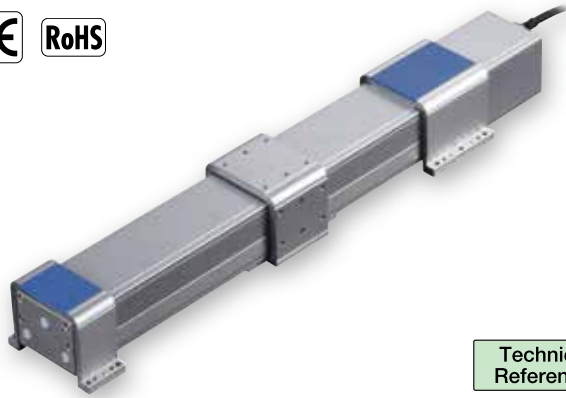


RCP4W-SA7C

ROBO Cylinder, Splash-Proof Slider Type, Actuator Width 77mm, Pulse Motor, Coupled

Model Specification Items	RCP4W — SA7C	I	56P	<input type="checkbox"/>	<input type="checkbox"/>	P3	<input type="checkbox"/>	<input type="checkbox"/>
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental * The Simple absolute encoder is also considered type "I".	56P: Pulse motor, 56□ size	16: 16mm 8: 8mm	100: 100mm ? 700: 700mm (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]

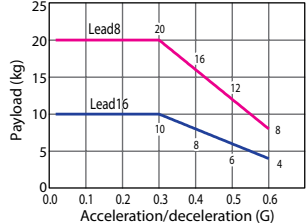
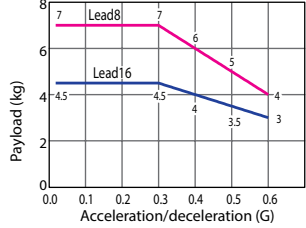


Diagram of Acceleration/Deceleration vs. Payload [Cantilever]



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-SA7C-I-56P-16-①-P3-②-③	16	10	4.5	161.9	±0.02	100~700 (every 50mm)
RCP4W-SA7C-I-56P-8-①-P3-②-③	8	20	7	337.9		

■ Stroke and Maximum Speed

Stroke / Lead	100~700 (every 50mm)
	16
8	265

Code explanation ① Stroke ② Cable length ③ Options *See page A-71 for details on push motion. (Unit: mm/s)

① Stroke

Stroke (mm)	Standard price
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—
550	—
600	—
650	—
700	—

② Cable Length

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

* See page A-59 for cables for maintenance.

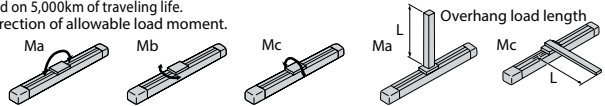
③ Options

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 ø12 mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1 mm or less
Allowable static moment	Supported on both ends: Ma: 11.7 N·m Mb: 16.6 N·m Mc: 31.8 N·m Cantilever: Ma: 5.8 N·m Mb: 8.3 N·m Mc: 15.9 N·m
Allowable dynamic moment (*)	Supported on both ends: Ma: 6.1 N·m Mb: 8.8 N·m Mc: 16.8 N·m Cantilever: Ma: 3.1 N·m Mb: 4.4 N·m Mc: 8.4 N·m
Overhang load length	Supported on both ends: 175mm or less Cantilever: 105mm 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



