

RCP4-SA5R

ROBO Cylinder, Slider Type, Side-mounted Motor Type, Actuator Width 52mm, 24-V Pulse Motor

Model Specification Items **RCP4** — **SA5R** — **I** — **42P** — — — **P3** — —

Series — Type — Encoder type — Motor type — Lead — Stroke — Applicable controller — Cable length — Options

I: Incremental specification 42P: Pulse motor, size 42□ 20: 20mm 12: 12mm 6: 6mm 3: 3mm 50: 50mm 800: 800mm (every 50mm) P3: PCON-CA MSEP-C N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable See Options below. * Be sure to specify either "ML" or "MR" as the motor side-mounted direction.

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



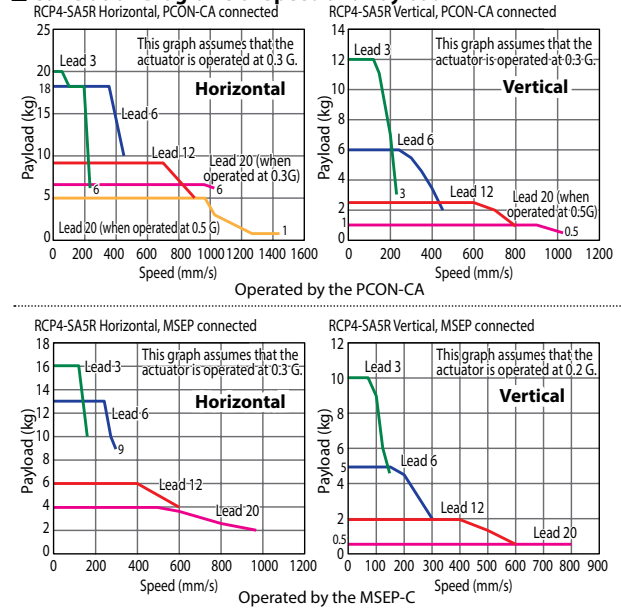
The "Motor side-mounted to the left (ML)" option is selected for the actuator shown above.

Technical References Appendix P.5



- The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (*). Note that raising the acceleration causes the payload to drop. (*): The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-104 and A-106.
- Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
- See page A-71 for details on push motion.

Correlation Diagrams of Speed and Payload



Actuator Specifications

Leads and Payloads

(*): When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4-SA5R-I-42P-20-①-P3-②-③	20	PCON-CA	6.5	1	50~800 (every 50mm)
		MSEP-C	4	0.5 (*)	
RCP4-SA5R-I-42P-12-①-P3-②-③	12	PCON-CA	9	2.5	
		MSEP-C	6	2	
RCP4-SA5R-I-42P-6-①-P3-②-③	6	PCON-CA	18	6	
		MSEP-C	13	5	
RCP4-SA5R-I-42P-3-①-P3-②-③	3	PCON-CA	20	12	
		MSEP-C	16	10	

Code explanation ① Stroke ② Cable length ③ Options

* See page A-71 for details on push motion.

Stroke and Maximum Speed

Lead (mm)	Connected controller	50~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	PCON-CA	1440 <1120>	1225 <1120>	1045	900	785	690	610	
	MSEP-C	960 <800>		900 <800>	785	690	610		
12	PCON-CA	900 <800>	795	665	570	490	425	375	330
	MSEP-C	600		570	490	425	375	330	
6	PCON-CA	450	395	335	285	245	215	185	165
	MSEP-C	300		285	245	215	185	165	
3	PCON-CA	225	195	165	140	120	105	90	80
	MSEP-C	150		140	120	105	90	80	

The values in <> apply when the actuator is used vertically.

(unit: mm/s)

① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	—	450	—
100	—	500	—
150	—	550	—
200	—	600	—
250	—	650	—
300	—	700	—
350	—	750	—
400	—	800	—

② Cable Length

Type	Cable symbol	Standard price
Standard type	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
Brake	B	→ A-42	—
Optional cable exit direction (top)	CJT	→ A-42	—
Optional cable exit direction (outside)	CJO	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Motor side-mounted to the left (standard)	ML	→ A-52	—
Motor side-mounted to the right	MR	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

Actuator Specifications

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability (*1)	±0.02mm [±0.03mm]
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Guide	Linear guide
Allowable dynamic moment (*2)	Ma: 4.9 N·m, Mb: 6.8 N·m, Mc: 11.7 N·m
Allowable overhang	150mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*1) The value at lead 20 is shown in [].

