

Rotary Chuck

RCP6-RTCK

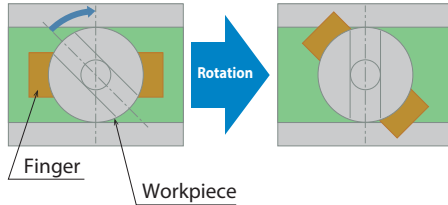


Can be rotated to any angle
Motorized rotation and gripping
consolidated into a single unit

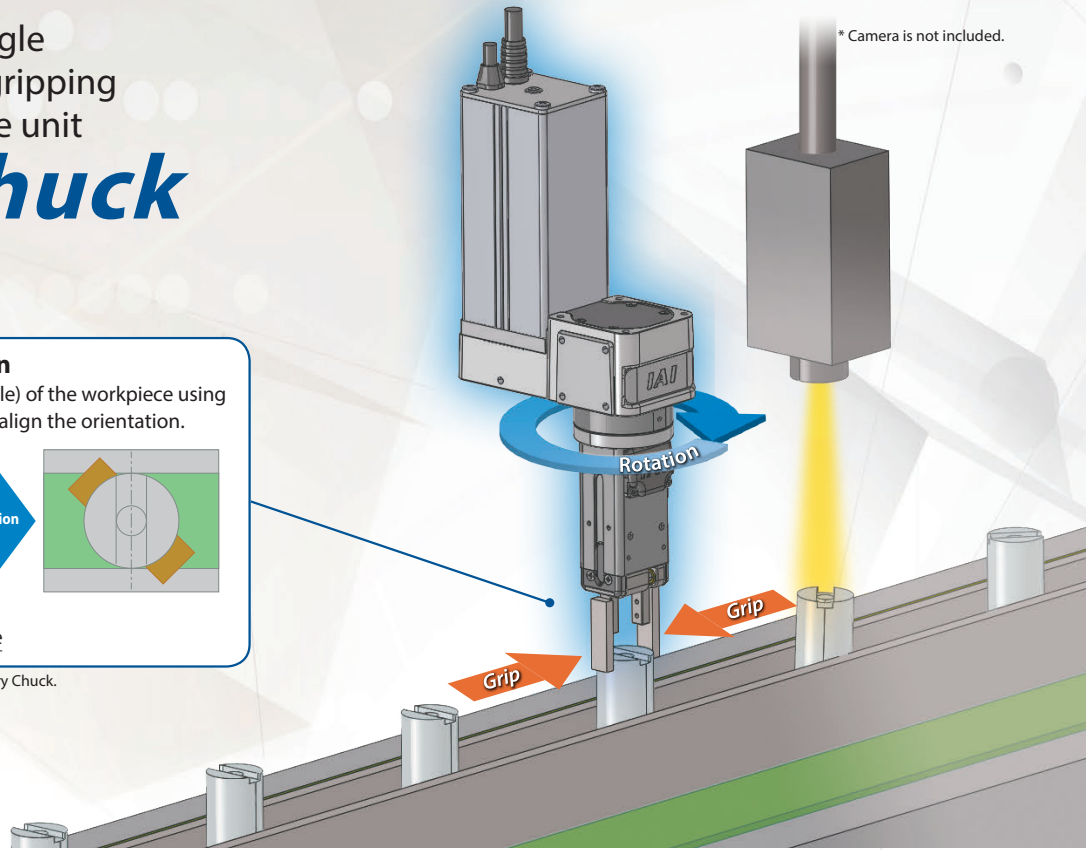
Rotary Chuck

Example Application

Check the orientation (angle) of the workpiece using a camera, then rotate it to align the orientation.



* Camera is not included with Rotary Chuck.

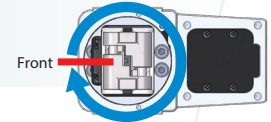


1

Multipoint positioning of the rotating part

The rotary can perform multipoint positioning between 0 and 360° (one rotation). The rotational speed and acceleration/deceleration can also be set to any value. Furthermore, the Battery-less Absolute Encoder equipped means that home return is not required.

360° rotation in +CW direction



Battery-less Absolute Encoder
No Battery,
No Maintenance, No Homing,
No Going Back to Incremental.

2

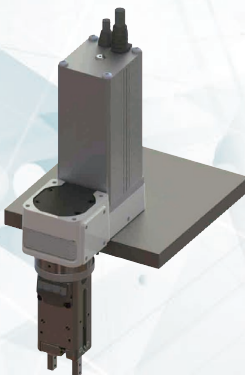
Compact size

The chuck is small and lightweight, as a solenoid gripper is used.

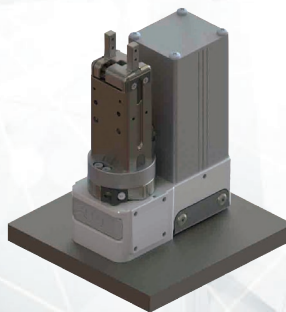
3

Highly flexible installation

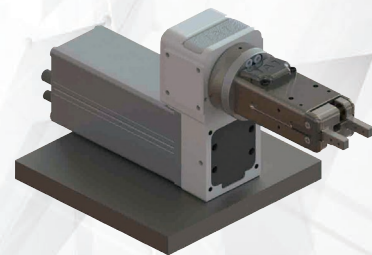
Motor placement can be selected from parallel type and side-mounted type. The parallel type can be mounted from 5 sides and the side-mounted type from 4 sides, to suit the equipment.



Parallel type Mounted on bottom







Side-mounted type Mounted on top (folded)



Parallel type Mounted on back

Product Lineup

Size	S		M	
	Parallel type	Side-mounted type	Parallel type	Side-mounted type
Type				
Model	RCP6-RTCKSPE/RTCKSPI	RCP6-RTCKSRE/RTCKSRI	RCP6-RTCKMPE/RTCKMPI	RCP6-RTCKMRE/RTCKMRI
External view				
Rotation operation range [deg.]	within 0 to 360 degrees	within 0 to 360 degrees	within 0 to 360 degrees	within 0 to 360 degrees
Maximum rotation speed [deg./s]	1800	1800	1800	1800
Maximum torque [N·m]	0.29	0.29	0.36	0.36
Allowable inertia moment [kg·m ²]	0.00023	0.00023	0.00036	0.00036
Opening/closing stroke [mm]	4 (2 per side)	4 (2 per side)	4 (2 per side)	4 (2 per side)
Max grip force [N]	10 (5 per side)	10 (5 per side)	20 (10 per side)	20 (10 per side)
Grip operation time [s]	0.03 or less	0.03 or less	0.03 or less	0.03 or less
Grip operation frequency [CPM]	120	120	120	120
Reference page	P. 3	P. 7	P. 11	P.15

Explanation of Model Specification Items

RCP6 - - **360** - **4** - - - - -

Series Type Rotation Operation range Grip Opening/Closing Operation range Applicable Controller Driver Box Type Cable Length Options

360	360 degrees	4	4mm
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RTCKSPE	Size S, parallel type, outer diameter grip
RTCKSPI	Size S, parallel type, inner diameter grip
RTCKSRE	Size S, side-mounted type, outer diameter grip
RTCKSRI	Size S, side-mounted type, inner diameter grip
RTCKMPE	Size M, parallel type, outer diameter grip
RTCKMPI	Size M, parallel type, inner diameter grip
RTCKMRE	Size M, side-mounted type, outer diameter grip
RTCKMRI	Size M, side-mounted type, inner diameter grip

DBN	NPN specification
DBP	PNP specification
N	No driver box

(Note)
One drive box per Rotary Chuck required. "N" option is only for spare order of Rotary Chuck without driver box etc.

N	None
P	1m
S	3m
M	5m
X□□	Specified length
R□□	Robot cable

P3	PCON MCON MSEL
P5	RCM-P6PC RCON

AC2	Actuator cable (pigtail cable) length: 2 m
AC5	Actuator cable (pigtail cable) length: 5 m
B	Brake
CJL	Cable exit direction (Left)
CJR	Cable exit direction (Right)
CJT	Cable exit direction (Top)
RCH	Rubber cover attached (chloroprene rubber)
RSL	Rubber cover attached (silicone rubber)
S1N	Sensor attached x 1 (NPN specification)
S2N	Sensor attached x 2 (NPN specification)
S1P	Sensor attached x 1 (PNP specification)
S2P	Sensor attached x 2 (PNP specification)

*Please refer to the pages of each type for details.

RCP6-RTCKSPE

RCP6-RTCKSPI

Outer dia. grip / Inner dia. grip | Battery-less Absolute | Slide Type | 2-finger | Parallel Motor | Body Width 40 mm | 24v Stepper Motor

Model Specification Items

RCP6 - [] - **360** - **4** - [] - [] - [] - []

Series	Type	Rotation Operation Range	Grip Opening/Closing Operation Range	Applicable Controllers	Driver Box	Cable Length	Options
RTCKSPE	Parallel type / outer diameter grip	360 / 360 degrees	4mm	P3 PCON MCON MSEL	DBN Driver box (NPN specification) DBP Driver box (PNP specification)	N None P 1m S 3m M 5m	Refer to Options table below.
RTCKSPI	Parallel type / inner diameter grip	*Rotary Axis Motor size 28P.		P5 RCM-P6PC RCON	N No driver box	X□□ Specified length R□□ Robot cable	



CE RoHS

Horizontal Vertical Side Ceiling

Stroke	
Rotation	Gripper Stroke
360°	4mm

Option * Please check the Options reference pages to confirm each option.		
Name	Option code	Reference page
Actuator cable (pigtail cable) length: 2 m	AC2	See P.23
Actuator cable (pigtail cable) length: 5 m	AC5	
Brake	B	
Cable exit direction (Left) (Note 1)	CJL	
Cable exit direction (Right) (Note 1)	CJR	
Cable exit direction (Top) (Note 1)	CJT	
Rubber cover attached (chloroprene rubber)	RCH	
Rubber cover attached (silicone rubber)	RSL	
Sensor attached x 1 (NPN specification) (Note 2)	S1N	
Sensor attached x 2 (NPN specification) (Note 2)	S2N	
Sensor attached x 1 (PNP specification) (Note 2)	S1P	
Sensor attached x 2 (PNP specification) (Note 2)	S2P	

(Note 1) Be sure to fill in one of the codes in the Model Specification Items option column.
 (Note 2) Driver box: for DBN, only S1N and S2N can be selected.
 Driver box: for DBP, only S1P and S2P can be selected.

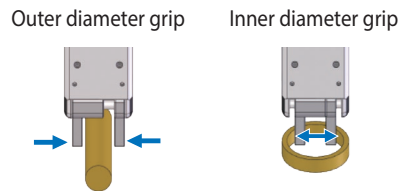
Cable Length			
Type	Cable code	P3	P5
Standard type	P (1m)	○	○
	S (3m)	○	○
	M (5m)	○	○
Specified length	X06 (6m) ~ X10 (10m)	○	○
	X11 (11m) ~ X15 (15m)	○	○
Robot cable	R01 (1m) ~ R03 (3m)	○	○
	R04 (4m) ~ R05 (5m)	○	○
	R06 (6m) ~ R10 (10m)	○	○
	R11 (11m) ~ R15 (15m)	○	○

(Note) Even when a robot cable is specified, the grip cable will be a non-robot cable. Please refer to P. 24 for maintenance cables.

POINT Selection Notes

- The outer diameter grip opens when conducting an electricity current, and closes when not conducting (normally closed). The inner diameter grip closes when conducting an electricity current, and opens when not conducting (normally opened).
- Since a spring is used for the grip mechanism, the grip force changes depending on the open/closing stroke of the fingers. Refer to "Correlation Diagram of Grip Force and Opening/Closing Stroke".
- To operate the grip part, a driver box is essential. Please refer to P.25 for more information on specifications.
- When the rotational speed is low (120 deg./s or less), the vibration and operating noise increase due to the rotation characteristics of the motor.
- For the selection method, refer to P.19.

