unit AOB-6 (Optional)

1. Used when using hydraulic brake turntable alone or with manual tailstock"
2. Fast,energy saving and low space demanding
3. Standard 2.5m oil pipe



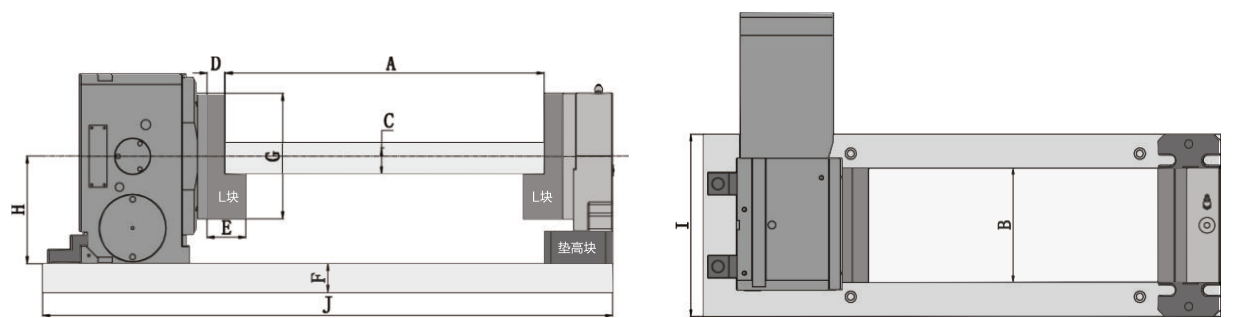
Hydraulic Station HSU-1/2 (Optional)

1. Used when using hydraulic brake turntable and tailstock or with hydraulic fixture"
2. Hydraulic station is stable,and low temperature rise
3. Standard 5m oil pipe



Suggestions on selection of rotary table and bridge

Model	unit	A	B	C	D	E	F	G	H	I	J
SC-C170	mm	500	170	30	25	50	35	Ø170	1.H/I/J is determined by the size of tailstock and workspace limit 2.Above suggestion is for standard connet plate application, more accurate size please take into consideration of your own specific requirements		
SC-C180	mm	600	180	30	25	50	35	Ø180			
SC-C200	mm	650	200	30	35	60	35	Ø200			
SC-C250	mm	650	250	30	35	60	35	Ø250			
SC-C255	mm	700	255	35	35	60	35	Ø255			
SC-C320	mm	800	320	40	40	70	40	Ø320			
SC-C400	mm	900	400	40	40	70	40	Ø400			

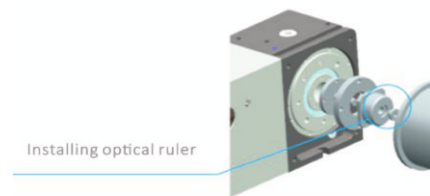
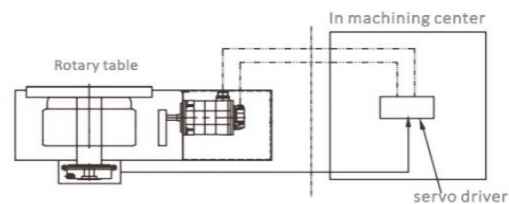


Angle Encoder (optional)

Installing an ultra precision angle encoder on the spindle of the rotary table can improve indexing accuracy Circular grating ruler or time grating encoder available for selection, with different prices and delivery times The RT400 and RT650 tilting rotary tables must be equipped with precision encoder when simultaneous machining, otherwise the accuracy may not meet the requirements"



Installation position of angle encoder



Angular Encoder Reference

rotary table	Models	HEIDENDAIN		
		Encoder Model	Encoder accuracy	rotary table accuracy
4th rotay table	C170-C250	RCN23*0 series	±5sec	within 12 sec
	C255-C400	RCN83*0 series	±2sec	within 8 sec
5th rotay table	T100 RT170 RT200 RT200CL	RCN23*0 series	±5sec	within 12 sec
	RT250 RT300 RT300 RT400 RT650	RCN83*0 series	±2sec	within 8 sec