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

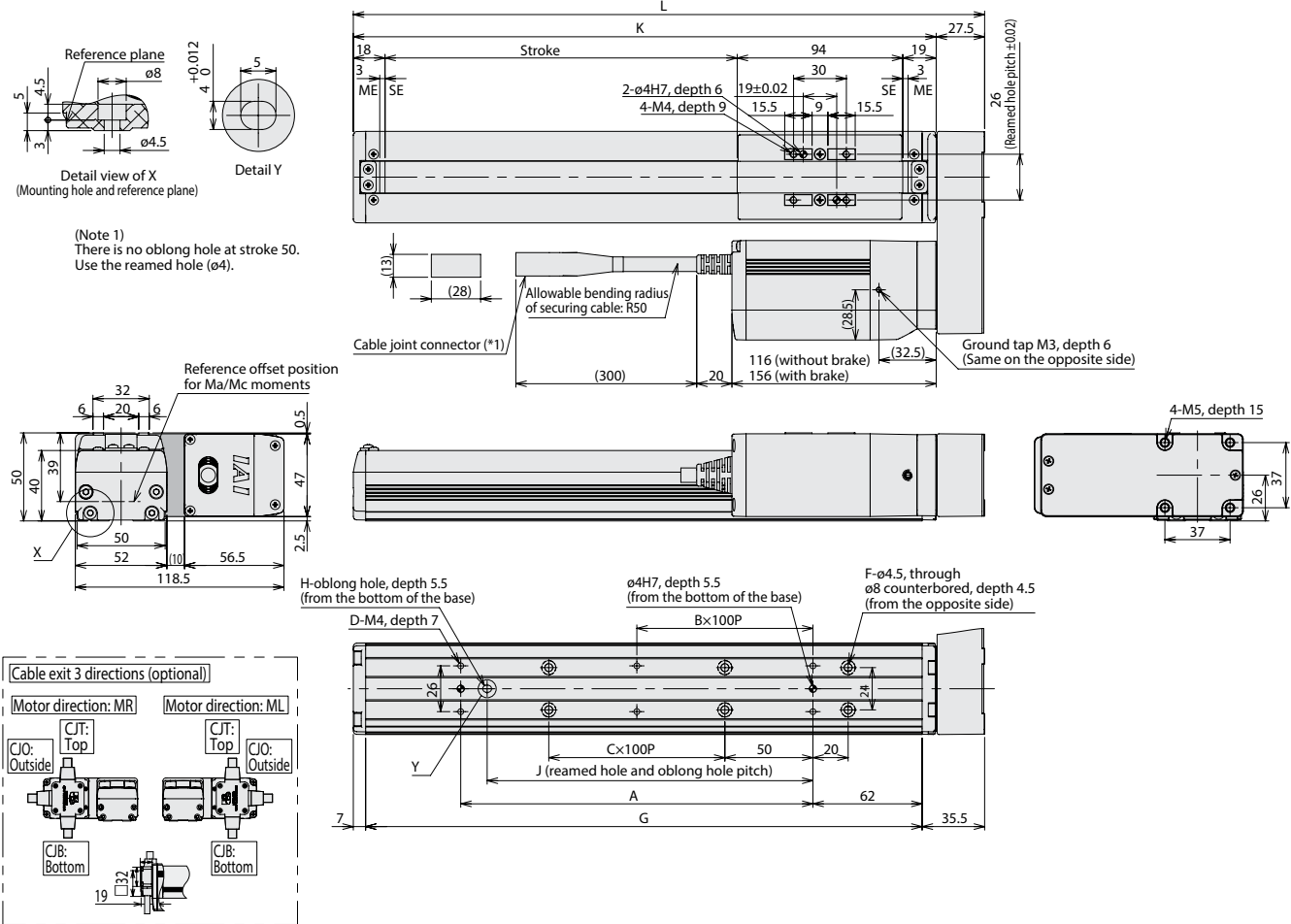
Dimensional Drawings

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

For Special Orders Appendix P.15



- *1 Connect the motor-encoder integrated cable here. * See page A-59 for details on cables.
- *2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
ME: Mechanical end
SE: Stroke end



Caution
Pay attention to possible contact with surrounding structures when a slider mount area projects into the motor unit top surface.

■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5	708.5	758.5	808.5	858.5	908.5	958.5
A	73	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
B	0	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7
C	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	8
D	4	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18
F	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
G	166	216	266	316	366	416	466	516	566	616	666	716	766	816	866	916
H	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
J	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
K	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931
Weight (kg)	Without brake	1.7	1.9	2.0	2.2	2.3	2.5	2.6	2.8	2.9	3.0	3.2	3.3	3.5	3.6	3.8
	With brake	2.0	2.1	2.3	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.0

Applicable Controllers

RCP4 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner type High-output specification		PCON-CA-42PI-①-2-0	Equipped with a high-output driver PIO control supported	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-42PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—				
Field network type High-output specification		PCON-CA-42PI-⑩-0-0	Equipped with a high-output driver Field network supported	768 points				
Solenoid valve multi-axis type PIO specification	MSEP-C-⑩-~-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572				
Solenoid valve multi-axis type Network specification	MSEP-C-⑩-~-⑩-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points					

* ① indicates I/O type (NP/PN). * ⑩ indicates number of axes (1 to 8). * ⑩ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.