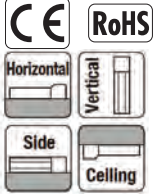


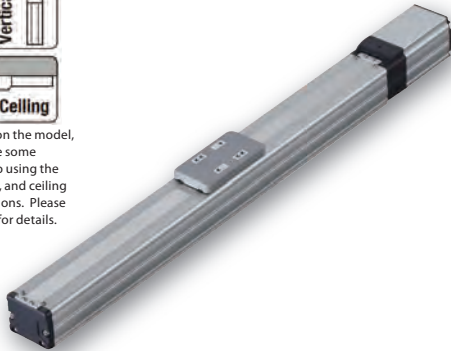
# RCP5-SA6C ROBO Cylinder, Slider Type, Motor Unit Coupled, Actuator Width 58mm, 24V Pulse Motor

|               |        |      |   |                            |  |                                     |                             |   |  |
|---------------|--------|------|---|----------------------------|--|-------------------------------------|-----------------------------|---|--|
| Model         | RCP5   | SA6C | WA                                      | 42P                        |  |                                     | P3                          |   |  |
| Specification | Series | Type | Encoder type                            | Motor type                 | Lead                                     | Stroke                              | Applicable controllers      | Cable length  | Options                                  |
| Items         |        |      | WA: Battery-less absolute specification | 42P: Pulse motor, size 42□ | 20: 20mm<br>12: 12mm<br>6: 6mm<br>3: 3mm | 50: 50mm<br>800: 800mm (Every 50mm) | P3: PCON-CA<br>MSEP<br>MSEL | N: No cable<br>P: 1m<br>S: 3m<br>M: 5m<br>X□: Specified length<br>R□: Robot cable | Please refer to the options table below. |

\*Controller is not included.



\* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please refer to P.59 for details.



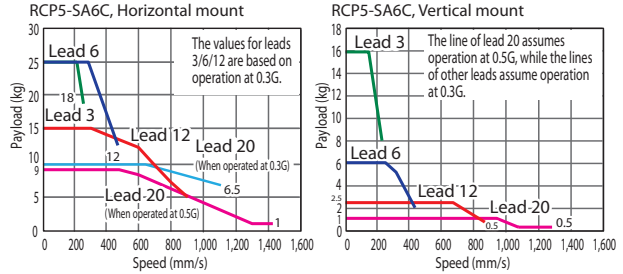
**POINT**  
Note on selection

(1) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to the "Selection Guidelines" (RCP5 Payload by Speed/Acceleration Table) on P. 61.

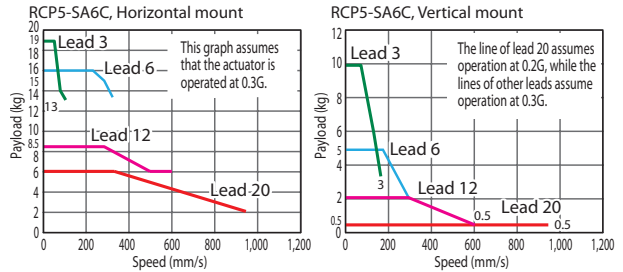
(2) Please refer to P. 59 for push-motion operation.

### Correlation Diagrams of Speed and Payload

(1) High-output enabled with PCON-CA, MSEP, MSEL connected



(2) High-output disabled with PCON-CA, MSEP connected



### Actuator Specifications

#### Lead and Payload

| Model number                 | Lead (mm) | Connected controller | Maximum payload      |               | Stroke (mm)            |
|------------------------------|-----------|----------------------|----------------------|---------------|------------------------|
|                              |           |                      | Horizontal (kg)      | Vertical (kg) |                        |
| RCP5-SA6C-WA-42P-20-①-P3-②-③ | 20        | High-output enabled  | 10                   | 1             | 50~800<br>(Every 50mm) |
|                              |           |                      | High-output disabled | 6             |                        |
| RCP5-SA6C-WA-42P-12-①-P3-②-③ | 12        | High-output enabled  | 15                   | 2.5           |                        |
|                              |           |                      | High-output disabled | 8.5           |                        |
| RCP5-SA6C-WA-42P-6-①-P3-②-③  | 6         | High-output enabled  | 25                   | 6             |                        |
|                              |           |                      | High-output disabled | 16            |                        |
| RCP5-SA6C-WA-42P-3-①-P3-②-③  | 3         | High-output enabled  | 25                   | 16            |                        |
|                              |           |                      | High-output disabled | 19            |                        |

Legend: ① Stroke ② Cable length ③ Options \*Please refer to P.59 for push-motion operation.

