



**Strong & Compact NC Rotary Table**

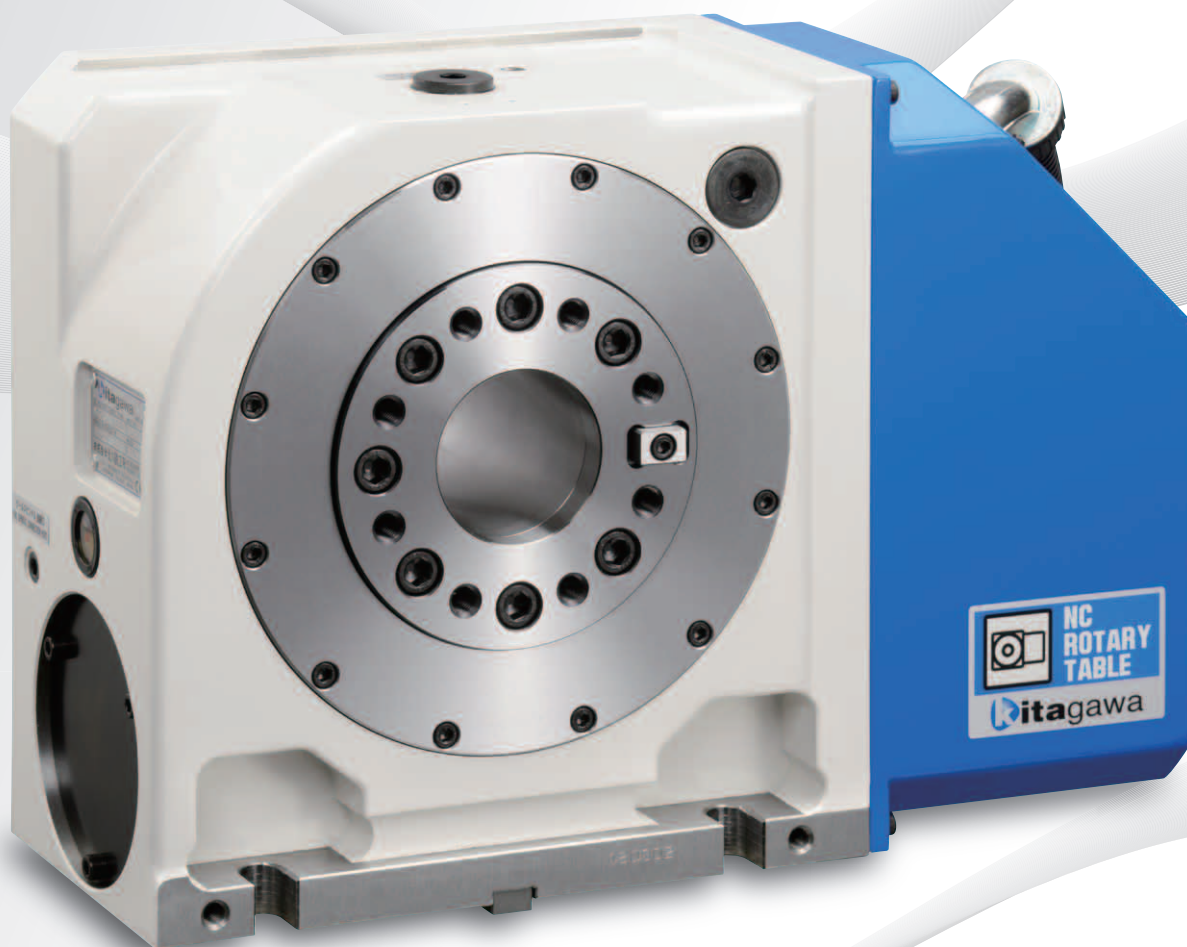
# ***MK series***

## **Performance improved**

**Powerful clamping torque  
and high cutting torque**

## **Improved mounting**

**Chip flow improved and  
jig interference eliminated**



## **Wide selection of rotary joints**

**7 ports and 17 ports are available depending  
on model and also high pressure is supported.**

## The strong and compact NC rotary table MK series now has a full line up.

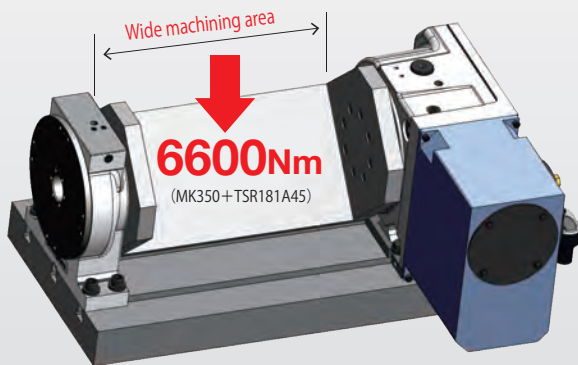
### Performance improved

### Powerful clamping torque

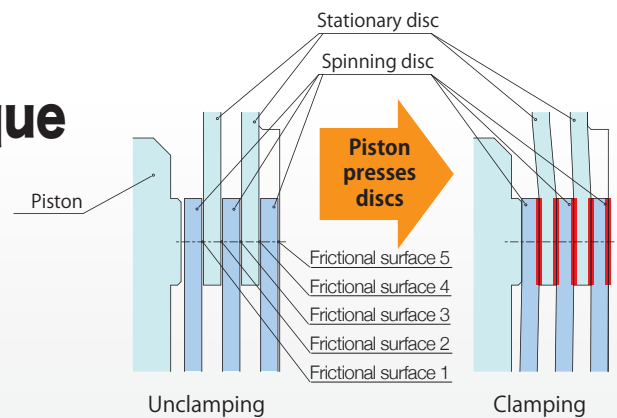
◎ Large capacity provides the highest specifications in its class