Note: This information is a general guideline only, the final decision will be made of SilverCNC based on the visual and mechanical inspection

Single Axis Controller

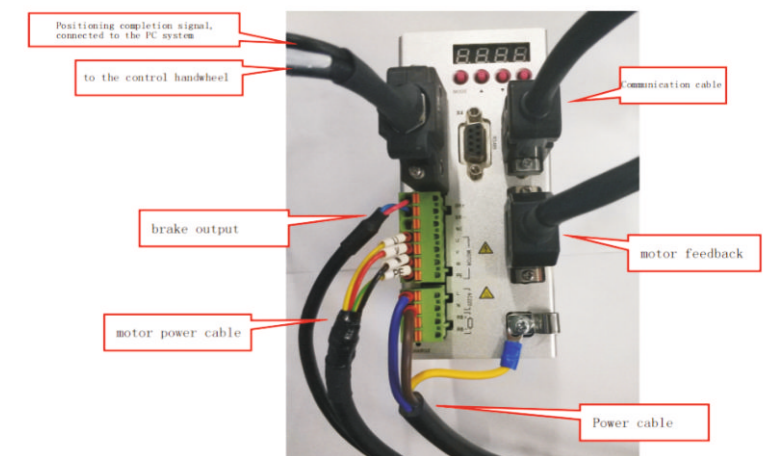
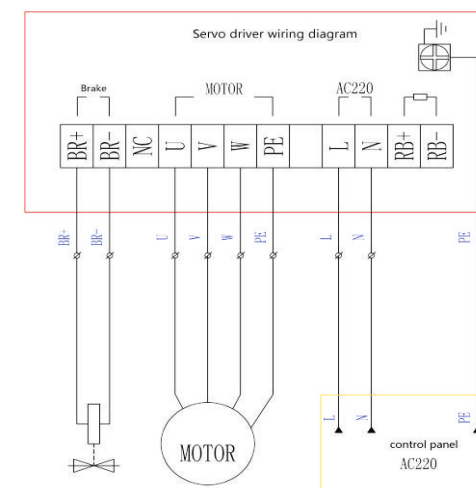
Feature

1. Single axis controller can be used with M-signal or 232 signal to resolver a machine can't be installed 4th or 5th axis case
2. Program for a rotary table should be inputted directly to the single axis controller, at the machine tool, M singal is input as a start command
3. M signal control system is only for indexing.
4. If the price of motor drive is high, the single axis controller can reduce costs
5. If your factory has machine tools of different controller brands, using a single axis controller can be universal between machine tools

SilverCNC's single axis controller integrates a signal adapter board into the handwheel for easy debugging. The controller consists of a motor, servo drive, and handwheel



Servo driver wiring diagram



Note:For more information about single axis controllers, please contact the sales manager

Rotary Table Cable

- SilverCNC rotary table adopt integrated cable, the power cable and signal cable are combined to one. Refer to Figures 1 and 2
- The standard cable length is 6 m, metal protection cable(Figure 3) length is 2.5m, control box cable(Figure 4) is 3.5m,length can be customized
- Cable is an optional, which can be purchased together with the motor and driver or separately, please contact sale manager to get more information

Figure 1



Figure 2

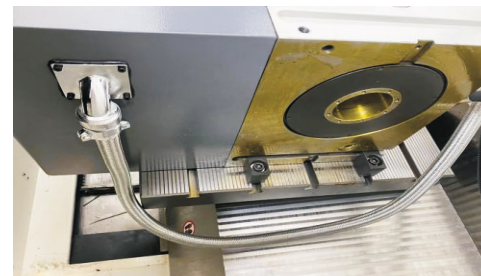


Figure 3

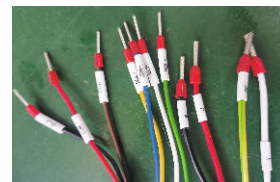


Figure 4



Definition of cable mark

The following figure shows the interface of the cable, including the motor power signal cable, solenoid valve signal cable, brake signal cable and etc. Please refer to the definition below for details

