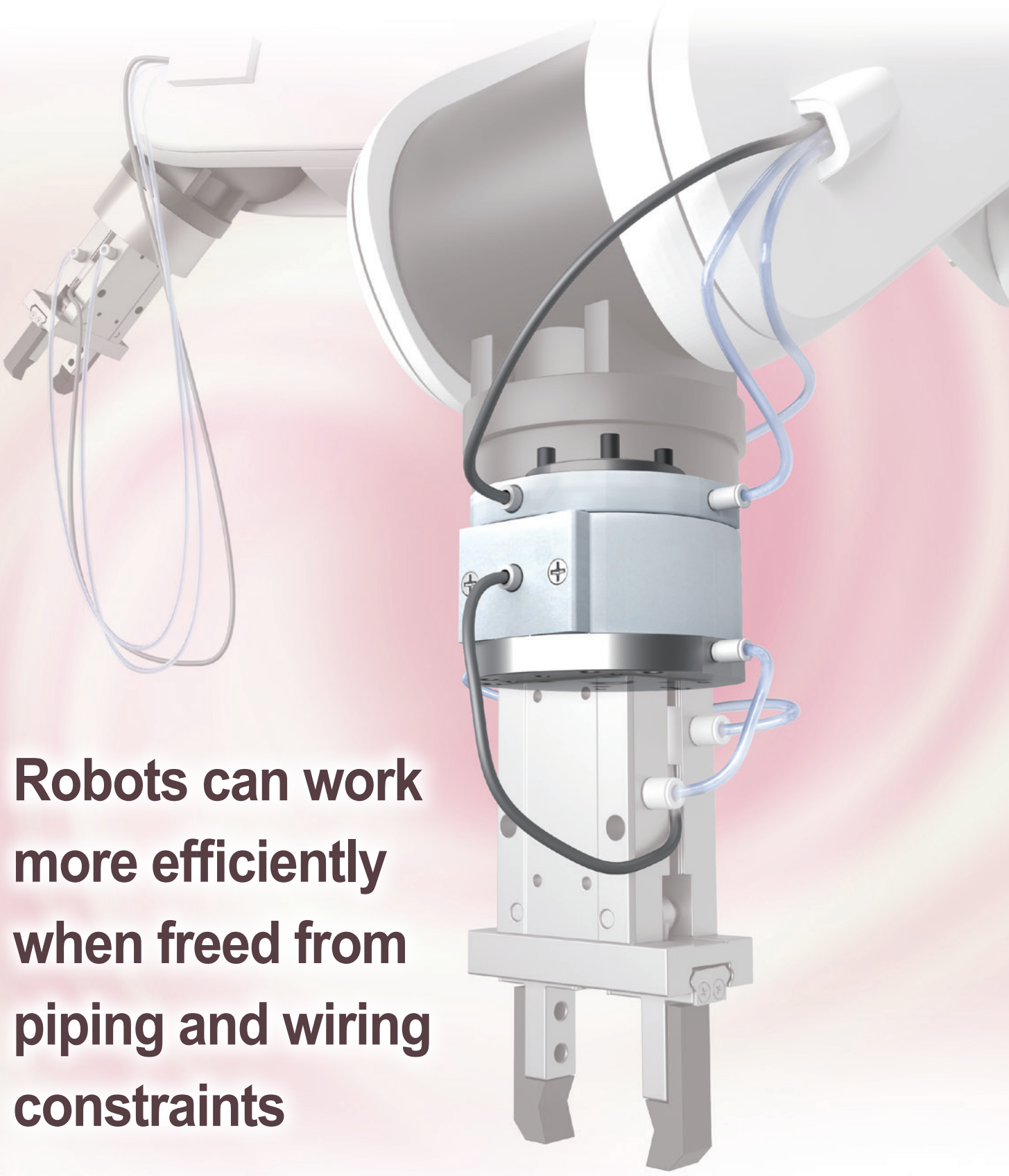
CKD

New Products

Robot Rotary
RJAC Series



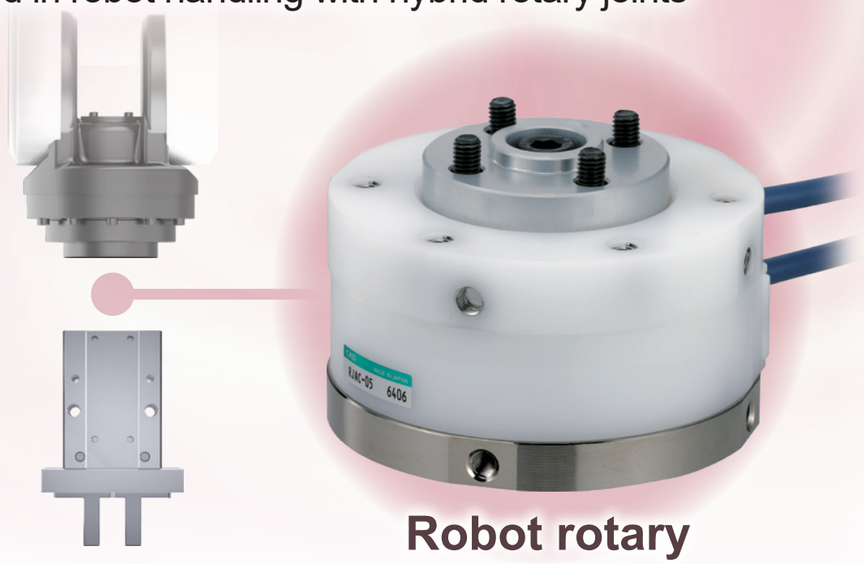
Robots can work more efficiently when freed from piping and wiring constraints

CKD Corporation
CC-1688AA

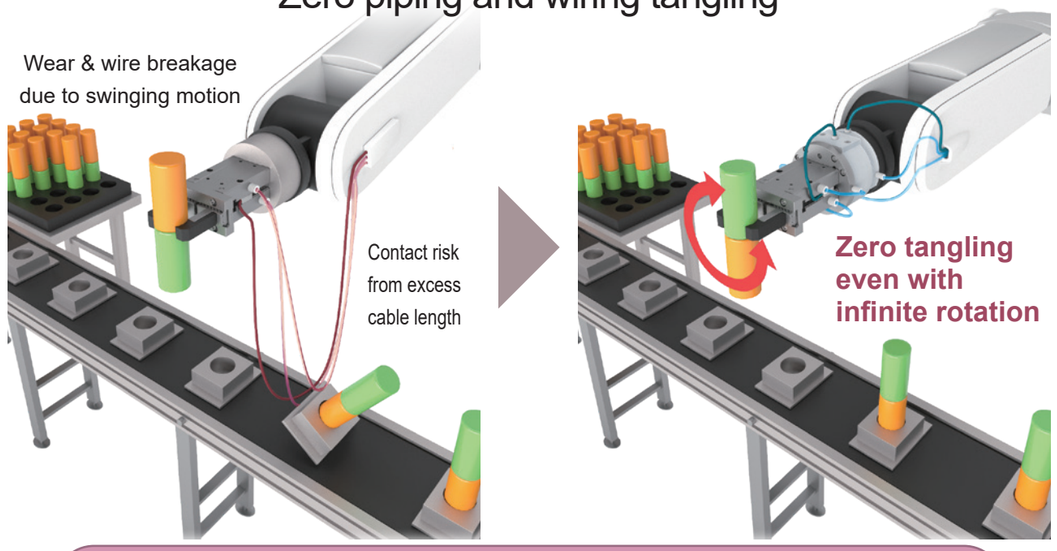
Robot rotary **RJAC series**

Having trouble with air piping and sensor wiring for robot end tools?

New standard in robot handling with hybrid rotary joints



Supplies air and electricity internally to the rotating robot end
Zero piping and wiring tangling



Solving piping and wiring challenges

Reduced maintenance man-hours

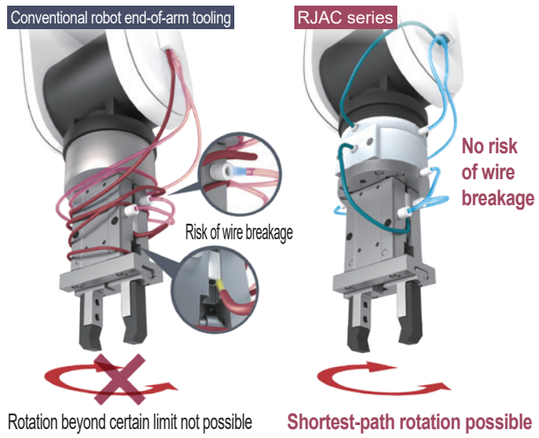
Prevents wire breakage and tangling at the source, avoiding unexpected line stoppages.