Grip Direction



Main Specifications

Item	Description
Maximum torque	0.29N-m
Deceleration ratio	1/4
Maximum rotation speed	1800 deg/s
Max. acceleration/deceleration	29,400 deg/s ²
Max. acceleration/deceleration (controller set value)	3G
Allowable inertia moment	0.00023 kg-m ²
Rotation operation range	0 to 360° (within one rotation)
Brake retaining torque of the rotating part	0.1N-m
Opening/closing stroke	4mm, 2mm per side
Max grip force	10N, one side 5N
Grip operation time	0.03s or less
Grip operation frequency	120CPM

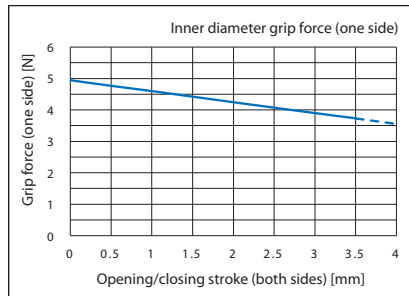
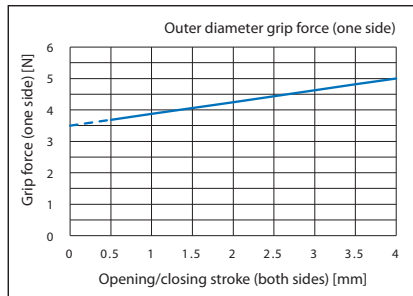
CPM: Cycle per minute

Item	Description
Rotation drive system	Timing belt + stepper motor
Rotation angle positioning repeatability	±0.02 deg.
Rotation angle lost motion	0.05 degrees
Rotation motor type	Stepper motor (28□ size)
Rotation encoder type	Battery-less Absolute
Rotation encoder pulse count	8192pulse/rev
Grip drive system	Grip mechanism (chuck): Compression spring + cam mechanism Release mechanism (unchuck): Solenoid electromagnetism + cam mechanism
Grip repeatability	±0.1mm
Grip backlash	One side 0.5mm or less
Mass	W/o Brake 0.67kg With Brake 0.73kg
Finger guide	Slide guide
Ambient operating temp. & humidity	0 to 40°C, 85% RH or less (Non-condensing)
Degree of protection	IP20
Vibration resistance / shock resistance	4.9m/s ² 100Hz or less
Compliant international standards	CE marking, RoHS Directive

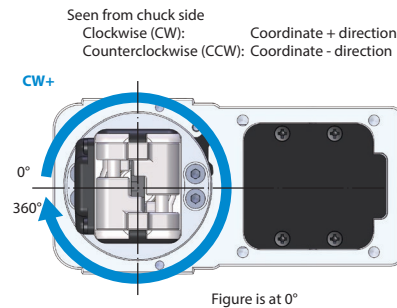
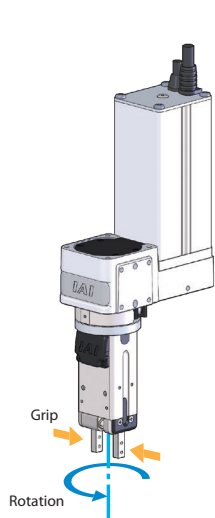
Stroke and Grip Operation Time

Stroke (mm)	Operating time [Open/close] (s)
4	0.03 or less

Correlation Diagram of Grip Force and Opening/Closing Stroke

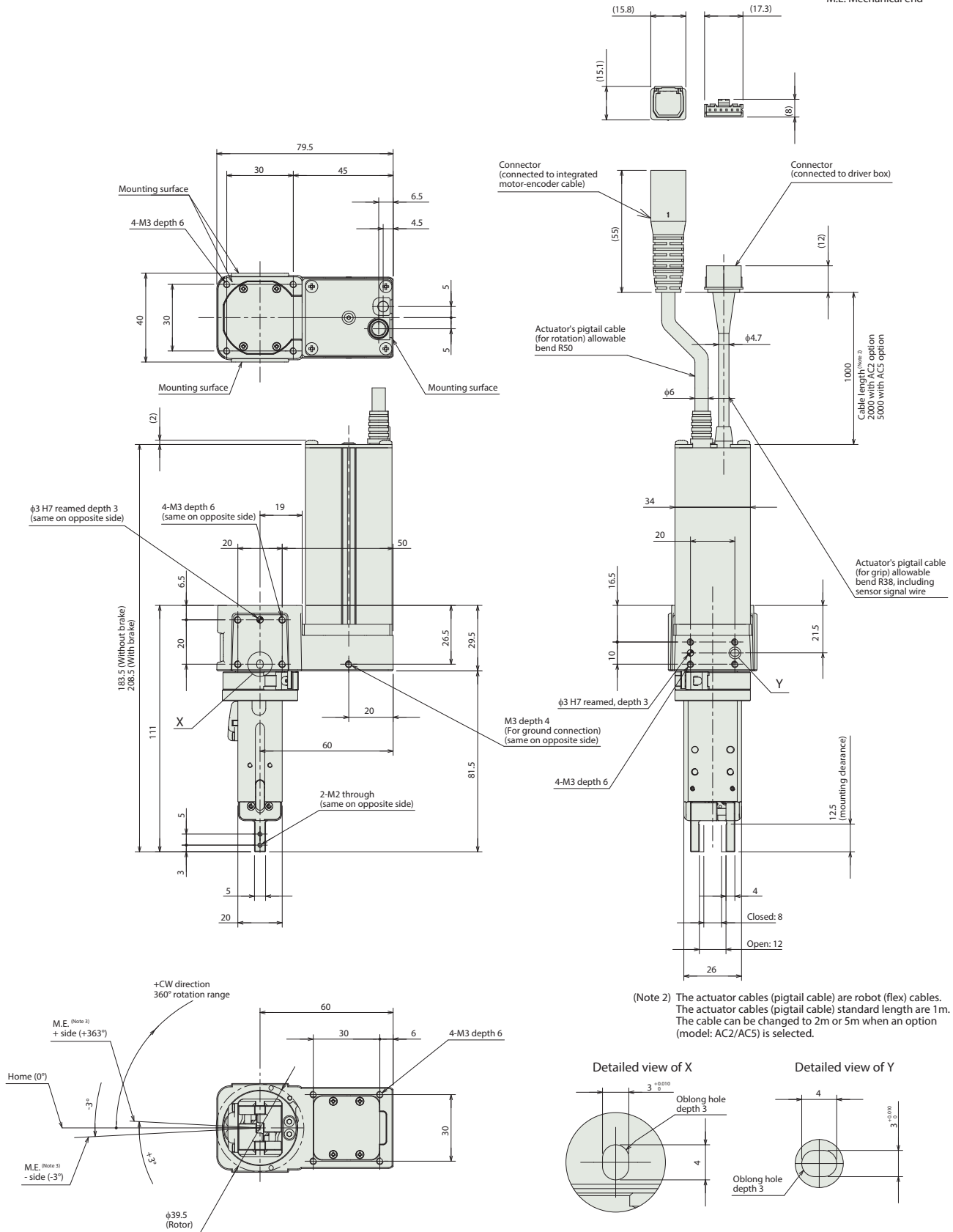


Rotation and Grip



(Note 1) For the mounting method, refer to P.22.

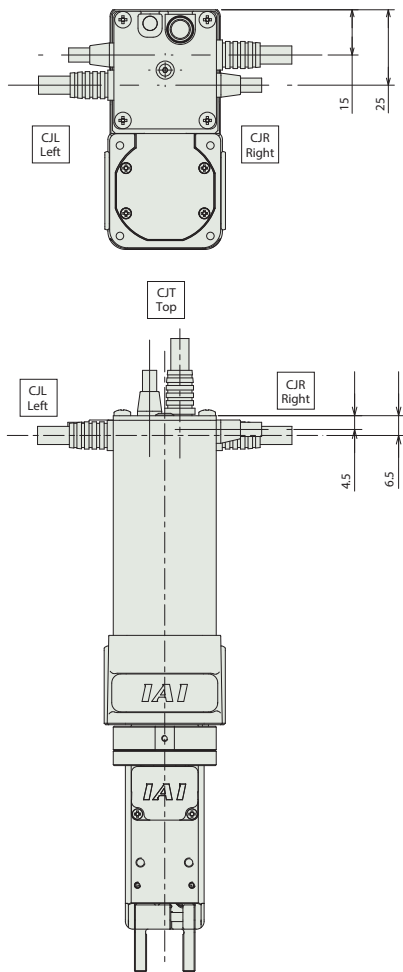
M.E: Mechanical end



(Note 2) The actuator cables (pigtail cable) are robot (flex) cables. The actuator cables (pigtail cable) standard length are 1m. The cable can be changed to 2m or 5m when an option (model: AC2/AC5) is selected.

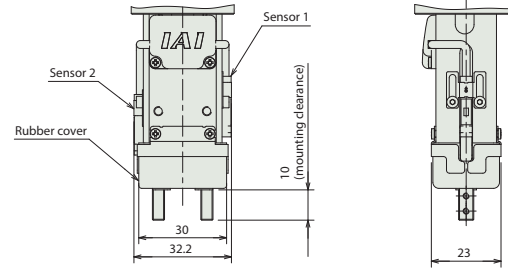
(Note 3) When home return is performed, the rotary part rotates to the left as seen from the chuck side and move to the M.E. - side. After home return completes, it rotates to the right.

Cable exit direction (Option)



Sensor and rubber cover attached (option)

- 1-sensor specification (sensor 1 only)
- 2-sensor specification
- Rubber cover specification



Applicable Controllers

Rotary axis of Rotary Chuck uses one axis of the controllers listed below.
 Gripper axis of Rotary Chuck does not use any axes of these controllers. Open/close is controlled by IO signals. See page 25 for details.
 The rotary axis motor size of Rotary Chuck is 28P.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method													Maximum number of positioning points	Reference page		
				Positioner	Pulse-train	Program	Network option *													
				DV	CC	CIE	PR	CN	ML	ML3	EC	EP	PRT	SSN	ECM					
MCON-C/CG		8	24VDC	-	-	-	●	●	●	●	●	-	●	●	●	●	●	256	Please contact IAI for more information.	
MCON-LC/LCG		6		-	-	●	●	●	-	●	●	-	-	●	●	●	-	-		256
MSEL-PC/PG		4	Single phase 100~230VAC	-	-	●	●	●	-	●	-	-	●	●	●	-	-	30000		
PCON-CB/CGB		1	24VDC	●	●	-	●	●	●	●	●	●	●	●	●	-	-	512 (768 for network spec.)		
PCON-CYB/PLB/POB		1		* Option	* Option	-	-	-	-	-	-	-	-	-	-	-	-	-		64
RCM-P6PC		1	Can be used within the RCP6S Gateway system.													768				
RCON		16	24VDC	-	-	-	●	●	●	●	-	-	-	●	●	●	-	-	128	RCON Pamphlet

(*) For network abbreviations such as DV and CC, please contact IAI.

RCP6-RTCKSRE

RCP6-RTCKSRI

Outer dia. grip / Inner dia. grip | Battery-less Absolute | Slide Type | 2-finger | Side-mounted Motor | Body Width 40 mm | 24v Stepper Motor

Model Specification Items

RCP6 - [] - 360 - 4 - [] - [] - [] - []

Series	Type	Rotation Operation Range	Grip Opening/Closing Operation Range	Applicable Controllers	Driver Box	Cable Length	Options
RTCKSRE	Side-mounted type / outer diameter grip	360 / 360 degrees	4mm	P3 PCON MCON MSEL	DBN Driver box (NPN specification) DBP Driver box (PNP specification)	N None P 1m S 3m M 5m	Refer to Options table below.
RTCKSRI	Side-mounted type / inner diameter grip	*Rotary Axis Motor size 28P.		P5 RCM-P6PC RCON	N No driver box	X [] Specified length R [] Robot cable	



CE RoHS

Horizontal Vertical Side Ceiling

Stroke

Rotation	Gripper Stroke
360°	4mm

Option * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
Actuator cable (pigtail cable) length: 2 m	AC2	See P.23
Actuator cable (pigtail cable) length: 5 m	AC5	
Brake	B	
Cable exit direction (Left) (Note 1)	CJL	
Cable exit direction (Right) (Note 1)	CJR	
Cable exit direction (Top) (Note 1)	CJT	
Rubber cover attached (chloroprene rubber)	RCH	
Rubber cover attached (silicone rubber)	RSL	
Sensor attached x 1 (NPN specification) (Note 2)	S1N	
Sensor attached x 2 (NPN specification) (Note 2)	S2N	
Sensor attached x 1 (PNP specification) (Note 2)	S1P	
Sensor attached x 2 (PNP specification) (Note 2)	S2P	

(Note 1) Be sure to fill in one of the codes in the Model Specification Items option column.
 (Note 2) Driver box: for DBN, only S1N and S2N can be selected.
 Driver box: for DBP, only S1P and S2P can be selected.

Cable Length

Type	Cable code	P3	P5
Standard type	P(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	X06(6m) ~ X10(10m)	○	○
	X11(11m) ~ X15(15m)	○	○
Robot cable	R01(1m) ~ R03(3m)	○	○
	R04(4m) ~ R05(5m)	○	○
	R06(6m) ~ R10(10m)	○	○
	R11(11m) ~ R15(15m)	○	○

(Note) Even when a robot cable is specified, the grip cable will be a non-robot cable. Please refer to P. 24 for maintenance cables.

POINT Selection Notes

- The outer diameter grip opens when conducting an electricity current, and closes when not conducting (normally closed). The inner diameter grip closes when conducting an electricity current, and opens when not conducting (normally opened).
- Since a spring is used for the grip mechanism, the grip force changes depending on the open/closing stroke of the fingers. Refer to "Correlation Diagram of Grip Force and Opening/Closing Stroke".
- To operate the grip part, a driver box is essential. Please refer to P.25 for more information on specifications.
- When the rotational speed is low (120 deg./s or less), the vibration and operating noise increase due to the rotation characteristics of the motor.
- For the selection method, refer to P.19.

