


HIWIN®

DIRECT DRIVE ROTARY TABLE



INDUSTRIE 4.0 Best Partner

Product Description

Direct Drive Rotary Table

HIWIN supply various of Direct-Drive Rotary tables.

Direct-Drive motor with water-cooling system are able to meet both high acceleration and high torque, along with high rigidity and high precision bearings, absolute encoder and powerful clamp.

HIWIN supply high-performance Rotary Table.

Direct Drive Motor (Torque Motor)

HIWIN Rotary Table features Direct-Drive motor which provides similar torque, higher acceleration compare to both worm gear and roller cam system.

With the use of water-cooled direct drive motor, not only reducing thermal deformation, but also increases the working torque to achieve high dynamic response and higher precision.

With direct drive motor physical characteristics of zero backlash and zero wear, it can improve the reliability of rotary table.



· Suitable for variety of five-axis machining centers

· Modular design

The structure is simple, with high reliability.

· Easy replacement

Table supplies variety of applications. Table size and pattern can be adjusted according to customer's requirements.



· High speed
· High rigidity
· High positioning accuracy





· High productivity

Excellent dynamic performance for increasing efficiency.

· Long service life

Simple structure, zero backlash, high stability.

Direct Drive Rotary Table Inquiry Form

Product				
Model	<input type="checkbox"/> RCV	<input type="checkbox"/> RCH	<input type="checkbox"/> RAB	<input type="checkbox"/> RAS
Table Diameter	<input type="checkbox"/> 125 mm <input type="checkbox"/> 170 mm <input type="checkbox"/> 250 mm <input type="checkbox"/> 320 mm <input type="checkbox"/> Others _____ mm	<input type="checkbox"/> 200 mm <input type="checkbox"/> 400 mm <input type="checkbox"/> 600 mm <input type="checkbox"/> 800 mm <input type="checkbox"/> Others _____ mm	<input type="checkbox"/> 400 mm <input type="checkbox"/> 500 mm <input type="checkbox"/> 630 mm <input type="checkbox"/> 800 mm <input type="checkbox"/> Others _____ mm	<input type="checkbox"/> 170 mm <input type="checkbox"/> 200 mm <input type="checkbox"/> 250 mm <input type="checkbox"/> 320 mm <input type="checkbox"/> 650 mm <input type="checkbox"/> Others _____ mm
Encoder ※ 1	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> RENISHAW <input type="checkbox"/> NIKON	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> RENISHAW <input type="checkbox"/> NIKON	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> RENISHAW	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> RENISHAW
Indexing Accuracy	<input type="checkbox"/> ± 2.5" <input type="checkbox"/> ± 5" <input type="checkbox"/> ± 15"	<input type="checkbox"/> ± 2.5" <input type="checkbox"/> ± 5" <input type="checkbox"/> ± 15"	<input type="checkbox"/> ± 2.5" <input type="checkbox"/> ± 5" <input type="checkbox"/> ± 15"	<input type="checkbox"/> ± 2.5" <input type="checkbox"/> ± 5" <input type="checkbox"/> ± 15"
Drive ※ 2	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> SIEMENS <input type="checkbox"/> MITSUBISHI <input type="checkbox"/> FANUC <input type="checkbox"/> Others _____	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> SIEMENS <input type="checkbox"/> MITSUBISHI <input type="checkbox"/> FANUC <input type="checkbox"/> Others _____	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> SIEMENS <input type="checkbox"/> MITSUBISHI <input type="checkbox"/> FANUC <input type="checkbox"/> Others _____	<input type="checkbox"/> HEIDENHAIN <input type="checkbox"/> SIEMENS <input type="checkbox"/> MITSUBISHI <input type="checkbox"/> FANUC <input type="checkbox"/> Others _____
Option	<input type="checkbox"/> Tailstock <input type="checkbox"/> Booster Regulator <input type="checkbox"/> Power Cable ____ m ※3 <input type="checkbox"/> Encoder Cable ____ m ※3 <input type="checkbox"/> None	<input type="checkbox"/> Booster Regulator <input type="checkbox"/> Power Cable ____ m ※3 <input type="checkbox"/> Encoder Cable ____ m ※3 <input type="checkbox"/> None	<input type="checkbox"/> Booster Regulator <input type="checkbox"/> Power Cable ____ m ※3 <input type="checkbox"/> Encoder Cable ____ m ※3 <input type="checkbox"/> None	<input type="checkbox"/> Booster Regulator <input type="checkbox"/> Power Cable ____ m ※3 <input type="checkbox"/> Encoder Cable ____ m ※3 <input type="checkbox"/> None
Processing State	<input type="checkbox"/> Simultaneous Machining <input type="checkbox"/> Indexing <input type="checkbox"/> Others _____	<input type="checkbox"/> Simultaneous Machining <input type="checkbox"/> Indexing <input type="checkbox"/> Others _____	<input type="checkbox"/> Simultaneous Machining <input type="checkbox"/> Indexing <input type="checkbox"/> Others _____	<input type="checkbox"/> Simultaneous Machining <input type="checkbox"/> Indexing <input type="checkbox"/> Others _____
Other Conditions	(1) Speed _____ (2) Torque _____ (3) IP Class _____ (4) Other brands used _____			
Sales Person :			Customer :	