Reduced installation workload

No cable excess length adjustment required. Easy setup for anyone.

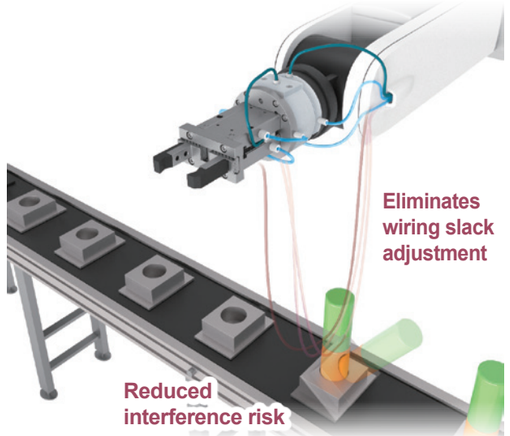
Tact Increase

Enables shortest-path rotation, significantly reducing robot cycle time.



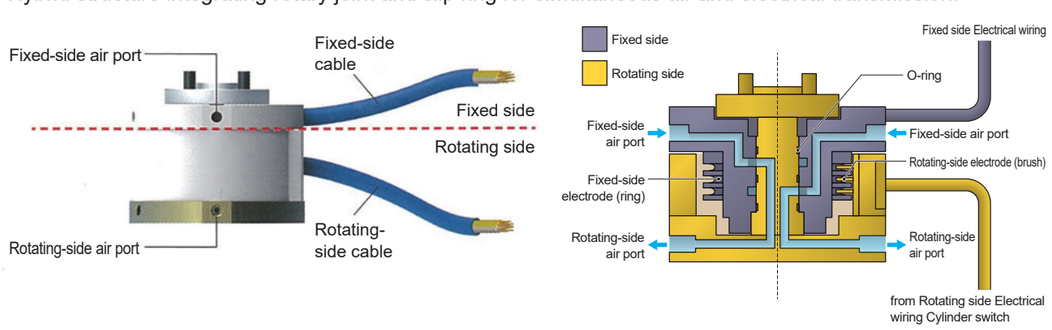
Space-saving

Slimmer robot wrist design reduces interference risk with peripheral equipment and workpieces.



Capable of air & electrical transmission

Hybrid structure integrating rotary joint and slip ring for simultaneous air and electrical transmission.



Size and mounting standards matching robot payload

Model No.		RJAC-01	RJAC-05	RJAC-07	RJAC-25
					
Payload	kg	1	5	7	25
Mounting standards		Compliant with FANUC M1iA	Compliant with ISO 9409-1-31.5-4-M5		Compliant with ISO 9409-1-40-4-M6
Approximate dimensions mm 	A	43.5	48	55	84
	B	ø57	ø76	ø72	ø84

Robot rotary

RJAC Series

● Payload : 1, 5, 7, 25 kg

RoHS

Model No. Notation

RJAC - **01**

Model No.