Grip Direction

Outer diameter grip Inner diameter grip

Main Specifications

Item	Description
Maximum torque	0.29N-m
Deceleration ratio	1/4
Maximum rotation speed	1800 deg/s
Max. acceleration/deceleration	29,400 deg/s ²
Max. acceleration/deceleration (controller set value)	3G
Allowable inertia moment	0.00023 kg-m ²
Rotation operation range	0 to 360° (within one rotation)
Brake retaining torque of the rotating part	0.1N-m
Opening/closing stroke	4mm, 2mm per side
Max grip force	10N, one side 5N
Grip operation time	0.03s or less
Grip operation frequency	120CPM

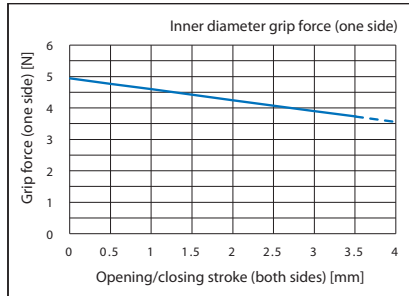
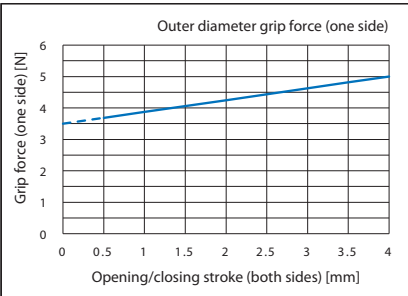
CPM: Cycle per minute

Item	Description	
Rotation drive system	Timing belt + stepper motor	
Rotation angle positioning repeatability	±0.02 deg.	
Rotation angle lost motion	0.05 degrees	
Rotation motor type	Stepper motor (28□ size)	
Rotation encoder type	Battery-less Absolute	
Rotation encoder pulse count	8192pulse/rev	
Grip drive system	Grip mechanism (chuck): Compression spring + cam mechanism Release mechanism (unchuck): Solenoid electromagnetism + cam mechanism	
Grip repeatability	±0.1mm	
Grip backlash	One side 0.5mm or less	
Mass	W/o Brake	0.68kg
	With Brake	0.74kg
Finger guide	Slide guide	
Ambient operating temp. & humidity	0 to 40°C, 85% RH or less (Non-condensing)	
Degree of protection	IP20	
Vibration resistance / shock resistance	4.9m/s ² 100Hz or less	
Compliant international standards	CE marking, RoHS Directive	

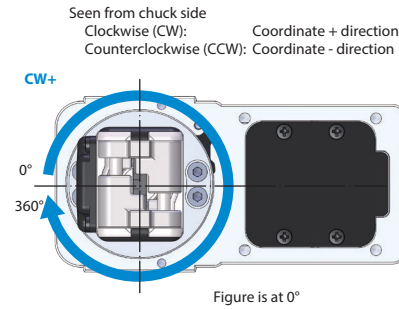
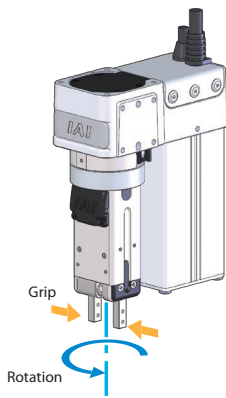
Stroke and Grip Operation Time

Stroke (mm)	Operating time [Open/close] (s)
4	0.03 or less

Correlation Diagram of Grip Force and Opening/Closing Stroke

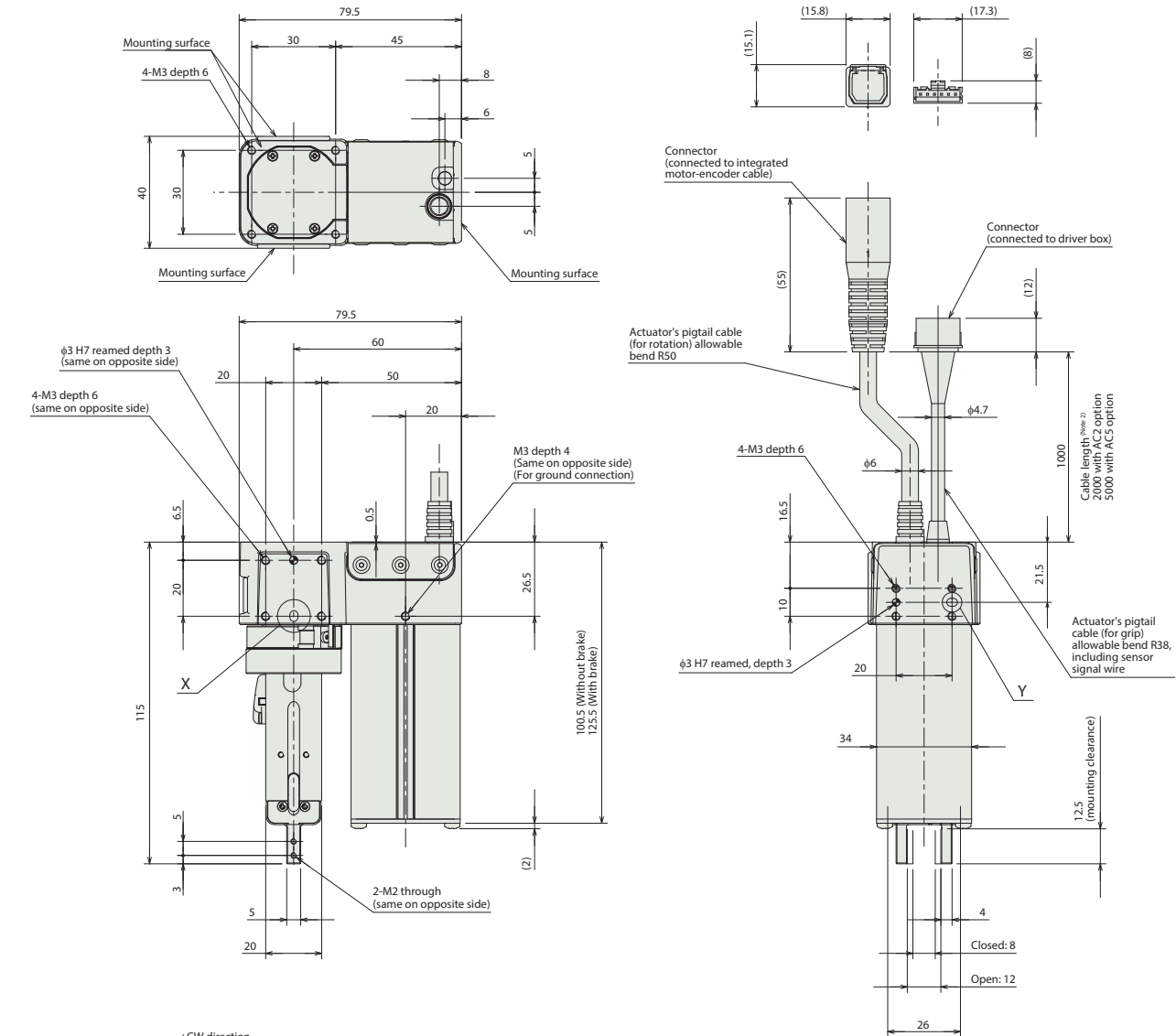


Rotation and Grip

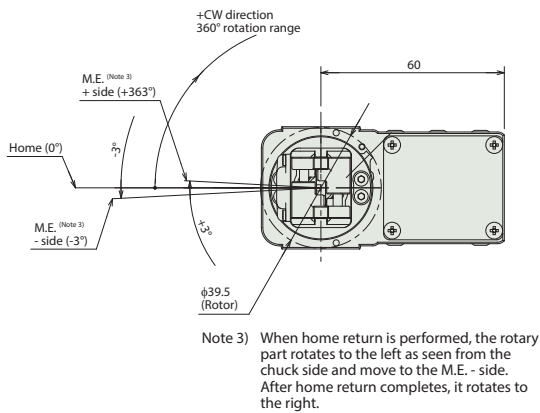


(Note 1) For the mounting method, refer to P.22.

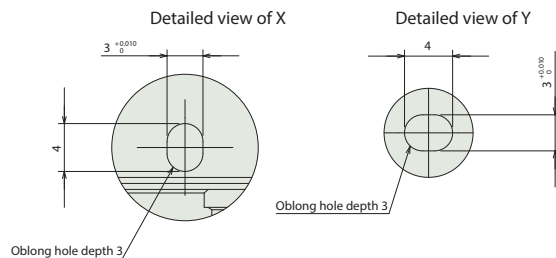
M.E: Mechanical end



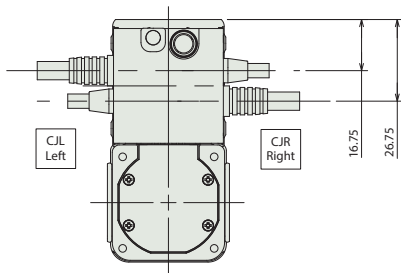
(Note 2) The actuator cables (pigtail cable) are robot (flex) cables. The actuator cables (pigtail cable) standard length are 1m. The cable can be changed to 2m or 5m when an option (model: AC2/AC5) is selected.



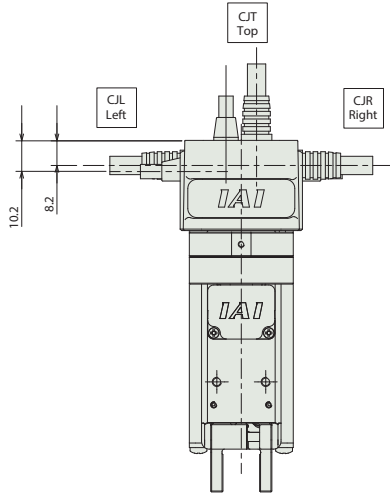
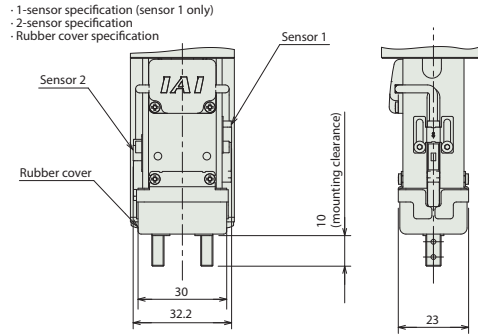
Note 3) When home return is performed, the rotary part rotates to the left as seen from the chuck side and move to the M.E. - side. After home return completes, it rotates to the right.



Cable exit direction (Option)



Sensor and rubber cover attached (option)



Applicable Controllers

Rotary axis of Rotary Chuck uses one axis of the controllers listed below.
 Gripper axis of Rotary Chuck does not use any axes of these controllers. Open/close is controlled by IO signals. See page 25 for details.
 The rotary axis motor size of Rotary Chuck is 28P.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method														Maximum number of positioning points	Reference page	
				Positioner	Pulse-train	Program	Network option *													
				DV	CC	CIE	PR	CN	ML	ML3	EC	EP	PRT	SSN	ECM					
MCON-C/CG		8	24VDC	-	-	-	●	●	●	●	●	-	●	●	●	●	●	256	Please contact IAI for more information.	
MCON-LC/LCG		6		-	-	●	●	●	-	●	●	-	-	●	●	●	-	-		256
MSEL-PC/PG		4	Single phase 100~230VAC	-	-	●	●	●	-	●	-	-	-	●	●	●	-	-		30000
PCON-CB/CGB		1	24VDC	●	●	-	●	●	●	●	●	●	●	●	●	-	-	512 (768 for network spec.)		
PCON-CYB/PLB/POB		1		* Option	* Option	-	-	-	-	-	-	-	-	-	-	-	-	-		64
RCM-P6PC		1	Can be used within the RCP6S Gateway system.														768			
RCON		16	24VDC	-	-	-	●	●	●	●	-	-	-	●	●	●	-	-	128	RCON Pamphlet

(*) For network abbreviations such as DV and CC, please contact IAI.

RCP6-RTCKMPE

RCP6-RTCKMPI

Outer dia. grip Inner dia. grip Battery-less Absolute Slide Type 2-finger Parallel Motor Body Width 50 mm 24v Stepper Motor

Model Specification Items

RCP6 - [] - 360 - 4 - [] - [] - [] - []

Series	Type	Rotation Operation Range	Grip Opening/Closing Operation Range	Applicable Controllers	Driver Box	Cable Length	Options
RTCKMPE	Parallel type / outer diameter grip	360 360 degrees	4mm (One side 2mm)	P3 PCON MCON MSEL	DBN Driver box (NPN specification) DBP Driver box (PNP specification) N No driver box	N None P 1m S 3m M 5m X [] Specified length R [] Robot cable	Refer to Options table below.
RTCKMPI	Parallel type / inner diameter grip	*Rotary Axis Motor size 28P.		P5 RCM-P6PC RCON			



CE RoHS

Horizontal Vertical Side Ceiling

Stroke

Rotation	Gripper Stroke
360°	4mm

Option * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
Actuator cable (pigtail cable) length: 2 m	AC2	See P.23
Actuator cable (pigtail cable) length: 5 m	AC5	
Brake	B	
Cable exit direction (Left) (Note 1)	CJL	
Cable exit direction (Right) (Note 1)	CJR	
Cable exit direction (Top) (Note 1)	CJT	
Rubber cover attached (chloroprene rubber)	RCH	
Rubber cover attached (silicone rubber)	RSL	
Sensor attached x 1 (NPN specification) (Note 2)	S1N	
Sensor attached x 2 (NPN specification) (Note 2)	S2N	
Sensor attached x 1 (PNP specification) (Note 2)	S1P	
Sensor attached x 2 (PNP specification) (Note 2)	S2P	

(Note 1) Be sure to fill in one of the codes in the Model Specification Items option column.
 (Note 2) Driver box: for DBN, only S1N and S2N can be selected.
 Driver box: for DBP, only S1P and S2P can be selected.