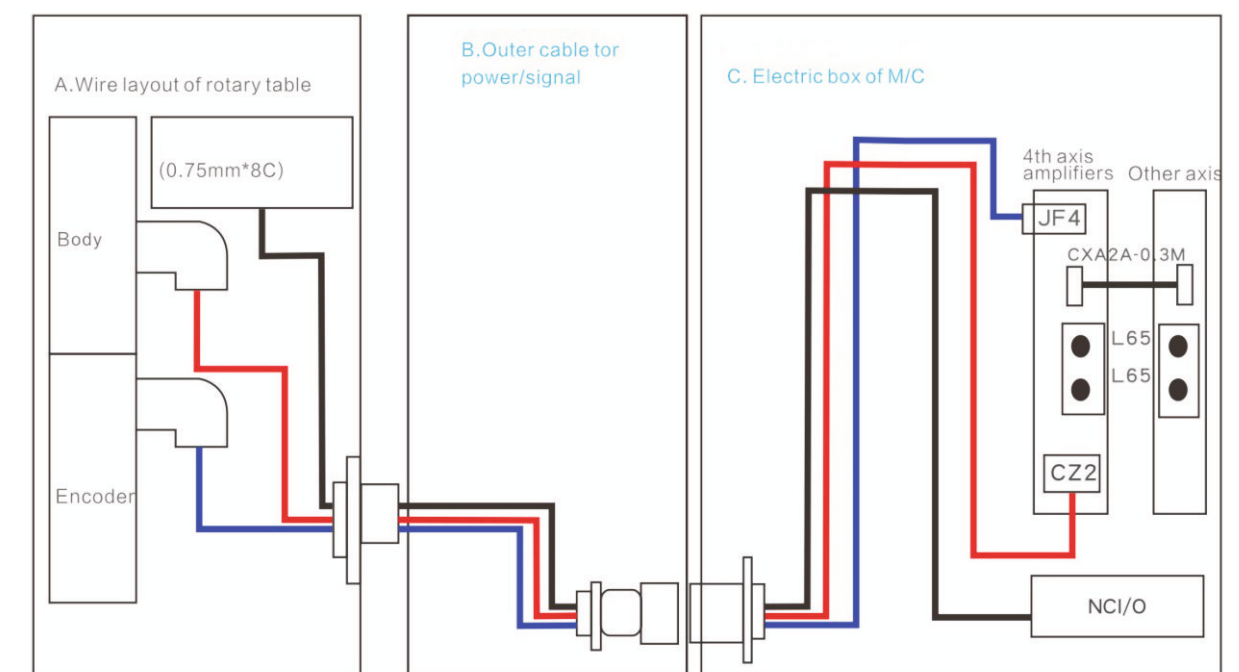


Function Description of Rotary Table Wire Label		
NO./colour	Cable mark letter and number tube	Function
Yellow	A---COM	Clamp release signal common pin position (24V)
Blue	B---CLP	Clamping signal
Green	C---UCLP	release signal
Red	R---ZRN+	Common end of origin switch(24V)
Black	S---ZRN-	Origin signal
Brown	N---SOL-	Solenoid valve negative direction
White	P---SOL+	Solenoid valve positive direction

