

RCP2-RGD3C

ROBO Cylinder Rod Type with Double Guide 35mm Width Pulse Motor Straight Type

| | | | | | | | | | |
|------------------|-------------|--------------|--|-------------------------------|------------------------|---|---|---|--|
| ■ Configuration: | RCP2 | RGD3C | I | 28P | | | | | |
| | Series | Type | Encoder | Motor | Lead | Stroke | Compatible Controllers | Cable Length | Option |
| | | | I: Incremental * The Simple absolute encoder is also considered type "I". | 28P: Pulse motor 28 □ size | 5 : 5mm 2.5 : 2.5mm | 50: 50mm 200: 200mm (50mm pitch increments) | P1: PCON RPCON PSEL P3: PMEC PSEP | N : None P : 1m S : 3m M : 5m X □ : Custom R □ : Robot cable | FT : Foot bracket NM: Reversed-home |

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

* Pictured: RGD4C

Technical
References

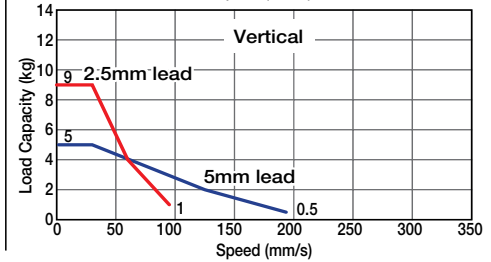
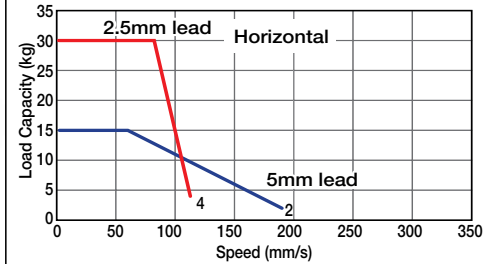
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- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
- (3) The load capacity is based on operation at an acceleration of 0.2G.
0.2G is the upper limit of the acceleration.
In addition, the horizontal load capacity is based on the use of an external guide. See the technical resources (page A-83) for the allowable weight using the supplied guide alone.

■ Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications

■ Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

| Model | Lead (mm) | Max. Load Capacity (Note 1) | | Maximum Push Force (N)(Note 2) | Stroke (mm) |
|------------------------------|-----------|-----------------------------|---------------|--------------------------------|-------------------------------|
| | | Horizontal (kg) | Vertical (kg) | | |
| RCP2-RGD3C-I-28P-5-①-②-③-④ | 5 | ~ 15 | ~ 5 | 73.5 | 50 ~ 200 (50mm increments) |
| RCP2-RGD3C-I-28P-2.5-①-②-③-④ | 2.5 | ~ 30 | ~ 9 | 156.8 | |

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

(Note 2) See page A-69 for the pushing force graphs.

■ Stroke and Maximum Speed

| Stroke Lead | 50 ~ 200 (50mm increments) | |
|-------------|-------------------------------|----------|
| | 5 | 2.5 |
| | 187 | 114 <93> |

(Unit: mm/s)

① Stroke List

| Stroke (mm) | Standard Price |
|-------------|----------------|
| 50 | — |
| 100 | — |
| 150 | — |
| 200 | — |

③ 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.

④ Option List

| Name | Option Code | See Page | Standard Price |
|---------------|-------------|----------|----------------|
| Foot bracket | FT | → A-29 | — |
| Reversed-home | NM | → A-33 | — |

Actuator Specifications

| Item | Description |
|----------------------------------|--|
| Drive System | Ball screw ø8mm C10 grade |
| Positioning Repeatability | ±0.02mm |
| Lost Motion | 0.1mm or less |
| Guide | Double guide Guide rod diameter ø10mm Ball bush type |
| Rod Diameter | ø22mm |
| Non-rotating accuracy of rod | ±0.05 deg |
| Ambient Operating Temp./Humidity | 0 ~ 40°C, 85% RH or less (non-condensing) |