MK350: 6000Nm  
 MK250: 1000Nm  
 MK200: 570Nm

Jig space and clamping torque are boosted by the set of the MK series and Kitagawa tail spindle.



Strong clamp by multi-disc clamping system (PAT. 4328060)

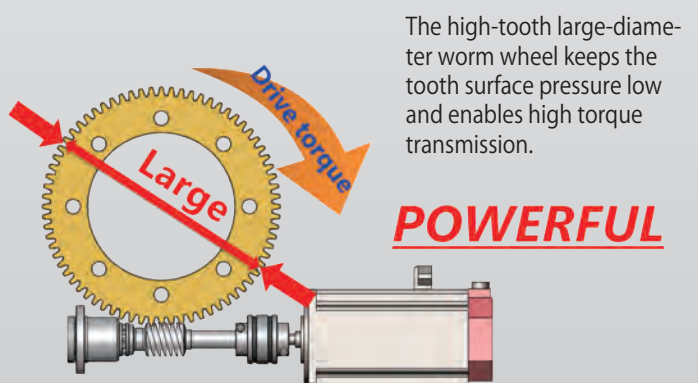
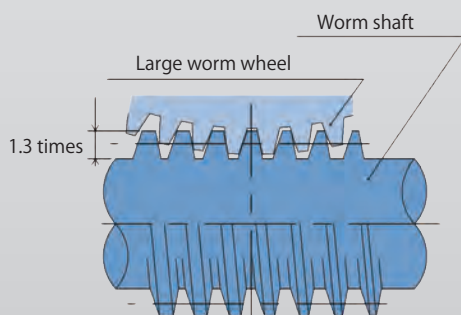


◎ It becomes more powerful when used with a tail spindle.

MK350+Tail Spindle TSR181A45  
 $6000\text{Nm} + 600\text{Nm} = 6600\text{Nm}$   
 MK250+Tail Spindle MSR181A  
 $1000\text{Nm} + 600\text{Nm} = 1600\text{Nm}$   
 MK200+Tail Spindle MSRC140  
 $570\text{Nm} + 400\text{Nm} = 970\text{Nm}$

### High cutting torque

◎ High-tooth and large-diameter worm wheel design enables heavy lead cutting.

