

# RCA-RGS4C

ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 24V Servo Motor Coupled

■ Configuration: **RCA** — **RGS4C** —  —  —  —  —  —  —  —  —

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

I : Incremental  
A : Absolute

20 : 20W Servo Motor  
30 : 30W Servo Motor

12 : 12mm  
6 : 6mm  
3 : 3mm

50 : 50mm  
300 : 300mm (50mm pitch increments)

A1 : ACON  
RACON  
ASEL  
A3 : AMEC  
ASEP

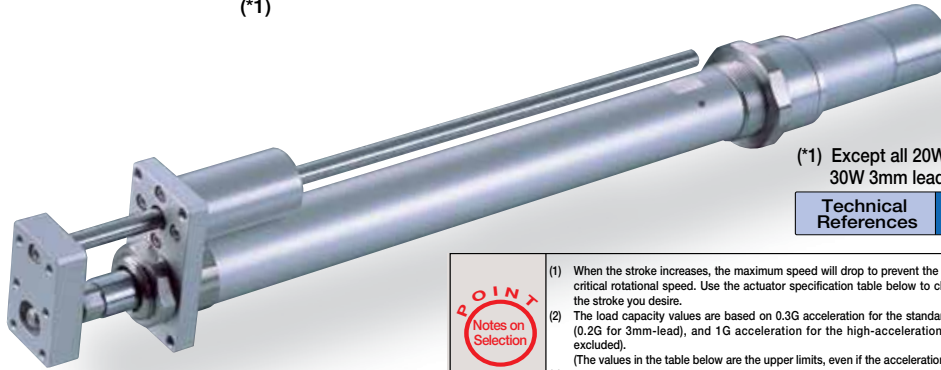
N : None  
P : 1m  
S : 3m  
M : 5m  
X  : Custom  
R  : Robot cable

\* See page Pre-35 for an explanation of the naming convention.  
\* The absolute models are only compatible with ASEL. Simple absolute encoders are considered incremental.

For High Acceleration/Deceleration

Power-saving

(\*1)



(\*1) Except all 20W models and 30W 3mm lead models

Technical References P. A-5

**POINT**  
Notes on Selection

- (1) 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.
- (2) The load capacity values are based on 0.3G acceleration for the standard and power-saving models (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration models (3mm-lead model excluded).
- (3) The values in the table below are the upper limits, even if the acceleration/deceleration is decreased. The values for the horizontal load capacity reflect the use of an external guide. See the technical resources (page A-81) for the allowable weight using the supplied guide alone.

## Actuator Specifications

### Lead and Load Capacity

| Model                     | Motor Output (W) | Lead (mm) | Max. Load Capacity |               | Rated Thrust (N) | Stroke (mm)              |
|---------------------------|------------------|-----------|--------------------|---------------|------------------|--------------------------|
|                           |                  |           | Horizontal (kg)    | Vertical (kg) |                  |                          |
| RCA-RGS4C-①-20-12-②-③-④-⑤ | 20               | 12        | 3.0                | 0.5           | 18.9             | 50~300 (50mm increments) |
| RCA-RGS4C-①-20-6-②-③-④-⑤  |                  | 6         | 6.0                | 1.5           | 37.7             |                          |
| RCA-RGS4C-①-20-3-②-③-④-⑤  |                  | 3         | 12.0               | 3.5           | 75.4             |                          |
| RCA-RGS4C-①-30-12-②-③-④-⑤ | 30               | 12        | 4.0                | 1.0           | 28.3             |                          |
| RCA-RGS4C-①-30-6-②-③-④-⑤  |                  | 6         | 9.0                | 2.5           | 56.6             |                          |
| RCA-RGS4C-①-30-3-②-③-④-⑤  |                  | 3         | 18.0               | 6.0           | 113.1            |                          |

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

### Stroke and Maximum Speed

| Stroke | 50 ~ 300 (50mm increments) |        |
|--------|----------------------------|--------|
|        | Lead                       | Stroke |
| 12     |                            | 600    |
| 6      |                            | 300    |
| 3      |                            | 150    |

(Unit: mm/s)

### Encoder & Stroke List

| ② Stroke (mm) | Standard Price   |     |                  |     |
|---------------|------------------|-----|------------------|-----|
|               | ① Encoder        |     |                  |     |
|               | Incremental      |     | Absolute         |     |
|               | Motor Output (W) |     | Motor Output (W) |     |
|               | 20W              | 30W | 20W              | 30W |
| 50            | -                | -   | -                | -   |
| 100           | -                | -   | -                | -   |
| 150           | -                | -   | -                | -   |
| 200           | -                | -   | -                | -   |
| 250           | -                | -   | -                | -   |
| 300           | -                | -   | -                | -   |

