

# RCACR-SA4C

Cleanroom ROBO Cylinder Slider Coupling Type 40mm Width 24V Servo Motor Aluminum Base

■ Configuration: **RCACR-SA4C** —  — **20** —  —  —  —  —

Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

I: Incremental  
A: Absolute  
\* The absolute model can only use ASEL. The simple absolute type is considered an incremental model.

20: 20W servo motor  
10: 10mm  
5: 5mm  
2.5: 2.5mm

50: 50mm  
400: 400mm (50mm pitch increments)

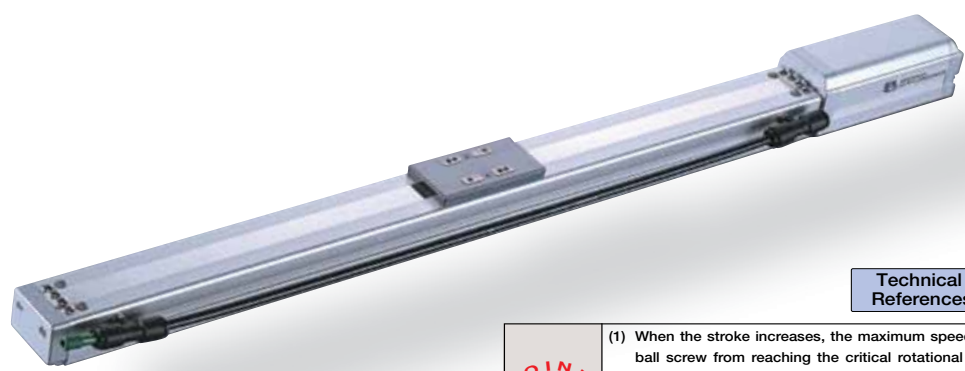
A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

N: None  
P: 1m  
S: 3m  
M: 5m  
X  : Custom  
R  : Robot cable

See Options below

\* See page Pre-35 for an explanation of the naming convention.

**Power-saving**



**Technical References** P. A-5

- POINT** Notes on Selection
- When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
  - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 2.5mm-lead model). This is the upper limit of the acceleration.

**Actuator Specifications**

■ Lead and Load Capacity

| Model                       | Motor Output (W) | Lead (mm) | Max. Load Capacity |               | Rated Thrust (N) | Stroke (mm)                |
|-----------------------------|------------------|-----------|--------------------|---------------|------------------|----------------------------|
|                             |                  |           | Horizontal (kg)    | Vertical (kg) |                  |                            |
| RCACR-SA4C-①-20-10-②-③-④-⑤  | 20               | 10        | 4                  | 1             | 19.6             | 50 ~ 400 (50mm increments) |
| RCACR-SA4C-①-20-5-②-③-④-⑤   |                  | 5         | 6                  | 2.5           | 39.2             |                            |
| RCACR-SA4C-①-20-2.5-②-③-④-⑤ |                  | 2.5       | 8                  | 4.5           | 78.4             |                            |

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

■ Stroke, Max. Speed/Suction Volume

| Lead | Stroke                     |                            | Suction Volume (NL/min) |
|------|----------------------------|----------------------------|-------------------------|
|      | 50 ~ 400 (50mm increments) | 50 ~ 400 (50mm increments) |                         |
| 10   | 665                        | 50                         |                         |
| 5    | 330                        | 30                         |                         |
| 2.5  | 165                        | 15                         |                         |

(Unit: mm/s)

① Encoder & Stroke List

| Stroke (mm) | Standard Price |          |
|-------------|----------------|----------|
|             | Encoder Type   |          |
|             | Incremental    | Absolute |
| 50          | -              | -        |
| 100         | -              | -        |
| 150         | -              | -        |
| 200         | -              | -        |
| 250         | -              | -        |
| 300         | -              | -        |
| 350         | -              | -        |
| 400         | -              | -        |

④ Cable List

| Type            | Cable Symbol          | Standard Price |
|-----------------|-----------------------|----------------|
| Standard Type   | P (1m)                | -              |
|                 | S (3m)                | -              |
|                 | M (5m)                | -              |
| Special Lengths | 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) | -              |
|                 | -                     | -              |

\* See page A-39 for cables for maintenance.