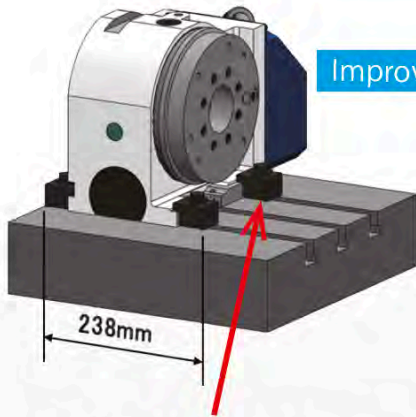


The high-tooth large-diameter worm wheel keeps the tooth surface pressure low and enables high torque transmission.

**POWERFUL**

## Improved mounting

Our existing product

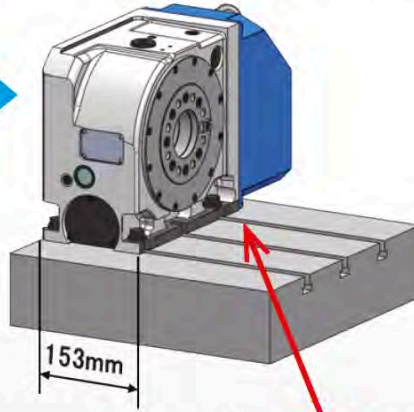


Cutting chips accumulate at fixing part and interfere with the fixture.

The locator on riser block helps retain locating accuracy and assists with maintenance.

Improved

MK200

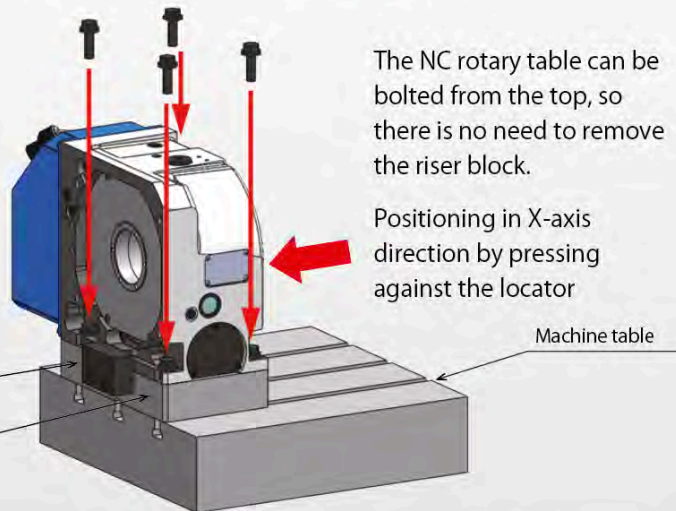


Simple fixing part

It can be directly installed by inserting bolts from the top without clamping devices.



The effective thickness is reduced and chip flow is improved.



The NC rotary table can be bolted from the top, so there is no need to remove the riser block.

Positioning in X-axis direction by pressing against the locator

Locator

Riser block

Machine table

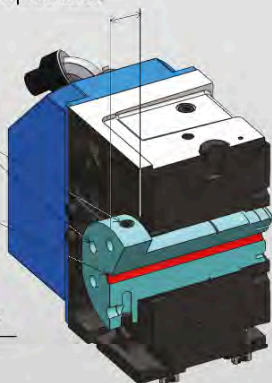
## Wide selection of rotary joints

Small protrusion

Selectable connecting location

Multi purpose hole  $\phi 12.5$

Built-in 6+1 ports

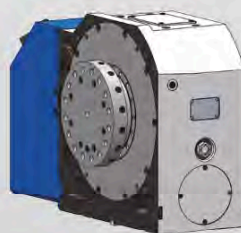


\* Passage Area  
Built-in type: 12.6mm<sup>2</sup>  
External Type: 19.6mm<sup>2</sup>

◎ Compact built-in rotary joints can be selected from 4, 5 and 6+1 ports (16+1 ports for MK350). The +1 port of the centre hole is a  $\phi 12.5$ mm multi-purpose hole for coolant, work seating detection sensors, etc.