※ 1: Selecting encoder for direct drive rotary table, please see {Table 4,5}.
 ※ 2: Selecting drive for direct drive rotary table, please see {Table 3,5}.
 ※ 3: Cable length with 3,5,7,9 meters can be selected.

Direct Drive Tilting Rotary Table

RAB Series



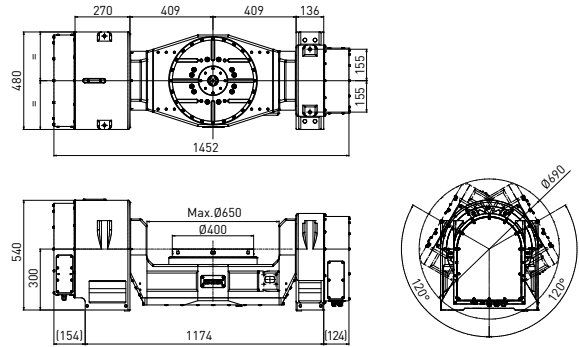
FEATURES

- Rigid and symmetrical mechanical design.
- High acceleration, high torque, high precision and zero backlash direct drive motor.
- With built-in powerful clamping system.
- Rotary axis uses large bore diameter, high rigidity axial-radial bearing.
- Tilting axis uses high precision, high rigidity cross roller bearing.

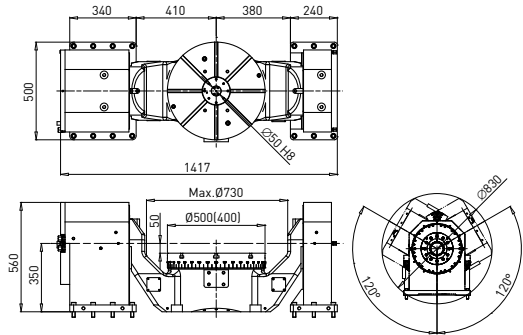
Spec / Model	Unit	RAB-400		RAB-500		RAB-630		RAB-800	
Table Diameter	mm	400		500		630		800	
Center Height	mm	300		350		325		325	
Table Height	-	300		300		225		225	
T-Slot Width	mm	14H8							
Axis	-	Rotary	Tilting $\pm 120^\circ$	Rotary	Tilting $\pm 120^\circ$	Rotary	Tilting $\pm 120^\circ$	Rotary	Tilting $\pm 120^\circ$
Direct Drive Motor	-	TMRWA5	TMRWAA	TMRWA7	TMRWAF	TMRWA7	TMRWAF	TMRWDF	
Max. Revolutions per Minute	r.p.m	90	60	100	60	100	60	90	60
Continuous Torque	N-m	430	860	600	1290	600	1290*2	2000	2000*2
Peak Torque	N-m	810	1600	1100	2400	1100	2400*2	3600	3600*2
Clamping Type	-	Pneumatic (6 bar)							
Clamping Torque	N-m	2400	3240	2400	2400*2	2400	2400*2	4200	4200*2
Net Weight	kg	750		1000		1500		2200	
Max. Load Capacity	kg	300		500		850		1200	

※ All models listed in the table are standard specification. If any special requirement is needed, please contact Hiwin.

