# RCS2-SA4R

**ROBO Cylinder, Slider Type, Actuator Width 40mm, 200V Servo Motor, Side-mounted Motor Specification**

■**Model Specification Items**

RCS2 — SA4R — ☐ — 20 — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

| Series | Type | Encoder type | Motor type | Lead | Stroke | Applicable controller | Cable length | Options |
|---|---|---|---|---|---|---|---|---|
| | | WA : Battery-less absolute | 20 : Servo motor 20W | 10 : 10mm<br>5 : 5mm<br>2.5 : 2.5mm | 50 : 50mm<br>~<br>400 : 400mm<br>(Can be set in 50mm increments) | T2 : SCON-CB | 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.<br>* Please specify which side the motor is to be mounted (ML/MR) |

*Controller is not included.

CE RoHS

* CE marking is an option.

Horizontal Vertical Side Ceiling

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact for more information regarding mounting positions.


The figure above is the motor side-mounted to the left (ML).

* This product is equipped with a slot for slider position adjustment (refer to the dimensional drawing on the right page) shown as A in the figure above.

**POINT** Note on selection

(1) When the stroke is increased, the maximum speed will drop to prevent reaching a critical rotational speed of the ball screw. Please confirm the maximum speed for the desired stroke in the actuator specifications table below.
(2) The payload assumes operation at an acceleration of 0.3G (0.2G for lead 2.5). This is the upper limit of the acceleration.
(3) Please refer to our website for more information about push-motion operation.

## Actuator Specifications

■**Lead and Payload**

| Model number | Motor (W) | Lead (mm) | Maximum payload Horizontal (kg) | Maximum payload Vertical (kg) | Rated thrust (N) | Stroke (mm) |
|---|---|---|---|---|---|---|
| RCS2-SA4R-①-20-10-②-③-④-⑤ | 20 | 10 | 4 | 1 | 19.6 | 50~400 (Every 50mm) |
| RCS2-SA4R-①-20-5-②-③-④-⑤ | | 5 | 6 | 2.5 | 39.2 | |
| RCS2-SA4R-①-20-2.5-②-③-④-⑤ | | 2.5 | 8 | 4.5 | 78.4 | |

■**Stroke and Maximum Speed**

| Lead \ Stroke | 50~400 (Every 50mm) |
|---|---|
| 10 | 665 |
| 5 | 330 |
| 2.5 | 165 |

(Unit: mm/s)

Legend: ① Encoder type ② Stroke ③ Applicable controller ④ Cable length ⑤ Options

## ①Encoder Type / ② Stroke

| Stroke (mm) | Standard price<br>Encoder type<br>Battery-less absolute<br>WA |
|---|---|
| 50 | - |
| 100 | - |
| 150 | - |
| 200 | - |
| 250 | - |
| 300 | - |
| 350 | - |
| 400 | - |

## ④ 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) | - |
| Robot cable | **R01** (1m) ~**R03** (3m) | - |
| | **R04** (4m) ~**R05** (5m) | - |
| | **R06** (6m) ~**R10** (10m) | - |
| | **R11** (11m) ~**R15** (15m) | - |
| | **R16** (16m) ~**R20** (20m) | - |

*Please refer to P. 84 for maintenance cables.

## ⑤ Options

| Name | Option code | Reference page | Standard price |
|---|---|---|---|
| Brake | **B** | Please refer to our website for the details of the options. | - |
| CE marking | **CE** | | - |
| Home check sensor | **HS** | | - |
| Non-motor end specification | **NM** | | - |
| Motor side-mounted to the left (Standard) | **ML** | | - |
| Motor side-mounted to the right | **MR** | | - |
| Slider roller specification | **SR** | | - |
| Slider spacer | **SS** | | - |