❶ Payload

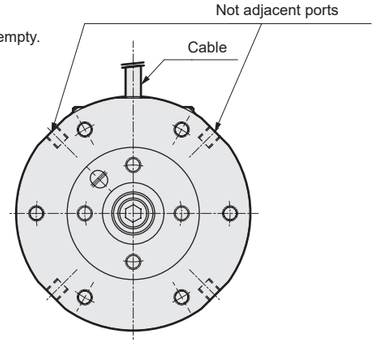
❶Payload

Code	Contents
01	1 kg
05	5 kg
07	7 kg
25	25 kg

Specifications

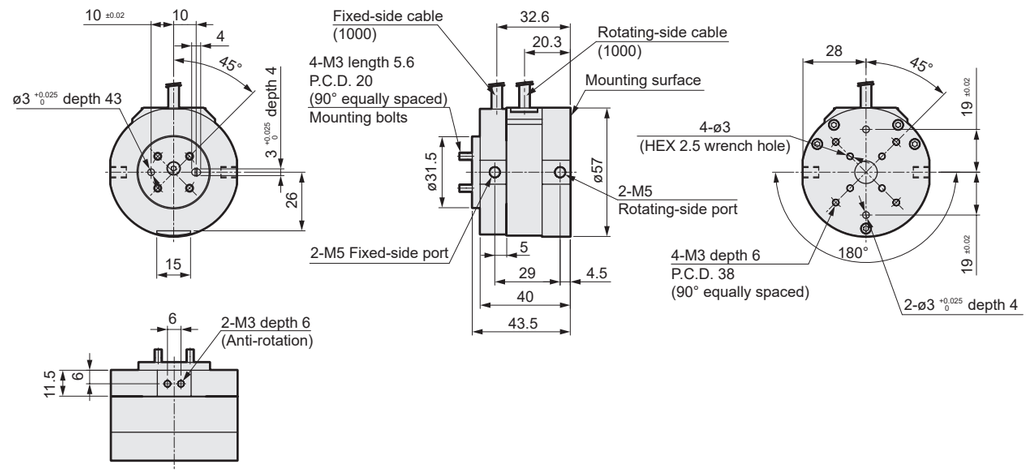
Item			RJAC-01	RJAC-05	RJAC-07	RJAC-25
Payload		kg	1	5	7	25
Piping	Applicable fluid		Compressed air			
	Number of circuits		2	4		6
	Port size		M5			Rc1/8
	Pressure range		-100 kPa to 0.7 MPa (*2) (*3)			
	Min. cross-sectional area	mm²	4 (ø2.3 equivalent)	0.58	4 (ø2.3 equivalent)	11.3 (ø3.8 equivalent)
Wiring	Electrical signal		3-core (2A/cable)	4-core (2A/wire)	12-core (2A/core)	12-core (2A/core)
	Cable diameter	mm	ø4.5	ø4.8	ø5.7	
	Individual wire diameter	mm	ø1.19		ø0.9	
Ambient temperature		°C	5 to 60			
Allowable rotation speed (*1)		min⁻¹	340	240	200	140
Allowable torque		N·m	0.56	2.37	2.89	6.7
Rotation resistance		N·m	0.3	0.5	0.6	0.8
Unit mass (excluding cable)		kg	0.2	0.4	0.4	0.9

*1 : Rotations per minute.
*2 : Cannot maintain vacuum.
*3 : Precautions when using both positive pressure and negative pressure
RJAC-01 : Cannot be used together.
RJAC-05 and above : When using both, separate positive and negative pressure ports by leaving one port empty.
Adjacent ports may cause air flow from positive to negative pressure side, potentially breaking vacuum.
(Exception : Ports crossing cables are not considered adjacent.)