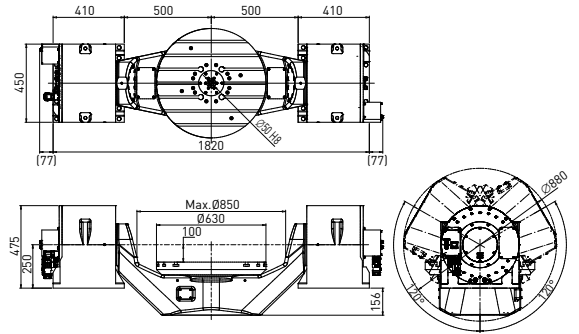
※ The accuracy (compensated) and repeatability are determined by the choice of encoder.



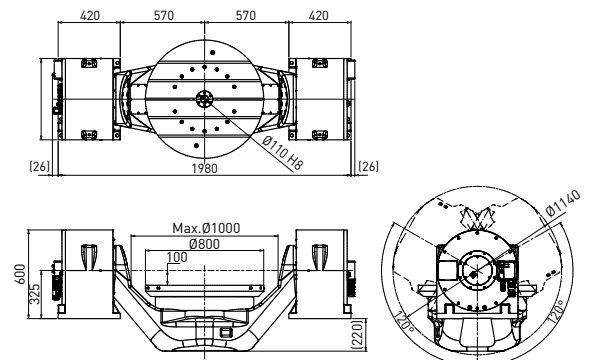
RAB-400



RAB-500



RAB-630



RAB-800

Direct Drive Tilting Rotary Table

RAS Series



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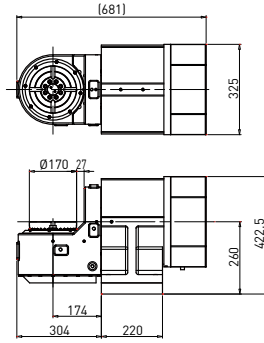
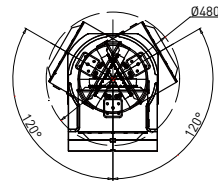
- High acceleration, high torque, high precision and zero backlash direct drive motor.
- With built-in powerful clamping system.
- Rotary axis/Tilting axis uses large bore diameter, high rigidity axial-radial bearing.

Spec / Model	Unit	RAS-170		RAS-200		RAS-200-SP		RAS-250		RAS-320		RAS-650	
Table Diameter	mm	170		200		200		250		320		650	
Center Height	mm	260		285		285		185		235		300	
Table Height	-	280		285		285		185		185		250	
T-Slot Width	mm	14H8		12H8				14H8					
Axis	-	Rotary	Tilting ± 120°	Rotary	Tilting ± 120°	Rotary	Tilting ± 120°	Rotary	Tilting ± 120°	Rotary	Tilting ± 120°	Rotary	Tilting ± 120°
Direct Drive Motor	-	TMRW23	TMRW4A	TMRW45	TMRW4A	TMRW43-SB	TMRW4A	TMRW73	TMRW77	TMRW4A	TMRWAL	TMRWA7	TMRWDF
Max. Revolutions per Minute	r.p.m	300	100	200	100	2000	100	200	80	150	60	100	60
Continuous Torque	N-m	35	205	106	205	27.9	205	145	335	205	1900	600	2000
Peak Torque	N-m	66.5	390	203	390	52.7	390	275	640	390	3360	1100	3600
Clamping Type	-	Pneumatic (6 bar)											
Clamping Torque	N-m	300	840	300	840	300	840	600	1500	840	2400	2400	4200
Net Weight	kg	220		260				300		600		1300	
Max. Load Capacity	kg	30		50				85		200		300	