#### Stroke and Maximum Speed

Values in brackets < > are for vertical use. (Unit: mm/s)

| Lead (mm) | Connected controller | 50~400 (Every 50mm) | 450 (mm)      | 500 (mm) | 550 (mm) | 600 (mm) | 650 (mm) | 700 (mm) | 750 (mm) | 800 (mm) |
|-----------|----------------------|---------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| 20        | High-output enabled  | 1,440 <1,280>       | 1,335 <1,280> | 1,130    | 970      | 840      | 735      | 650      | 575      |          |
|           | High-output disabled | 960                 |               |          |          | 840      | 735      | 650      | 575      |          |
| 12        | High-output enabled  | 900                 | 885           | 735      | 620      | 535      | 460      | 405      | 355      | 315      |
|           | High-output disabled | 600                 |               |          |          | 535      | 460      | 405      | 355      | 315      |
| 6         | High-output enabled  | 450                 | 435           | 365      | 305      | 265      | 230      | 200      | 175      | 155      |
|           | High-output disabled | 300                 |               |          |          | 265      | 230      | 200      | 175      | 155      |
| 3         | High-output enabled  | 225                 | 215           | 180      | 150      | 130      | 115      | 100      | 85       | 75       |
|           | High-output disabled | 150                 |               |          |          | 130      | 115      | 100      | 85       | 75       |

#### 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 code          | Standard price |
|----------------|---------------------|----------------|
| Standard type  | 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) | -              |
|                |                     |                |

\*Please refer to P. 89 for maintenance cables.

#### ③ Options

| Name                          | Option code | Reference page | Standard price |
|-------------------------------|-------------|----------------|----------------|
| Brake                         | B           | →P. 11         | -              |
| Cable exit direction (Top)    | CJT         | →P. 11         | -              |
| Cable exit direction (Right)  | CJR         | →P. 11         | -              |
| Cable exit direction (Left)   | CJL         | →P. 11         | -              |
| Cable exit direction (Bottom) | CJB         | →P. 11         | -              |
| Slider roller specification   | SR          | →P. 11         | -              |
| Non-motor end specification   | NM          | →P. 11         | -              |

### 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 treatment |
| Dynamic allowable moment (*2)           | Ma: 11.6N·m, Mb: 16.6N·m, Mc: 24.6N·m           |
| Static allowable moment                 | Ma: 38.3N·m, Mb: 54.7N·m, Mc: 81N·m             |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing)      |

\*Reference for overhang load length/Ma: 150mm or less, Mb, Mc: 150mm or less

(\*1) The values in brackets [ ] are for Lead 20.

(\*2) Assumes a standard rated life of 5,000km.

(\*3) The operational life will vary depending on operation and installation conditions. Please refer to the general catalog for details on operational life, allowable moment direction, and overhang load length.

