

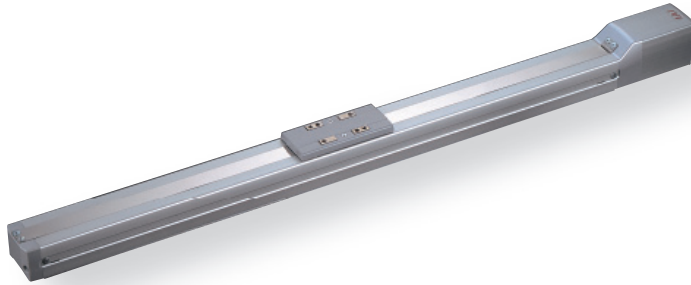
# RCP2-SA6C

ROBO Cylinder, Slider Type, Actuator Dimensions 58mm, Pulse Motor, Straight Type

Model Description **RCP2** — **SA6C** — **I** — **42P** —    —    — **P1** —    —   

|        |      |                              |                             |                              |  |                        |   |   |
|--------|------|------------------------------|-----------------------------|------------------------------|--|------------------------|---|---|
| Series | Type | Encoder type                 | Motor type                  | Lead                         | Stroke   | Compatible Controllers | Cable length  | Option  |
|        |      | I: Incremental specification | 42P: Pulse motor<br>42□Size | 12: 12mm<br>6: 6mm<br>3: 3mm | 50:50mm<br>~<br>600:600mm<br>(Set pitch to every 50mm) | P1: PCON<br>PSEL       | N: None<br>P: 1m<br>S: 3m<br>M: 5m<br>X□: Length designation<br>R□: Robot cable | BE: Brake (Cable exiting the end)<br>BL: Brake (Cable exiting the left)<br>BR: Brake (Cable exiting the right)<br>NM: Reverse-home Specification<br>SR: Slider roller specification |

See preceding section for model descriptions.

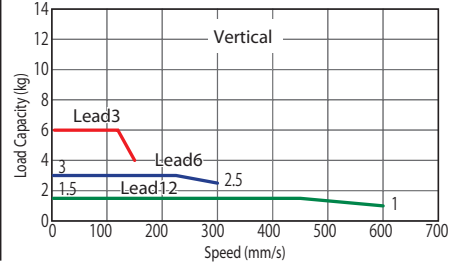
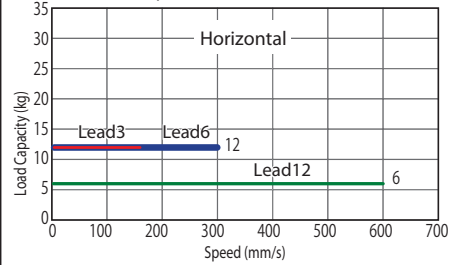


Technical Reference P.451

- POINT** Notes on selection
- 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.
  - 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.
  - 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 |               | Stroke (mm)            |
|-----------------------------|-----------|-----------------|---------------|------------------------|
|                             |           | Horizontal (kg) | Vertical (kg) |                        |
| RCP2-SA6C-I-42P-12-①-P1-②-③ | 12        | 6               | Up to 1.5     | 50 to 600 (every 50mm) |
| RCP2-SA6C-I-42P-6-①-P1-②-③  | 6         | 12              | Up to 3       |                        |
| RCP2-SA6C-I-42P-3-①-P1-②-③  | 3         | 12              | Up to 6       |                        |

Legend ① Stroke ② Cable Length ③ Option

#### Stroke and Maximum Speed

| Lead | Stroke | 50 to 550 (every 50mm) | 600 (mm) |
|------|--------|------------------------|----------|
|      | 12     | 600                    | 540      |
| 6    | 300    | 270                    |          |
| 3    | 150    | 135                    |          |

(Unit = mm/s)

#### ① Price List by Stroke

| ① Stroke (mm) | Type code    |  |
|---------------|--------------|--|
|               | SA6C         |  |
|               | Encoder type |  |
| 50            | Incremental  |  |
| 100           | —            |  |
| 150           | —            |  |
| 200           | —            |  |
| 250           | —            |  |
| 300           | —            |  |
| 350           | —            |  |
| 400           | —            |  |
| 450           | —            |  |
| 500           | —            |  |
| 550           | —            |  |
| 600           | —            |  |

#### 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     | —              |

#### 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) | —              |
|                |                       |                |

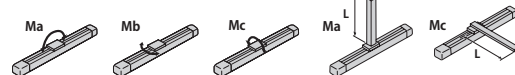
\*See P374 about maintenance cables.