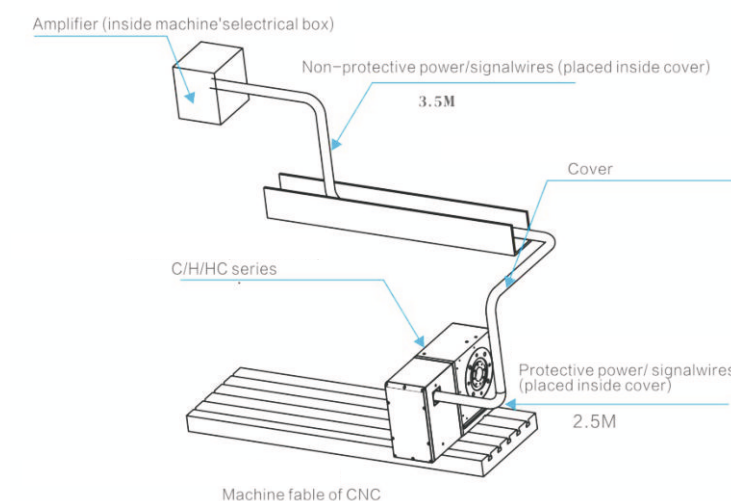
Rotary Table Wiring Diagram

- ※ Allows for simultaneous control with X,Y,Z-axis of machine and ARC machining.
- ※ Programs can be directly edited on the control screen of the machine
- ※ Suggested length 2.5m with protective pipe for outer power/signal cable, from motor cover to machine guarding.
(for x travel 500-1300mm machines)
- ※ suggested length 3.5m without protective pipe for power/signal cable, from machine guarding to amplifier.

Wiring Diagram



Schematic diagram of rotary table and CNC machine



Characteristics

- ※ Allows for simultaneous control with X, Y, Z-axis of machine and ARC machining.
- ※ Programs can be directly edited on the control screen of the machine.
- ※ Suggested length 2.5M with protective pipe for outer power / signal cable, from motor cover to machine guarding. (for x travel 500-1300mm machines)
- ※ suggested length 3.5M without protective pipe for power / signal cable, from machine guarding to amplifier.

Introduction To Terms

For technical clarification, you will find below the individual descriptions relating torotary ta ble elements referred to in this catalogue.

Clamping Torque

The clamping torque means the efficacyof the clamping mechanism, the clampingforce of the motor is excluded.Theclamping torque shown on this catalogue ismeasured at 5 Mpa hydraulic pressureand 0.6 Mpa air pressure.

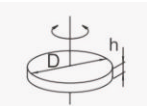
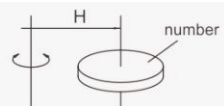
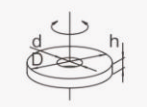
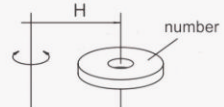
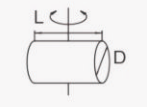
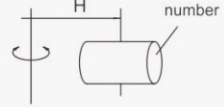
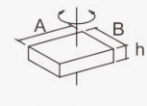
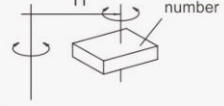
Catalog shown on the locking torque is at oil pressure 5 MPa and air pressure at 0.6MPa.

Allowable Loading

The allowable utmost mass loaded ontable surface, for which the part shall be acylindrical casting located in equal centerand diameter of rotary table.

Allowable Work Inertia

The formula to calculate the moment of inertia:

 $W = \frac{S\pi D^2 h}{4000000}$ $J = \frac{WD^2}{2} \cdot 40000$	 $W = \frac{S\pi D^2 h}{4000000}$ $J = \frac{WD^2}{2} \cdot 40000$	左图单位为： J.(GD²) :kg·m² W :kg A,B,D,H,h,L:cm I :kg·m.s² 各种材质密度为 (S, kg/m³): 铁 7.85*10³ 铸铁 7.5*10³ 铝 2.7*10³ 铜 8.94*10³ 黄铜 8.5*10³ $I = \frac{J}{9.8}$
 $W = \frac{S\pi (D^2 - d^2) h}{4000000}$ $J = \frac{W(D^2 - d^2)}{2} / 40000$	 $W = \frac{S\pi (D^2 - d^2) h}{4000000}$ $J = W \left(\frac{D^2 - d^2}{2} + 4H^2 \right) / 40000$	
 $W = \frac{S\pi D^2 L}{4000000}$ $J = \left(\frac{L^2}{3} + \frac{D^2}{4} \right) \cdot 40000$	 $W = \frac{S\pi D^2 L}{4000000}$ $J = W \left(\frac{L^2}{3} + \frac{D^2}{4} + 4H^2 \right) \cdot 40000$	
 $W = \frac{SABh}{1000000}$ $J = \frac{W(A^2 + B^2)}{3} / 40000$	 $W = \frac{SABh}{1000000}$ $J = W \left(\frac{A^2 + B^2}{3} + 4H^2 \right) / 40000$	

