

# RCP4CR-SA6C

Cleanroom ROBO Cylinder, Slider Type, Coupled, Actuator Width 58mm, 24-V Pulse Motor

**Model Specification Items** **RCP4CR-SA6C-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    50: 50mm    P3: PCON-CA    N: None    See Options below.  
 12: 12mm    6: 6mm    MSEP-C    P: 1m    S: 3m    M: 5m    X□□: Custom length  
 3: 3mm    800: 800mm (50mm pitch increments)    R□□: Robot cable

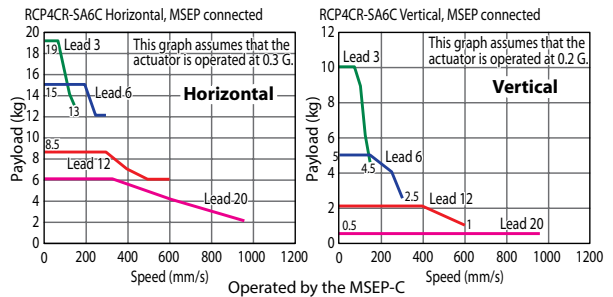
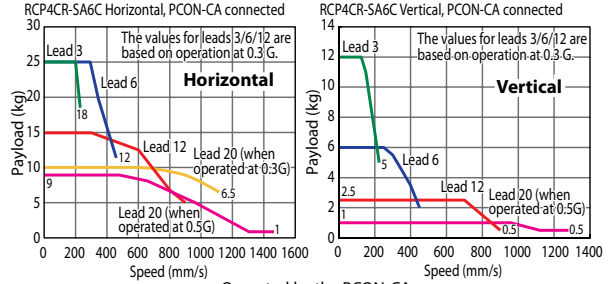
\* See page Pre-47 for details on the model descriptions.



Technical References Appendix P.5

- POINT** Notes on selection
- 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-100, A-102.
  - 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.

### Speed vs. Load Capacity



### Actuator Specifications

#### Lead and Payload

(\*): When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP4CR-SA6C-I-42P-20-①-P3-②-③	20	PCON-CA	10	1	50~800 (every 50mm)
		MSEP-C	6	0.5 (*)	
RCP4CR-SA6C-I-42P-12-①-P3-②-③	12	PCON-CA	15	2.5	
		MSEP-C	8.5	2	
RCP4CR-SA6C-I-42P-6-①-P3-②-③	6	PCON-CA	25	6	
		MSEP-C	15	5	
RCP4CR-SA6C-I-42P-3-①-P3-②-③	3	PCON-CA	25	12	
		MSEP-C	19	10	

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

#### Stroke and Max. Speed/Suction Volume by Lead

(unit: mm/s)

Lead (mm)	Connected controller	Stroke (mm)								Suction amount (Nl/min)
		50~450 (every 50mm)	500	550	600	650	700	750	800	
20	PCON-CA	1440<1280>								80
	MSEP-C	960								
12	PCON-CA	900	795	670	570	490	430	375	335	50
	MSEP-C	600								
6	PCON-CA	450	395	335	285	245	215	185	165	30
	MSEP-C	300								
3	PCON-CA	225	195	165	140	120	105	90	80	15
	MSEP-C	150								

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

#### 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	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 (right)	CJR	→ A-42	—
Optional cable exit direction (left)	CJL	→ A-42	—
Optional cable exit direction (bottom)	CJB	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Vacuum port on opposite side	VR	→ A-58	—

#### 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 with white alumite treated
Allowable dynamic moment (*2)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Grease	Low dust generation grease (urea grease) is used for both ball screws and guides.
Cleanness	Class 10 (0.1µm)
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 5,000 km of traveling life.

Dimensional Drawings

CAD drawings can be downloaded from the website.

