# RCS2-RGS4C

ROBO Cylinder Rod Type with Single Guide ø37mm Diameter 200V Servo Motor Coupled

**Configuration:** RCS2 – RGS4C – ☐ – ☐ – ☐ – ☐ – ☐ – ☐ – ☐

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Series | Type | Encoder | Motor | Lead | Stroke | Compatible Controllers | Cable Length | Option |

- Encoder: I : Incremental, A : Absolute
- Motor: 20 : 20W Servo Motor, 30 : 30W Servo Motor
- Lead: 12 : 12mm, 6 : 6mm, 3 : 3mm
- Stroke: 50 : 50mm ～ 300 : 300mm (50mm pitch increments)
- Compatible Controllers: T1 : XSEL-J/K, T2 : SCON, SSEL, XSEL-P/Q
- Cable Length: N : None, P : 1m, S : 3m, M : 5m, X☐☐ : Custom, R☐☐ : Robot cable
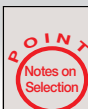- Option: See Options below

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

## For High Acceleration/Deceleration (*1)
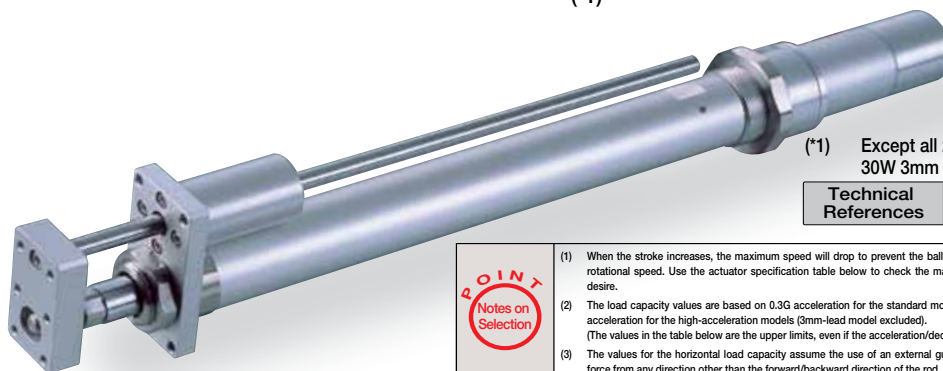
(*1) Except all 20W models and 30W 3mm lead models

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 model (0.2G for 3mm-lead), and 1G acceleration for the high-acceleration models (3mm-lead model excluded). (The values in the table below are the upper limits, even if the acceleration/deceleration is decreased.)

(3) The values for the horizontal load capacity assume the use of an external guide, so that there is no external force from any direction other than the forward/backward direction of the rod. 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 Horizontal (kg) | Max. Load Capacity Vertical (kg) | Rated Thrust (N) | Stroke (mm) |
|---|---|---|---|---|---|---|
| RCS2-RGS4C-①-20-12-②-③-④-⑤ | 20 | 12 | 3.0 | 0.5 | 18.9 | 50～300 (50mm increments) |
| RCS2-RGS4C-①-20-6-②-③-④-⑤ | | 6 | 6.0 | 1.5 | 37.7 | |
| RCS2-RGS4C-①-20-3-②-③-④-⑤ | | 3 | 12.0 | 3.5 | 75.4 | |
| RCS2-RGS4C-①-30-12-②-③-④-⑤ | 30 | 12 | 4.0 | 1.0 | 28.3 | |
| RCS2-RGS4C-①-30-6-②-③-④-⑤ | | 6 | 9.0 | 2.5 | 56.6 | |
| RCS2-RGS4C-①-30-3-②-③-④-⑤ | | 3 | 18.0 | 6.0 | 113.1 | |

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

### ■ Stroke and Maximum Speed

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

(Unit: mm/s)

### Encoder & Stroke List

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

(Header: Standard Price — ① Encoder)

### 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) | – |
| Robot Cable | R01 (1m) ～ R03 (3m) | – |
| | 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 | – |
| 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.

### 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) |

**RCS2** ROBO Cylinder

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

## 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 rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
    ME: Mechanical end   SE: Stroke end
*3. The orientation of the bolt will vary depending on the product.