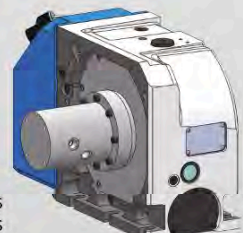
◎ 25MPa high-pressure rotary joints are also available for miniaturization of fixtures and fast actuation.

4ports  
5ports  
6+1ports  
16+1ports



Built-in rotary joint







4ports  
6ports



External rotary joint



## ■ Specifications of MK

Model	MK200	MK250	MK350	
Table dia (mm)	φ 135	φ 155	φ 275	
Centre hole dia (mm)	φ 65H7	φ 70H7	φ 160H7	
Spindle through hole diameter (mm)	φ 70	φ 70	φ 160	
Centre height (mm)	140	180	225	
Clamping method	Pneumatic	Pneumatic	Pneumatic /Hydraulic	
Clamping torque (N·m) (Pneumatic 0.5MPa, Hydraulic 3.5MPa)	570	1000	6000	
Motor axis reduced inertia (kg·m <sup>2</sup> ) (for FANUC specification)	0.00018	0.00041	0.00082	0.00181
Servomotor	α iF4/5000	α iF4/5000	α iF8/3000	α iF12/4000
Gear ratio	1/90	1/90	1/120	1/90
Max. rotation speed (min <sup>-1</sup> )	33.3 (3000min <sup>-1</sup> )	33.3 (3000min <sup>-1</sup> )	25(FANUC) (3000min <sup>-1</sup> ) 16.6(QTC100·2000min <sup>-1</sup> )	33.3(FANUC) (3000min <sup>-1</sup> ) 22.2(QTC300·2000min <sup>-1</sup> )
Allowable work inertia (kg·m <sup>2</sup> )	1.00	1.95	7.66	
Indexing accuracy (sec)	20	20	20	
Repeatability (sec)	4	4	4	
Mass of product (kg)	60	95	185	200
Allowable mass of workpiece (kg)	Horizontal installation 	200	250	500
	Vertical installation 	100	125	250
Allowable load (When table is clamped)	F (kN) 	17	21	38
	FxL (N·m) 	1100	1600	2700
	FxL (N·m) 	570	1000	6000
Allowable cutting torque (N·m) 	270	480	1400	
Built-in rotary joint (Option)	Pneumatic/hydraulic 6 ports + multi-purpose hole*	Pneumatic/hydraulic 6 ports + multi-purpose hole*	Pneumatic/hydraulic 17 ports	

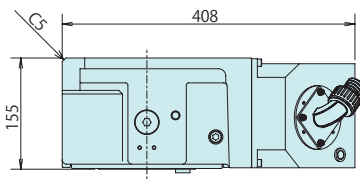
\* The multi-purpose hole is a φ 12.5 through hole that can be freely used for coolants or seating confirmation sensor wiring ducts, etc.

