

RCP2-SS7C

ROBO Cylinder, Slider Type, 60mm Width, Pulse Motor, Straight Type, Steel Base, Coupled

Model Specification Items	RCP2 — SS7C — I — 42P — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <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".	42P: Pulse motor, 42□ size 12: 12mm 6: 6mm 3: 3mm
		50: 50mm 600: 600mm (50mm pitch increments)
		P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP
		N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable
		B : Brake NM: Non-motor end SR : Slider Roller

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



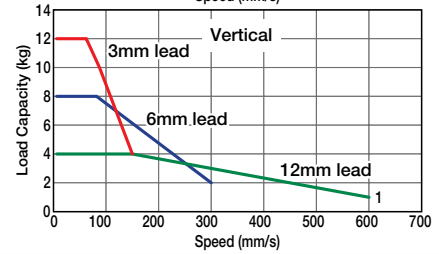
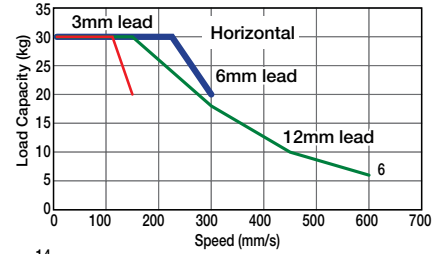
Technical References Appendix P.5



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model, or when used vertically). These values are the upper limits for the acceleration.
- (4) See page A-71 for details on push motion.

Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications

Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Max. Load Capacity (Note 1)		Stroke (mm)
		Horizontal (kg)	Vertical (kg)	
RCP2-SS7C-I-42P-12-①-②-③-④	12	~30	~4	50~600 (every 50mm)
RCP2-SS7C-I-42P-6-①-②-③-④	6	~30	~8	
RCP2-SS7C-I-42P-3-①-②-③-④	3	~30	~12	

Stroke and Maximum Speed

Stroke Lead	50~500 (every 50mm)		~600 (mm)
	12	600	470
6	300	230	
3	150	115	

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options *See page A-71 for details on push motion. (Unit: mm/s)

① Stroke

① Stroke (mm)	Standard price
50/100	—
150/200	—
250/300	—
350/400	—
450/500	—
550/600	—

③ 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.

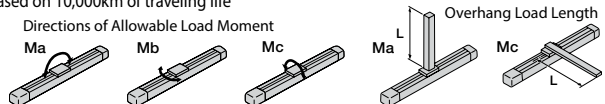
④ Options

Name	Option code	See page	Standard price
Brake	B	→ A-42	—
Non-motor end specification	NM	→ A-52	—
Slider roller specification	SR	→ A-55	—

Actuator Specifications

Item	Description
Drive System	Ball screw, ϕ 10mm, rolled C10
Positioning repeatability	\pm 0.02mm
Lost Motion	0.1mm or less
Base	Material: Special alloy steel
Allowable static moment	Ma: 79.4 N·m, Mb: 79.4 N·m, Mc: 172.9 N·m
Allowable dynamic moment (*)	Ma: 14.7 N·m, Mb: 14.7 N·m, Mc: 33.3 N·m
Allowable overhang	300mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 10,000km of traveling life



Dimensional Drawings

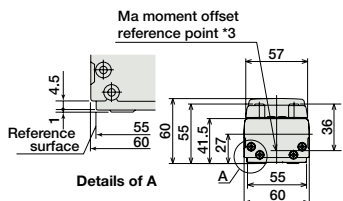
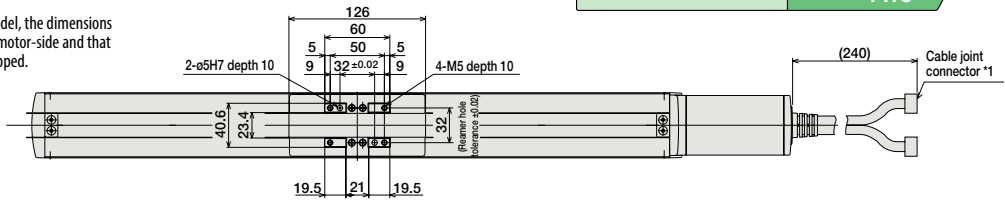
CAD drawings can be downloaded from the website. www.intelligentactuator.com

For Special Orders Appendix P.15

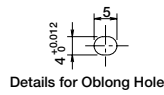
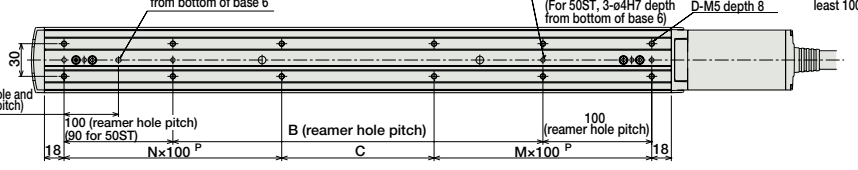
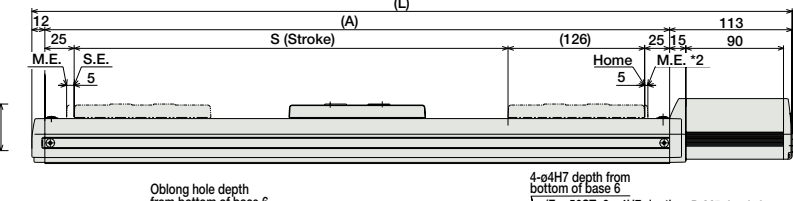


* For the Non-motor end model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

(*3) Reference position for calculating the Ma moment

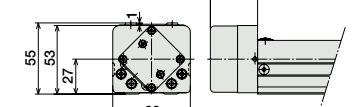


*1: Connect the motor and encoder cables here. See page A-59 for details on cables.
 *2: When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
 ME: Mechanical end
 SE: Stroke end
 The dimensions enclosed in "()" are reference dimensions.



Dimensions of the brake section

* Adding a brake will increase the actuator's overall length by 24.5mm, and its weight by 0.3kg.



* Brake cable is passed through the actuator body and connected to the motor cable.

■ Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	351	401	451	501	551	601	651	701	751	801	851	901
A	226	276	326	376	426	476	526	576	626	676	726	776
B	0	40	90	140	190	240	290	340	390	440	490	540
C	90	40	90	140	190	40	90	140	190	40	90	140
D	6	8	8	8	8	12	12	12	12	16	16	16
M	1	1	1	1	1	2	2	2	2	3	3	3
N	0	1	1	1	1	2	2	2	2	3	3	3
Weight (kg)	3.1	3.4	3.7	4.0	4.3	4.7	5.0	5.4	5.7	6.1	6.4	6.7

② Applicable Controllers

RCP2 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
Solenoid Valve Type		PMEC-C-42PI-①-2-②	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-42PI-①-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-③-④-⑤-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-③-④-⑤-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type High-output specification		PCON-CA-42PI-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 High-output specification		PCON-CA-42PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type High-output specification		PCON-CA-42PI-④-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points				
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-①-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P671	—	→ P665
Program Control Type		PSEL-CS-1-42PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	Refer to P671	—	→ P665

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.