Cable Length

Type	Cable code	P3	P5
Standard type	P(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	X06(6m) ~ X10(10m)	○	○
	X11(11m) ~ X15(15m)	○	○
Robot cable	R01(1m) ~ R03(3m)	○	○
	R04(4m) ~ R05(5m)	○	○
	R06(6m) ~ R10(10m)	○	○
	R11(11m) ~ R15(15m)	○	○

(Note) Even when a robot cable is specified, the grip cable will be a non-robot cable. Please refer to P. 24 for maintenance cables.

POINT Selection Notes

- The outer diameter grip opens when conducting an electricity current, and closes when not conducting (normally closed). The inner diameter grip closes when conducting an electricity current, and opens when not conducting (normally opened).
- Since a spring is used for the grip mechanism, the grip force changes depending on the open/closing stroke of the fingers. Refer to "Correlation Diagram of Grip Force and Opening/Closing Stroke".
- To operate the grip part, a driver box is essential. Please refer to P.25 for more information on specifications.
- When the rotational speed is low (90 deg./s or less), the vibration and operating noise increase due to the rotation characteristics of the motor.
- For the selection method, refer to P.19.

Grip Direction

Outer diameter grip Inner diameter grip

Item	Description
Maximum torque	0.36N-m
Deceleration ratio	1/5
Maximum rotation speed	1800 deg/s
Max. acceleration/deceleration	29,400 deg/s ²
Max. acceleration/deceleration (controller set value)	3G
Allowable inertia moment	0.00036kg-m ²
Rotation operation range	0 to 360° (within one rotation)
Brake retaining torque of the rotating part	0.125N-m
Opening/closing stroke	4mm, 2mm per side
Max grip force	20N, one side 10N
Grip operation time	0.03s or less
Grip operation frequency	120CPM

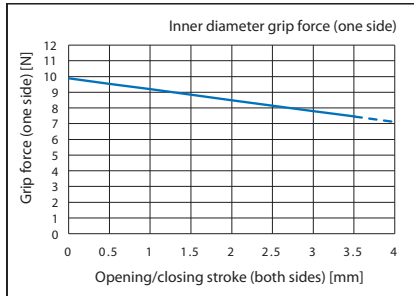
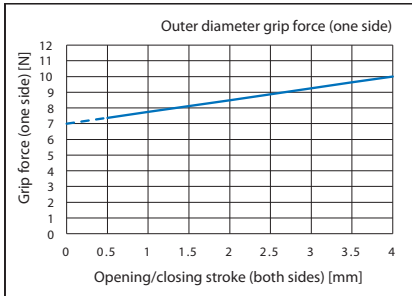
CPM: Cycle per minute

Item	Description
Rotation drive system	Timing belt + stepper motor
Rotation angle positioning repeatability	±0.02 deg.
Rotation angle lost motion	0.05 degrees
Rotation motor type	Stepper motor (28□ size)
Rotation encoder type	Battery-less Absolute
Rotation encoder pulse count	8192pulse/rev
Grip drive system	Grip mechanism (chuck): Compression spring + cam mechanism Release mechanism (unchuck): Solenoid electromagnetism + cam mechanism
Grip repeatability	±0.1mm
Grip backlash	One side 0.5mm or less
Mass	W/o Brake 0.88kg With Brake 0.94kg
Finger guide	Slide guide
Ambient operating temp. & humidity	0 to 40°C, 85% RH or less (Non-condensing)
Degree of protection	IP20
Vibration resistance / shock resistance	4.9m/s ² 100Hz or less
Compliant international standards	CE marking, RoHS Directive

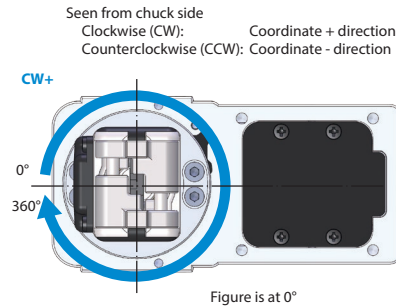
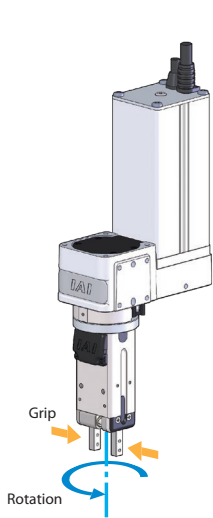
Stroke and Grip Operation Time

Stroke (mm)	Operating time [Open/close] (s)
4	0.03 or less

Correlation Diagram of Grip Force and Opening/Closing Stroke

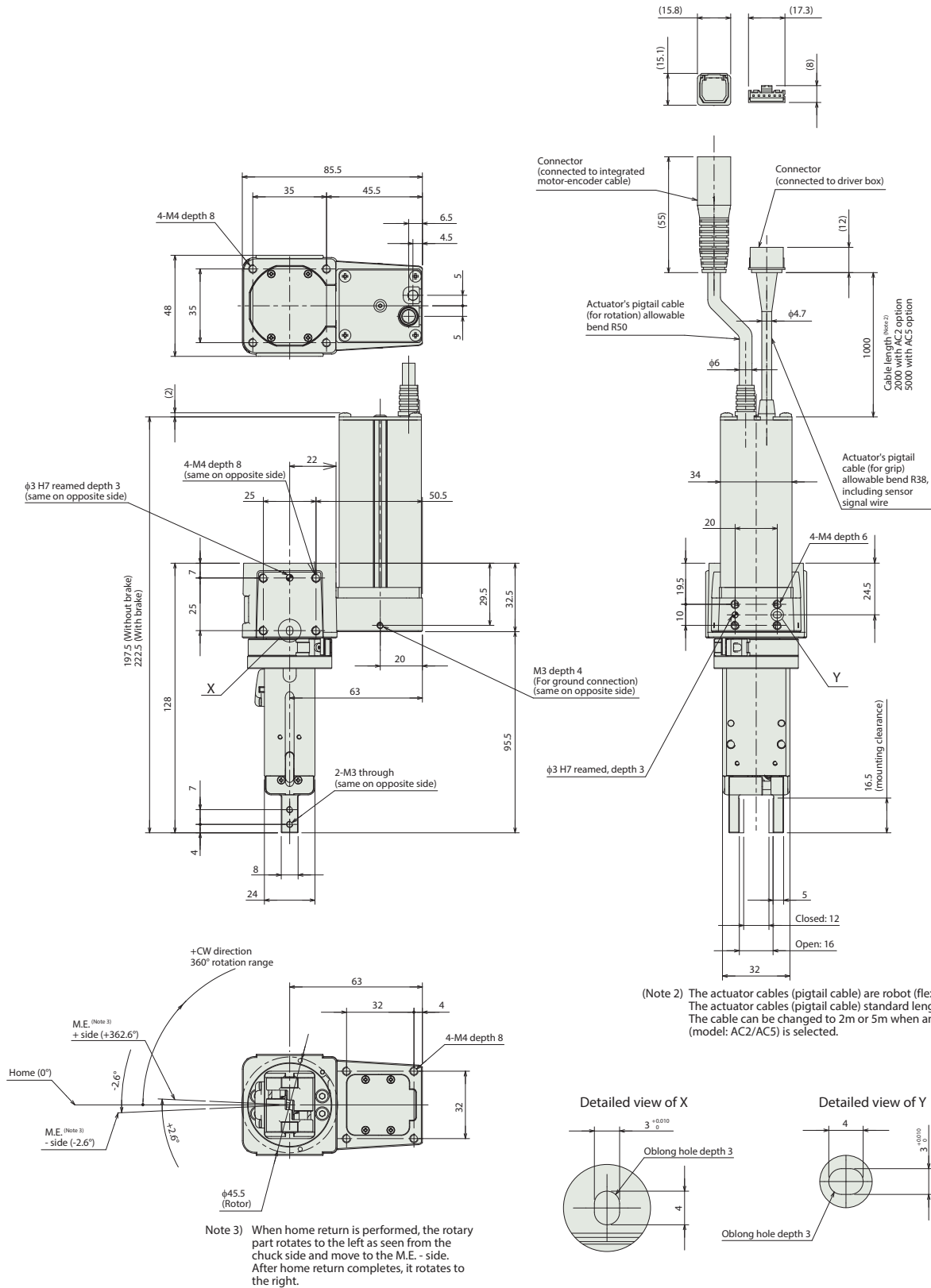


Rotation and Grip

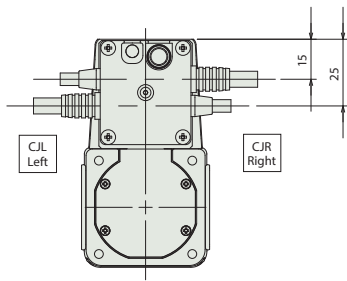


(Note 1) For the mounting method, refer to P.22.

M.E: Mechanical end

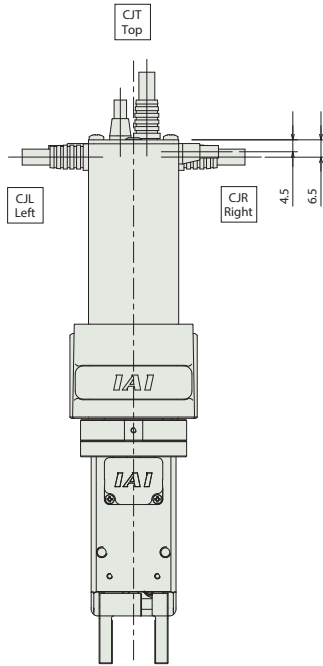
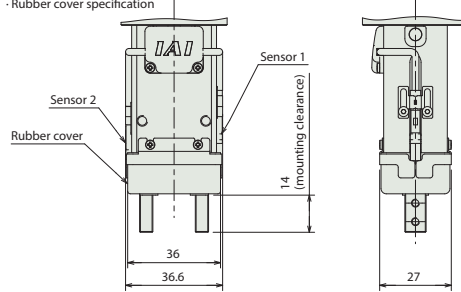


Cable exit direction (Option)



Sensor and rubber cover attached (option)

- 1-sensor specification (sensor 1 only)
- 2-sensor specification
- Rubber cover specification



Applicable Controllers

Rotary axis of Rotary Chuck uses one axis of the controllers listed below.
 Gripper axis of Rotary Chuck does not use any axes of these controllers. Open/close is controlled by IO signals. See page 25 for details.
 The rotary axis motor size of Rotary Chuck is 28P.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method																Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network option *														
				DV	CC	CIE	PR	CN	ML	ML3	EC	EP	PRT	SSN	ECM						
MCON-C/CG		8	24VDC	-	-	-	●	●	●	●	●	-	●	●	●	●	●	256	Please contact IAI for more information.		
MCON-LC/LCG		6		-	-	●	●	●	-	●	●	-	-	●	●	●	-	-		256	
MSEL-PC/PG		4	Single phase 100~230VAC	-	-	●	●	●	-	●	-	-	-	●	●	●	-	-		30000	
PCON-CB/CGB		1	24VDC	●	●	-	●	●	●	●	●	●	●	●	●	-	-	512 (768 for network spec.)			
PCON-CYB/PLB/POB		1		* Option	* Option	-	-	-	-	-	-	-	-	-	-	-	-	-		64	
RCM-P6PC		1	Can be used within the RCP6S Gateway system.														768				
RCON		16	24VDC	-	-	-	●	●	●	●	-	-	-	●	●	●	-	-	128	RCON Pamphlet	

(*) For network abbreviations such as DV and CC, please contact IAI.