Feature introduction movie of MK series

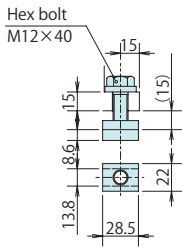


## ■ Dimensions of MK200

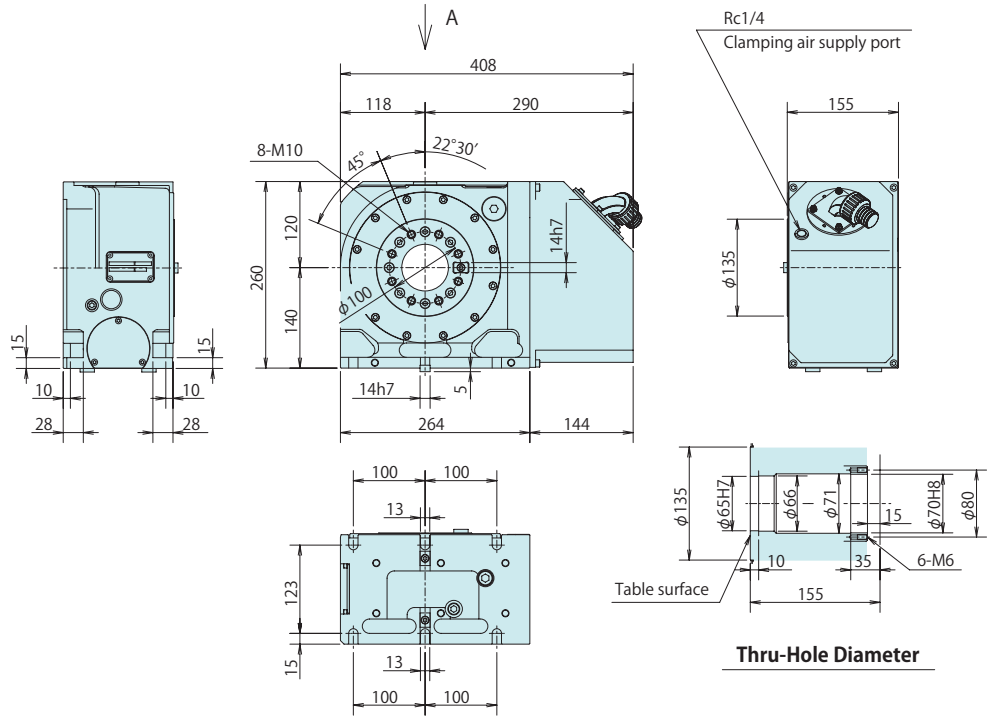
### M signal spec.



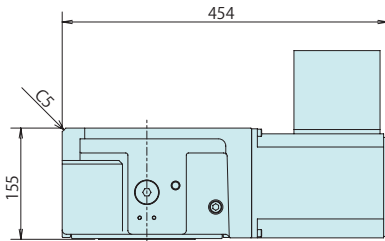
VIEW A



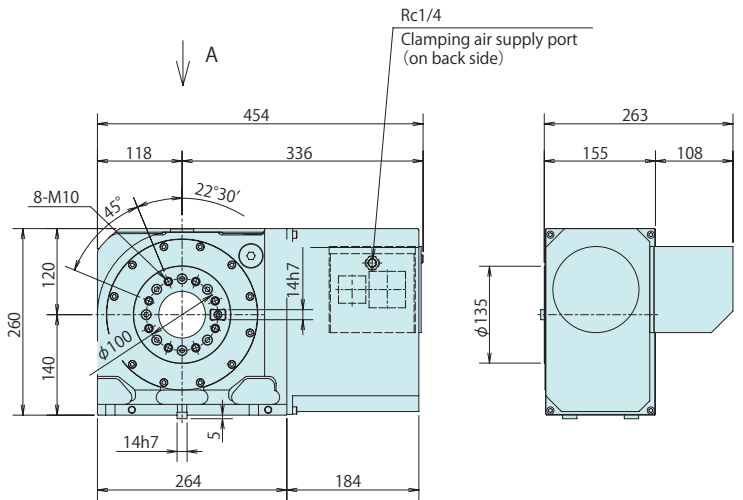
Clamping Device



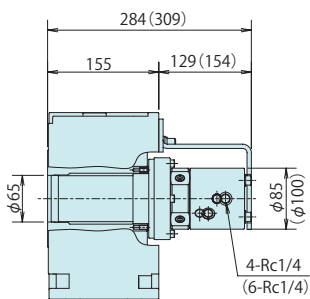
### 4th axis spec.



VIEW A

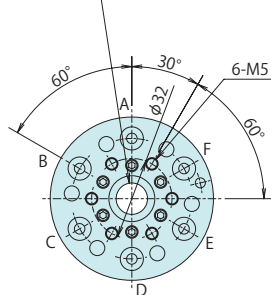


### Rotary joint

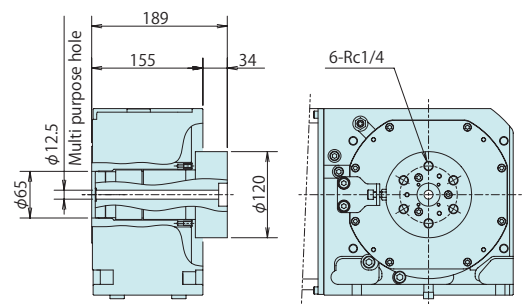


External 4-port rotary joint  
Dimensions in ( ) are for 6-port rotary joint.