Know Before Choosing

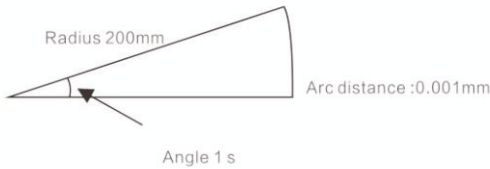
Definition of precision

Indexing accuracy refers to the difference between the angle value of rotation and the actual angle value of rotation when the rotary table is indexing, and the maximum error value of positive direction and the maximum error value of negative direction will not occur at the same angle.

Repeatability accuracy refers to the range of measurement value when the rotary table goes back and forth to a specific position for many times. its value is affected by the transmission structure of the rotary table itself. WDS products are zero- backlash roller driver mechanisms.

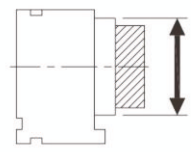
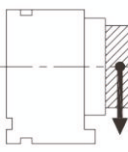
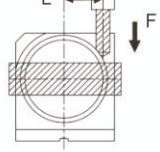
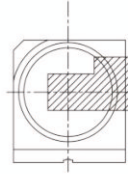
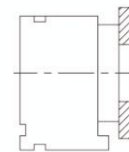
Second and arc length conversion case

[Error of 1 second in Angle for radius 200mm, error of 0.00 1mm (μ m) for arc]



The turntable of ϕ 170 disk surface, cumulative accuracy 40 seconds. So in the radius of 200mm, the distance on the arc is 0.001*40=0.040mm, the radius of 200mm= diameter of 400mm, and ϕ 170 of the turntable diameter only 170, so 0040*170/400=0.017. plus this accuracy for cumulative accuracy, It is impossible for the turntable to have the maximum error value of positive direction and the maximum error value of negative direction at the same Angle during rotation. So in this case, the error distance on the arc can be basically guaranteed within 0.01.

Select a proper rotary table according to workpiecetype and cutting conditions

 Workpiece diameter Within rotary table diameter	 Workpiece weight Within allowable load range	 Indexing processing FXL value should be within the range of clamping torque
 Eccentric Load ※ Movement of inertia of workpiece should be within the permissible angle ※ Consider interference	 For workpiece with large diameter but light weight ※ Movement of inertia of workpiece should be within the permissible angle ※ Consider interference	SilverCNC

Before Choosing

Workpiece material

- ① For materials like aluminum and copper, it is OK to select (Pneumatic brake rotary).
- ② For materials like cast iron and steel, it is OK to select HR series rotary (Hydraulic brake).

Workpiece shape and size

- ① If it is in the shape of round bar, please purchase the 3-jaw chuck and the centertailstock additionally. (as Dia. ① to the right) When choosing the 3-jaw chuck, note that its outer diameter should not exceed the table diameter. Please see page 29 for the grip range of the chuck.
- ② If of odd shapes and more than two workpieces are processed at once, then purchase support table additionally. (as Dia. 2 to the right) [For L-block, base plate and middle plate (connection plates), please have them manufactured by fixture suppliers].

When using middle plate, please note to limit its width to the max. table diameter.

Max. load

Verify if the rotary table can withstand the load of workpiece and then add up the weights of predetermined rotary table, tailstock, L-block, middle plate, base plate, workpiece and fixture to see if the total load which the machine can withstand is exceeded. If overweighed, check the material of workpiece first. If the material is aluminum alloy or other light material but you are forced to select a larger rotary table due to its too long details in shapes which require over-large radius of rotation, please feel reassured to select the rotary table of a next smaller size. Fit raiser blocks to lift the workpiece so as to accommodate the radius of rotation whereby to reduce the total weight and the cost.

Interference Reminders

Please refer to right illustration

X axis (Fig 1)

A. Pay attention to total length of rotary table + tailstock + fixture + base plate, machine table envelope, rest space between splashguard and X axial limit.

