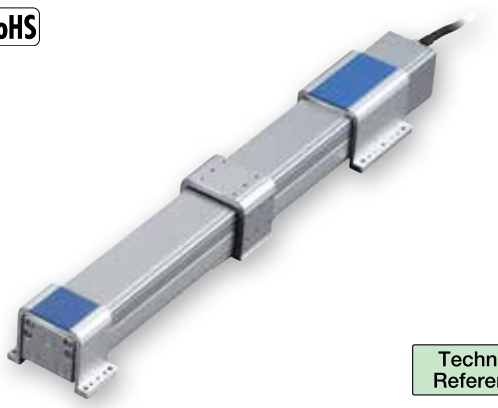
RCP4W-SA5C

ROBO Cylinder, Splash-Proof Slider Type, Actuator Width 55mm, Pulse Motor, Coupled

Model Specification Items

RCP4W	SA5C	I	35P	☐	☐	P3	☐	☐
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	35P: Pulse motor, 35☐ size	10 : 10mm 5 : 5mm	100: 100mm ~ 500: 500mm (50mm pitch increments)	P3: PCON-CA * The RCP4W can be operated only with the PCON-CA	N: None P: 1m S: 3m M: 5m X☐☐: Custom length R☐☐: Robot cable	See options below.

* See page Pre-47 for details on the model descriptions.



Technical References → Appendix P.5

POINT Notes on selection

(1) This actuator is designed exclusively for horizontal installation. It cannot be installed vertically. When hanging the actuator from the ceiling or mounting it on the wall, be sure to do so using an optional dedicated bracket.
(2) The payload varies depending on the acceleration/deceleration. The upper limit of acceleration/deceleration is 0.6 G.
(3) The cable joint connector is not splash-proof, so install the connector in a location where it will not come in contact with water.
(4) Refer to the page at right for the air tube length and air flow rate when implementing air purge.
(5) See page A-71 for details on push motion.

■ Payload by Acceleration/Deceleration

With the RCP4W series, the payload remains the same even when the speed is raised. However, the payload will drop if the acceleration is raised. Check on the table below.

Diagram of Acceleration/Deceleration vs. Payload [Supported at Both Ends]

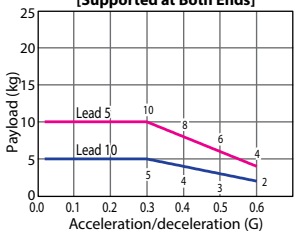
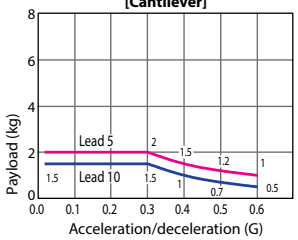


Diagram of Acceleration/Deceleration vs. Payload [Cantilever]



Actuator Specifications

■ Lead and Payload

Model number	Lead (mm)	Maximum horizontal payload (kg)		Maximum push force (N)	Positioning repeatability (mm)	Stroke (mm)
		Supported on both ends	Cantilever			
RCP4W-SA5C-I-35P-10-①-P3-②-③	10	5	1.5	66.9	±0.02	100~500 (every 50mm)
RCP4W-SA5C-I-35P-10-①-P3-②-③	5	10	2	147.9		

Code explanation ① Stroke ② Cable length ③ Options *See page A-71 for details on push motion.

■ Stroke and Maximum Speed

Lead \ Stroke	100~500 (every 50mm)
10	330
5	165

(Unit: mm/s)

① Stroke

Stroke (mm)	Standard price
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—

② Cable Length

Type	Cable symbol	Standard Price
Standard	**P** (1m)	—
	S (3m)	—
	M (5m)	—
Special length	**X06** (6m) ~ **X10** (10m)	—
	X11 (11m) ~ **X15** (15m)	—
	X16 (16m) ~ **X20** (20m)	—
Robot Cable	**R01** (1m) ~ **R03** (3m)	—
	R04 (4m) ~ **R05** (5m)	—
	R06 (6m) ~ **R10** (10m)	—
	R11 (11m) ~ **R15** (15m)	—
	R16 (16m) ~ **R20** (20m)	—

* See page A-59 for cables for maintenance.