RCP6-RTCKMRE

RCP6-RTCKMRI

Outer dia. grip / Inner dia. grip | Battery-less Absolute | Slide Type | 2-finger | Side-mounted Motor | Body Width 50 mm | 24v Stepper Motor

Model Specification Items

RCP6 - [] - 360 - 4 - [] - [] - [] - []

Series	Type	Rotation Operation Range	Grip Opening/Closing Operation Range	Applicable Controllers	Driver Box	Cable Length	Options
RTCKMRE	Side-mounted type / outer diameter grip	360 / 360 degrees	4mm (One side 2mm)	P3 PCON MCON MSEL	DBN Driver box (NPN specification) DBP Driver box (PNP specification) N No driver box	N None P 1m S 3m M 5m X□□ Specified length R□□ Robot cable	Refer to Options table below.
RTCKMRI	Side-mounted type / inner diameter grip	*Rotary Axis Motor size 28P.		P5 RCM-P6PC RCON			



CE RoHS

Horizontal Vertical Side Ceiling

Stroke	
Rotation	Gripper Stroke
360°	4mm

Option * Please check the Options reference pages to confirm each option.		
Name	Option code	Reference page
Actuator cable (pigtail cable) length: 2 m	AC2	See P.23
Actuator cable (pigtail cable) length: 5 m	AC5	
Brake	B	
Cable exit direction (Left) (Note 1)	CJL	
Cable exit direction (Right) (Note 1)	CJR	
Cable exit direction (Top) (Note 1)	CJT	
Rubber cover attached (chloroprene rubber)	RCH	
Rubber cover attached (silicone rubber)	RSL	
Sensor attached x 1 (NPN specification) (Note 2)	S1N	
Sensor attached x 2 (NPN specification) (Note 2)	S2N	
Sensor attached x 1 (PNP specification) (Note 2)	S1P	
Sensor attached x 2 (PNP specification) (Note 2)	S2P	

(Note 1) Be sure to fill in one of the codes in the Model Specification Items option column.
 (Note 2) Driver box: for DBN, only S1N and S2N can be selected.
 Driver box: for DBP, only S1P and S2P can be selected.

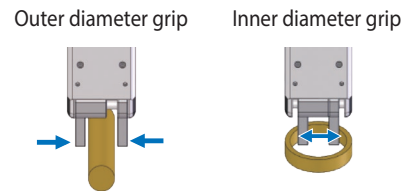
Cable Length			
Type	Cable code	P3	P5
Standard type	P(1m)	○	○
	S(3m)	○	○
	M(5m)	○	○
Specified length	X06(6m) ~ X10(10m)	○	○
	X11(11m) ~ X15(15m)	○	○
Robot cable	R01(1m) ~ R03(3m)	○	○
	R04(4m) ~ R05(5m)	○	○
	R06(6m) ~ R10(10m)	○	○
	R11(11m) ~ R15(15m)	○	○

(Note) Even when a robot cable is specified, the grip cable will be a non-robot cable. Please refer to P. 24 for maintenance cables.

POINT Selection Notes

- The outer diameter grip opens when conducting an electricity current, and closes when not conducting (normally closed). The inner diameter grip closes when conducting an electricity current, and opens when not conducting (normally opened).
- Since a spring is used for the grip mechanism, the grip force changes depending on the open/closing stroke of the fingers. Refer to "Correlation Diagram of Grip Force and Opening/Closing Stroke".
- To operate the grip part, a driver box is essential. Please refer to P.25 for more information on specifications.
- When the rotational speed is low (90 deg./s or less), the vibration and operating noise increase due to the rotation characteristics of the motor.
- For the selection method, refer to P.19.

Grip Direction



Item	Description
Maximum torque	0.36N-m
Deceleration ratio	1/5
Maximum rotation speed	1800 deg/s
Max. acceleration/deceleration	29,400 deg/s ²
Max. acceleration/deceleration (controller set value)	3G
Allowable inertia moment	0.00036kg-m ²
Rotation operation range	0 to 360° (within one rotation)
Brake retaining torque of the rotating part	0.125N-m
Opening/closing stroke	4mm, 2mm per side
Max grip force	20N, one side 10N
Grip operation time	0.03s or less
Grip operation frequency	120CPM

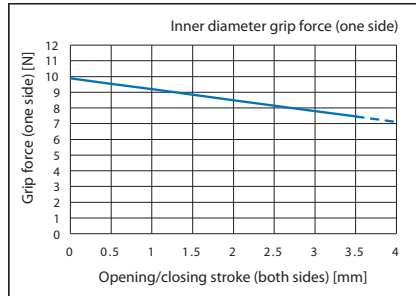
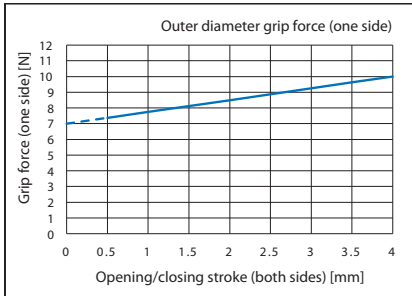
CPM: Cycle per minute

Item	Description
Rotation drive system	Timing belt + stepper motor
Rotation angle positioning repeatability	±0.02 deg.
Rotation angle lost motion	0.05 degrees
Rotation motor type	Stepper motor (28□ size)
Rotation encoder type	Battery-less Absolute
Rotation encoder pulse count	8192pulse/rev
Grip drive system	Grip mechanism (chuck): Compression spring + cam mechanism Release mechanism (unchuck): Solenoid electromagnetism + cam mechanism
Grip repeatability	±0.1mm
Grip backlash	One side 0.5mm or less
Mass	W/o Brake 0.88kg With Brake 0.94kg
Finger guide	Slide guide
Ambient operating temp. & humidity	0 to 40°C, 85% RH or less (Non-condensing)
Degree of protection	IP20
Vibration resistance / shock resistance	4.9m/s ² 100Hz or less
Compliant international standards	CE marking, RoHS Directive

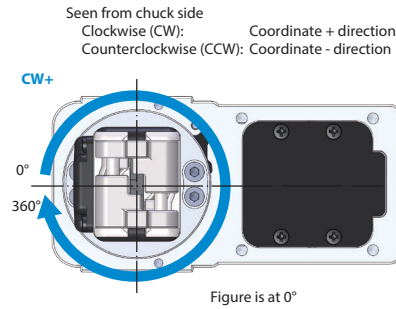
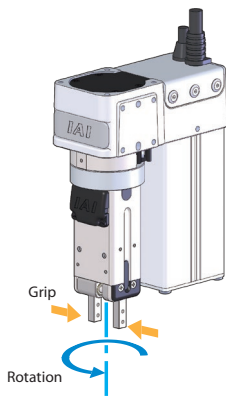
Stroke and Grip Operation Time

Stroke (mm)	Operating time [Open/close] (s)
4	0.03 or less

Correlation Diagram of Grip Force and Opening/Closing Stroke

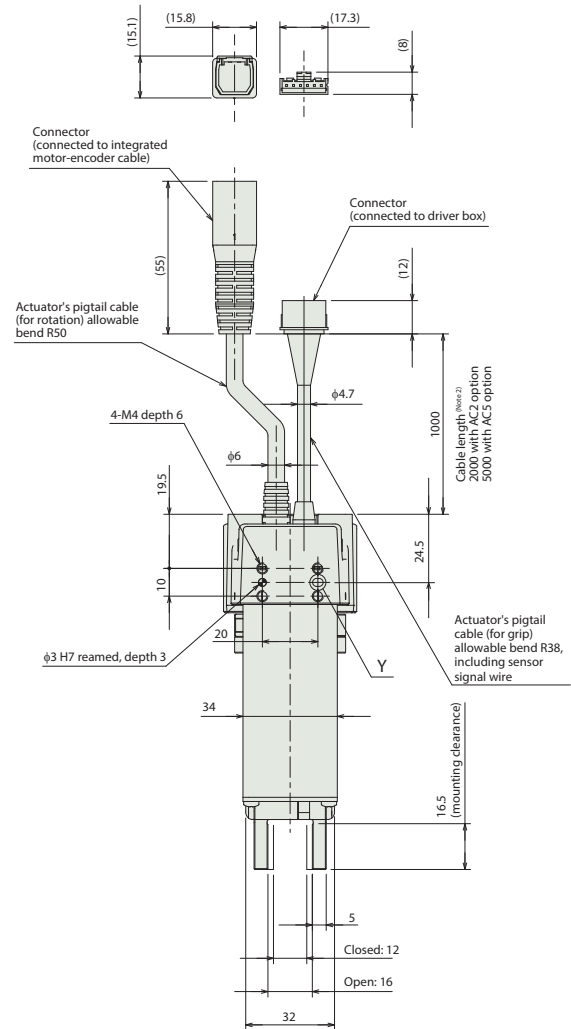
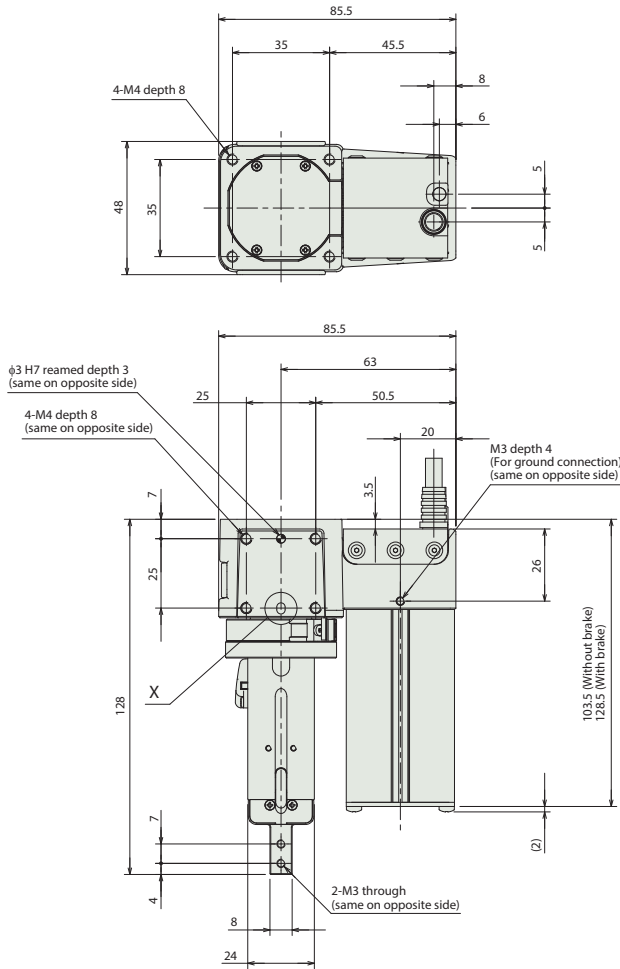


Rotation and Grip

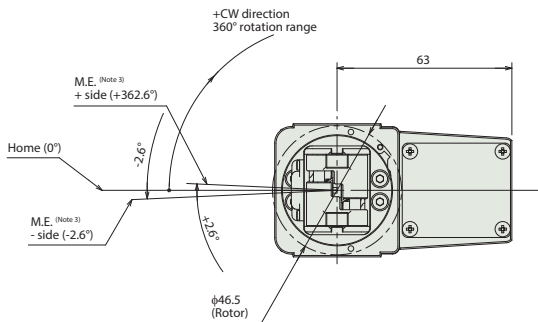


(Note 1) For the mounting method, refer to P.22.

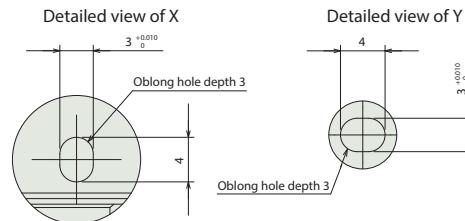
M.E: Mechanical end



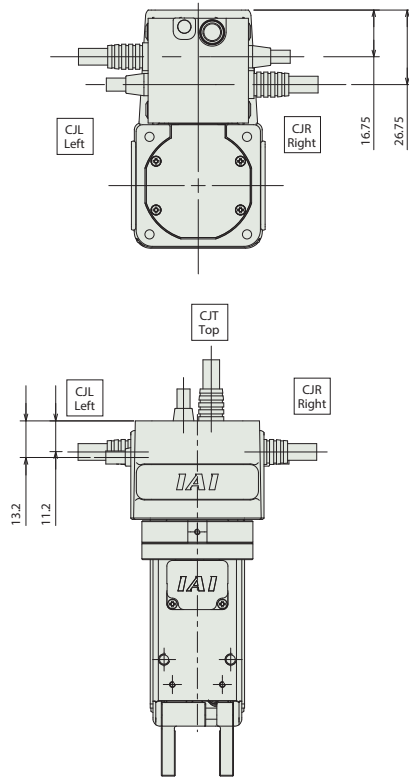
(Note 2) The actuator cables (pigtail cable) are robot (flex) cables. The actuator cables (pigtail cable) standard length are 1m. The cable can be changed to 2m or 5m when an option (model: AC2/AC5) is selected.



Note 3) When home return is performed, the rotary part rotates to the left as seen from the chuck side and move to the M.E. - side. After home return completes, it rotates to the right.

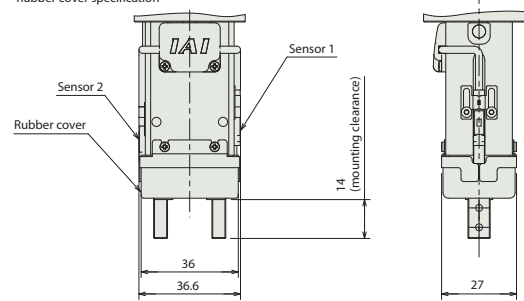


Cable exit direction (Option)



Sensor and rubber cover attached (option)

- 1-sensor specification (sensor 1 only)
- 2-sensor specification
- Rubber cover specification



Applicable Controllers

Rotary axis of Rotary Chuck uses one axis of the controllers listed below.
 Gripper axis of Rotary Chuck does not use any axes of these controllers. Open/close is controlled by IO signals. See page 25 for details.
 The rotary axis motor size of Rotary Chuck is 28P.