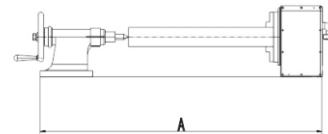


Figure 1

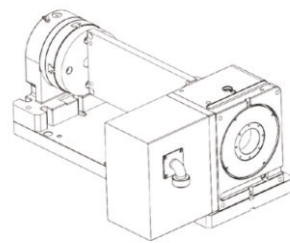


Figure 2

Before Choosing

Definition of precision

Y axis (Fig 3)

B. Locate table center paralleled to Y axis center. Pay attention to the clearance of rotary table cover to front splashguard.

C1 & C2 as the rest space between Y+ / Y- limit.

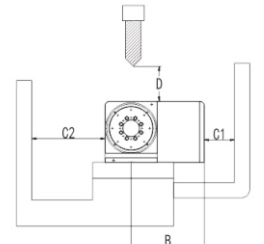


Figure 3

Z axis (Fig 3 and Fig 4)

D. as maximum distance between tooling and NC table body (refer to item E-1).

E. Distance between spindle nose to working table.

F. Stroke for tool change.

G. Allowable maximum tool length.

H. Swing of tool change.

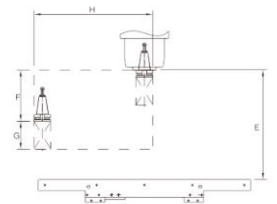


Figure 4

Verify the available room for placing the workpiece

First of all, confirm the length of the machine table (such as 900mm). If the scheme of C255 turntable + L block + bridge plate + disc tail seat is adopted (the maximum length of the C255 bridge plate is recommended to be 700mm), the length of the bottom plate should be 1100mm. At this time, the bottom plate will be 200mm longer than the machine workbench (as shown in Figure 5. This is the maximum allowable range). The length of A and the thickness of C should be selected according to our suggestion as far as possible.

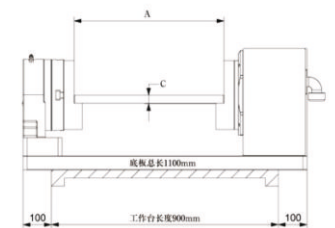


Figure 5

Important notices

When purchasing rotary table, support table, and cradle-type fixture (as Dia. ⑤ to the right), it is necessary to advise us if the arm (A) has overtaken the table radius and caused off-center process. Otherwise, the worm wheel will be worn out quickly. (The longer the arm (A) is, the more it's against common sense and normal practice) We shall not be responsible if you fail to advise so.

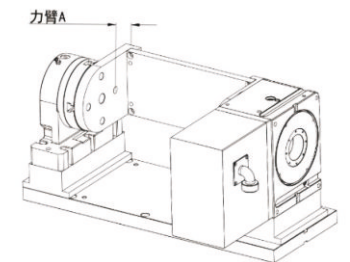
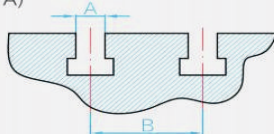
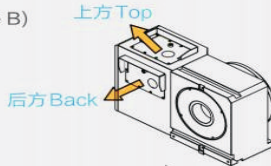