G port  
phi 12.5  
Multi purpose hole



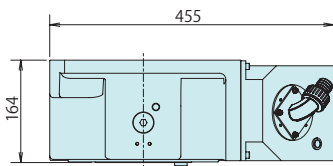
Rotary joint jig attachment side details



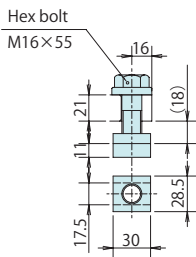
Built-in 6-port rotary joint  
External dimensions of 4-port and 5-port rotary joints are the same as this.

## ■ Dimensions of MK250

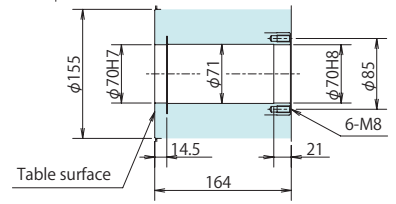
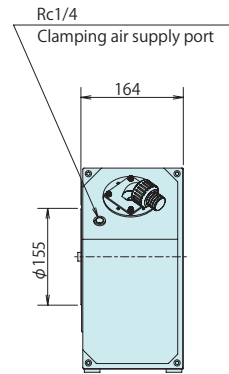
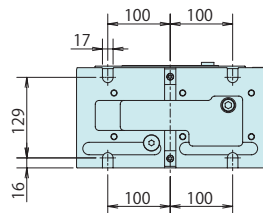
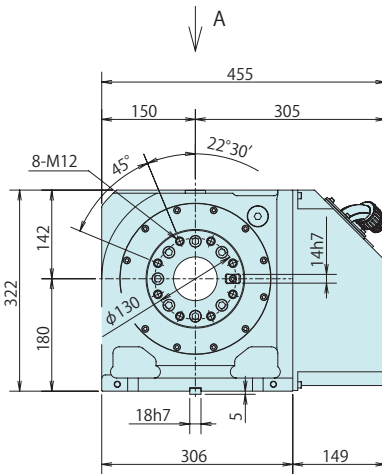
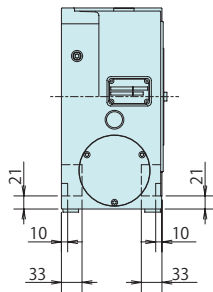
### M signal spec.



VIEW A

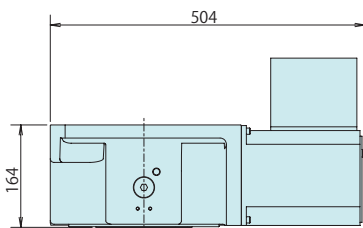


Clamping Device

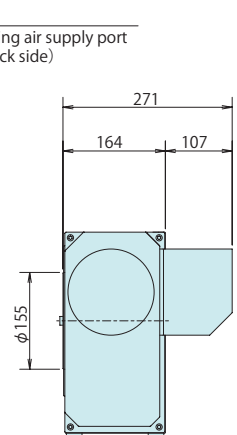
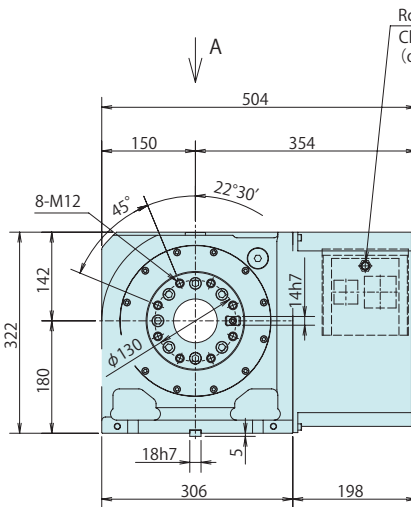


Thru-Hole Diameter

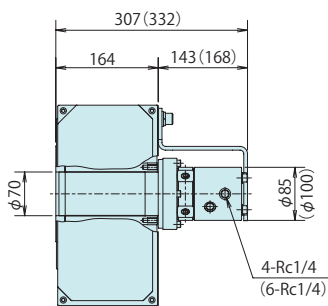
### 4th axis spec.



