RCP4-SA7C

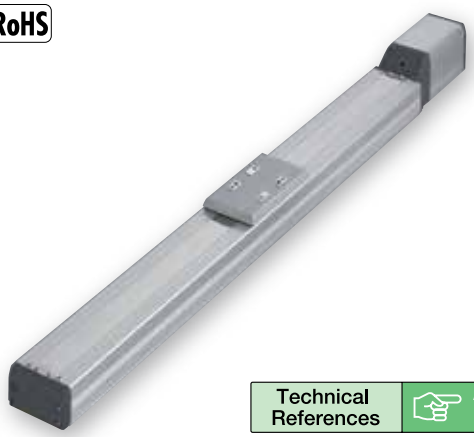
ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 73mm, 24-V Pulse Motor

Model Specification Items

RCP4	SA7C	I	56P	☐	☐	P3	☐	☐
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental specification	56P: Pulse motor, size 56□	24: 24mm 16: 16mm 8: 8mm 4: 4mm	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.

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

CE RoHS



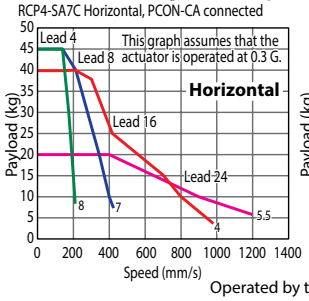
Technical References → Appendix P.5

POINT Notes on selection

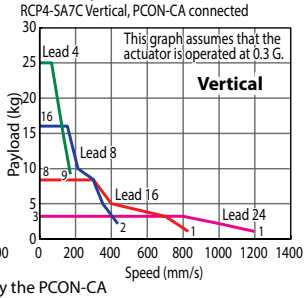
(1) The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (*). Note that raising the acceleration causes the payload to drop.
(*)The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on page A-100 and A-102.
(2) Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
(3) See page A-71 for details on push motion.

■ Correlation Diagrams of Speed and Payload

RCP4-SA7C Horizontal, PCON-CA connected

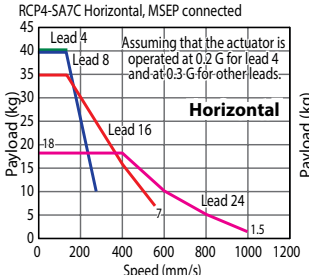


RCP4-SA7C Vertical, PCON-CA connected

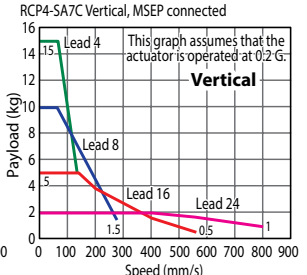


Operated by the PCON-CA

RCP4-SA7C Horizontal, MSEP connected



RCP4-SA7C Vertical, MSEP connected



Operated by the MSEP-C

Actuator Specifications

■ Leads and Payloads

(*) When operated at 0.2 G

Model number	Lead (mm)	Connected controller	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Stroke (mm)
RCP4-SA7C-I-56P-24-①-P3-②-③	24	PCON-CA	20	3	50~800 (every 50mm)
		MSEP-C	18	2 (*)	
RCP4-SA7C-I-56P-16-①-P3-②-③	16	PCON-CA	40	8	
		MSEP-C	35	5 (*)	
RCP4-SA7C-I-56P-8-①-P3-②-③	8	PCON-CA	45	16	
		MSEP-C	40	10 (*)	
RCP4-SA7C-I-56P-4-①-P3-②-③	4	PCON-CA	45	25	
		MSEP-C	40 (*)	15 (*)	

Code explanation ① Stroke ② Cable length ③ Options

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

■ Stroke and Maximum Speed

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

Lead (mm)	Connected controller	50~450 (every 50mm)	500 (mm)	500 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	PCON-CA	1200				1155	1010	890	790
	MSEP-C	1000<800>						890<800>	790
16	PCON-CA	980<840>			865<840>	750	655	580	515
	MSEP-C	560							515
8	PCON-CA	490			430	375	325	290	255
	MSEP-C	280							255
4	PCON-CA	245<210>			215<210>	185	160	145	125
	MSEP-C	140							125

* The values of lead 8 and lead 4 apply when acceleration is at 0.1G. (unit: mm/s)

①Stroke

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

②Cable 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)	—
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.

③Options

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	—
Slider roller specification	**SR**	→ A-55	—

Actuator Specifications

Item	Description
Drive system	Ball screw ø12mm, 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: 13.9 N·m, Mb: 19.9 N·m, Mc: 38.3 N·m
Allowable overhang	230mm 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 24 is shown in [ ].
(*2) Based on 5,000km of traveling life

