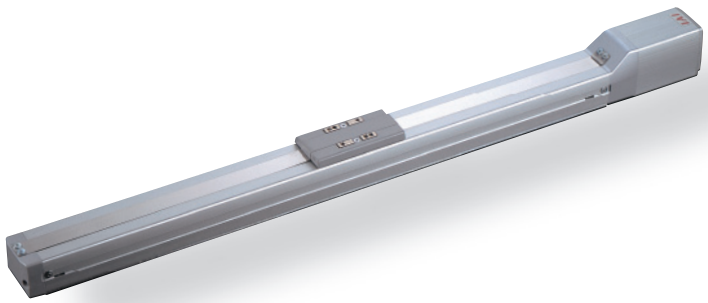
RCP2-SA5C

ROBO Cylinder, Slider Type, Actuator Dimensions 52mm, Pulse Motor, Straight Type

■ Model Description **RCP2** – **SA5C** – **I** – **42** – □ – □ – □ – **P1** – □ – □

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
RCP2	SA5C	I: Incremental specification	42P: Pulse motor 42□Size	12: 12mm 6: 6mm 3: 3mm	50:50mm ~ 500:500mm (Set pitch to every 50mm)	P1: PCON PSEL	N: None P: 1m S: 3m M: 5m X□□: Length designation R□□: Robot cable	BE: Brake (Cable exiting the end) BL: Brake (Cable exiting the left) BR: Brake (Cable exiting the right) NM: Reverse-home Specification SR: Slider roller specification

See preceding section for model descriptions.



Technical Reference P.451

POINT Notes on selection

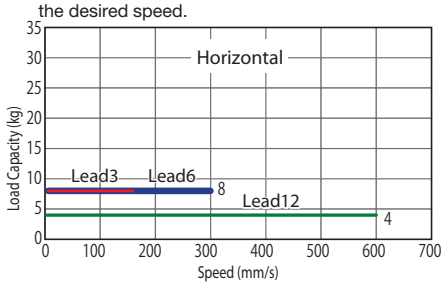
(1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.

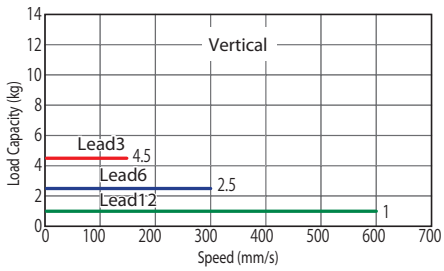
(2) Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Confirm the payload at the desired speed in the Speed vs. Payload graph at right.

(3) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 3). The above values are maximum acceleration.

■Speed vs. Payload Graph

Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the table below to confirm that there is sufficient payload at the desired speed.





Actuator Specification Table

■Leads and Payloads

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

Model	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Stroke (mm)
RCP2-SA5C-I-42P-12-①-P1-②-③	12	4	1	50 to 500 (every 50mm)
RCP2-SA5C-I-42P-6-①-P1-②-③	6	8	2.5	
RCP2-SA5C-I-42P-3-①-P1-②-③	3	8	4.5	

Legend ① Stroke ② Cable Length ③ Option

■Stroke and Maximum Speed

Lead \ Stroke	50 to 500 (every 50mm)
12	600
6	300
3	150

(Unit = mm/s)

① Price List by Stroke

① Stroke (mm)	Type code SA5C Encoder type Incremental
50	—
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—

② Cable Length Price List

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 P374 about maintenance cables.

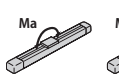
③ Option Price List

Title	Option code	See page	Standard price
Brake (Cable exiting the end)	**BE**	P437	—
Brake (Cable exiting the left)	**BL**	P437	—
Brake (Cable exiting the right)	**BR**	P437	—
Reverse-home specification	**NM**	P442	No charge
Slider roller specification	**SR**	P445	—

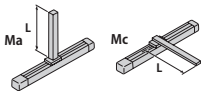
Actuator Specification

Item	Description
Drive System	Ball screw φ10mm rolled C10
Positioning Repeatability	±0.02mm
Backlash	0.1mm or less
Base	Material: Aluminum Special alumite treatment
Allowable load moment	Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m
Overhang load length	Ma direction 150mm or less Mb-Mc direction 150mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (non-condensing)