## Actuator Specifications

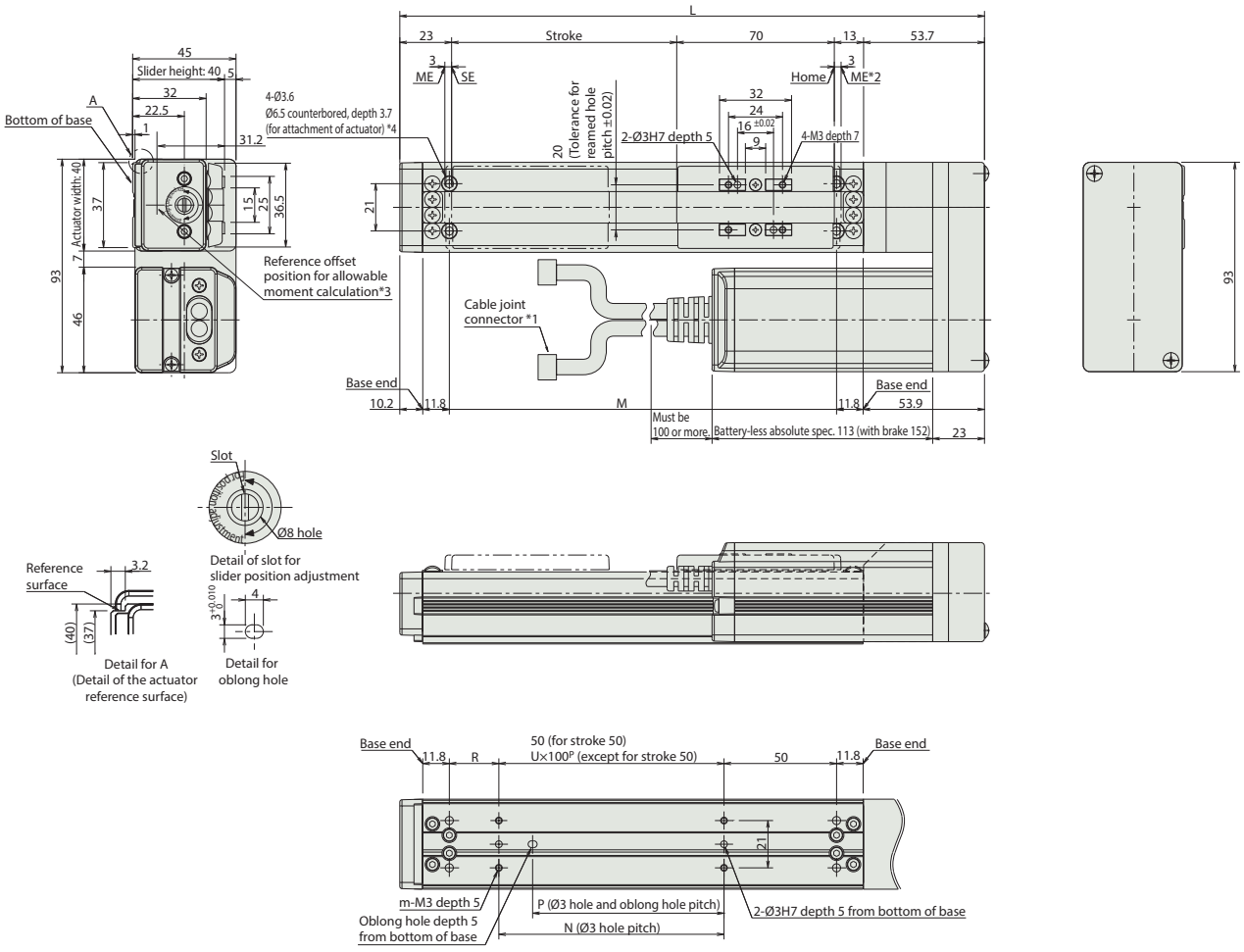
| Item | Description |
|---|---|
| Drive system | Ball screw Ø8mm, rolled C10 |
| Positioning repeatability | ±0.02mm |
| Lost motion | 0.1mm or less |
| Base | Material: Aluminum with white alumite treatment |
| Static allowable moment | Ma: 6.90N•m, Mb: 9.90N•m, Mc: 17.0N•m |
| Dynamic allowable moment (*) | Ma: 3.29N•m, Mb: 4.71N•m, Mc: 8.07N•m |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

•Reference for overhang load length/Ma: 120mm or less, Mb, Mc: 120mm or less
(*) Assumes a standard rated life of 5,000km. The operational life will vary depending on operation and installation conditions.
Please refer to our website for more information regarding the service life of the products, directions of the allowable moment, and overhang load length.

## Dimensions

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

2D CAD 3D CAD




*1 Connects the motor-encoder cable. Please refer to P. 84 for the details of the cables.
*2 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
*3 Reference position used when calculating the Ma moment.
*4 When the actuator is mounted only using the mounting holes on the top of the base, the base can be distorted, which could cause sliding error or abnormal noise. When using the mounting holes on the top of the base, please keep the stroke length less than 200mm.

### ■Dimensions and Mass by Stroke *Brake equipped types are 0.3kg heavier.

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
|---|---|---|---|---|---|---|---|---|
| L | 209.7 | 259.7 | 309.7 | 359.7 | 409.7 | 459.7 | 509.7 | 559.7 |
| M | 122 | 172 | 222 | 272 | 322 | 372 | 422 | 472 |
| N | 50 | 100 | 100 | 200 | 200 | 300 | 300 | 400 |
| P | 35 | 85 | 85 | 185 | 185 | 285 | 285 | 385 |
| R | 22 | 22 | 72 | 22 | 72 | 22 | 72 | 22 |
| U | – | 1 | 1 | 2 | 2 | 3 | 3 | 4 |
| m | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 |
| Mass (kg) | 0.8 | 0.9 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 |