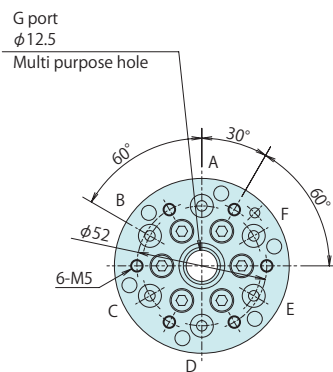
VIEW A



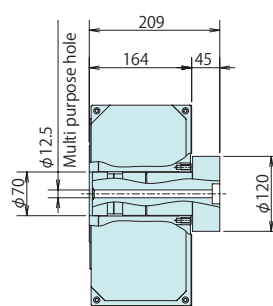
### Rotary joint



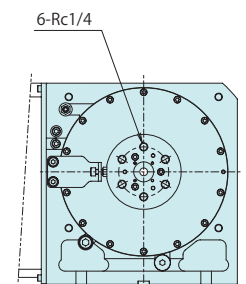
External 4-port rotary joint  
Dimensions in ( ) are for 6-port rotary joint.



Rotary joint jig attachment side details

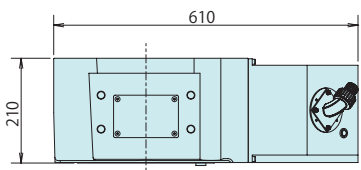


Built-in 6-port rotary joint  
External dimensions of 4-port and 5-port rotary joints are the same as this.

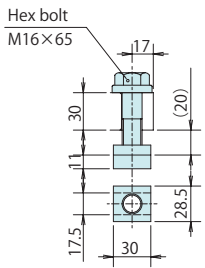


# ■ Dimensions of MK350

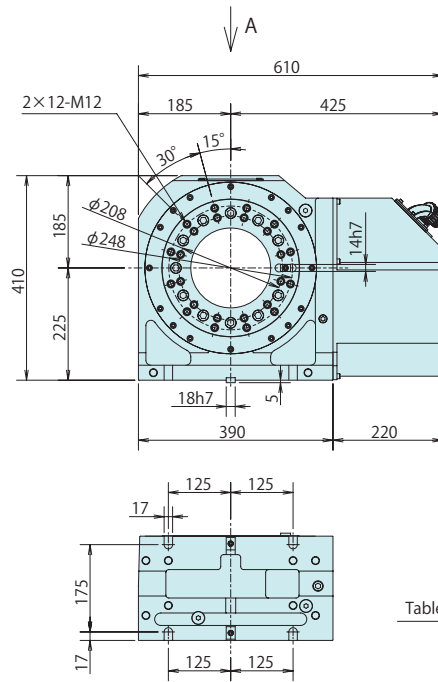
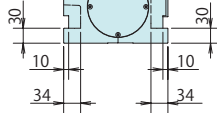
## M signal spec.



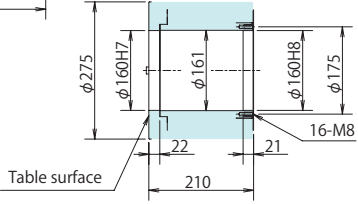
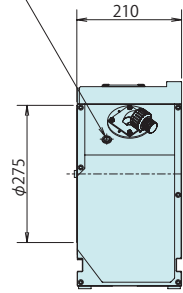
VIEW A