### ④ Cable List

| Type            | Cable Symbol          | Standard Price |
|-----------------|-----------------------|----------------|
| Standard        | 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   | -              |
| High-acceleration/deceleration (*1) | HA          | → A-32   | -              |
| Home sensor (*2)                    | HS          | → A-32   | -              |
| Power-saving (*3)                   | LA          | → A-32   | -              |
| Reversed-home                       | NM          | → A-33   | -              |
| Trunnion bracket (back)             | TRR         | → A-38   | -              |

(\*1) The high-acceleration/deceleration option is not available for all 20W models and 30W model with 3mm lead.  
(\*2) The home sensor (HS) cannot be used on the reversed-home models.  
(\*3) The high acceleration/deceleration option and the power-saving option cannot be used simultaneously.

### Actuator Specifications

| Item                             | Description   |
|----------------------------------|---|
| Drive System                     | Ball screw ø10mm C10 grade                              |
| Positioning Repeatability        | ±0.02mm   |
| Lost Motion                      | 0.1mm or less   |
| Guide                            | Single guide (guide rod diameter ø10mm, Ball bush type) |
| Rod Diameter                     | ø20mm   |
| Non-rotating accuracy of rod     | ±0.05 deg   |
| Ambient Operating Temp./Humidity | 0~40°C, 85% RH or less (non-condensing)                 |

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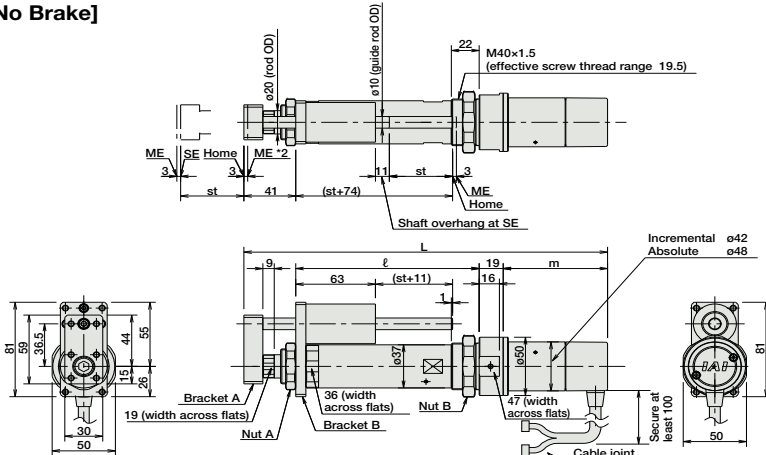
RCA-RGS4C

Dimensions

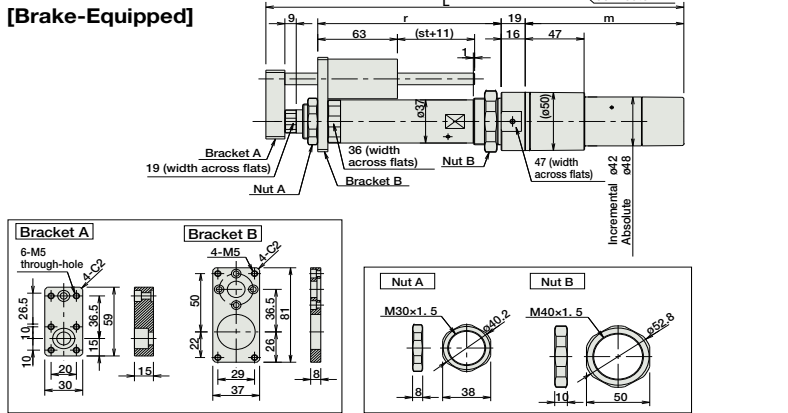
For Special Order P. A-9

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

[No Brake]



[Brake-Equipped]