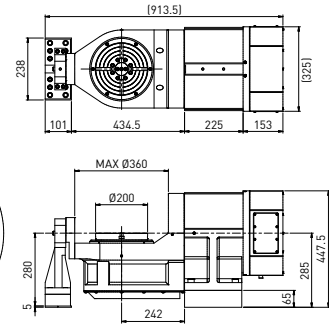
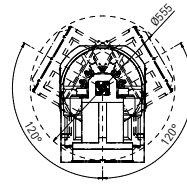
※ All models listed in the table are standard specification. If any special requirement is needed, please contact Hiwin.
 ※ The accuracy (compensated) and repeatability are determined by the choice of encoder.



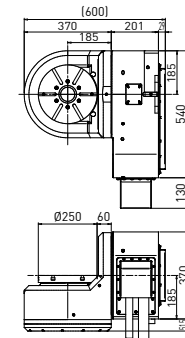
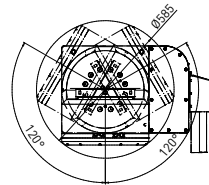
RAS-170



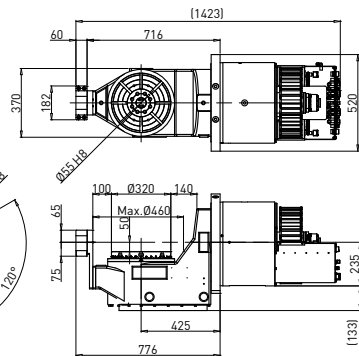
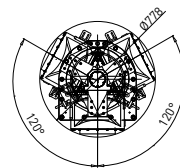
RAS-200 (RAS-200-SP)



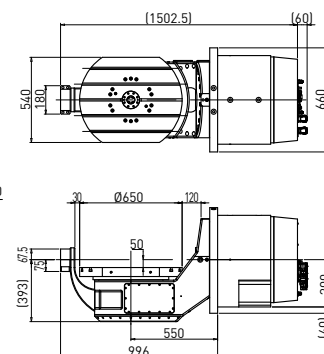
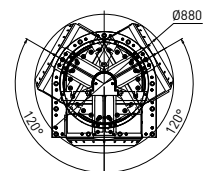
RAS-250



RAS-320



RAS-650



Direct Drive Vertical Rotary Table Series

RCV Series

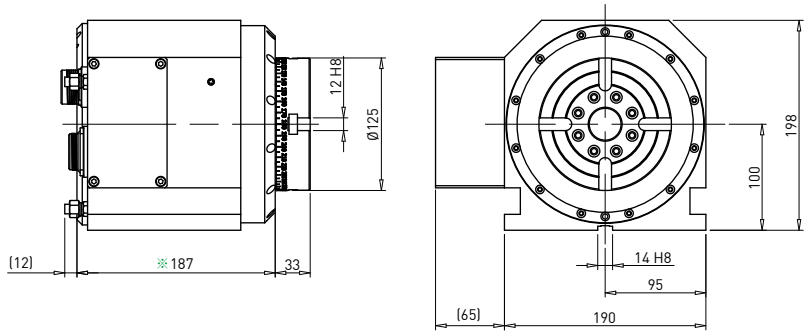


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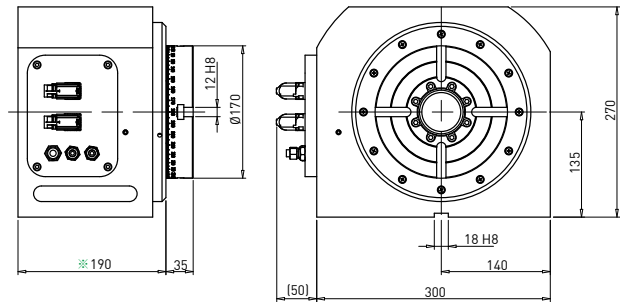
- High acceleration, high torque, high precision and zero backlash direct drive motor.
- High rigidity cross roller bearing.
- With built-in powerful clamping system.
- Widely used in machining center spindle tilting axis and working table.