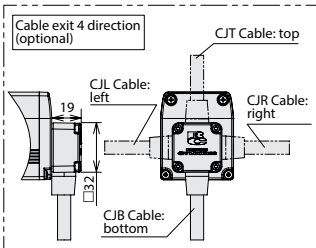
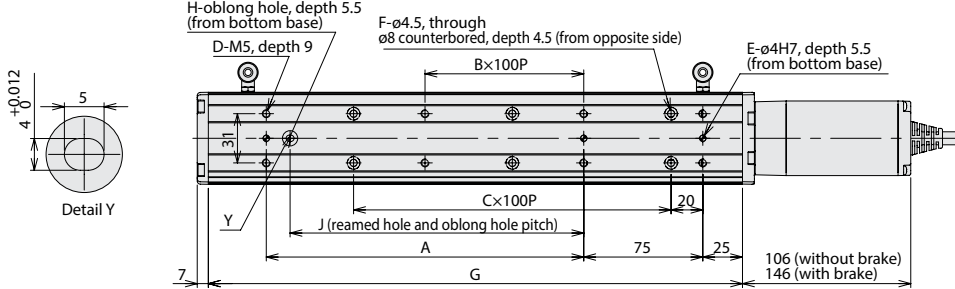
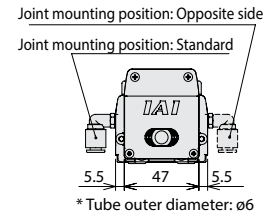
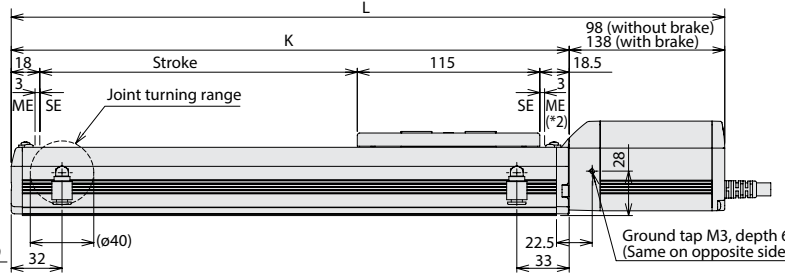
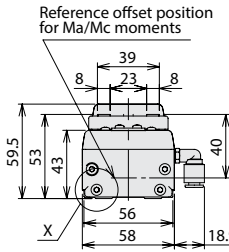
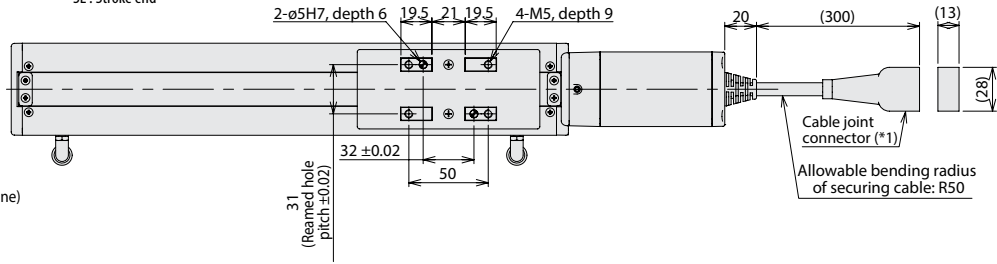
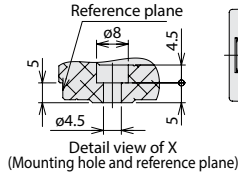
www.intelligentactuator.com

For Special Orders

Appendix P.15



(\*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.  
 (\*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.  
 ME: Mechanical end  
 SE: Stroke end



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	Without brake	299.5	349.5	399.5	449.5	499.5	549.5	599.5	649.5	699.5	749.5	799.5	849.5	899.5	949.5	999.5	1049.5
	With brake	339.5	389.5	439.5	489.5	539.5	589.5	639.5	689.5	739.5	789.5	839.5	889.5	939.5	989.5	1039.5	1089.5
A	0	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	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
D	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
E	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
F	4	4	6	6	8	8	8	10	10	12	12	14	14	16	16	18	
G	186.5	236.5	286.5	336.5	386.5	436.5	486.5	536.5	586.5	636.5	686.5	736.5	786.5	836.5	886.5	936.5	
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	201.5	251.5	301.5	351.5	401.5	451.5	501.5	551.5	601.5	651.5	701.5	751.5	801.5	851.5	901.5	951.5	
Weight (kg)	Without brake	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.4	3.5	3.7	3.8	4.0	4.1	4.3
	With brake	2.2	2.3	2.5	2.6	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.1	4.2	4.4	4.5

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-③-0-0	Equipped with a high-output driver Field network supported	768 points						
Solenoid valve multi-axis type PIO specification	MSEP-C-④-~-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	Refer to P572					—	→ P563
Solenoid valve multi-axis type Network specification	MSEP-C-④-~-③-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points							

\* ① indicates I/O type (NP/PN). \* ② indicates number of axes (1 to 8). \* ③ indicates field network specification symbol. \* □ indicates N (NPN specification) or P (PNP specification) symbol.