Dimensions

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

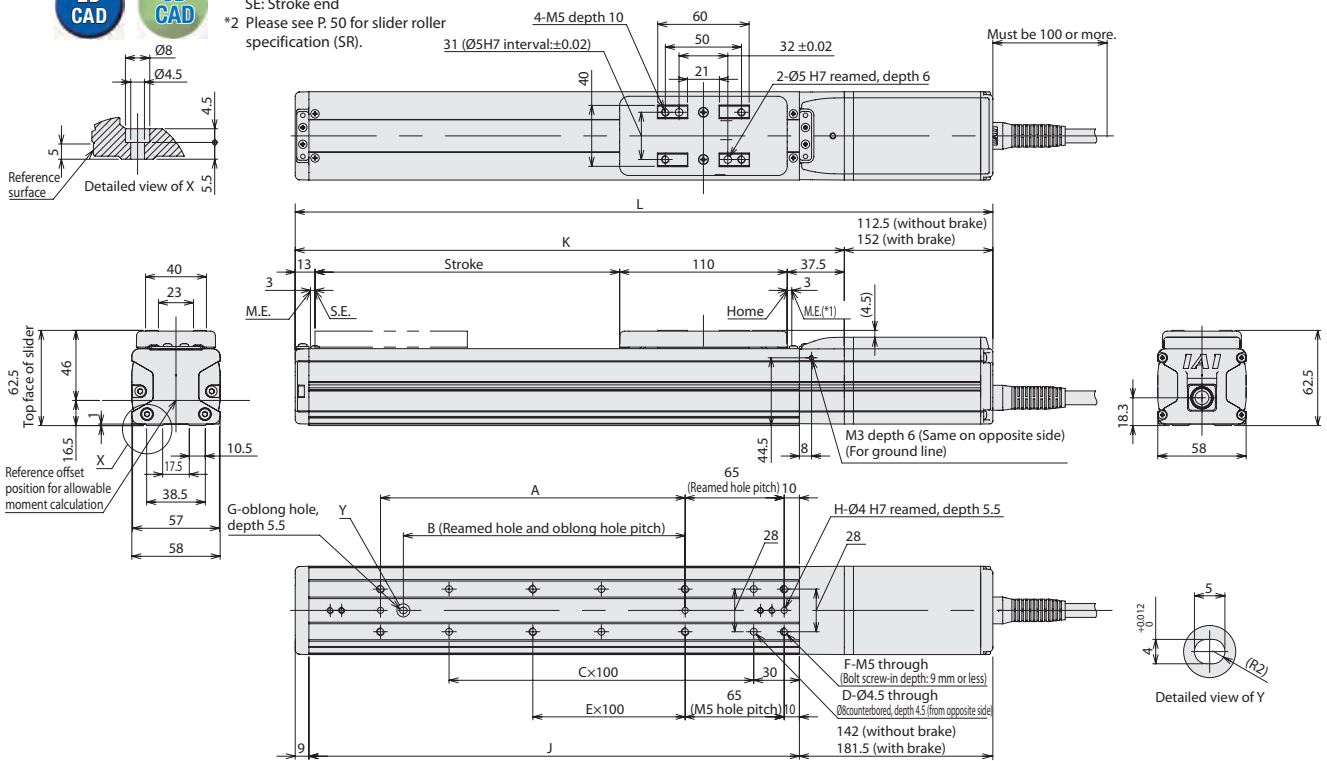


\*1 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.

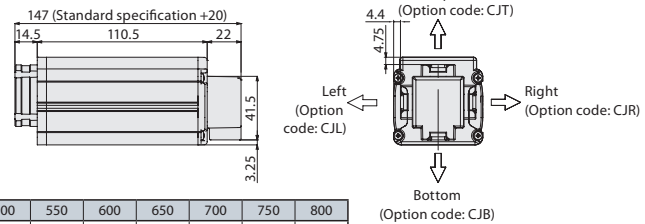
ME: Mechanical end

SE: Stroke end

\*2 Please see P.50 for slider roller specification (SR).



■ Cable Exit Direction (Option)