Name	External view	Max. number of connectable axes	Power supply voltage	Control method																Maximum number of positioning points	Reference page
				Positioner	Pulse-train	Program	Network option *														
				DV	CC	CIE	PR	CN	ML	ML3	EC	EP	PRT	SSN	ECM						
MCON-C/CG		8	24VDC	-	-	-	●	●	●	●	●	-	●	●	●	●	●	256	Please contact IAI for more information.		
MCON-LC/LCG		6		-	-	●	●	●	-	●	●	-	-	●	●	●	-	-		256	
MSEL-PC/PG		4	Single phase 100~230VAC	-	-	●	●	●	-	●	-	-	-	●	●	●	-	-		30000	
PCON-CB/CGB		1	24VDC	●	●	-	●	●	●	●	●	●	●	●	●	-	-	512 (768 for network spec.)			
PCON-CYB/PLB/POB		1		* Option	* Option	-	-	-	-	-	-	-	-	-	-	-	-	-		64	
RCM-P6PC		1	Can be used within the RCP6S Gateway system.														768				
RCON		16	24VDC	-	-	-	●	●	●	●	-	-	-	●	●	●	-	-	128	RCON Pamphlet	

(*) For network abbreviations such as DV and CC, please contact IAI.

Selection method

Step 1

Check the required grip force and allowable workpiece mass



Step 2

Check the distance to the gripping point



Step 3

Check external force applied to fingers



Step 4

Check the allowable moment of inertia

Step 1 Check the required grip force and allowable workpiece mass

When gripping the workpiece with frictional grip force, calculate the required grip force as follows.

(1) For normal transfer

F: Grip force (N) ... Total sum of push forces of both fingers
μ: Static friction coefficient between the finger attachment and the workpiece
m: Workpiece mass (kg)
g: Gravitational acceleration (= 9.8m/s²)

- The conditions under which the workpiece remains statically gripped without dropping are as follows:

$$F \mu > W \quad F > \frac{mg}{\mu}$$

- Assuming a recommended safety factor of 2 for normal transfer, the required gripping force is calculated as follows:

$$F > \frac{mg}{\mu} \times 2 \text{ (safety factor)}$$

- When the friction coefficient is μ0.1 ~ 0.2

$$F > \frac{mg}{0.1 \sim 0.2} \times 2 = (10 \sim 20) \times mg$$

For ordinary workpiece transferring

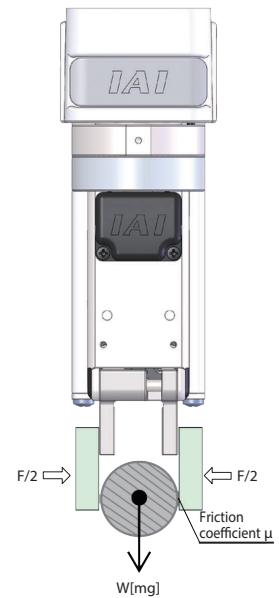
Required grip force ▶ 10~20 times or more the workpiece mass
 Max. allowable mass ▶ Not more than 1/10th to 1/20th the gripping force

(2) When considerable acceleration, deceleration, or impact force is applied during transfer of the workpiece

In addition to gravity, a greater inertial force is applied to the workpiece. In this case, select a model with an even higher safety factor.

When large acceleration, deceleration, or shock is applied

Required grip force ▶ 30~50 times or more the workpiece mass
 Max. allowable mass ▶ Not more than 1/30th to 1/50th the gripping force



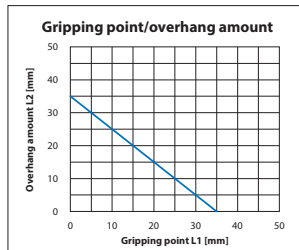
* The greater the coefficient of static friction, the greater the maximum allowable workpiece mass. However, select a model that can generate a gripping force of at least 10 to 20 times this workpiece mass to ensure safety.

Step 2 Check the distance to the gripping point

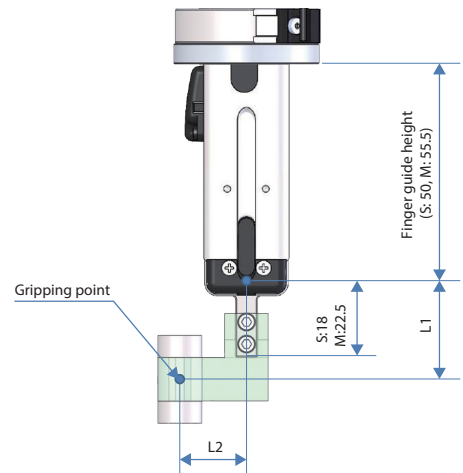
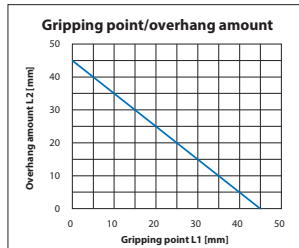
The distances (L1, L2) from the finger mounting surface to the gripping point have to fall in the ranges specified in the graph below.

If the limits are exceeded, excessive moments may act upon the sliding part of the finger and internal mechanism and it could shorten the service life.

RCP6-RTCKSPE/
RTCKSPI/
RTCKSRE/
RTCKSRI



RCP6-RTCKMPE/
RTCKMPI/
RTCKMRE/
RTCKMRI



Even if the gripping point distance is within the limit range, keep the finger attachment as small and lightweight as possible.

If the fingers are long and large, or if the mass is large, inertial force and bending moment during opening and closing may worsen the performance and adversely affect the guide section.

Step 3 Check external force applied to fingers

(1) Allowable vertical load

Make sure that the vertical load applied to each finger is less than the allowable load.

(2) Allowable load moment

Calculate Ma and Mc using the value of L1, and Mb using L2. Make sure the moment applied to each finger is less than the maximum allowable load moment.

- The allowable external force when applying moment load to each claw is

$$\text{Allowable load } F(N) > \frac{M \text{ (Maximum allowable moment (N-m))}}{L(\text{mm}) \times 10^{-3}}$$

Calculate F (N) using L1 and L2.

Check that the external force applied to the finger is less than the calculated allowable load F (N) (the smaller value of L1 and L2).

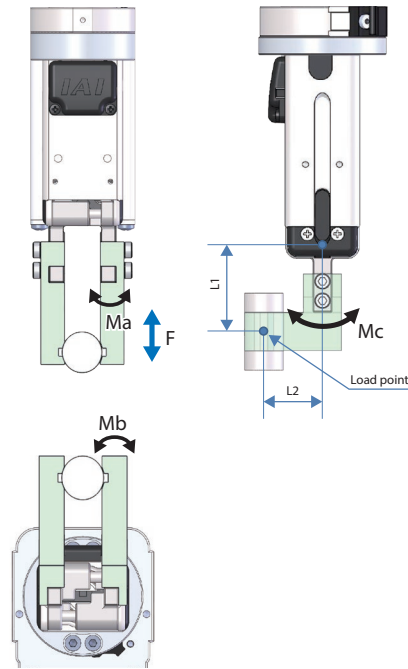
Model	Allowable vertical load F (N)	Maximum allowable load moment (N-m)		
		Ma	Mb	Mc
RCP6-RTCKSPE/RTCKSPI RTCKSRE/RTCKSRI	150	0.62	0.62	0.99
RCP6-RTCKMPE/RTCKMPI RTCKMRE/RTCKMRI	240	1.08	1.08	2.64

(Note) The allowable value above indicates a static value.

(Note) Indicates the allowable value per finger.

- * The mass of the finger and the workpiece mass are also part of the external force.

Other external forces applied to the fingers are the centrifugal force when swiveling the gripper with the workpiece attachment gripped and the inertia force due to acceleration/deceleration during travel.



* The load point above indicates the load position on the fingers. The position varies depending on the type of load.

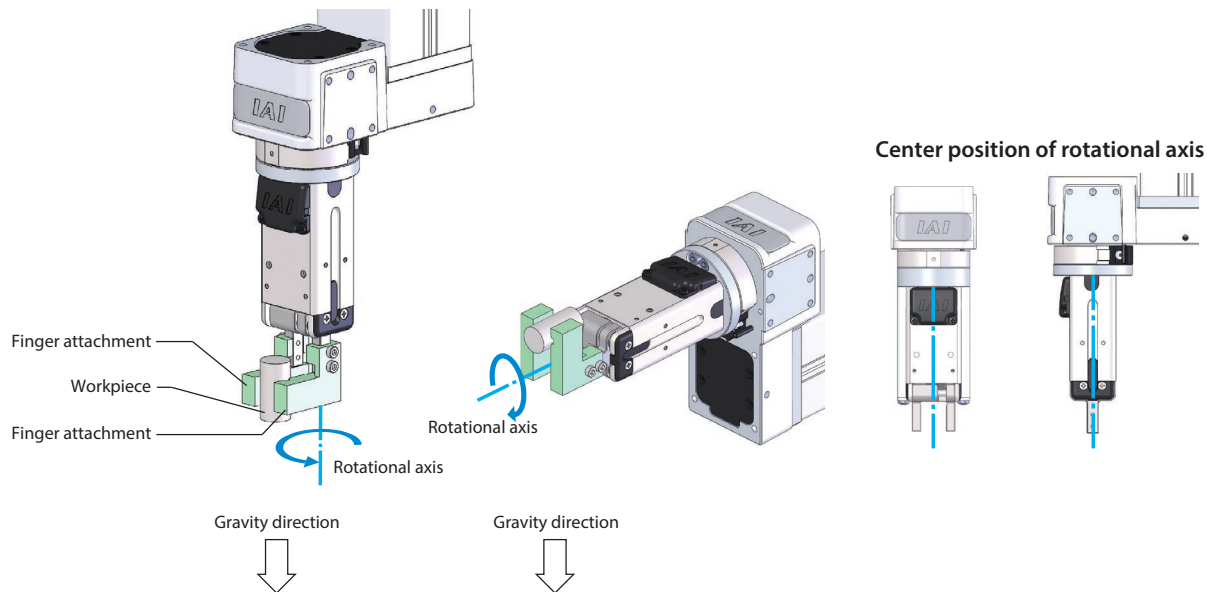
- Load due to grip force: Gripping point
- Load due to gravity: Center mass location
- Inertial force during travel, centrifugal force during swivel: Center mass location

The load moment is the total value calculated for each type of load.

Step 4 Check the allowable moment of inertia

Calculate the moment of inertia of the workpiece, etc., and make sure that it does not exceed the allowable moment of inertia.

For the calculation method, refer to "Formulae for calculating moment of inertia of typical shapes" on the next page.



Allowable moment of inertia

Model	Allowable moment of inertia (kg·m ²)
RCP6-RTCKSPE/RTCKSPI/RTCKSRE/RTCKSRI	2.30×10 ⁻⁴
RCP6-RTCKMPE/RTCKMPI/RTCKMRE/RTCKMRI	3.60×10 ⁻⁴

Formulae for calculating moment of inertia of typical shapes

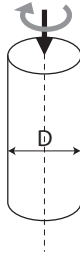
Step 1 When the rotational axis passes through the center of the object

(1) Moment of inertia of cylinder 1

* The same formula can be applied irrespective of the height of the cylinder (also for circular plate)

<Formula> $I = M \times D^2/8$

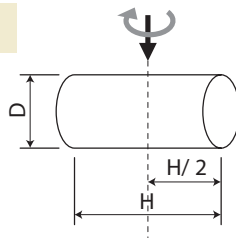
Moment of inertia of cylinder: I ($\text{kg}\cdot\text{m}^2$)
Cylinder weight: M (unit: kg)
Cylinder diameter: D (m)



(2) Moment of inertia of cylinder 2

<Formula> $I = M \times (D^2/4 + H^2/3) / 4$

Moment of inertia of cylinder: I ($\text{kg}\cdot\text{m}^2$)
Cylinder weight: M (kg)
Cylinder diameter: D (m)
Cylinder length: H (m)

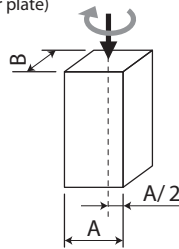


(3) Moment of inertia of prism 1

* The same formula can be applied irrespective of the height of the prism (also for rectangular plate)

<Formula> $I = M \times (A^2 + B^2) / 12$

Moment of inertia of prism: I ($\text{kg}\cdot\text{m}^2$)
One side of prism: A (m)
One side of prism: B (m)



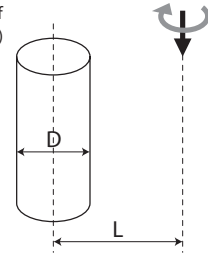
Step 2 When the center of the object is offset from the rotational axis

(4) Moment of inertia of cylinder 3

* The same formula can be applied irrespective of the height of the cylinder (also for circular plate)