Spec / Model	Unit	RCV-125	RCV-170	RCV-250	RCV-320
Table Diameter	mm	125	170	250	320
Center Height	mm	100	135	160	220
Center bore diameter	mm	Ø30x26L	Ø60	Ø60	Ø60
T-Slot Width	mm	12H8	12H8	12H8	14H8
Direct Drive Motor	-	TMRW15	TMRW45	TMRW47	TMRWA5
Max. Revolutions per Minute	r.p.m	400	200	140	90
Continuous Torque	N-m	31.3	106	148	430
Peak Torque	N-m	59.4	203	280	810
Clamping Type	-	Pneumatic (6 bar)			
Clamping Torque	N-m	100	300	600	1200
Net Weight	kg	30	95	150	320
Max. Load Capacity	kg	20	50	120	250

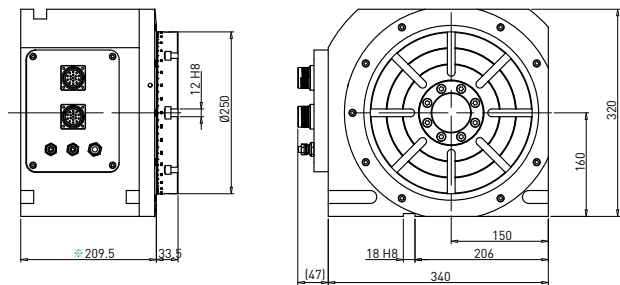
※ All models listed in the table are standard specification. If any special requirement is needed, please contact Hiwin.
 ※ The accuracy (compensated) and repeatability are determined by the choice of encoder.



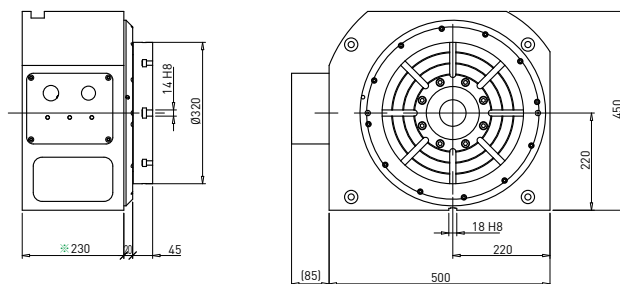
RCV-125



RCV-170



RCV-250



RCV-320

Direct Drive Horizontal Rotary Table Series

RCH Series



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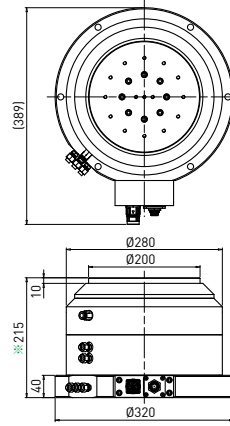
- High acceleration, high torque, high precision and zero backlash direct drive motor.
- Large bore diameter, high rigidity axial-radial bearing.
- With built-in powerful clamping system.

Spec / Model	Unit	RCH-200-SP	RCH-200	RCH-400	RCH-600	RCH-800
Table Diameter	mm	200	200	400	600	800
Direct Drive Motor	-	TMRW43-SB	TMRW43	TMRW7A	TMRWAF	TMRWDF
Max. Revolutions per Minute	r.p.m	2000	300	130	100	90
Continuous Torque	N-m	27.9	63.5	480	1290	2000
Peak Torque	N-m	52.7	120	910	2400	3600
Clamping Type	-	Pneumatic (6 bar)		Hydraulic Pressure (70 bar)		Pneumatic (6 bar)
Clamping Torque	N-m	500	500	2000	3200	4200
Net Weight	kg	85	85	190	430	750
Max. Load Capacity	kg	50	50	500	850	1800