■ Dimensions and Mass by Stroke

| Stroke        | L             |       |       |       |       |       |       |       |       |       |       |       |       |       |         |         |         |
|---------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------|
|               | 50            | 100   | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 550   | 600   | 650   | 700   | 750     | 800     |         |
| Without brake | 323           | 373   | 423   | 473   | 523   | 573   | 623   | 673   | 723   | 773   | 823   | 873   | 923   | 973   | 1,023   | 1,073   |         |
|               | With brake    | 362.5 | 412.5 | 462.5 | 512.5 | 562.5 | 612.5 | 662.5 | 712.5 | 762.5 | 812.5 | 862.5 | 912.5 | 962.5 | 1,012.5 | 1,062.5 | 1,112.5 |
| A             | 0             | 100   | 100   | 200   | 200   | 300   | 300   | 400   | 400   | 500   | 500   | 600   | 600   | 700   | 700     | 800     |         |
| B             | 0             | 85    | 85    | 185   | 185   | 285   | 285   | 385   | 385   | 485   | 485   | 585   | 585   | 685   | 685     | 785     |         |
| C             | 1             | 1     | 2     | 2     | 3     | 3     | 4     | 4     | 5     | 5     | 6     | 6     | 7     | 7     | 8       | 8       |         |
| D             | 4             | 4     | 6     | 6     | 8     | 8     | 10    | 10    | 12    | 12    | 14    | 14    | 16    | 16    | 18      | 18      |         |
| E             | 0             | 0     | 0     | 1     | 1     | 1     | 2     | 2     | 3     | 3     | 4     | 4     | 5     | 5     | 6       | 6       | 7       |
| F             | 4             | 6     | 6     | 8     | 8     | 10    | 10    | 12    | 12    | 14    | 14    | 16    | 16    | 18    | 18      | 20      |         |
| G             | 0             | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1       | 1       |         |
| H             | 2             | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3       | 3       |         |
| J             | 172           | 222   | 272   | 322   | 372   | 422   | 472   | 522   | 572   | 622   | 672   | 722   | 772   | 822   | 872     | 922     |         |
| K             | 210.5         | 260.5 | 310.5 | 360.5 | 410.5 | 460.5 | 510.5 | 560.5 | 610.5 | 660.5 | 710.5 | 760.5 | 810.5 | 860.5 | 910.5   | 960.5   |         |
| Mass (kg)     | Without brake | 1.7   | 1.8   | 2.0   | 2.2   | 2.4   | 2.5   | 2.7   | 2.9   | 3.1   | 3.2   | 3.4   | 3.6   | 3.8   | 3.9     | 4.1     | 4.3     |
|               | With brake    | 1.9   | 2.0   | 2.2   | 2.4   | 2.6   | 2.7   | 2.9   | 3.1   | 3.3   | 3.4   | 3.6   | 3.8   | 4.0   | 4.1     | 4.3     | 4.5     |

Applicable Controllers

The RCP5 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

| Name  | External view | Model number           | Max. number of controlled axes  | Maximum number of positioning points | Input power                  | Standard price | Reference page |
|---|---------------|------------------------|---|--------------------------------------|------------------------------|----------------|----------------|
| Positioner type (High-output specification)                                       |               | PCON-CA-42PWAI-①-2-0   | 1   | 512 points                           | DC24V                        | -              | →P.69          |
| Pulse train type (High-output specification)                                      |               | PCON-CA-42PWAI-PL②-2-0 |   |                                      |                              | -              |                |
| Network type (High-output specification)  |               | PCON-CA-42PWAI-③-0-0   |   |                                      |                              | -              |                |
| Solenoid valve multi-axis type (PIO specification)                                |               | MSEP-④-⑤-⑥-⑦-⑧-2-0     | C: 8<br>(4 when high-output enabled)<br>LC: 6<br>(3 when high-output enabled) | 3 points                             |                              | -              | →P.77          |
| Solenoid valve multi-axis type (Network specification)                            |               | MSEP-④-⑤-⑥-⑦-⑧-0-0     |   |                                      |                              | 256 points     |                |
| Program control multi-axis type   |               | MSEL-PC-1-42PWAI-①-2-4 | 4   | 30,000 points                        | Single-phase AC<br>100V~230V | -              | →P.87          |
| Program control multi-axis type (w/network board)                                 |               | MSEL-PC-1-42PWAI-③-0-4 |   |                                      |                              |                |                |
| Program control multi-axis type (Safety category compliant spec.)                 |               | MSEL-PG-1-42PWAI-④-2-4 |   |                                      |                              |                |                |
| Program control multi-axis type (Safety category compliant spec. w/network board) |               | MSEL-PG-1-42PWAI-④-0-4 |   |                                      |                              |                |                |

\*Above MSEL models are for single-axis specification

\*① I/O type (NP/PN)

\*② Number of axes

\*③ Field network specification code

\*④ C or LC

\*⑤ N (NPN specification) or P (PNP specification) code

\*The high output enabled operation is only available when the "High-output setting specs" is selected in the MSEP-C/LC.