Figure 6

NC Rotary Table Specification Confirmation Form

Suitable For All Cnc Machining Centers

Customer Name		
Machine tool specs	Machine tool specs	Brand: Models:
	Machine tool controller	☐ Fanuc ☐ MITSUBISHI ☐ SIEMENS ☐ HEIDENHAIN ☐ other
	Driver and wiring	☐ None ☐ With driver, without cable ☐ With driver and cable
Machine Tool-table size	T slot width A	☐ 14mm ☐ 16mm ☐ 18mm ☐ 22mm
	T slot pitch B	☐ 100mm ☐ 150mm ☐ Other
	(Refer to picture A)	
Rotary Table specification	4th axis	☐ C100 ☐ C120 ☐ C170 ☐ C180 ☐ C200 ☐ C250 ☐ C315 ☐ C400 ☐ H500 ☐ H630 ☐ H800
	5 Axis(A/C)	☐ T100 ☐ RT170 ☐ RT200 ☐ RT200CL ☐ RT250 ☐ RT300 ☐ RT350 ☐ RT400 ☐ RT650
	Axis(B/C)	☐ B180
Brand of Servo Motor	☐ FANUC	Model: ☐ Taper ☐ Straight shaft
	☐ MITSUBISHI	Model: ☐ Taper ☐ Straight shaft
	☐ SIEMENS	Model:
Type of Servo Motors	☐ Others	Model:
	Servo Motor provide by	☐ The quotation is excluding motor.Customer shall assemble by themselves.
		☐ Customer provide the motor,assembling in factory.
☐ The quotation is including motor,assembling in factory.		
Wiring	☐ Standard	
	☐ Customer provides	
Clamping System	☐ Pneumatic ☐ Hydraulic	
Color	☐ Standard ☐ Customer's request	
Direction of wire connection box	☐ Top ☐ Back (Picture B)	
Standard Accessories	☐ Unnecessary	
	Faceplate Tailstock	☐ RS170 ☐ RS180 ☐ RS200 ☐ RS255
	Connection board	☐ Mid-board+L block ☐ Base-board
	Manual Tail stock	☐ RD110 ☐ RD135 ☐ RD160 ☐ RD210
	Chuck	☐ SK6 ☐ SK7 ☐ SK8 ☐ SK9 ☐ SK10 ☐ SK12 ☐ other
	Braking system	☐ Air-Oil Booster ☐ Hydraulic Station (Single circuit) ☐ Hydraulic Station (Double circuit)
	Requirements for encoders	
Special Additional	☐ None ☐ W/Necessary (Customers to provide drawings)	
Delivery address		
Remark		
Table	图A (picture A)  图B (picture B) 上方Top 后方Back 	



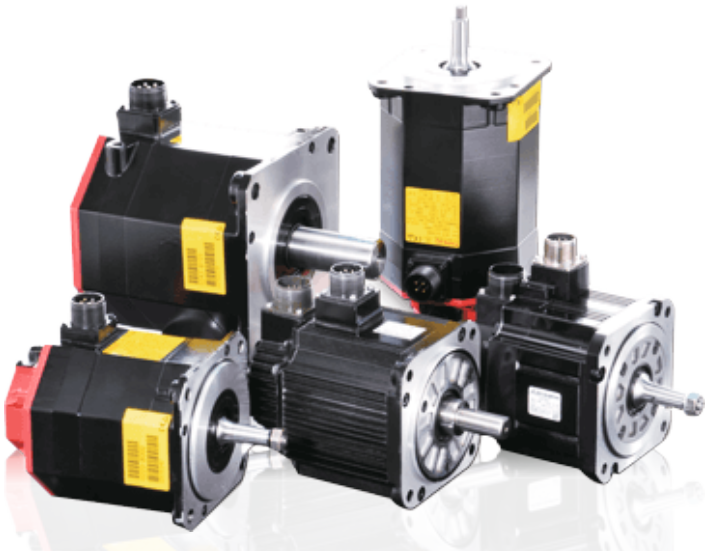
Product processing Cases



Please confirm and return with your duly signature.

Servo Motor Reference

FANUC	MITSUBISHI	YASKAWA	SIEMENS	HEIDENHAIN
α2iF α4iS β4iS	HG75	SGMAH-04	1FK7042	QSY-96A
α4iF α8iS β8iS	HG54 HG104 HG105	SGMAH09A	1FK7060	QSY-116C
α8iF α8iS β12iS	HG104 HG105 HG154	SGMAH09A	1FK7063	QSY-116E
α12iF α12iS β22iS	HG204S	SGMAH20A	1FK7083	QSY-155B
α12iF α22iS β22iS	HG204S	SGMAH20A	1FK7083	QSY-155B
α22iF α22iS	HG354S	SGMAH30A	1FK7084	QSY-155D
α22iF α22iS	HG354S	SGMAH30A	1FK7084	QSY-155D



Application Case