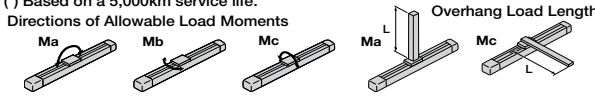
⑤ Option List

| Name                                 | Option Code | See Page | Standard Price |
|--------------------------------------|-------------|----------|----------------|
| Brake                                | B           | → A-25   | -              |
| Foot bracket                         | FT          | → A-29   | -              |
| Home sensor                          | HS          | → A-32   | -              |
| Power-saving                         | LA          | → A-32   | -              |
| Reversed-home                        | NM          | → A-33   | -              |
| Slider spacer                        | SS          | → A-36   | -              |
| Intake port mounted on opposite side | VR          | → A-38   | -              |

Actuator Specifications

| Item                             | Description                                                 |
|----------------------------------|-------------------------------------------------------------|
| Drive System                     | Ball screw ø8mm C10 grade                                   |
| Positioning Repeatability        | ±0.02mm                                                     |
| Lost Motion                      | 0.05mm or less                                              |
| Base                             | Material: Aluminum (white alumite treated)                  |
| Allowable Static Moment          | Ma: 6.9N·m Mb: 9.9N·m Mc: 17.0N·m                           |
| Allowable Dynamic Moment (*)     | Ma: 2.7N·m Mb: 3.9N·m Mc: 6.8N·m                            |
| Overhang Load Length             | Ma direction: 120mm or less; Mb-Mc direction: 120mm or less |
| Grease Type                      | Low dust generation grease (both ball screw and guide)      |
| Cleanliness                      | Class 10 (0.1µm)                                            |
| Ambient Operating Temp./Humidity | 0~40°C, 85% RH or less (non-condensing)                     |

(\*) Based on a 5,000km service life.