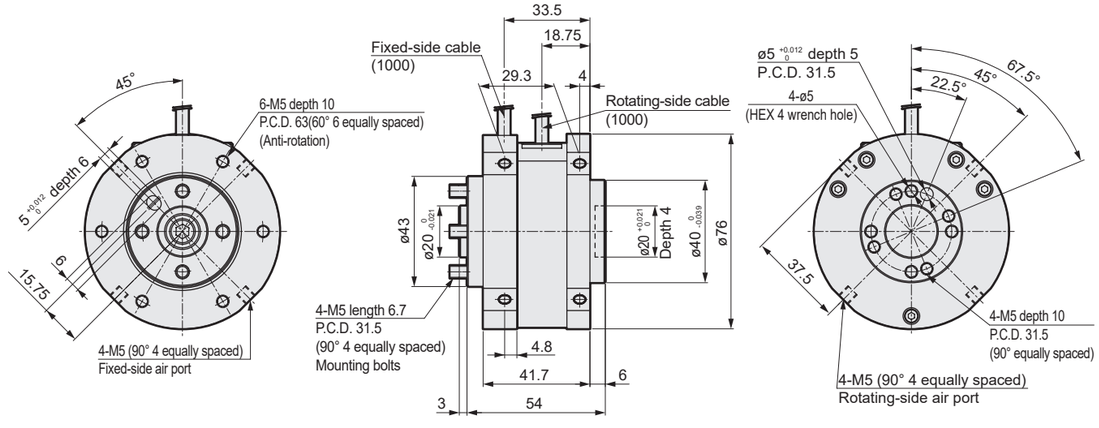


Dimensional Drawings

●RJAC-01

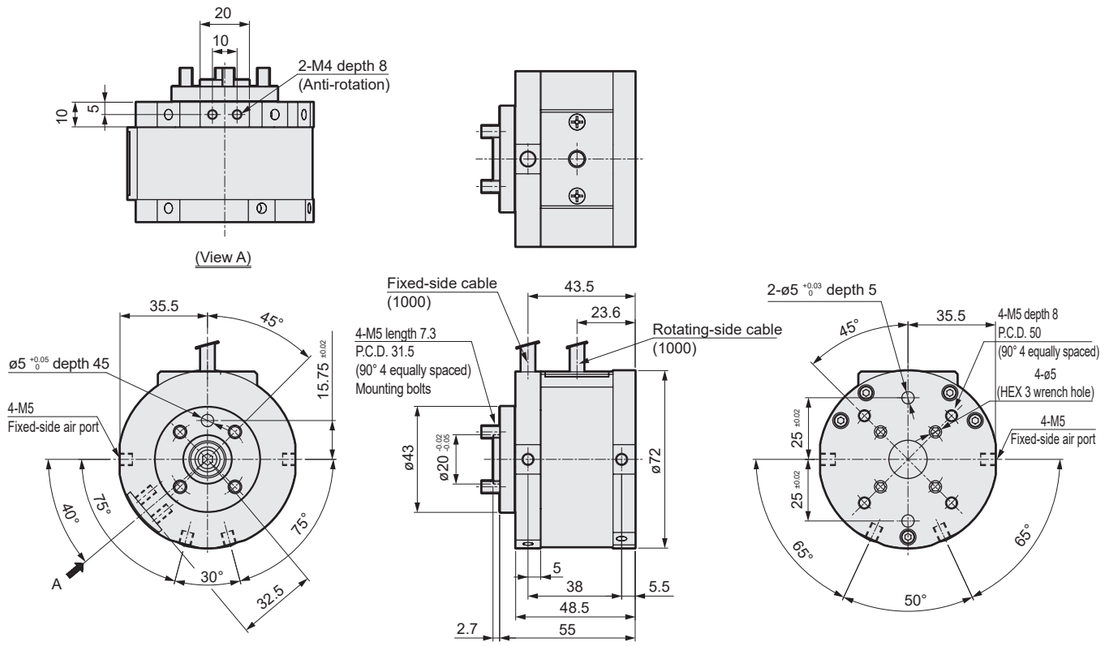


●RJAC-05

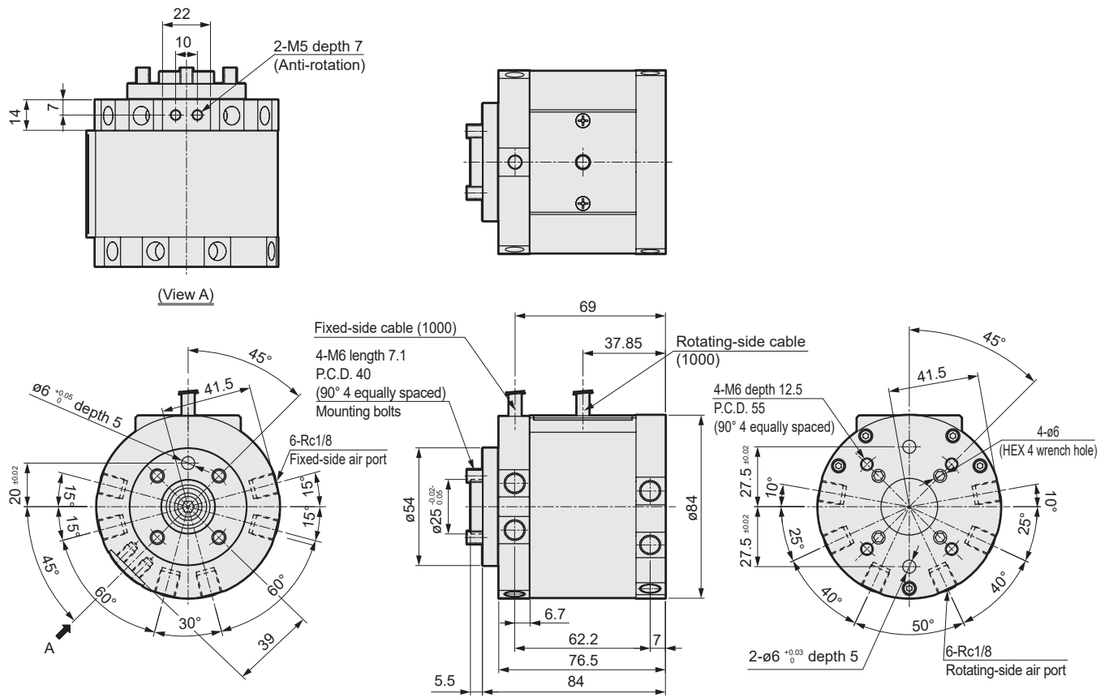


Dimensional Drawings

●RJAC-07



●RJAC-25



Pneumatic equipment

Read this before use for safe operation.

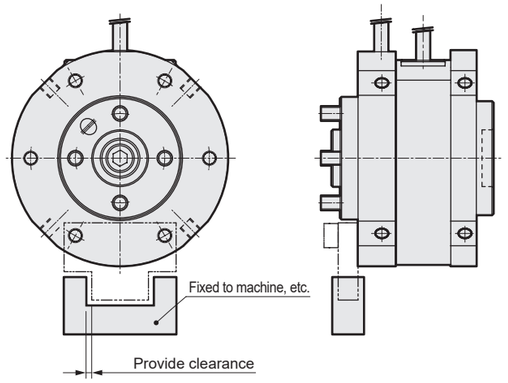
Always read this before use.
For general cylinders and cylinder switches, refer to Pneumatic Cylinder ⑤ (Catalog No. RJ-006AA).

Individual precautions : Robot rotary RJAC series

Design / Selection

Caution

■ The connection between RJAC and anti-rotation must always be in a Floating state. Fixing it may cause excessive load on the rotating shaft, leading to damage or air leakage. Note, the anti-rotation mechanism must be prepared by the customer. The figure below shows a design example. Please design an anti-rotation mechanism suitable for your equipment.



■ The minimum bending radius of the cable is as follows.
RJAC-01 : 27 mm
RJAC-05 : 29 mm
RJAC-07 : 35 mm
RJAC-25 : 35 mm

■ Caution regarding product temperature rise. Continuous rotation heat, applied fluid, or electrical current may raise product temperature above 60 °C, increasing damage risk. Always verify on actual equipment and implement speed reduction or intervals if needed.

■ Maximum load refers to the limit where physical damage doesn't occur under static load (not a guarantee of maintained accuracy). Even within maximum load, torque may cause play. Always use within allowable torque. Consider sufficient safety factors if impacts may occur.

Item	RJAC-01	RJAC-05	RJAC-07	RJAC-25
Max. load moment N·m	2	12.9	15	28
Max. load torque N·m	4.4	9.5	22	32

■ Fixed-side joints should be sized below the values in the following table to avoid interference with rotating parts.