<Formula> $I = M \times D^2/8 + M \times L^2$

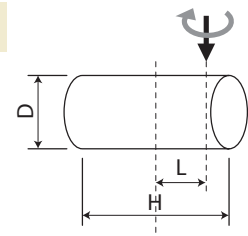
Moment of inertia of cylinder: I ($\text{kg}\cdot\text{m}^2$)
Cylinder weight: M (kg)
Cylinder diameter: D (m)
Distance from rotational axis to center: L (m)



(5) Moment of inertia of cylinder 4

<Formula> $I = M \times (D^2/4 + H^2/3) / 4 + M \times L^2$

Moment of inertia of cylinder: I ($\text{kg}\cdot\text{m}^2$)
Cylinder weight: M (kg)
Cylinder diameter: D (m)
Cylinder length: H (m)
Distance from rotational axis to center: L (m)

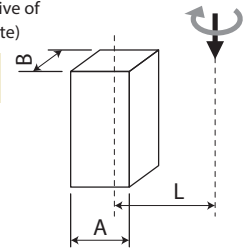


(6) Moment of inertia of prism 2

* The same formula can be applied irrespective of the height of the prism (for rectangular plate)

<Formula> $I = M \times (A^2 + B^2) / 12 + M \times L^2$

Moment of inertia of prism: I ($\text{kg}\cdot\text{m}^2$)
Prism weight: M (kg)
One side of prism: A (m)
One side of prism: B (m)
Distance from rotational axis to center: L (m)



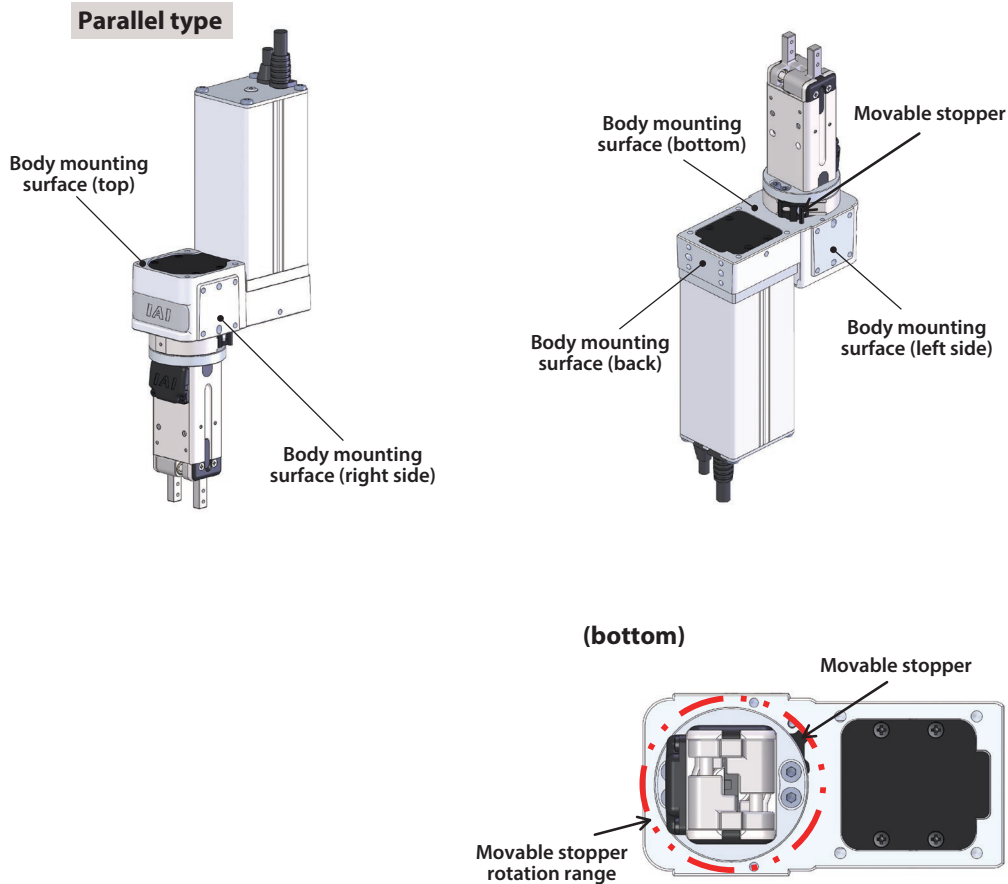
Mounting method

The parallel type can be mounted and fixed from 5 sides and the side-mounted type from 4 sides.

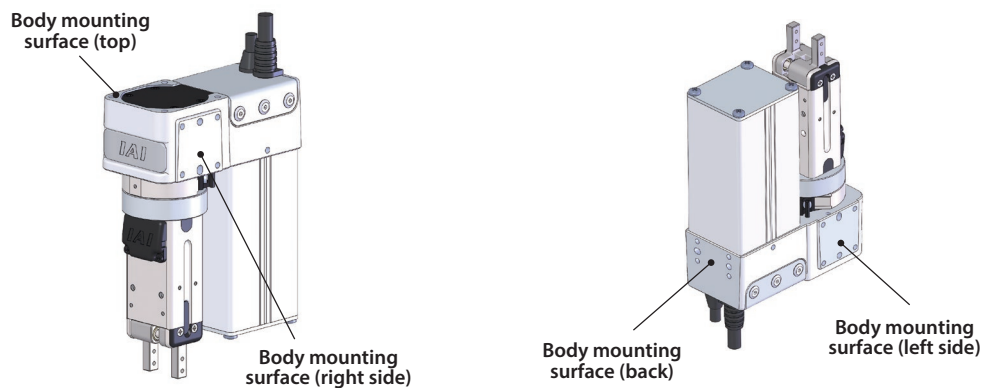
The body includes tapped mounting holes for mounting. The mounting surface should be a machined surface or a plane with similar accuracy.

For fixation, use all the screw holes (4 holes) on the surface to be used for mounting. If not all the screw holes are used, depending on the load applied to the body, the bolts or screw holes may be damaged.

When fixing the parallel type to the bottom surface, be careful not to cause interference with the movable range of the rotating movable stopper.



Side-mounted type

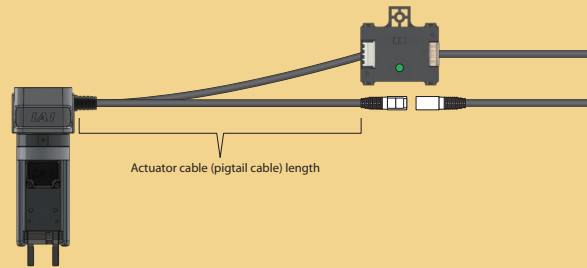


Options

Actuator cable (pigtail cable) length

Model AC2 / AC5

Description Although the standard length of the actuator's pigtail cables for rotation and grip is 1m, they can be changed to 2m/5m as AC2 option and AC5 option.



Brake

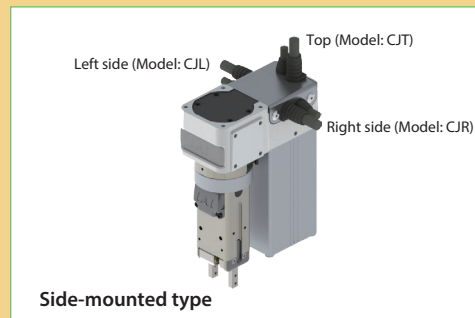
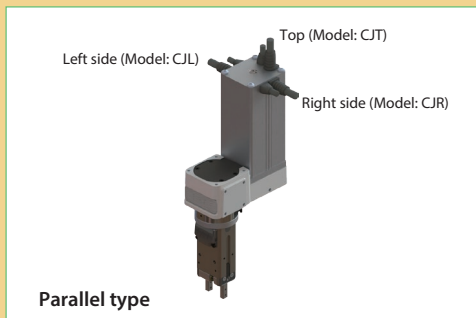
Model B

Description This works as a holding mechanism that prevents rotation and damage to any attachments when the power or servo is turned off.

Cable exit direction

Model CJT / CJR / CJL

Description The mounting direction of the actuator's pigtail cable can be changed to top, left, or right.



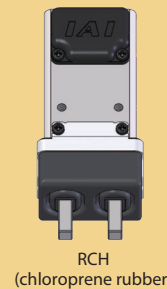
Rubber cover attached

Model RCH / RSL

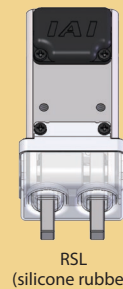
Description A rubber cover can be added to the chuck part.

Applicable models	Rubber cover material	Single product model number
RCP6-RTCKSPE/RTCKSPI RTCKSRE/RTCKSRI	RCH (chloroprene rubber)	GRS-RCH-S
RCP6-RTCKMPE/RTCKMPI RTCKMRE/RTCKMRI		GRS-RCH-M
RCP6-RTCKSPE/RTCKSPI RTCKSRE/RTCKSRI	RSL (silicone rubber)	GRS-RSL-S
RCP6-RTCKMPE/RTCKMPI RTCKMRE/RTCKMRI		GRS-RSL-M

(When ordering by single product model number, a mounting bracket and screws will also be included)



RCH
(chloroprene rubber)



RSL
(silicone rubber)

Sensor

Model S1N / S2N / S1P / S2P

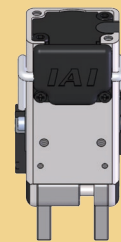
Description One or two sensors can be attached to the chuck part.

Applicable models	Sensor specification	Number of sensors	Single product model number
RCP6-RTCKSPE/RTCKSPI RTCKSRE/RTCKSRI	NPN	1	GRS-S1N-S
		2	GRS-S2N-S
	PNP	1	GRS-S1P-S
		2	GRS-S2P-S
RCP6-RTCKMPE/RTCKMPI RTCKMRE/RTCKMRI	NPN	1	GRS-S1N-M
		2	GRS-S2N-M
	PNP	1	GRS-S1P-M
		2	GRS-S2P-M

(When ordering by single product model number, a mounting bracket and bolts will also be included)



Sensor 1
pcs.



Sensor 2
pcs.

Maintenance parts

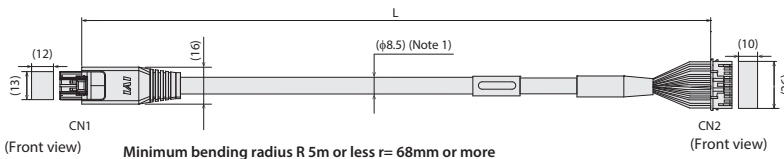
When placing an order for a replacement cable, please use the model name shown below.

■ Table of compatible cables

	Connected controller		Integrated motor-encoder cable	Integrated motor-encoder robot cable
	Rotation cable	P3	PCON	CB-CAN-MPA□□□□
MCON				
MSEL				
	P5	RCON	CB-ADPC-MPA□□□□	CB-ADPC-MPA□□□□-RB
		RCM-P6PC		
Grip cable			Solenoid driver cable CB-GRS-PCS□□□□	*Non-robot cable

Model: **CB-CAN-MPA□□□□./CB-CAN-MPA□□□□-RB**

* Please indicate the cable length (L) in □□□, e.g.) 080 = 8m, maximum 15m



Minimum bending radius R 5m or less $r = 68\text{mm}$ or more
 (Dynamic bending condition)
 Longer than 5m $r = 73\text{mm}$ or more (Dynamic bending condition)

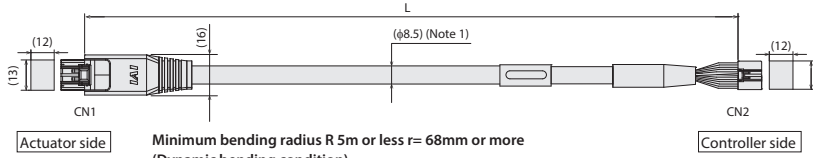
* The robot cable is designed for flex-resistance:
 Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is 5m or more, $\phi 9.1$ cable diameter applies for both robot and non-robot cables.