■ Dimensions/Weight by Stroke

RCA-RGS4C (without brake)

| Stroke      | Stroke |        |       |       |       |       |       |       |
|-------------|--------|--------|-------|-------|-------|-------|-------|-------|
|             | 50     | 100    | 150   | 200   | 250   | 300   |       |       |
| L           | 20W    | Incr.  | 272.5 | 322.5 | 372.5 | 422.5 | 472.5 | 522.5 |
|             |        | Absol. | 285.5 | 335.5 | 385.5 | 435.5 | 485.5 | 535.5 |
| 30W         |        | Incr.  | 287.5 | 337.5 | 387.5 | 437.5 | 487.5 | 537.5 |
|             |        | Absol. | 300.5 | 350.5 | 400.5 | 450.5 | 500.5 | 550.5 |
| ℓ           |        |        | 145   | 195   | 245   | 295   | 345   | 395   |
| m           | 20W    | Incr.  | 67.5  |       |       |       |       |       |
|             |        | Absol. | 80.5  |       |       |       |       |       |
| 30W         |        | Incr.  | 82.5  |       |       |       |       |       |
|             |        | Absol. | 95.5  |       |       |       |       |       |
| Weight (kg) |        |        | 1.5   | 1.6   | 1.8   | 2.0   | 2.2   | 2.4   |

RCA-RGS4C (with brake)

| Stroke      | Stroke |        |       |       |       |       |       |       |
|-------------|--------|--------|-------|-------|-------|-------|-------|-------|
|             | 50     | 100    | 150   | 200   | 250   | 300   |       |       |
| L           | 20W    | Incr.  | 315.5 | 365.5 | 415.5 | 465.5 | 515.5 | 565.5 |
|             |        | Absol. | 328.5 | 378.5 | 428.5 | 478.5 | 528.5 | 578.5 |
| 30W         |        | Incr.  | 330.5 | 380.5 | 430.5 | 480.5 | 530.5 | 580.5 |
|             |        | Absol. | 343.5 | 393.5 | 443.5 | 493.5 | 543.5 | 593.5 |
| ℓ           |        |        | 145   | 195   | 245   | 295   | 345   | 395   |
| m           | 20W    | Incr.  | 110.5 |       |       |       |       |       |
|             |        | Absol. | 123.5 |       |       |       |       |       |
| 30W         |        | Incr.  | 125.5 |       |       |       |       |       |
|             |        | Absol. | 138.5 |       |       |       |       |       |
| Weight (kg) |        |        | 1.7   | 1.8   | 2.0   | 2.2   | 2.4   | 2.6   |

③ Compatible Controllers

The RCA 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-201 ② -NP-2-1<br>AMEC-C-301 ② -NP-2-1       | Easy-to-use controller, even for beginners  | 3 points                | AC100V        | 2.4A rated                     | -              | → P477   |
|   |               | ASEP-C-201 ② -NP-2-0<br>ASEP-C-301 ② -NP-2-0       | Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type. |                         |               |                                |                |          |
| Splash-Proof Solenoid Valve Type                  |               | ASEP-CW-201 ② -NP-2-0<br>ASEP-CW-301 ② -NP-2-0     |   |                         |               |                                |                | → P487   |
| Positioner Type                                   |               | ACON-C-201 ② -NP-2-0<br>ACON-C-301 ② -NP-2-0       | Positioning is possible for up to 512 points  | 512 points              | DC24V         | 20W<br>1.3A rated<br>4.4A peak | -              | → P535   |
| Safety-Compliant Positioner Type                  |               | ACON-CG-201 ② -NP-2-0<br>ACON-CG-301 ② -NP-2-0     |   |                         |               |                                |                |          |
| Pulse Train Input Type (Differential Line Driver) |               | ACON-PL-201 ② -NP-2-0<br>ACON-PL-301 ② -NP-2-0     | Pulse train input type with differential line driver support  | (-)                     | DC24V         | 30W<br>1.3A rated<br>4.4A peak | -              | → P535   |
| Pulse Train Input Type (Open Collector)           |               | ACON-PO-201 ② -NP-2-0<br>ACON-PO-301 ② -NP-2-0     | Pulse train input type with open collector support  |                         |               |                                |                |          |
| Serial Communication Type                         |               | ACON-SE-201 ② -N-0-0<br>ACON-SE-301 ② -N-0-0       | Dedicated to serial communication   | 64 points               |               |                                |                |          |
| Field Network Type                                |               | RACON-20 ②<br>RACON-30 ②                           | Dedicated to field network  | 768 points              |               |                                |                | → P503   |
| Program Control Type                              |               | ASEL-C-1-20 ① ② -NP-2-0<br>ASEL-C-1-30 ① ② -NP-2-0 | Programmed operation is possible<br>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 "HA" or "LA" if the high acceleration/deceleration option or 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