③ Options

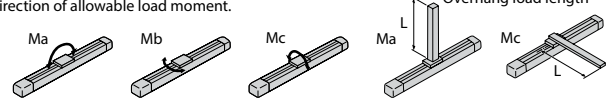
Name	Option code	See page	Standard price
Cable exit from the left side face	**A1**	→ A-41	—
Cable exit from the right side face	**A3**	→ A-41	—
Additional alumite coating	**AL**	→ A-42	—
Food grade grease (edible grease)	**GE**	→ A-50	—
Non-motor end specification	**NM**	→ A-52	—
Ceiling mount (bracket mounted on the left)	**HFL**	→ A-51	—
Ceiling mount (bracket mounted on the right)	**HFR**	→ A-51	—
Wall mount sideways on the left	**TFL**	→ A-57	—
Wall mount sideways on the right	**TFR**	→ A-57	—

Actuator Specifications

Item		Description
Drive system		Ball screw ø8 mm, rolled C10
Positioning repeatability		±0.02mm
Lost motion		0.1 mm or less
Allowable static moment	Supported on both ends	Ma: 5.9 N•m Mb: 8.4 N•m Mc: 13.7 N•m
	Cantilever	Ma: 2.9 N•m Mb: 4.2 N•m Mc: 6.8 N•m
Allowable dynamic moment (*)	Supported on both ends	Ma: 3.4 N•m Mb: 4.9 N•m Mc: 8.0 N•m
	Cantilever	Ma: 1.7 N•m Mb: 2.5 N•m Mc: 4.0 N•m
Overhang load length	Supported on both ends	125mm or less
	Cantilever	75mm or less
Protective structure		IP65 (with air purge)
Ambient operating temperature, humidity		0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 5,000km of traveling life.

Direction of allowable load moment.



Dimensional Drawings

CAD drawings can be downloaded from the website. www.intelligentactuator.com

For Special Orders Appendix P.15

2D CAD 3D CAD

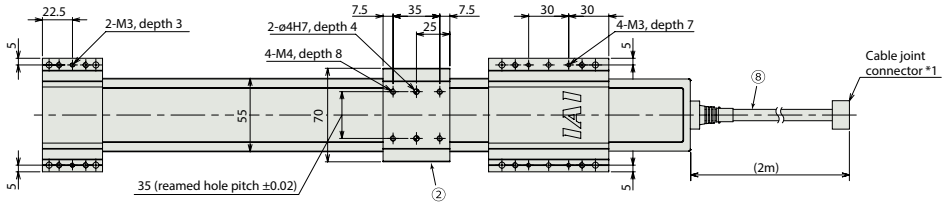
*See Page A-9 for the dimensional drawing for the ceiling mount specification.
See Page A-10 for the dimensional drawing for the wall mount specification.

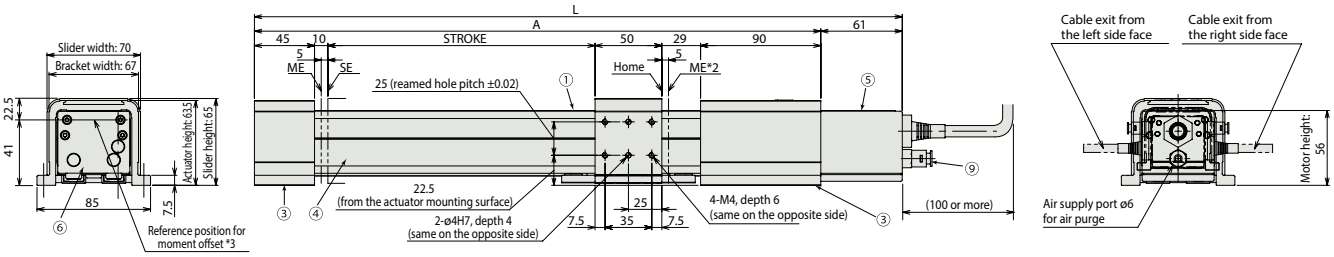
(*1) Connect the motor-encoder integrated cable here.
(*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
(*3) Reference position for calculating the moments.