Dimensions

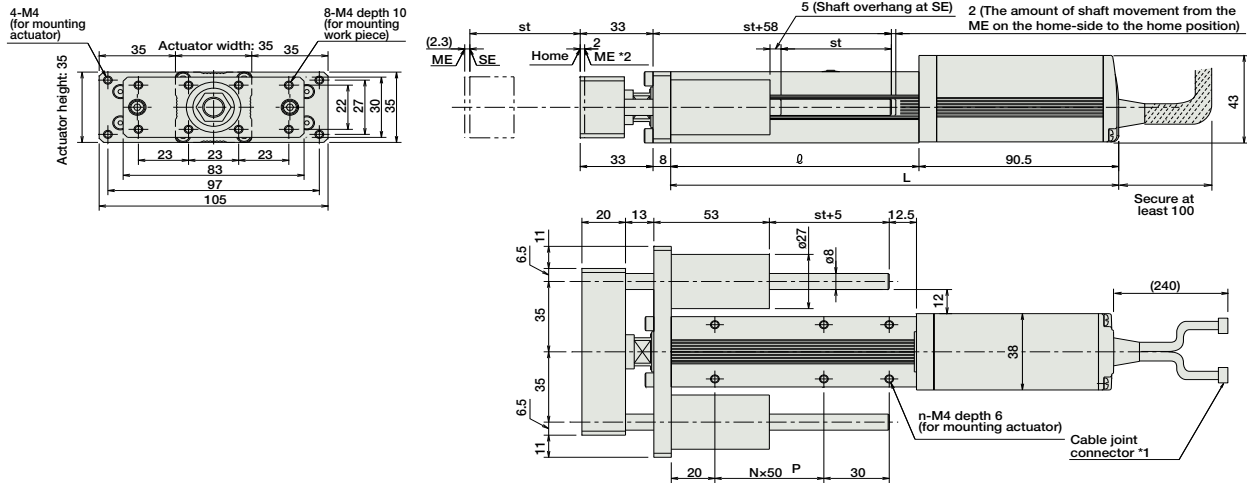
CAD drawings can be downloaded from IAI website. www.intelligentactuator.com



For Special Orders

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- *1. The motor-encoder cable is connected here.
See page A-39 for details on cables.
- *2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end
SE: Stroke end
The values enclosed in "()" are reference dimensions.











■ Dimensions/Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 |
|-------------|-------|-------|-------|-------|
| ℓ | 112.5 | 162.5 | 212.5 | 262.5 |
| L | 203 | 253 | 303 | 353 |
| N | 1 | 2 | 3 | 4 |
| n | 6 | 8 | 10 | 12 |
| Weight (kg) | 1.1 | 1.3 | 1.4 | 1.6 |

② Compatible Controllers

The RCP2 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 |  | PMEC-C-28SPI-NP-2-① | Easy-to-use controller, even for beginners | 3 points | AC100V AC200V | See P481 | — | → P477 |
| |  | PSEP-C-28SPI-NP-2-0 | Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type. | | DC24V | | 2A max. | — |
| Splash-Proof Solenoid Valve Type |  | PSEP-CW-28SPI-NP-2-0 | | — | | | | |
| Positioner Type |  | PCON-C-28SPI-NP-2-0 | Positioning is possible for up to 512 points | 512 points | DC24V | 2A max. | — | → P525 |
| Safety-Compliant Positioner Type | | PCON-CG-28SPI-NP-2-0 | | | | | — | |
| Pulse Train Input Type (Differential Line Driver) |  | PCON-PL-28SPI-NP-2-0 | Pulse train input type with differential line driver support | (—) | | | — | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-28SPI-NP-2-0 | Pulse train input type with open collector support | | | | — | |
| Serial Communication Type |  | PCON-SE-28SPI-N-0-0 | Dedicated to serial communication | 64 points | | | — | → P503 |
| Field Network Type |  | RPCON-28SP | Dedicated to field network | 768 points | | | — | |
| Program Control Type |  | PSEL-C-1-28SPI-NP-2-0 | Programmed operation is possible Operation is possible on up to 2 axes | 1500 points | | | — | → P557 |

* This is for the single-axis PSEL.

* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).