Actuator side DF62DL-245-2.2C (HIROSE ELECTRIC CO., LTD.)			Controller side PADD-24V-1-S (J.S.T.MFG.CO.,LTD.)		
Color (wiring)	Signal name	Pin No.	Pin No.	Signal name	Color (wiring)
Blue(AWG22/19)	ϕA	3	1	ϕA	Blue(AWG22/19)
Orange(AWG22/19)	VMM	5	2	VMM	Orange(AWG22/19)
Brown(AWG22/19)	ϕB	10	3	ϕB	Brown(AWG22/19)
Gray(AWG22/19)	VMM	9	4	VMM	Gray(AWG22/19)
Green(AWG22/19)	ϕA	4	5	ϕA	Green(AWG22/19)
Red(AWG22/19)	ϕB	15	6	ϕB	Red(AWG22/19)
Light blue (AWG26)	SA (mABS)	12	11	SA (mABS)	Light blue (AWG26)
Orange(AWG26)	SB (mABS)	17	12	SB (mABS)	Orange(AWG26)
Green(AWG26)	A+	1	13	A+	Green(AWG26)
Brown(AWG26)	A-	6	14	A-	Brown(AWG26)
Gray(AWG26)	B+	11	15	B+	Gray(AWG26)
Red(AWG26)	B-	16	16	B-	Red(AWG26)
Black(AWG26)	VPS	18	18	VPS	Black(AWG26)
Yellow(AWG26)	LS+	8	7	LS+	Yellow(AWG26)
Light blue (AWG26)	BK+	20	9	BK+	Light blue (AWG26)
Orange(AWG26)	BK-	2	10	BK-	Orange(AWG26)
Gray(AWG26)	VCC	21	17	VCC	Gray(AWG26)
Red(AWG26)	GND	7	19	GND	Red(AWG26)
Brown(AWG26)	LS-	14	8	LS-	Brown(AWG26)
Green(AWG26)	LS_GND	13	20	LS_GND	Green(AWG26)
---	---	19	22	---	---
Pink (AWG26)	CF_VCC	22	21	CF_VCC	Pink (AWG26)
---	---	23	23	---	---
Black(AWG26)	FG	24	24	FG	Black(AWG26)

Model: **CB-ADPC-MPA□□□□./CB-ADPC-MPA□□□□-RB**

* Please indicate the cable length (L) in □□□, e.g.) 030 = 3m, maximum 15m



Minimum bending radius R 5m or less $r = 68\text{mm}$ or more
 (Dynamic bending condition)
 Longer than 5m $r = 73\text{mm}$ or more (Dynamic bending condition)

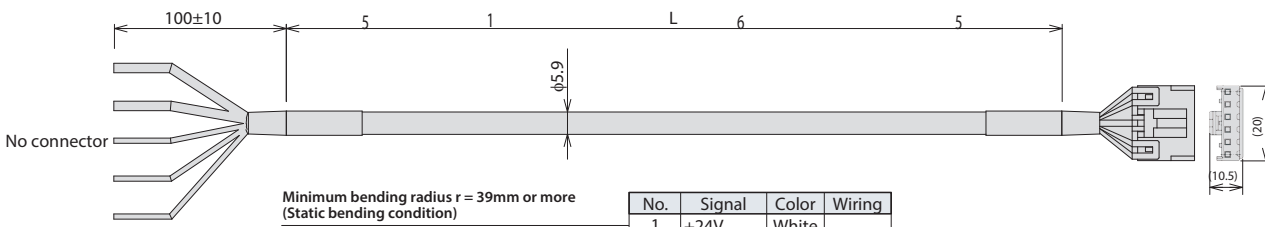
* The robot cable is designed for flex-resistance:
 Please use the robot cable if the cable needs to be installed through the cable track.

(Note 1) If the cable length is over 5m, $\phi 9.1$ cable diameter applies.

Actuator side DF62DL-245-2.2C (HIROSE ELECTRIC CO., LTD.)			Controller side DF62DL-245-2.2C (HIROSE ELECTRIC CO., LTD.)		
Color (wiring)	Signal name	Pin No.	Pin No.	Signal name	Color (wiring)
Blue(AWG22/19)	ϕA	3	3	ϕA	Blue(AWG22/19)
Orange(AWG22/19)	VMM	5	5	VMM	Orange(AWG22/19)
Brown(AWG22/19)	ϕB	10	10	ϕB	Brown(AWG22/19)
Gray(AWG22/19)	VMM	9	9	VMM	Gray(AWG22/19)
Green(AWG22/19)	ϕA	4	4	ϕA	Green(AWG22/19)
Red(AWG22/19)	ϕB	15	15	ϕB	Red(AWG22/19)
Light blue (AWG26)	SA (mABS)	12	12	SA (mABS)	Light blue (AWG26)
Orange(AWG26)	SB (mABS)	17	17	SB (mABS)	Orange(AWG26)
Green(AWG26)	A+	1	1	A+	Green(AWG26)
Brown(AWG26)	A-	6	6	A-	Brown(AWG26)
Gray(AWG26)	B+	11	11	B+	Gray(AWG26)
Red(AWG26)	B-	16	16	B-	Red(AWG26)
Black(AWG26)	VPS	18	18	VPS	Black(AWG26)
Yellow(AWG26)	LS+	8	8	LS+	Yellow(AWG26)
Light blue (AWG26)	BK+	20	20	BK+	Light blue (AWG26)
Orange(AWG26)	BK-	2	2	BK-	Orange(AWG26)
Gray(AWG26)	VCC	21	21	VCC	Gray(AWG26)
Red(AWG26)	GND	7	7	GND	Red(AWG26)
Brown(AWG26)	LS-	14	14	LS-	Brown(AWG26)
Green(AWG26)	LS_GND	13	13	LS_GND	Green(AWG26)
---	---	19	---	---	---
Pink (AWG26)	CF_VCC	22	22	CF_VCC	Pink (AWG26)
---	---	23	---	---	---
Black(AWG26)	FG	24	24	FG	Black(AWG26)

Model: **CB-GRS-PCS□□□□**

* Please indicate the cable length (L) in □□□, e.g.) 050 = 5m, maximum 15m



Minimum bending radius $r = 39\text{mm}$ or more
 (Static bending condition)

No.	Signal	Color	Wiring
1	+24V	White	AWG18
2	GND	Black	
3	ON/OFF	Brown	AWG22
4	Sensor 1	Red	
5	Sensor 2	Green	

Wiring layout

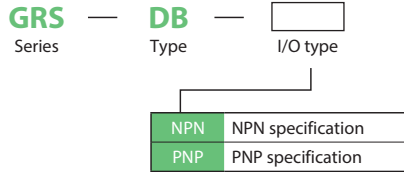
Driver box

A driver box is required per Rotary Chuck unit.

In accordance with the ON/OFF signals from the external control device, control the current so as to avoid heat generation in the chuck part and operate the chuck.



Model Configuration



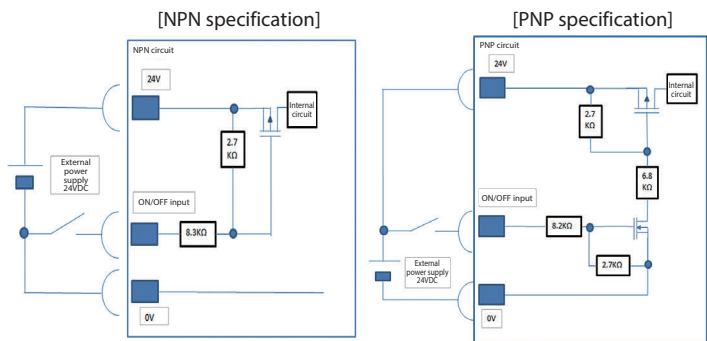
Specification

Item	Description	
Control target	RCP6-RTCKS	RCP6-RTCKM
Control method	PWM current control	
Power supply voltage	24VDC ± 10%	
Maximum output current (Release initial instantaneous 40ms)	2.8A	3.7A
Maximum power consumption (Release initial instantaneous 40ms)	74W	97W
Power consumption for release retention (Release status retained)	2.0W	2.1W
Power consumption for grip status	0W	0W
Open/close signal input	Signal input dedicated for 24VDC (NPN/PNP selection)	
Position sensor signal output	Signal output dedicated for 24VDC (NPN/PNP selection)	
Indicator light	LED during release operation: Light ON (green) LED during gripping operation: Light OFF	
Manual switch	OFF during normal operation Manual switch ON is enabled only when open/close signal input is OFF	
Ambient operating temperature	0 to 40°C	
Ambient operating humidity	85% RH or less (non-condensing)	
Operating ambience	No corrosive gas	
Ambient storage humidity	-10 to 65°C	
Ambient storage temperature	90% RH or less (non-condensing)	
Degree of protection	IP20	
Mass	22g	
External dimensions	58mm (W) * 58.1mm (H) * 16mm (T)	

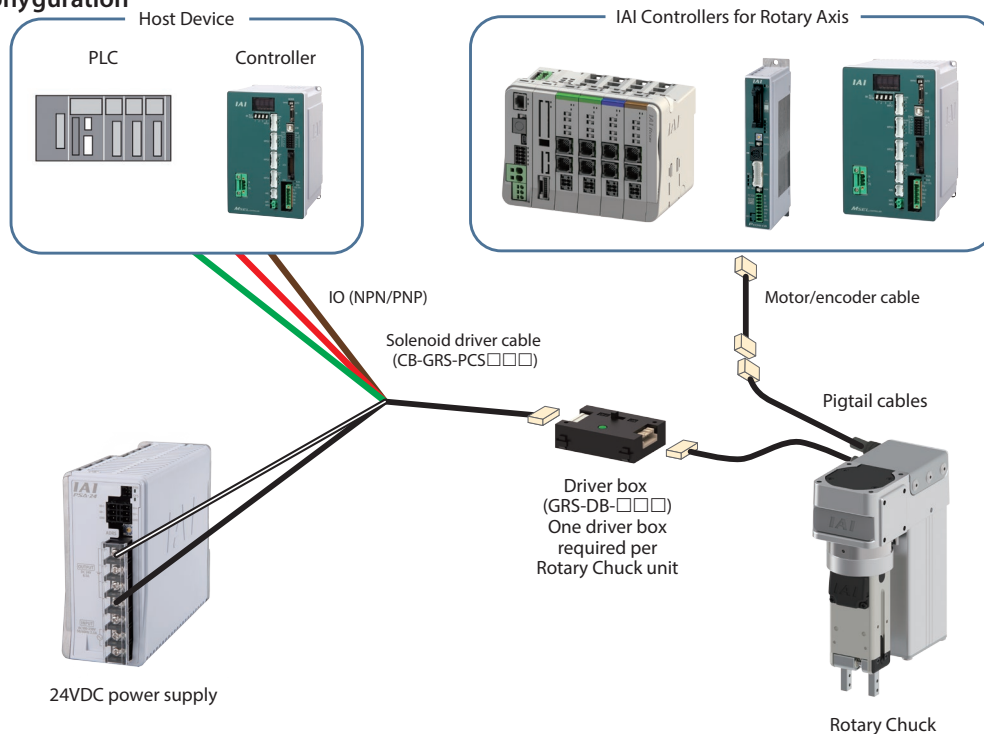
Open/close Signal Input Specification

Item	NPN specification	PNP specification
Input voltage	24V ±10%	24V ±10%
Input current	2mA	2mA
Leakage current	0.25mA Max	0.25mA Max
Operating voltage	ON voltage: 6.0V or less	ON voltage: 18.0V or more
	OFF voltage: Input voltage - 3.0V or more	OFF voltage: Input voltage 3.0V or less
Isolation method	Non-isolated	Non-isolated

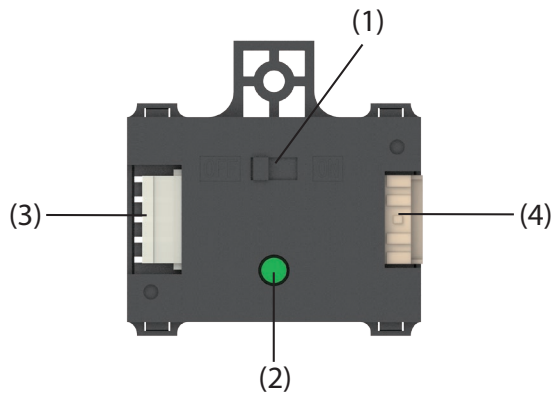
Internal Circuit Configuration



System Configuration



Names of Each Part



(1) Slide switch

For manual grip/release.
(Enabled only when open/close signal from external device is OFF)

(2) LED display

Light turns ON via signals from the external control device.
Light is also ON during forced ON via slide switch.

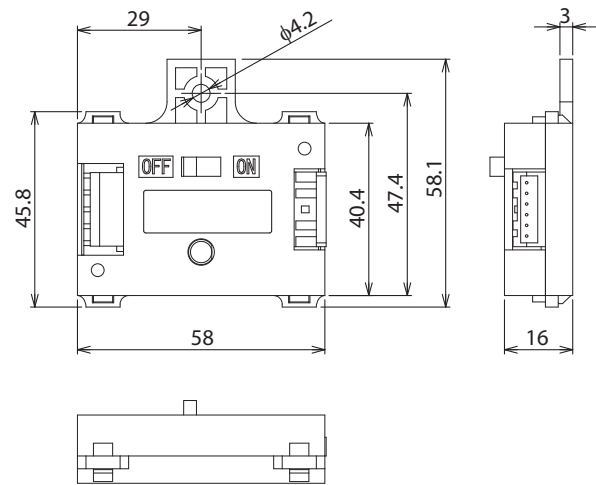
(3) Power/control device side connector

Connects cables from power supply, host devices and control.

(4) Gripper side connector

Connects the Rotary Chuck (actuator's pigtail cable for grip).

External View



Signal Names (power/control device side)

Wire color	Signal name	Description
White	24V	24VDC \pm 10% power input for driver box, chuck part sensor
Black	0V	0V(GND)
Brown	ON/OFF	Chuck part open/close signal input
Red	Sensor 1	Chuck part sensor 1 output
Green	Sensor 2	Chuck part sensor 2 output

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