#### Actuator Specification

| Item                                    | Description  |
|---|--|
| Drive System                            | Ball screw $\phi$ 10mm rolled C10                        |
| Positioning Repeatability               | $\pm$ 0.02mm   |
| Backlash                                | 0.1mm or less  |
| Base                                    | Material: Aluminum Special alumite treatment             |
| Allowable load moment                   | Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m                       |
| Overhang load length                    | Ma direction 220mm or less Mb-Mc direction 220mm 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

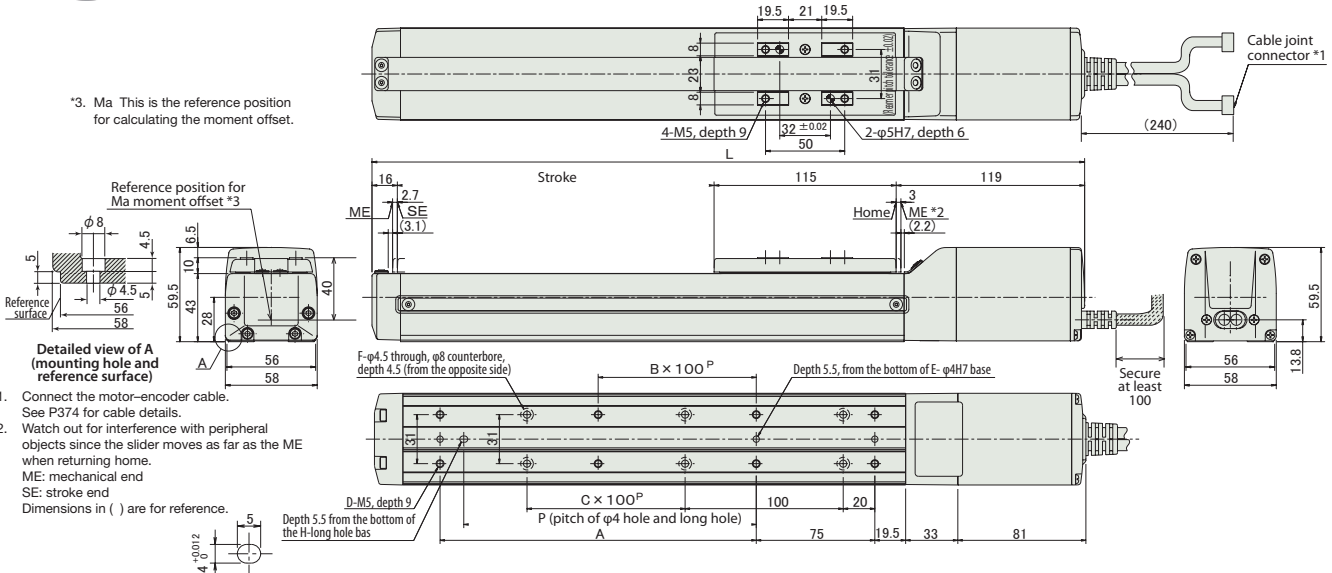
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



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

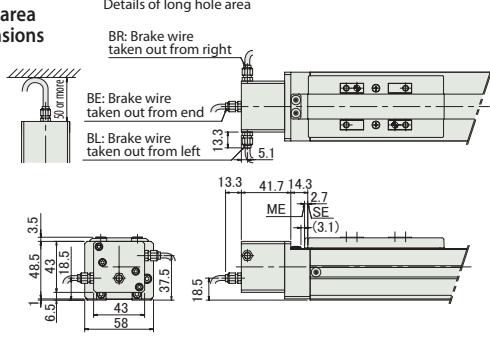
Information on special orders P.454

\*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 | 550 | 600 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L           | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 |
| A           | 0   | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 | 500 | 600 |
| B           | 0   | 0   | 0   | 1   | 1   | 2   | 2   | 3   | 3   | 4   | 4   | 5   |
| C           | 0   | 0   | 1   | 1   | 2   | 2   | 3   | 3   | 4   | 4   | 5   | 5   |
| D           | 4   | 6   | 6   | 8   | 8   | 10  | 10  | 12  | 12  | 14  | 14  | 16  |
| E           | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| F           | 4   | 4   | 6   | 6   | 8   | 8   | 10  | 10  | 12  | 12  | 14  | 14  |
| H           | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| P           | 0   | 85  | 85  | 185 | 185 | 285 | 285 | 385 | 385 | 485 | 485 | 585 |
| Weight (kg) | 1.8 | 2.0 | 2.1 | 2.2 | 2.4 | 2.5 | 2.7 | 2.8 | 2.9 | 3.1 | 3.2 | 3.4 |

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<br>Controlled operation enabled         | 3 points                             |             |                       |                |          |   |      |
| Pulse series input type (Differential line driver specification) |               | PCON-PL-42PI-NP-2-0  | Differential line driver compatible<br>Pulse series input type | (-)                                  |             |                       |                |          |   |      |
| Pulse series input type (Open collector specification)           |               | PCON-PO-42PI-NP-2-0  | Open collector compatible<br>Pulse series input type           |                                      |             |                       |                |          |   |      |
| Serial communication type  |               | PCON-SE-42PI-N-0-0   | Serial communications<br>Special Type                          | 64 points                            |             |                       |                |          |   |      |
| Field network type   |               | RPCON-42P            | field network<br>Dedicated type                                | 768 points                           |             |                       |                |          | - | P343 |
| Program control type   |               | PSEL-C-1-42PI-NP-2-0 | Programmable type<br>capable of operating up to 2 axes         | 1500 points                          |             |                       |                |          | - | P395 |