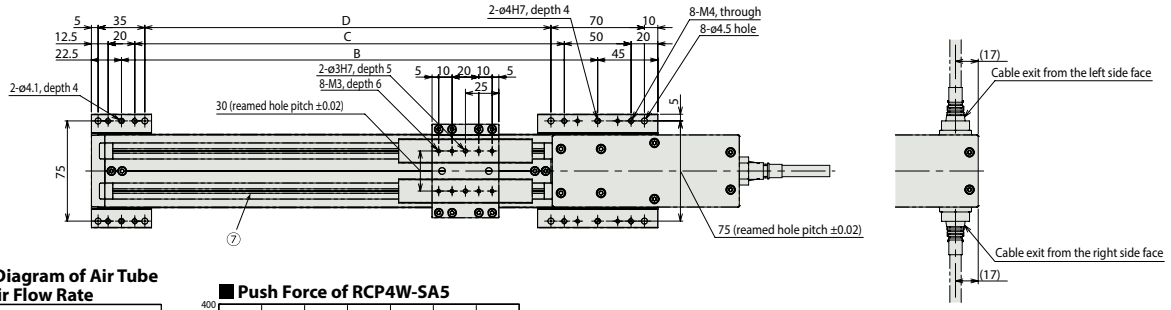
Materials of Main Components

①	Base	Extruded aluminum (A6063)	Surface treatment: Alumite coating
②	Table	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
③	Mounting bracket (front/rear)	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
④	Side cover	Extruded aluminum (A6063)	Surface treatment: Alumite coating
⑤	Motor cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑥	Front cover	Die-cast aluminum (ADC12)	Surface treatment: Alumite coating + Paint
⑦	Seal	Urethane rubber (U)	
⑧	Actuator cable	Polyvinyl chloride (PVC)	* High flex type cable
⑨	Air purge joint	Polyphenylene sulfide (PPS)	

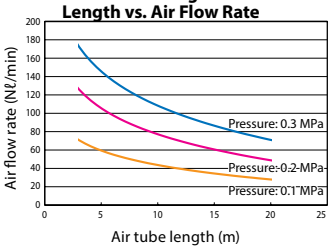
* Alumite coating has been removed in the machined areas of the table ②and mounting bracket ③.
To add alumite coating to these areas, specify the "Additional alumite coating (code: AL)" option.



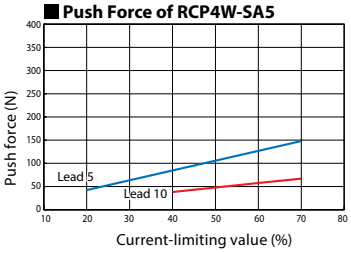




Correlation Diagram of Air Tube Length vs. Air Flow Rate



Push Force of RCP4W-SA5



- The above correlation diagram assumes an air tube of 6mm in outer diameter and 4mm in inner diameter. (A joint of 6mm in outer diameter is used on the actuator side.)
- Use the correlation diagram as a reference to determine an appropriate pressure and air tube length in such a way that the air flow rate will become 40 Nℓ/min or more (clean dry air).

Note on Push-motion Operation

When performing push-motion operation, make sure the reactive moment generated by the push force does not exceed 80% of the dynamic allowable moment (Ma or Mb) specified in the catalog.

In push-motion operation, the travel speed is fixed at 25 mm/s.

Dimensions and Weight by Stroke

Stroke	100	150	200	250	300	350	400	450	500
L	385	435	485	535	585	635	685	735	785
A	324	374	424	474	524	574	624	674	724
B	256.5	306.5	356.5	406.5	456.5	506.5	556.5	606.5	656.5
C	221.5	271.5	321.5	371.5	421.5	471.5	521.5	571.5	621.5
D	204	254	304	354	404	454	504	554	604
Weight (kg)	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.8	4.0

Applicable Controllers

RCP4W series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

(Note) These actuators cannot be operated with controllers other than the PCON-CA.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type		PCON-CA-35PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type		PCON-CA-35PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input type	—			—	
Field network type		PCON-CA-35PI-Ⅱ-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points			—	

* ① indicates I/O type (NP/PN). * □ indicates N (NPN specification) or P (PNP specification) symbol * Ⅱ indicates field network specification symbol.