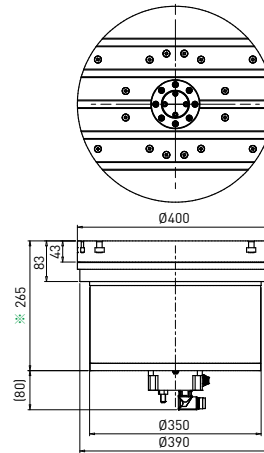
※ All models listed in the table are standard specification. If any special requirement is needed, please contact Hiwin.
 ※ The accuracy (compensated) and repeatability are determined by the choice of encoder.



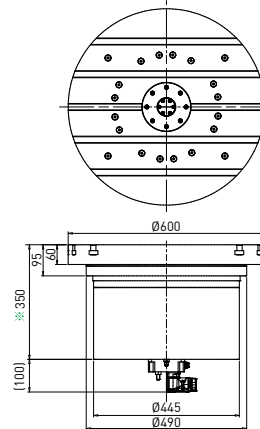
RCH-200



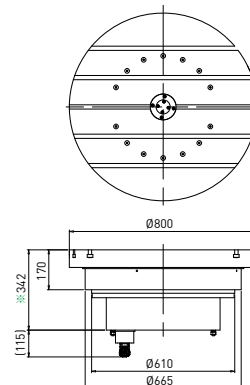
RCH-400



RCH-600

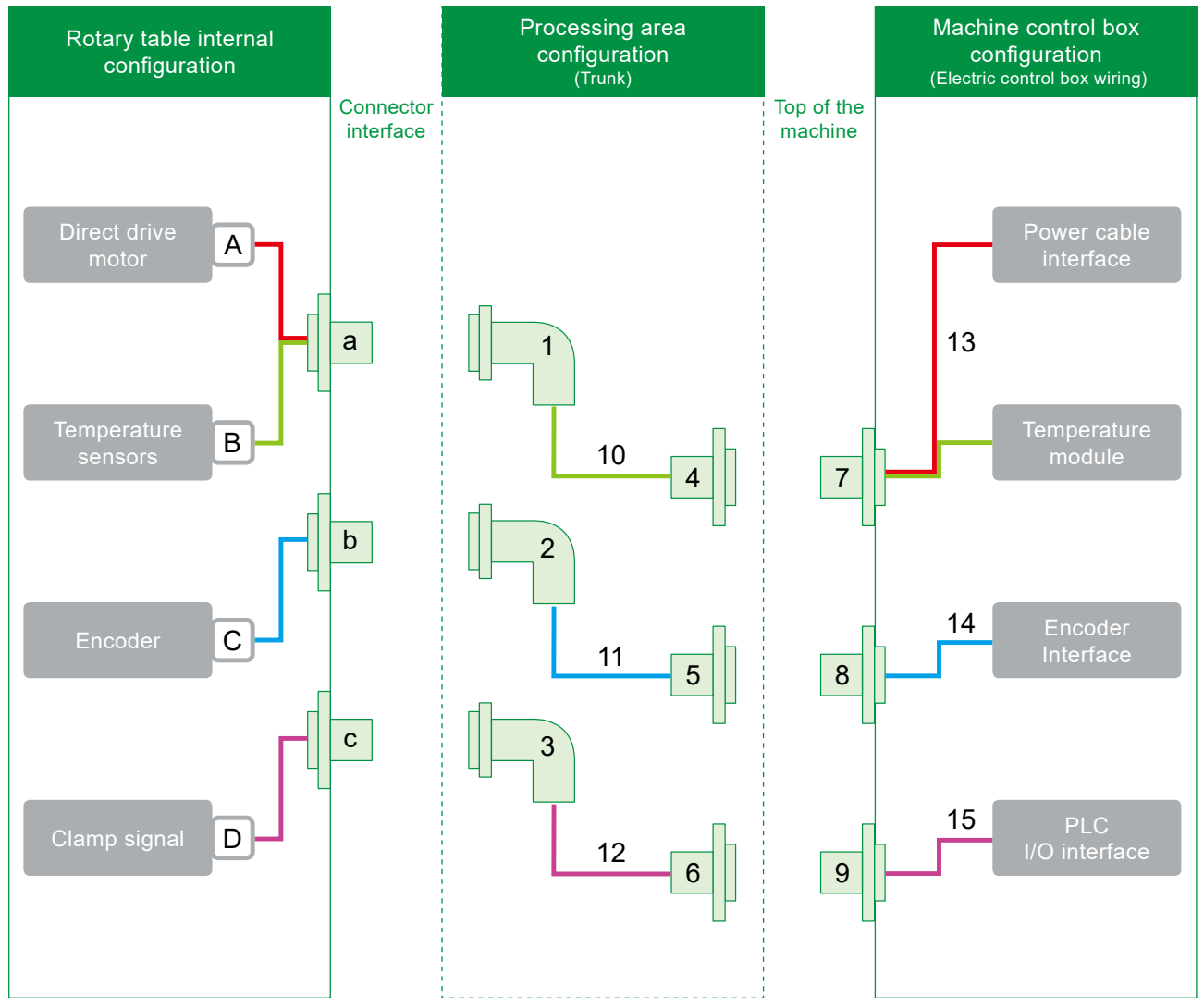


RCH-800



※ Product size varies from encoder selection.

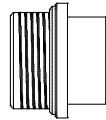
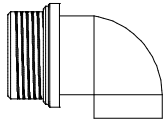
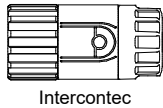
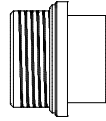
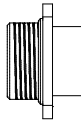
Direct Drive Motor Rotary Table Connector Specifications



- ※1: The internal configuration may differ in different models.
- ※2: Dashed lines can be omitted according to different machine.
- ※3: 1 ~ 15 are the optional accessories, please refer to the accessories {Table 1,2}.

Direct Drive Motor Rotary Table Connector Table