Clamping Device

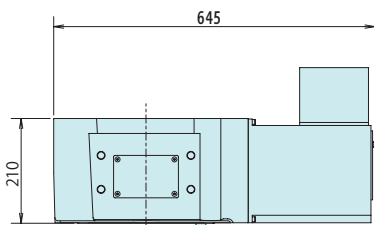


Rc1/4  
Clamping air supply port

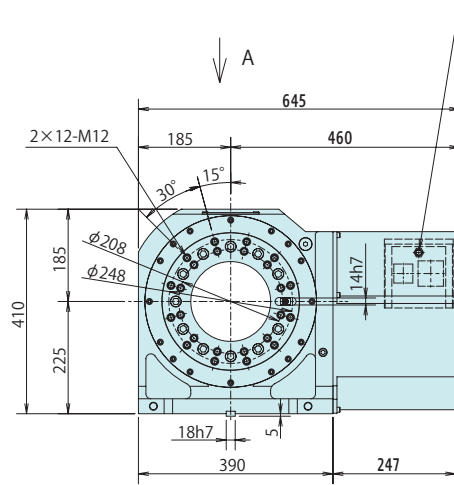


Thru-Hole Diameter

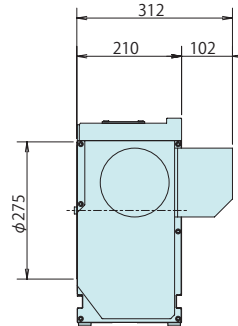
## 4th axis spec.



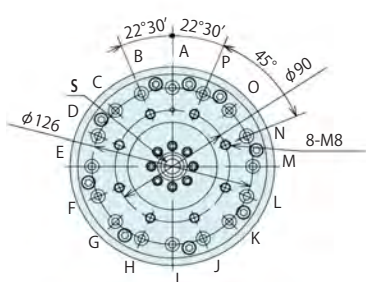
VIEW A



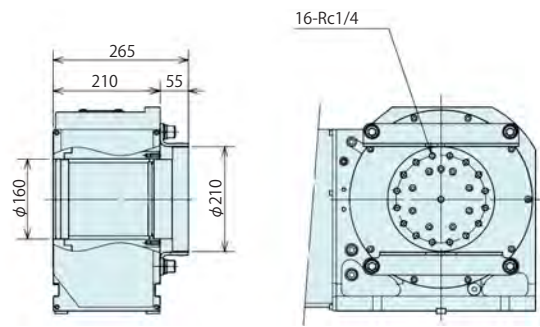
Rc1/4  
Clamping air supply port  
(on back side)



## Rotary joint



Rotary Joint JIG Attachment Side Details



Built-in 16-port rotary joint

# Matching tail stock and tail spindle

There are a variety of options such as a tail stock for supporting long workpieces and a tail spindle for trunion assemblies. For details, please refer to our NC rotary table catalogue.

Rotary table	Manual tail stock	Pneumatic tail stock	Hydraulic tail stock	Pneumatic tail spindle	Hydraulic tail spindle
MK200	MR200RN	MR200AN	—	MSRC140/MSR142A	—
MK250	MR250RN	MR250AN	—	MSR181A	—
MK350	MR320RN	MR320AN	MR320HN	TSR181A45	TSR181H45

Air and hydraulic tailstocks are the production by order products.

Please refer to our NC rotary table catalogue for the dimensions and specifications of the tail stocks and tail spindles.



Manual tail stock



Tail spindle

# Matching scroll chuck

All of the scroll chucks described on this page are dedicated for NC rotary tables and can be installed from the front of the chuck. A dedicated back plates are also available. For details, please refer to our NC rotary table catalogue.



Rotary table	Chuck diameter	①	②	③
MK200	165	JN06-101	JN06T102	JN06TN
	190	JN07-101	JN07T102	JN07TN
MK250	232	JN09-101	JN09T102	JN09TN
	273	JN10-101	JN10T102	JN10TN
MK350	273	JN10-101	JN10T102	JN10TN
	310	JN12-101	JN12T102	JN12TN

- ① : One set each of internal one-piece jaws and external one-piece jaws are attached as standard.
- ② : One set each of internal/external use 2-piece hard jaws and 2-piece soft jaws are attached as standard.
- ③ : CE compliant model by changing the handle of ①.



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