Model No.	Hexagon width across flats
RJAC-01 to 07	8mm
RJAC-25	10mm

■ Operating environment

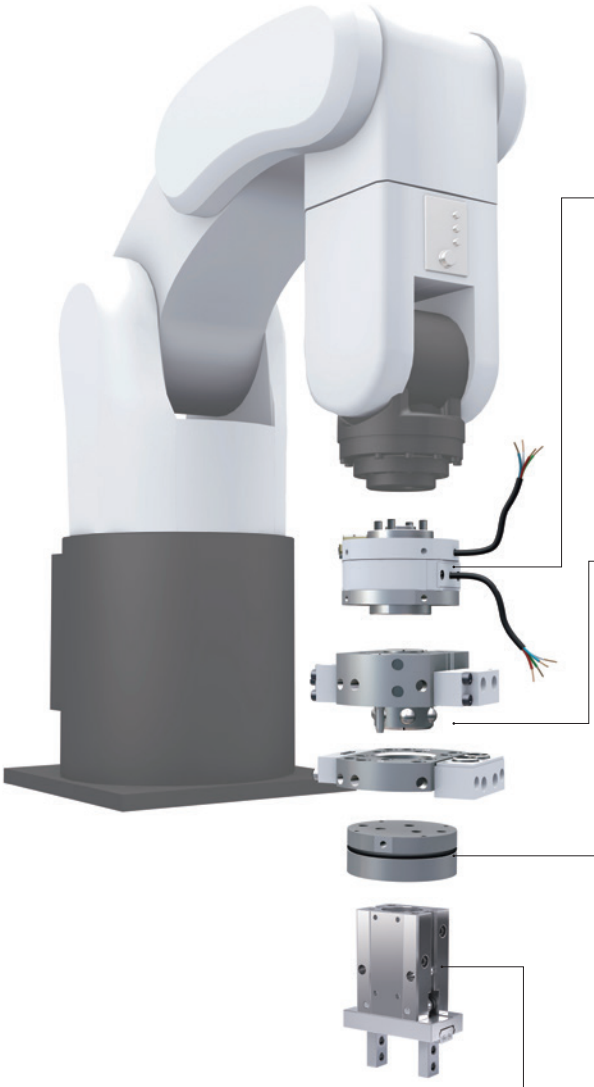
■ In machining, casting, and welding facilities, cutting fluid, chips, dust, or other foreign matter may enter. Use covers to prevent these as much as possible. Also, do not use in the following environments
- Exposed to cutting fluid (abrasives or grinding debris in the fluid may wear sliding parts)
- Atmosphere contains organic solvents, chemicals, acids, alkalis, kerosene, etc.
- Exposed to water

■ Do not disassemble or modify the unit.

For installation/setup/adjustment, operation, and maintenance precautions, visit the CKD equipment product site (https://www.ckd.co.jp/kiki/en/) → "Model No." → Instruction Manual.

Total solutions for robot peripheral components

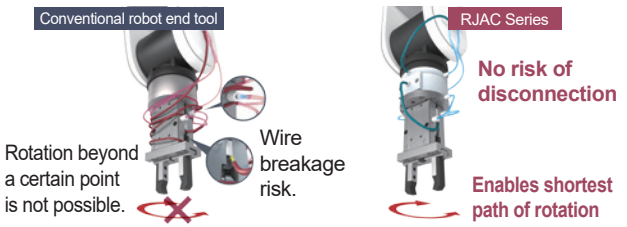
Comprehensive lineup of peripheral equipment designed for ease of use with robots and diverse end effectors. For robot handling, trust CKD.



Robot rotary RJAC Series

Catalog No. CC-1688AA

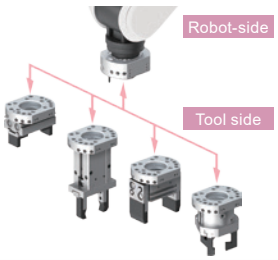
Hybrid rotary joint for air & electrical signals. Eliminates piping, wiring tangling.



Auto Tool Changer KHBC Series

Catalog No. CC-1663AA

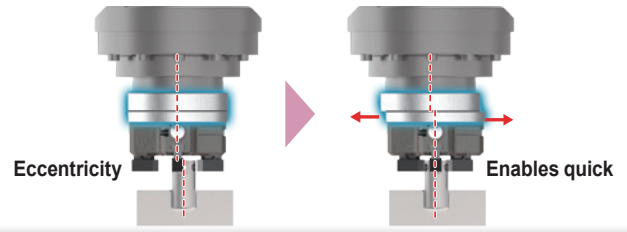
Robot automatically exchanges end tools by itself enabling multi-variety multi-functional robot handling.



Quick Adjuster slim QREC Series

Catalog No. CC-1687AA

Low-friction centering mechanism eliminates robot misalignment issues.



Robot Handling Components Guide

Catalog No. CC-1478AA

Click!

Wide variety of end effectors

Electrically grip, Pneumatically grip, Vacuum suction

Electric gripper | Air hand / Air chuck | Suction pad | Vacuum ejector

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