Table 1: Rotary table connector

No.	Name	Model	Description
(1) (2) (3)	Straight military Connector	MS3106A-14S-2S \ MS3106A-16S-1S MS3106A-20-29S \ MS3106A-22-22S MS3106A-32-17S \ MS3106A-22-23S	
	90 degree military Connector	MS3108A-14S-2S \ MS3108A-16S-1S MS3108A-20-29S \ MS3108A-22-22S MS3108A-32-17S \ MS3108A-22-23S	
	European Connector	CSTA265FR01450001000 CSTA263FR42440001000 BSTA082FR06590235000 BSTA896FR0986202A000 ASTA046FR0187050A000	 Intercontec
(4) (5) (6)	Straight military Connector	MS3106A-14S-2P \ MS3106A-16S-1P MS3106A-20-29P \ MS3106A-22-22P MS3106A-32-17P \ MS3106A-22-23P	
(7) (8) (9)	Flange military Connector	MS3102A-14S-2S \ MS3102A-16S-1S MS3102A-20-29S \ MS3102A-22-22S MS3102A-32-17S \ MS3102A-22-23S	


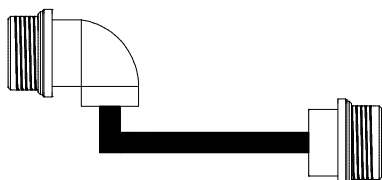


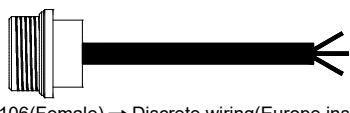
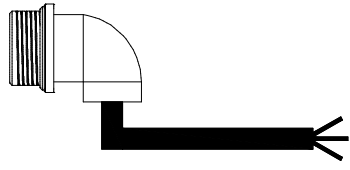
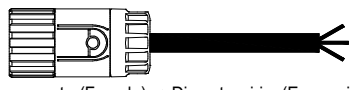
① Wire	-	② Connector	③ Protective material	-	④ Type	-	⑤ Length
PCT	-	M	N	-	9D	-	5