### [No Brake]



### [Brake-Equipped]



Bracket A / Bracket B / Nut A / Nut B detail drawings
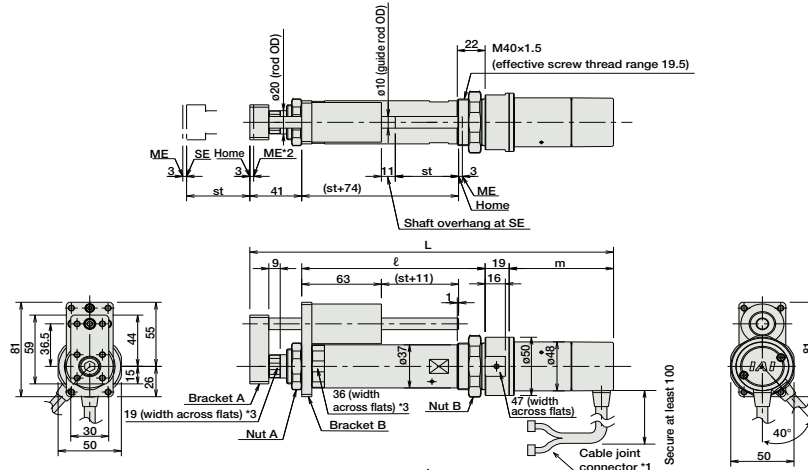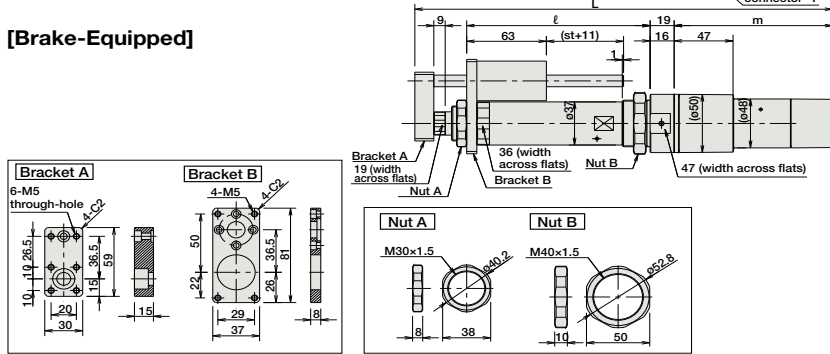
### ■ Dimensions/Weight by Stroke

**RCS2-RGS4C (without brake)**

| Stroke | | 50 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|
| L | 20W | 285.5 | 335.5 | 385.5 | 435.5 | 485.5 | 535.5 |
| | 30W | 300.5 | 350.5 | 400.5 | 450.5 | 500.5 | 550.5 |
| ℓ | | 145 | 195 | 245 | 295 | 345 | 395 |
| m | 20W | 80.5 | | | | | |
| | 30W | 95.5 | | | | | |
| Weight (kg) | | 1.5 | 1.6 | 1.8 | 2.0 | 2.2 | 2.4 |

**RCS2-RGS4C (with brake)**

| Stroke | | 50 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|
| L | 20W | 328.5 | 378.5 | 428.5 | 478.5 | 528.5 | 578.5 |
| | 30W | 343.5 | 393.5 | 443.5 | 493.5 | 543.5 | 593.5 |
| ℓ | | 145 | 195 | 245 | 295 | 345 | 395 |
| m | 20W | 123.5 | | | | | |
| | 30W | 138.5 | | | | | |
| Weight (kg) | | 1.7 | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 |
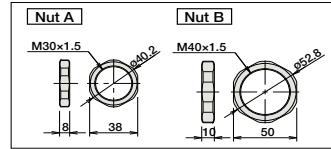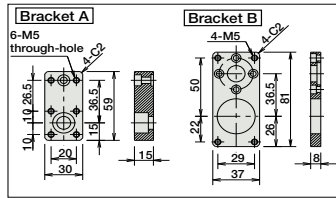
### ③ Compatible Controllers

The RCS2 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 |
|---|---|---|---|---|---|---|---|---|
| Positioner Mode | | SCON-C-20①-NP-2-③ SCON-C-30D①②-NP-2-③ | Positioning is possible for up to 512 points | 512 points | Single-Phase AC 100V Single-Phase AC 200V 3-Phase AC 200V (XSEL-P/Q only) | Maximum 360VA * Single-axis model operated at 150W | – | → P547 |
| Solenoid Valve Mode | | | Operable with the same controls as the solenoid valve. | 7 points | | | | |
| Serial Communication Type | | | Dedicated to serial communication | 64 points | | | | |
| Pulse Train Input Control Type | | | Dedicated to Pulse Train Input | (–) | | | | |
| Program Control 1-2 Axes Type | | SSEL-C-1-20①-NP-2-③ SSEL-C-1-30D①②-NP-2-③ | Programmed operation is possible Operation is possible on up to 2 axes | 20000 points | | | – | → P577 |
| Program Control 1-6 Axes Type | | XSEL-④-1-20①-N1-EEE-2-⑤ XSEL-④-1-30D①②-N1-EEE-2-⑤ | Programmed operation is possible Operation is possible on up to 6 axes | 20000 points | | | – | → P587 |

* For SSEL and XSEL, only applicable to the single-axis model.
* ① is a placeholder for the encoder type (I: incremental / A: absolute).
* ② is a placeholder for the code "HA" if the high-acceleration/deceleration option is specified.
* ③ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V).
* ④ is a placeholder for the XSEL type name ("J", "K", "P", "Q").
* ⑤ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, or 3: three-phase 200V).

*IAI*

RCS2-RGS4C **250**