Direction of allowable load moment



Overhang load length



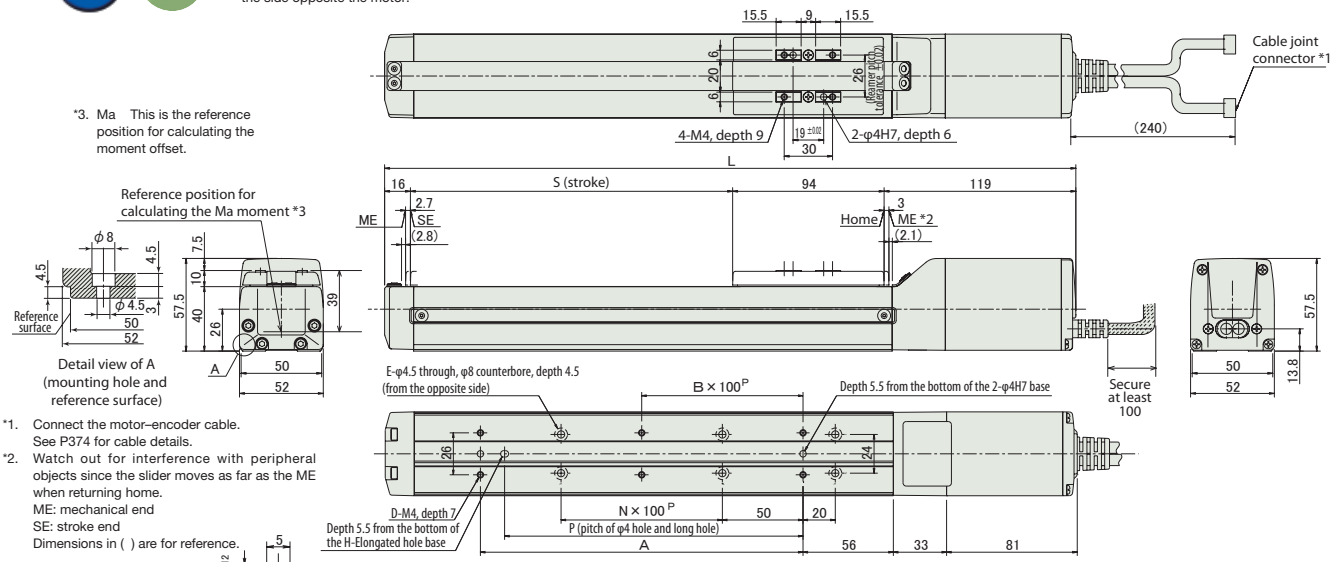
Dimensional Drawings

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

Information on special orders P.454

2D CAD 3D CAD

For this specification, the dimension on the motor side (distance to home) is reversed with the dimension on the side opposite the motor.

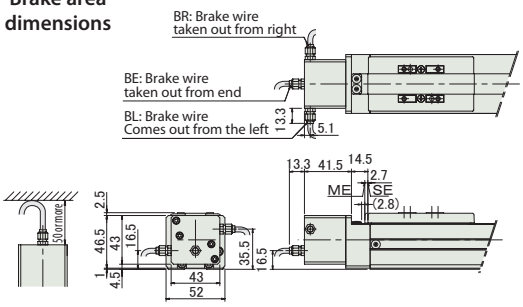


*3. Ma This is the reference position for calculating the moment offset.

*1. Connect the motor–encoder cable. See P374 for cable details.

*2. Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
ME: mechanical end
SE: stroke end
Dimensions in ( ) are for reference.

Brake area dimensions



* 40 Adding a brake increases overall length by 40mm (53.3mm with the cable exiting the end) and weight by 0.4kg.

■Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	279	329	379	429	479	529	579	629	679	729
A	73	100	100	200	200	300	300	400	400	500
B	0	0	0	1	1	2	2	3	3	4
C	0	0	1	1	2	2	3	3	4	4
D	4	4	4	6	6	8	8	10	10	12
E	4	4	6	6	8	8	10	10	12	12
H	0	1	1	1	1	1	1	1	1	1
P	0	85	85	185	185	285	285	385	385	485
Weight (kg)	1.5	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	See page
Positioner Type		PCON-C-42PI-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	Maximum 2A	—	P365
Safety category compatible Positioner type		PCON-CG-42PI-NP-2-0					—	
Solenoid valve type		PCON-CY-42PI-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			—	
Pulse series input type (Differential line driver specification)		PCON-PL-42PI-NP-2-0	Differential line driver compatible Pulse series input type	(–)			—	
Pulse series input type (Open collector specification)		PCON-PO-42PI-NP-2-0	Open collector compatible Pulse series input type				—	
Serial communication type		PCON-SE-42PI-N-0-0	Serial communications Special Type	64 points			—	
Field network type		RPCON-42P	field network Dedicated type	768 points			—	P343
Program control type		PSEL-C-1-42PI-NP-2-0	Programmable type capable of operating up to 2 axes	1500 points			—	P395