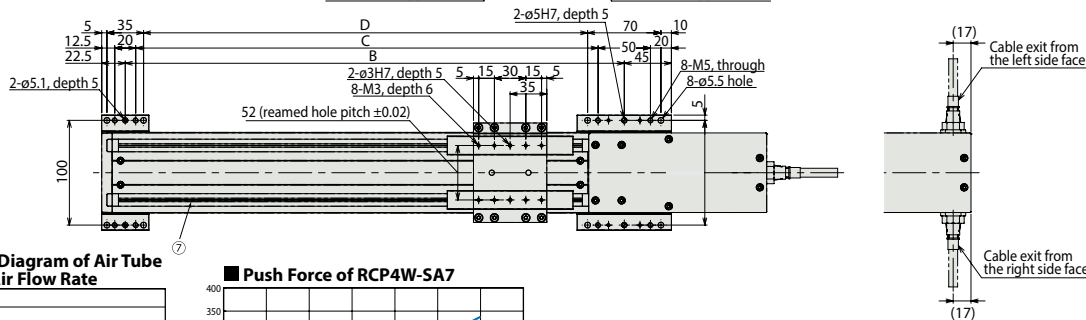
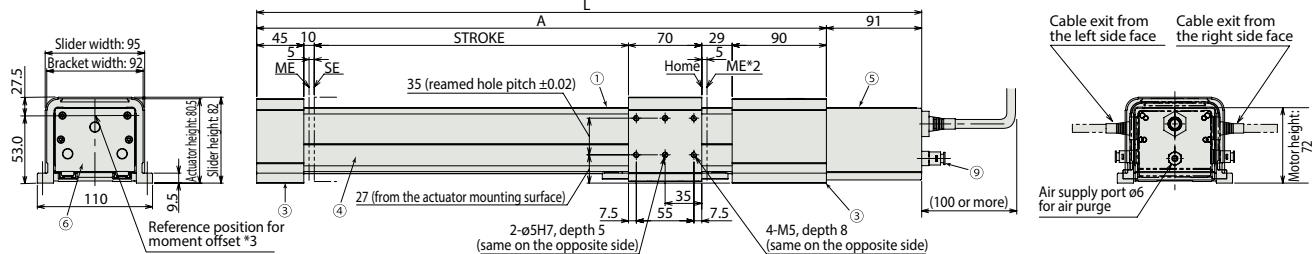
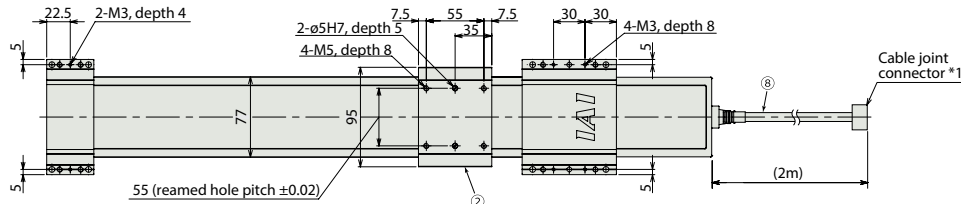
*See Page A-9 for the dimensional drawing for the ceiling mount specification. See Page A-10 for the dimensional drawing for the wall mount specification.

Materials of Main Components

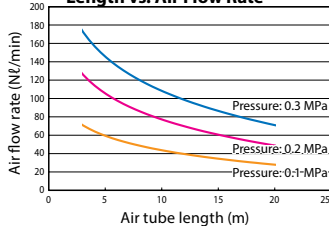
① Base	Extruded aluminum (A6063)	Surface treatment: Alumite coating
② Table	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
③ Mounting bracket (front/rear)	Extruded aluminum (A6063)	Surface treatment: Alumite coating (excluding machined areas)
④ Side cover	Extruded 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 ② and mounting bracket ③. To add alumite coating to these areas, specify the "Additional alumite coating (code: AL)" option.

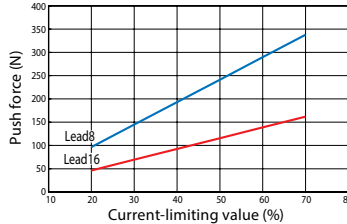
- (*1) Connect the motor-encoder integrated cable here.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- (*3) Reference position for calculating the moments.



Correlation Diagram of Air Tube Length vs. Air Flow Rate



Push Force of RCP4W-SA7



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 20 mm/s.

- 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).

Dimensions and Weight by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700
L	435	485	535	585	635	685	735	785	835	885	935	985	1035
A	344	394	444	494	544	594	644	694	744	794	844	894	944
B	276.5	326.5	376.5	426.5	476.5	526.5	576.5	626.5	676.5	726.5	776.5	826.5	876.5
C	241.5	291.5	341.5	391.5	441.5	491.5	541.5	591.5	641.5	691.5	741.5	791.5	841.5
D	224	274	324	374	424	474	524	574	624	674	724	774	824
Weight (kg)	5.9	6.2	6.5	6.8	7.1	7.4	7.6	7.9	8.2	8.5	8.8	9.0	9.3

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-56PI-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-56PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input type	—				
Field network type		PCON-CA-56PI-①-0-0	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 * ① indicates field network specification symbol.