① Wire		② Connector		③ Protective material		④ Type		⑤ Length	
PC	Power cable	M	Military type	N	Nylon tube	0D	Straight double connector	3	3 meters
PCT	Power cable with temperature sensor	E	European type	7	PVC pipe (PT706)	9D	90 degree double connector	5	5 meters
SC	Clamping signal cable			2	Stainless steel wire (NK206)	0S	Straight single connector	7	7 meters
EC	Encoder signal cable			0	None	9S	90 degree single connector	9	9 meters
ECT	Power cable with temperature sensor								

※ Note: Detail selection please see {Table 2}

Cable Selection For Direct Drive Rotary Table

Table 2 : Cable Selection Table

Item No.	Item	Model	Schematic
(10) (11) (12)	Junction cable	□□□ -M □ -0D- □□	 <p>Type: MS3106(Female) → MS3106(Male)</p>
		□□□ -M □ -9D- □□	 <p>Type: MS3106(Female) → MS3106(Male)</p>
		□□□ -E □ -0D- □□	 <p>Type: Europe connector(Female) → MS3106(Male)</p>
(13) (14) (15)	Electric box cable	□□□ -M □ -0S- □□	 <p>Type: MS3102(Female) → Discrete wiring(Europe insulated cord)</p>
		□□□ -M □ -0S- □□	 <p>Type: MS3106(Female) → Discrete wiring(Europe insulated cord)</p>
		□□□ -M □ -9S- □□	 <p>Type: MS3108(Female) → Discrete wiring(Europe insulated cord)</p>
		□□□ -E □ -9S- □□	 <p>Type: Europe connector(Female) → Discrete wiring(Europe insulated cord)</p>

※ Note1: Provide selective one-piece cable connector including (power cable, encoder cable, clamping signal, pneumatic tube).
 ※ Note2: Provide optional HEIDENHAIN encoder signal cable.

Selection Table For Direct Drive Rotary Table

Table 3 : Drive Selection For Rotary Table

Drive \ Type	RAB series	RAS series	RCV series	RCH series
FANUC	■ + ◎	■ + ◎	■ + ◎	■ + ◎
MITSUBISHI	○	○	○	○
SIEMENS	○	○	○	○
HEIDENHAIN	○	○	○	○
NUM	○	○	○	○
Syntec	▲	▲	○	○
Lynuc	○	○	○	○
Huazhong CNC	○	○	○	○
GSK	○	○	○	○

- ※ Note: ○ Means the drive supports the communication of the rotary table.
 ▲ Means partially support, further information please contact HIWIN.
 ■ Indicates that it requires to apply for the motor parameters from the original drive supplier.
 ◎ Indicates that it requires to apply for motor pole detection function from the original drive supplier.

Table 4 : Encoder Selection For Rotary Table

Encoder \ Type	RAB series	RAS series	RCV series	RCH series
HEIDENHAIN	○	○	○	○
RENISHAW	-	-	○	○
NIKON	-	-	○	○

- ※ Note: For encoder accuracy and repeatability, please refer to the encoder supplier technical data.
 ○ Indicates that the series of Rotary Table can be compatible with this encoder manufacturer.
 - Indicates that the series of Rotary Table is not compatible with this encoder manufacturer.

Table 5 : Drive Selection For Encoder

Drive \ Encoder	HEIDENHAIN	RENISHAW	NIKON
FANUC	○	○	X
MITSUBISHI	○	○	X
SIEMENS	○	○	X
HEIDENHAIN	○	X	X
NUM	○	○	X
Syntec	X	○	○
Lynuc	○	○	X
Huazhong CNC	○	○	X
GSK	○	X	X

- ※ Note: ○ Indicates that this drive is compatible with the encoder.
 X Indicates that the drive is not compatible with the encoder.

Subsidiaries / Research Center

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