ROBO Cylinder®

RCP6(S)-WSA12C

**Model Specification Items**

- **Series**
  - RCP6: Separate Controller
  - RCP6S: Built-in Controller
- **Type**
  - WA: Battery-less Absolute
  - 42P: Stepper Motor
- **Encoder Type**
  - 42P: Encoder
  - 42P Size
- **Motor Type**
  - 20: 20mm
  - 12: 12mm
  - 6: 6mm
  - 3: 3mm
- **Stroke**
  - 30: 50mm
  - 800: 800mm (50mm increments)
- **Applicable Controller/I/O Type**
  - (RCP6)
  - P: PCON
  - MCON
  - MSEL
  - (RCP6S)
  - SE: ISO Type
- **Cable Length**
  - N: None
  - P: 1m
  - S: 3m
  - M: 5m
  - X12: Specified Length
  - RC22: Round Cable

**Positioning repeatability** is ±5μm for high-precision specification (HPR).

- **User Information**
  - When selecting multiple options, please list them in alphabetical order. (e.g. RCP6(S)-WSA12C-WA-42P-12-CJL)

**High-output Motor Type**

- **Lead**
  - 20: 20mm
  - 12: 12mm
  - 6: 6mm
  - 3: 3mm

**Actuator Specifications**

**Lead and Payload**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Lead (mm)</th>
<th>Connected Controller</th>
<th>Max. Payload Stroke (mm)</th>
<th>Stroke (mm)</th>
<th>Connected Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCP6(S)-WSA12C-WA-42P-20</td>
<td>20</td>
<td>High-output</td>
<td>400</td>
<td>450</td>
<td>High-output</td>
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<tr>
<td>RCP6(S)-WSA12C-WA-42P-12</td>
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<td>High-output</td>
<td>435</td>
<td>400</td>
<td>High-output</td>
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<tr>
<td>RCP6(S)-WSA12C-WA-42P-6-3</td>
<td>6</td>
<td>High-output</td>
<td>415</td>
<td>400</td>
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<tr>
<td>RCP6(S)-WSA12C-WA-42P-3</td>
<td>3</td>
<td>High-output</td>
<td>430</td>
<td>400</td>
<td>High-output</td>
</tr>
</tbody>
</table>

**Stroke and Max. Speed**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Lead (mm)</th>
<th>Connected Controller</th>
<th>Max. Payload Stroke (mm)</th>
<th>Stroke (mm)</th>
<th>Connected Controller</th>
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<tbody>
<tr>
<td>RCP6(S)-WSA12C-WA-42P-20</td>
<td>20</td>
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<td>800</td>
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<td>RCP6(S)-WSA12C-WA-42P-12</td>
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<td>535</td>
<td>535</td>
<td>High-output</td>
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<td>RCP6(S)-WSA12C-WA-42P-6-3</td>
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<td>High-output</td>
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<td>RCP6(S)-WSA12C-WA-42P-3</td>
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**Stroke**

<table>
<thead>
<tr>
<th>Stroke (mm)</th>
<th>RCP6</th>
<th>RCP6S</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
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<tr>
<td>150</td>
<td></td>
<td></td>
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<tr>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Options**

- **Name**
- **Option Code**
- **Reference Page**

**Correlation Diagrams of Speed and Payload**

- **High-output enabled with PCON/MCON/MSEL connected.**
- **RCP6(S)-WSA12C Horizontal mount**
- **RCP6(S)-WSA12C Vertical mount**

**Actuator Specifications**

**Drive system**

- Ball screw ø10mm, rolled C10
- Drive system specifications are for high-precision (for lead 3/6/12) specification.

**Gain setting**

- When using high-speed operation, please refer to P115 for high-precision specification.

**Motor specifications**

- Base: Stepper Motor
- Shaft: ø6.35mm
- Torque: 1.1Nm
- Ambient temperature: 0~40°C

**Motor specifications**

- Motor type: PCON
- Voltage: 24V
- Power: 130W

**Motor specifications**

- Motor type: MCON
- Voltage: 24V
- Power: 130W

**Motor specifications**

- Motor type: MSEL
- Voltage: 24V
- Power: 130W

**Motor specifications**

- Motor type: ISO
- Voltage: 24V
- Power: 130W

**Motor specifications**

- Motor type: Round Cable
- Voltage: 24V
- Power: 130W

**Maintenance cables**

- Please refer to P144 for more information regarding the maintenance cables.

**Notes**

- Positioning repeatability is ±5μm for high-precision specification (HPR).
- * Please refer to P10 for more information about the model specification items.
**Dimensions**

**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>
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<th>600</th>
<th>650</th>
<th>700</th>
<th>750</th>
<th>800</th>
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<tbody>
<tr>
<td>G</td>
<td>86</td>
<td>96</td>
<td>106</td>
<td>116</td>
<td>126</td>
<td>136</td>
<td>146</td>
<td>156</td>
<td>166</td>
<td>176</td>
<td>186</td>
<td>196</td>
<td>206</td>
<td>216</td>
<td>226</td>
<td>236</td>
</tr>
<tr>
<td>H</td>
<td>1,083</td>
<td>1,183</td>
<td>1,283</td>
<td>1,383</td>
<td>1,483</td>
<td>1,583</td>
<td>1,683</td>
<td>1,783</td>
<td>1,883</td>
<td>1,983</td>
<td>2,083</td>
<td>2,183</td>
<td>2,283</td>
<td>2,383</td>
<td>2,483</td>
<td>2,583</td>
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<tr>
<td>N</td>
<td>9</td>
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<td>19</td>
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<td>29</td>
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<td>39</td>
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<td>64</td>
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<tr>
<td>P</td>
<td>32</td>
<td>37</td>
<td>42</td>
<td>47</td>
<td>52</td>
<td>57</td>
<td>62</td>
<td>67</td>
<td>72</td>
<td>77</td>
<td>82</td>
<td>87</td>
<td>92</td>
<td>97</td>
<td>102</td>
<td>107</td>
</tr>
<tr>
<td>Q</td>
<td>198.5</td>
<td>228.5</td>
<td>258.5</td>
<td>288.5</td>
<td>318.5</td>
<td>348.5</td>
<td>378.5</td>
<td>408.5</td>
<td>438.5</td>
<td>468.5</td>
<td>498.5</td>
<td>528.5</td>
<td>558.5</td>
<td>588.5</td>
<td>618.5</td>
<td>648.5</td>
</tr>
</tbody>
</table>

**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>Maximum 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>DeviceNet, EtherCAT</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>3</td>
<td>This model is network-compatible only.</td>
<td>Network is not supported.</td>
<td>512</td>
<td>CompoNet</td>
<td>Please see the MCON catalog.</td>
<td>256</td>
</tr>
<tr>
<td>MSEL-PC/PG</td>
<td>4</td>
<td>Single-phase 100~230VAC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>DeviceNet, EtherCAT</td>
<td>Please see the MSEL-PC/PG catalog.</td>
<td>30,000</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.