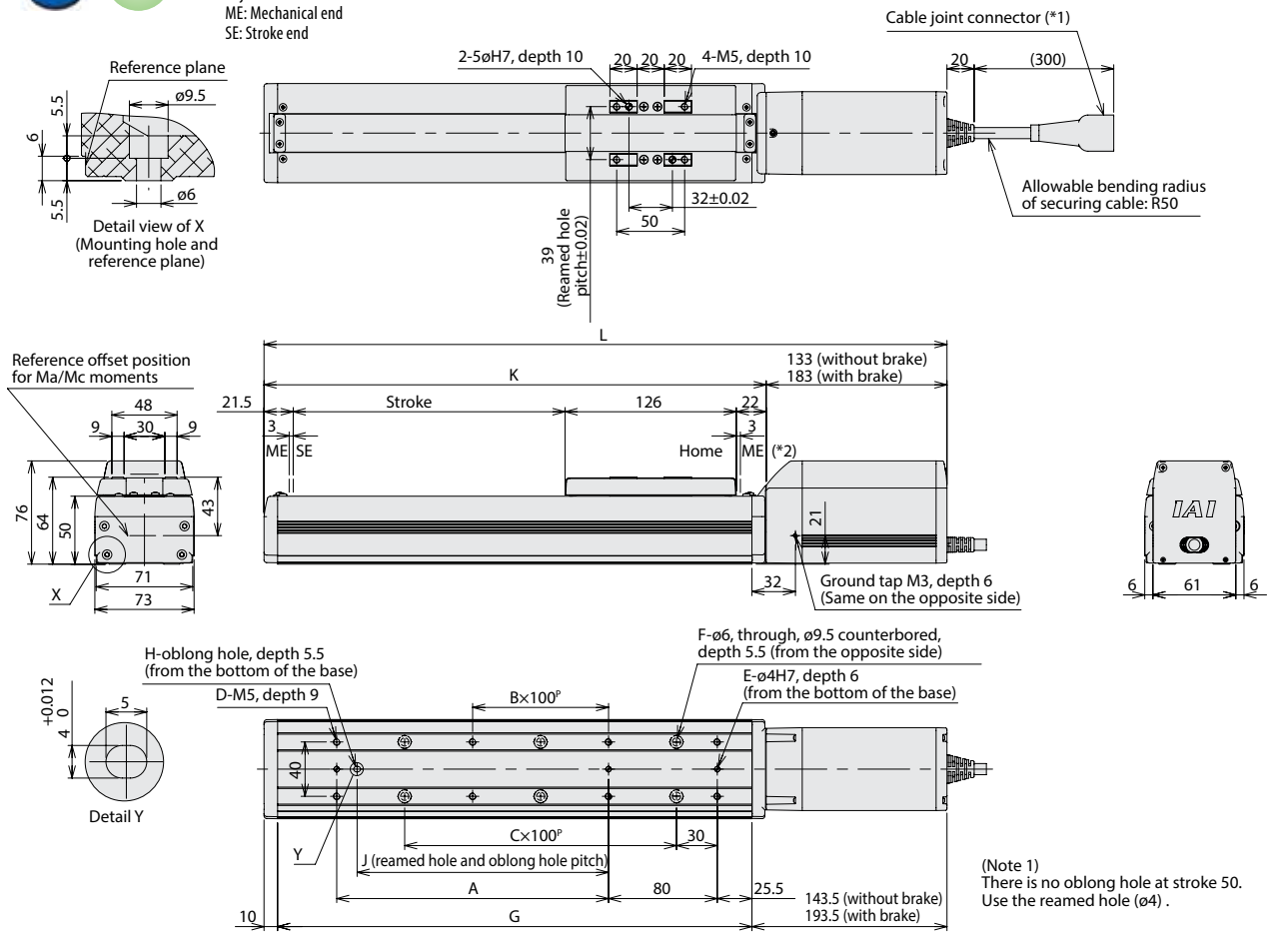
Dimensional Drawings

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

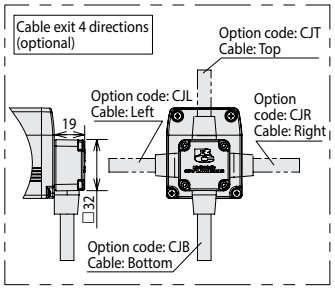
2D CAD 3D CAD

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



(Note 1)
There is no oblong hole at stroke 50.
Use the reamed hole (ø4) .



■ Dimensions and Mass by Stroke

Stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	Without brake	352.5	402.5	452.5	502.5	552.5	602.5	652.5	702.5	752.5	802.5	852.5	902.5	952.5	1002.5	1052.5	1102.5
	With brake	402.5	452.5	502.5	552.5	602.5	652.5	702.5	752.5	802.5	852.5	902.5	952.5	1002.5	1052.5	1102.5	1152.5
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	10	10	12	12	14	14	16	16	18	18
G		199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949
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		219.5	269.5	319.5	369.5	419.5	469.5	519.5	569.5	619.5	669.5	719.5	769.5	819.5	869.5	919.5	969.5
Weight (kg)	Without brake	3.4	3.6	3.8	4.1	4.3	4.6	4.8	5.1	5.3	5.6	5.8	6.0	6.3	6.5	6.8	7.0
	With brake	3.9	4.1	4.3	4.6	4.8	5.1	5.3	5.6	5.8	6.1	6.3	6.5	6.8	7.0	7.3	7.5

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-56PI-Ⓘ-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-56PI-PL-□-2-0	Equipped with a high-output driver Pulse-train input supported	—			—	
Field network type High-output specification		PCON-CA-56PI-Ⓘ-0-0	Equipped with a high-output driver Field network supported	768 points			—	
Solenoid valve multi-axis type PIO specification		MSEP-C-Ⓘ-~-Ⓘ-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-Ⓘ-~-Ⓘ-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points				

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