RCP6(S)-SA6C

**Model Specification Items**

- **Series**
  - RCP6: Separate Controller
  - RCP6(S): Built-in Controller

- **Type**
  - WA: Battery-less
  - 42P: Stepper

- **Encoder Type**
  - Absolute

- **Motor Type**
  - 42: Stepper Motor
  - 42C5: Stepper Motor

- **Lead**
  - 6: 6mm
  - 12: 12mm

- **Stroke**
  - Max. Payload: 50mm
  - Stroke (incremental): 800mm

- **Applicable Controller/O Type**
  - (RCP6)
  - P3: PCON
  - MSEL: MSEL
  - SE: SKD Type

- **Cable Length**
  - N: None
  - S: 3m
  - M: 5m

- **Options**
  - ROBO Cylinder®
  - Connected Controller
  - Simple proof

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**Actuator Specifications**

**Lead and Payload**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Lead (mm)</th>
<th>Connected Controller</th>
<th>Max. Payload (kg)</th>
<th>Stroke (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP6(S)-SA6C-WA-42P-20</td>
<td>20</td>
<td>High-output Enabled</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>RCP6(S)-SA6C-WA-42P-12</td>
<td>12</td>
<td>High-output Enabled</td>
<td>28</td>
<td>2.5</td>
</tr>
<tr>
<td>RCP6(S)-SA6C-WA-42P-6</td>
<td>6</td>
<td>High-output Enabled</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>RCP6(S)-SA6C-WA-42P-3</td>
<td>3</td>
<td>High-output Enabled</td>
<td>40</td>
<td>16</td>
</tr>
</tbody>
</table>

**Stroke and Max. Speed** (Unit: mm/s)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Lead (mm)</th>
<th>Connected Controller</th>
<th>Max. Payload (kg)</th>
<th>Speed (mm/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP6(S)-SA6C-WA-42P-20</td>
<td>20</td>
<td>High-output Enabled</td>
<td>1.440</td>
<td>&lt;1,280</td>
</tr>
<tr>
<td>RCP6(S)-SA6C-WA-42P-12</td>
<td>12</td>
<td>High-output Enabled</td>
<td>0.885</td>
<td>735</td>
</tr>
<tr>
<td>RCP6(S)-SA6C-WA-42P-6</td>
<td>6</td>
<td>High-output Enabled</td>
<td>0.450</td>
<td>365</td>
</tr>
<tr>
<td>RCP6(S)-SA6C-WA-42P-3</td>
<td>3</td>
<td>High-output Enabled</td>
<td>0.225</td>
<td>180</td>
</tr>
</tbody>
</table>

**Options**

- **Name**
  - Brake: B
  - Cable exit direction (Top): CT
  - Cable exit direction (Right): CJ

- **Option Code**
  - See P.105

- **Reference Page**
  - See P.105

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**Important Notes**

1. Depending on the ambient operational temperature, duty control is necessary for the actuator specification displays the payload's maximum value, but it may vary depending on the acceleration and speed. Please refer to the “Selection Guidelines” (RCP6 Tables of Payload by Speed/Acceleration) on P.115 for more details.
2. When performing push-motion operation, please confirm the push force of each model by checking the “Correlation diagram of push force and current limit” on P.113.
3. Depending on the ambient operational temperature, duty control is necessary for the RCP6 (built-in controller type) with lead 3.6. Please refer to P.130 for more information.

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**Actuator Specifications**

**Cable Length**

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Cable Code</th>
<th>RCP6</th>
<th>RCP6(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>P (1m)</td>
<td>✸</td>
<td>✸</td>
</tr>
<tr>
<td></td>
<td>S (3m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td></td>
<td>M (5m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Specified Length</td>
<td>X06 (6m) - X10 (10m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td></td>
<td>X11 (11m) - X15 (15m)</td>
<td>✸</td>
<td>✸</td>
</tr>
<tr>
<td></td>
<td>X16 (16m) - X20 (20m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Robot Cable</td>
<td>R01 (1m) - R03 (3m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td></td>
<td>R04 (4m) - R06 (6m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td></td>
<td>R11 (11m) - R15 (15m)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td></td>
<td>R16 (16m) - R20 (20m)</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

* Please refer to P.144 for more information regarding the maintenance cables.

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**Actuator Specifications**

**Item**

- **Drive system**
  - Ball screw Ø10mm, rolled C10
- **Positioning repeatability**
  - ±0.01mm (±0.0001mm)
- **Cooling**
  - 0.1m³/hr
- **Base**
  - Material: Aluminum with white alumite treatment
- **Static allowable moment**
  - Ma: 48.5N•m, Mb: 69.3N•m, Mc: 103N•m
- **Dynamic allowable moment**
  - Ma: 11.6N•m, Mb: 16.6N•m, Mc: 24.6N•m
- **Ambient operating temp. & humidity**
  - 0~40°C, 85% RH or less (Non-condensing)

* Please refer to our website for more information regarding the directions of the allowable increments.
* Please refer to P.108 for more information regarding the maintenance cables.
This model is for allowable moment calculation position for allowable offset Reference surface and Reference offset position for allowable moment calculation.

Please select “high-output specification” as an option for the MCON. With the MCON, operation is possible only when the high-output specification is selected.

The RCP6 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use. * Please refer to P.147 for more information about the built-in controller of RCP6S series.

www.intelligentactuator.com

CAD drawings can be downloaded from our website.

MCON-C/CG
PCON-CB/CGB
MSEL-PC/PG

RCP6(S)-SA6C

Dimensions

- The type of compatible networks will vary depending on the controller.
- Please refer to reference page for more information.

Applicable Controllers

The RCP6 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use. * Please refer to P.147 for more information about the built-in controller of RCP6S series.

<table>
<thead>
<tr>
<th>Name</th>
<th>External view</th>
<th>Input power</th>
<th>Positioner</th>
<th>Pulse train</th>
<th>Program</th>
<th>Network</th>
<th>Number of positioning points</th>
<th>Reference page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCON-CB/CGB</td>
<td>1</td>
<td>DC24V</td>
<td>*Option</td>
<td>*Option</td>
<td>-</td>
<td>-</td>
<td>512 (68 for network spec.)</td>
<td>Please see P.131</td>
</tr>
<tr>
<td>MCON-C/CG</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>256</td>
<td>Please see the MCON catalog.</td>
<td></td>
</tr>
<tr>
<td>MSEL-PC/PG</td>
<td>4</td>
<td>Single-phase</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>30,000</td>
<td>Please see the MSEL-PC/PG catalog.</td>
</tr>
</tbody>
</table>

* Please select "high-output specification" as an option for the MCON. With the MCON, operation is possible only when the high-output specification is selected.

Dimensions and Mass by Stroke

<table>
<thead>
<tr>
<th>Stroke</th>
<th>50</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
<th>500</th>
<th>550</th>
<th>600</th>
<th>650</th>
<th>700</th>
<th>750</th>
<th>800</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP6</td>
<td>1427</td>
<td>1477</td>
<td>1527</td>
<td>1577</td>
<td>1627</td>
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<td>1827</td>
<td>1877</td>
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<td>1977</td>
<td>2027</td>
<td>2077</td>
<td>2127</td>
<td></td>
</tr>
<tr>
<td>RCP6S</td>
<td>1402</td>
<td>1452</td>
<td>1502</td>
<td>1552</td>
<td>1602</td>
<td>1652</td>
<td>1702</td>
<td>1752</td>
<td>1802</td>
<td>1852</td>
<td>1902</td>
<td>1952</td>
<td>2002</td>
<td>2052</td>
<td>2102</td>
<td></td>
</tr>
</tbody>
</table>

The table above provides the mass in grams for the RCP6 and RCP6S actuators at various stroke lengths. The values range from 200 to 800 grams for each 50 mm increment of stroke. The RCP6S actuators have slightly lower masses compared to the RCP6 actuators.