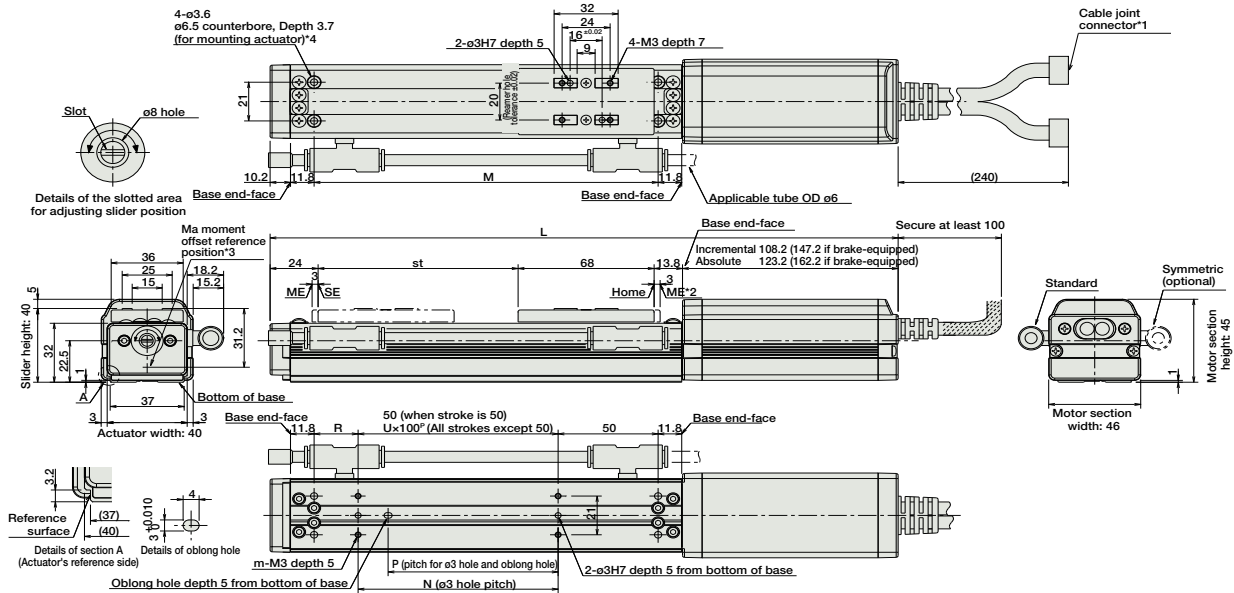
**415** RCACR-SA4C

Dimensions

For Special Orders P. A-9

- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end
- \*3 Reference position for calculating the moment Ma.

- \*4 If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



■ Dimensions and Weight by Stroke \* Adding a brake will increase the actuator's weight by 0.3kg.

| L           | Stroke     | Stroke |     |     |     |     |     |     |     |
|-------------|------------|--------|-----|-----|-----|-----|-----|-----|-----|
|             |            | 50     | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
| Incremental | No Brake   | 264    | 314 | 364 | 414 | 464 | 514 | 564 | 614 |
|             | With Brake | 303    | 353 | 403 | 453 | 503 | 553 | 603 | 653 |
| Absolute    | No Brake   | 279    | 329 | 379 | 429 | 479 | 529 | 579 | 629 |
|             | With Brake | 318    | 368 | 418 | 468 | 518 | 568 | 618 | 668 |
| 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  |
| Weight (kg) |            | 0.7    | 0.8 | 0.9 | 1   | 1.1 | 1.2 | 1.3 | 1.4 |

③ Compatible Controllers

The RCACR series actuators can operate with the controllers below. Select the controller according to your usage.

| Name                                              | External View | Model                | Description                                                                                                                                 | Max. Positioning Points | Input Voltage | Power Supply Capacity                     | Standard Price | See Page |
|---------------------------------------------------|---------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------|-------------------------------------------|----------------|----------|
| Solenoid Valve Type                               |               | AMEC-C-201②-NP-2-1   | Easy-to-use controller, even for beginners                                                                                                  | 3 points                | AC100V        | 2.4A rated                                | -              | → P477   |
|                                                   |               | ASEP-C-201②-NP-2-0   | Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type. |                         |               |                                           |                | → P487   |
| Splash-Proof Solenoid Valve Type                  |               | ASEP-CW-201②-NP-2-0  |                                                                                                                                             |                         |               |                                           |                |          |
| Positioner Type                                   |               | ACON-C-201②-NP-2-0   | Positioning is possible for up to 512 points                                                                                                | 512 points              | DC24V         | (Standard)<br>1.3A rated<br>4.4A max.     | -              |          |
| Safety-Compliant Positioner Type                  |               | ACON-CG-201②-NP-2-0  |                                                                                                                                             |                         |               |                                           |                |          |
| Pulse Train Input Type (Differential Line Driver) |               | ACON-PL-201②-NP-2-0  | Pulse train input type with differential line driver support                                                                                | (-)                     | DC24V         | (Power-saving)<br>1.3A rated<br>2.5A max. | -              | → P535   |
| Pulse Train Input Type (Open Collector)           |               | ACON-PO-201②-NP-2-0  | Pulse train input type with open collector support                                                                                          |                         |               |                                           |                |          |
| Serial Communication Type                         |               | ACON-SE-201②-N-0-0   | Dedicated to serial communication                                                                                                           | 64 points               |               |                                           |                |          |
| Field Network Type                                |               | RACON-20②            | Dedicated to field network                                                                                                                  | 768 points              |               |                                           |                | → P503   |
| Program Control Type                              |               | ASEL-C-1-20①②-NP-2-0 | Programmed operation is possible. Operation is possible on up to 2 axes                                                                     | 1500 points             |               |                                           |                | → P567   |

\* This is for the single-axis ASEL.  
 \* ① is a placeholder for the encoder type (I: incremental / A: absolute).  
 \* ② is a placeholder for the code "LA" if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor