



Gripper Type / Rotary Type

RCP2 RCS2



RCP2-GRSS



RCP2-GRLS



RCP2-GRS



RCP2-GRM



RCP2-GRST



RCP2-GRHM



RCP2-GRHB



RCP2-GR3LS



RCP2-GR3SS



RCS2-GR8



RCP2-
RTBS/RTBSL



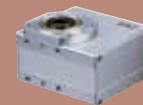
RCP2-
RTB/RTBL



RCP2-
RTBB/RTBBL



RCP2-
RTCS/RTCSL



RCP2-
RTC/RTCL



RCP2-
RTCB/RTCBL



RCS2-
RTC8L/RTC8HL



RCS2-RTC10L



RCS2-RTC12L



RCS2-RT6

Gripper Type / Rotary Type

| | | | | | |
|---|------------------|---------------------------|---------------------------------|-------------------|------------|
| RCP2 series Pulse Motor Type | 2-Finger Gripper | Mini Slider Type | 42mm Width | RCP2-GRSS | 373 |
| | | Mini Lever Type | 42mm Width | RCP2-GRLS | 375 |
| | | Small Slider Type | 69mm Width | RCP2-GRS | 377 |
| | | Medium Slider Type | 74mm Width | RCP2-GRM | 379 |
| | | Long Stroke Slider Type | 130mm Width ? 190mm Width | RCP2-GRST | 381 |
| | | Medium High-force Gripper | 116mm Width | RCP2-GRHM | 383 |
| | 3-Finger Gripper | Lever Type | 62mm Width | RCP2-GR3LS | 387 |
| | | | 80mm Width | RCP2-GR3LM | 389 |
| | | Slider Type | 62mm Width | RCP2-GR3SS | 391 |
| | | | 80mm Width | RCP2-GR3SM | 393 |
| RCS2 series 200V Servo Motor Type | 2-Finger Gripper | Long Stroke Slider Type | 104mm Width ? 284mm Width | RCS2-GR8 | 395 |
| | | | | | |
| RCP2 series Pulse Motor Type | Rotary | Small Vertical Type | 45mm Width | RCP2-RTBS/RTBSL | 397 |
| | | Small Flat Type | 72mm Width | RCP2-RTCS/RTCSL | 399 |
| | | Medium Vertical Type | 50mm Width | RCP2-RTB/RTBL | 401 |
| | | Medium Flat Type | 88mm Width | RCP2-RTC/RTCL | 403 |
| | | Large Vertical Type | 76mm Width | RCP2-RTBB/RTBBL | 405 |
| | | Large Flat Type | 124mm Width | RCP2-RTCB/RTCBL | 407 |
| RCS2 series 200V Servo Motor Type | Hollow Rotary | Small Type | 85mm Width | RCS2-RTC8L/RTC8HL | 409 |
| | | Medium Type | 99mm Width | RCS2-RTC10L | 411 |
| | | Large Type | 123mm Width | RCS2-RTC12L | 413 |
| | Rotary | Straight Motor Type | 64mm Width | RCS2-RT6 | 415 |
| | | | | | |

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm/Flat Type

Mini

Standard

Gripper/Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

RCP2-GRSS

ROBO Cylinder, 2-Finger Gripper, Mini Slider Type, Actuator Width 42mm, Pulse Motor

| | |
|---------------------------|---|
| Model Specification Items | RCP2 — GRSS — I — 20P — 30 — 8 — — — |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — Applicable controller — Cable length — Options |
| | I: Incremental * The Simple absolute encoder is also considered type "I". |
| | 20P: Pulse motor, 20□ size 30 :1/30 deceleration ratio 8: 8mm (4mm per side) |
| | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP |
| | N: None P: 1m S: 3m M: 5m X□□: Custom Length |
| | NM: Non-motor end FB: Flange bracket SB: Shaft bracket |

* See page Pre-47 for details on the model descriptions.



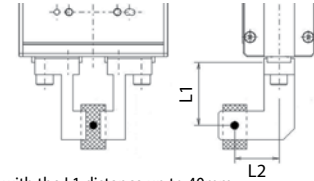
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
- (3) The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

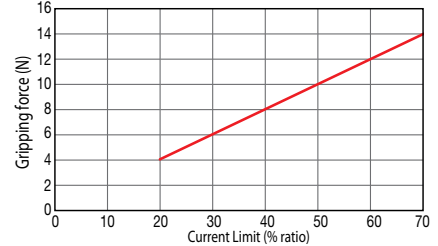
The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Operate with the L1 distance up to 40mm.

* The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|----------------------------|--------------------|----------------------------|-------------------|
| RCP2-GRSS-I-20P-30-8-①-②-③ | 30 | 14 (7 per side) | 8 (4 per side) |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Deceleration ratio | Stroke | 8 (mm) |
|--------------------|--------|------------------|
| | 30 | 78 (per side) |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 8 | — |

② Cable Length

| Type | Cable symbol | Standard price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | | |

* The standard cable is the motor-encoder integrated robot cable.
* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-----------------------------|-------------|----------|----------------|
| Non-motor end specification | NM | → A-52 | — |
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|---|
| Drive System | Worm gear + helical gear + helical rack |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.2mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.05mm or less per side |
| Guide | Linear guide |
| Allowable static load moment | Ma: 0.5 N·m, Mb: 0.5 N·m, Mc: 1.5 N·m |
| Weight | 0.2kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

RCP2-GRLS

ROBO Cylinder, 2-Finger Gripper, Mini Lever Type, Actuator Width 42mm, Pulse Motor

| | | | | |
|---------------------------|--|--|----------------------------------|--|
| Model Specification Items | RCP2 — GRLS — I — 20P — 30 — 180 — | □ | □ | □ |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — Applicable controller — Cable length — Options | I: Incremental * The Simple absolute encoder is also considered type "I". | 20P: Pulse motor, 20□ size | 30: 1/30 deceleration ratio |
| | | P1: PCON-PL/PO/SE PSEL | P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□□: Custom Length |
| | | | | NM: Non-motor end FB: Flange bracket SB: Shaft bracket |

* See page Pre-47 for details on the model descriptions.

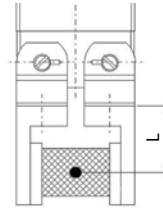


Technical References Appendix P.5

- POINT** Notes on selection
- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
 - (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
 - (3) The rated acceleration while moving is 0.3G.

■ Gripping Force vs. Current Limit

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.

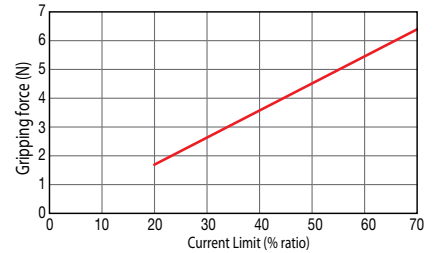


* The gripping force of the graph below is measured on the top face of the lever. The actual gripping force drops in inverse proportion to the distance from the opening/closing fulcrum. Calculate the effective gripping force using the formula below.

* Operate with the L distance up to 40mm.

$$\text{Effective gripping force (GRLS)} = F \times 15.5 / (L + 15.5)$$

* In the graph below, the gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5 degrees/s.

Actuator Specifications

■ Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (deg) |
|------------------------------|--------------------|----------------------------|-------------------|
| RCP2-GRLS-I-20P-30-180-①-②-③ | 30 | 6.4 (3.2 per side) | 180 (90 per side) |

Code explanation ① Applicable Controller ② Cable length ③ Options

■ Stroke and Max. Opening/Closing Speed

| Stroke / Deceleration ratio | 180 (deg) |
|-----------------------------|----------------|
| | 600 (per side) |

(Unit: degree/s)

Stroke

| Stroke (deg) | Standard price |
|--------------|----------------|
| 180 | — |

② Cable Length

| Type | Cable symbol | Standard price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | | |

* The standard cable is the motor-encoder integrated robot cable.

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-----------------------------|-------------|----------|----------------|
| Non-motor end specification | NM | → A-52 | — |
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Worm gear + helical gear |
| Positioning repeatability | ±0.01deg. |
| Backlash | 1 degree or less per side (constantly pressed out by a spring) |
| Lost motion | 1 degree or less |
| Guide | — |
| Allowable static load moment | — |
| Weight | 0.2kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

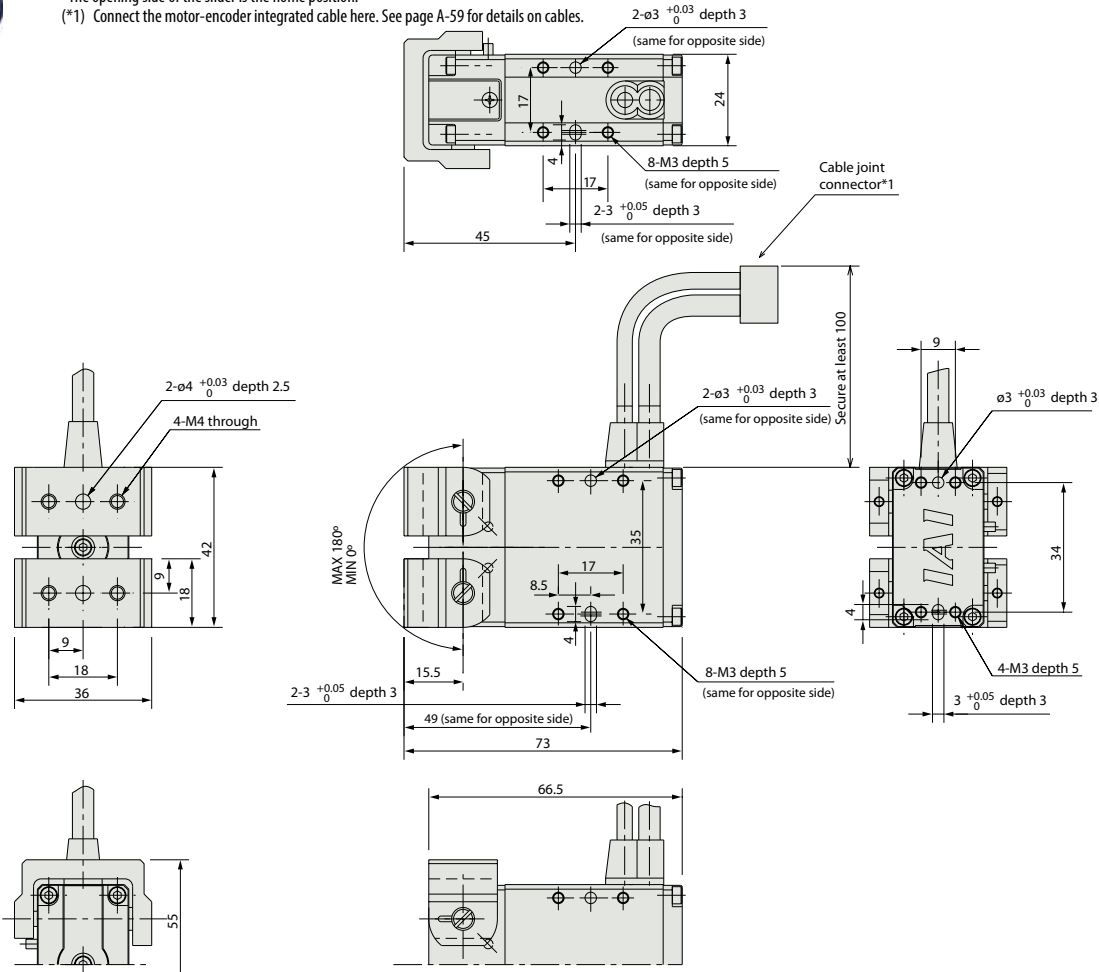
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For Special Orders

Appendix P.15



*The opening side of the slider is the home position.
 (*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.



Weight (kg) 0.2

Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | |
|--|---------------|-----------------------|---|--------------------------------------|---------------|-----------------------|----------------|----------------|--------|
| Solenoid Valve Type | | PMEC-C-20PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | AC100V | Refer to P541 | — | → P537 |
| | | PSEP-C-20PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | AC200V | Refer to P555 | — | → P547 |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | Refer to P572 | — | → P563 | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | Refer to P618 | — | → P607 | |
| Positioner type High-output specification | | PCON-CA-20PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | Refer to P618 | — | → P607 | |
| Pulse-train type High-output specification | | PCON-CA-20PI-PL-①-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | Refer to P628 | — | → P623 | |
| Field network type High-output specification | | PCON-CA-20PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | Refer to P671 | — | → P665 | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-20PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | Refer to P628 | — | → P623 | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-20PI-①-2-0 | Pulse train input type with open collector support | | | 64 points | Refer to P671 | — | → P665 |
| Serial Communication Type | | PCON-SE-20PI-N-0-0 | Dedicated Serial Communication | 64 points | Refer to P671 | — | → P665 | | |
| Program Control Type | | PSEL-CS-1-20PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | Refer to P671 | — | → P665 | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V).
 * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-GRS

ROBO Cylinder, 2-Finger Gripper, Mini Slider Type, Actuator Width 69mm, Pulse Motor

| | | | | | | | | | | |
|---------------------------|--|----------------------------|---------------------------|-------------------------|---|--|---|-----------------------|--------------|---------|
| Model Specification Items | RCP2 — GRS — I — 20P — 1 — 10 — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> | Series | Type | Encoder type | Motor type | Deceleration Ratio | Stroke | Applicable controller | Cable length | Options |
| | I: Incremental * The Simple absolute encoder is also considered type "I". | 20P: Pulse motor, 20□ size | 1: 1/1 deceleration ratio | 10: 10mm (5mm per side) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom Length R□: Robot cable | SB: Shaft bracket FB: Flange bracket | | | |

* See page Pre-47 for details on the model descriptions.



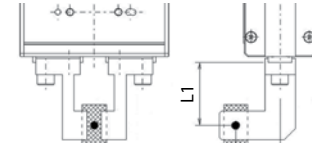
Technical References Appendix P.5



- The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
- The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

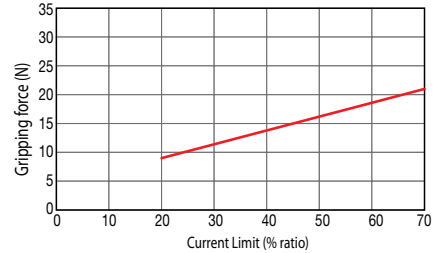
The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Operate with the L1 distance up to 50mm. L2

* The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|---------------------------|--------------------|----------------------------|-----------------|
| RCP2-GRS-I-20P-1-10-①-②-③ | 1 | 21 (10.5 per side) | 10 (5 per side) |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Deceleration ratio | Stroke | 10 (mm) |
|--------------------|--------|-----------------|
| | 1 | 33.3 (per side) |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 10 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------|-------------|----------|----------------|
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Timing belt + trapezoidal screw (1.5 lead) |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.15mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.1mm or less per side |
| Guide | Cross roller guide |
| Allowable static load moment | Ma: 6.3 N·m, Mb: 6.3 N·m, Mc: 7.0 N·m |
| Weight | 0.36kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

RCP2-GRM

ROBO Cylinder, 2-Finger Gripper, Medium Slider Type, Actuator Width 74mm, Pulse Motor

| | | | | | | | | | | |
|---------------------------|--|----------------------------|---------------------------|-------------------------|---|--|---|-----------------------|--------------|---------|
| Model Specification Items | RCP2 — GRM — I — 28P — 1 — 14 — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> | Series | Type | Encoder type | Motor type | Deceleration Ratio | Stroke | Applicable controller | Cable length | Options |
| | I: Incremental * The Simple absolute encoder is also considered type "I". | 28P: Pulse motor, 28□ size | 1: 1/1 deceleration ratio | 14: 14mm (7mm per side) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom Length R□: Robot cable | SB: Shaft bracket FB: Flange bracket | | | |

* See page Pre-47 for details on the model descriptions.



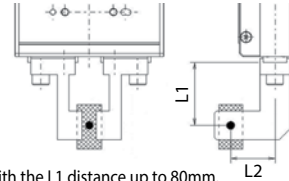
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
- (3) The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

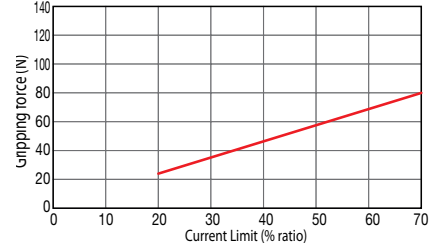
The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Operate with the L1 distance up to 80mm.

* The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|---------------------------|--------------------|----------------------------|--------------------|
| RCP2-GRM-I-28P-1-14-①-②-③ | 1 | 80 (40 per side) | 14 (7 per side) |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Deceleration ratio | Stroke | 14 (mm) |
|--------------------|--------|-----------------|
| | 1 | 36.7 (per side) |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 14 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------|-------------|----------|----------------|
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Timing belt + trapezoidal screw (1.5 lead) |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.15mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.1mm or less per side |
| Guide | Cross roller guide |
| Allowable static load moment | Ma: 6.3 N·m, Mb: 6.3 N·m, Mc: 8.3 N·m |
| Weight | 0.5kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

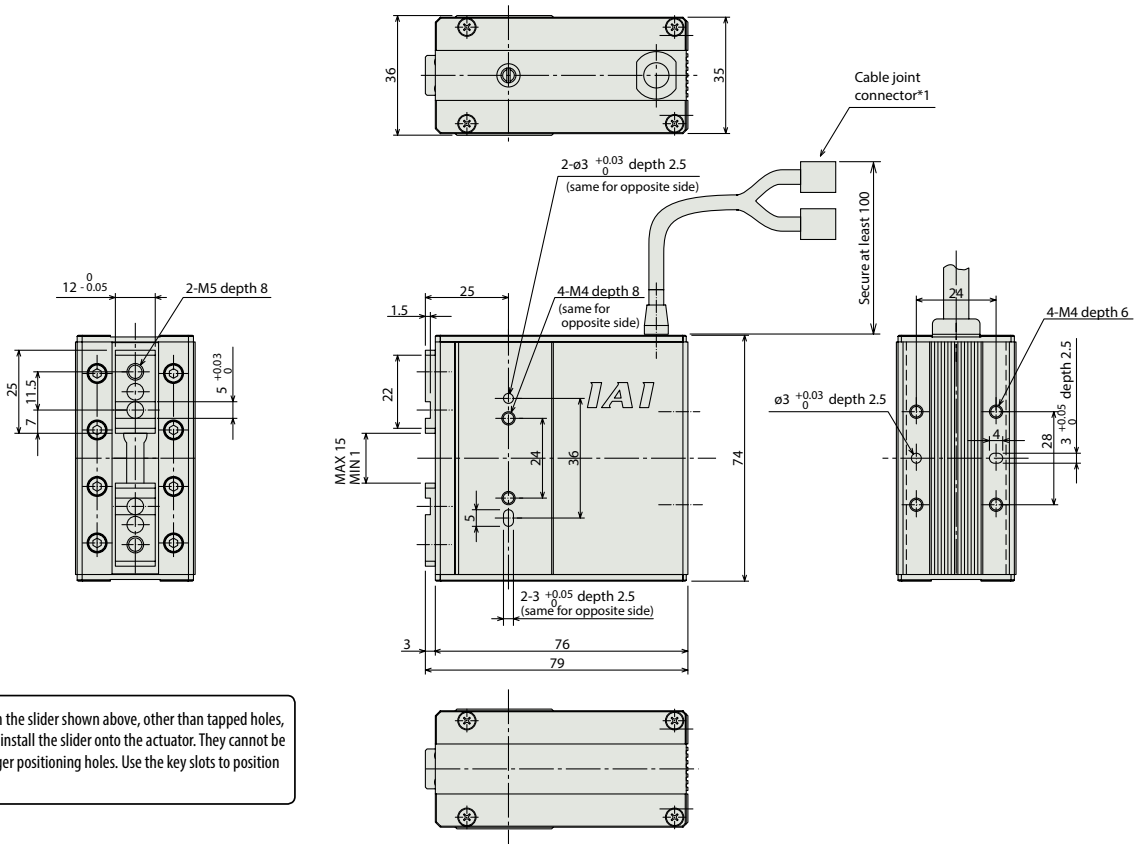
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For Special Orders

Appendix P.15



*The opening side of the slider is the home position.
 (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.



Note:
 The holes in the slider shown above, other than tapped holes, are used to install the slider onto the actuator. They cannot be used as finger positioning holes. Use the key slots to position the fingers.

Weight (kg) 0.5

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | | | | | | | | | | |
|--|---------------|----------------------|---|--------------------------------------|-------------|-----------------------|----------------|----------------|--------|---------------|---|--------|-------|---------------|---|--------|-------|---------------|---|--------|
| Solenoid Valve Type | | PMEC-C-28PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | Refer to P541 | — | → P537 | | | | | | | | | | | | |
| | | PSEP-C-28PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | | → P547 | | | | | | | | | | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | | DC24V | Refer to P572 | — | → P563 | | | | | | | | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | | | | | | | | | | | | |
| Positioner type High-output specification | | PCON-CA-28PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | | | | | | | | DC24V | Refer to P618 | — | → P607 | | | | |
| Pulse-train type High-output specification | | PCON-CA-28PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | | | | | | | | | | | | | |
| Field network type High-output specification | | PCON-CA-28PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | | | | | | | | | | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-28PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | | | | | | | | | | | | DC24V | Refer to P628 | — | → P623 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-28PI-①-2-0 | Pulse train input type with open collector support | | | | | | | | | | | | | | | | | |
| Serial Communication Type | | PCON-SE-28PI-N-0-0 | Dedicated Serial Communication | 64 points | | | | | | | | | | | | | | | | |
| Program Control Type | | PSEL-CS-1-28PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | DC24V | Refer to P671 | — | → P665 | | | | | | | | | | | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V).
 * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-GRST

ROBO Cylinder, 2-Finger Gripper, Long Stroke Slide Type, Actuator Width 130~190mm, Pulse Motor

Model Specification Items: RCP2 — GRST — I — 20P — [] — [] — [] — [] — []

Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — Applicable controller — Cable length — Options

I: Incremental 20P: Pulse motor, 1: 1/1 deceleration ratio High-Speed Type 2: 1/2 deceleration ratio Standard Type

40: 40mm 60: 60mm 80: 80mm 100: 100mm

P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP

N: None P: 1m S: 3m M: 5m X []: Custom Length

See Options below. * Be sure to specify the side from which you want the cable to exit (A0 or A1).

* See page Pre-47 for details on the model descriptions.



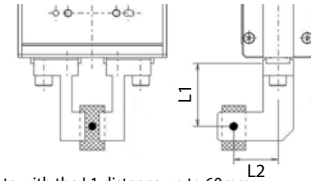
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
- (3) The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

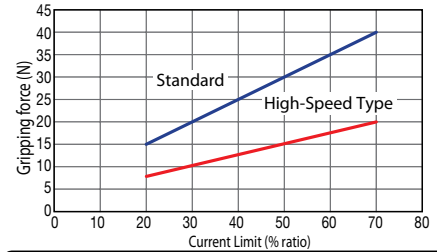
The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Operate with the L1 distance up to 60mm.

* The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Leads and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|---------------------------|--------------------|----------------------------|------------------------|
| RCP2-GRST-I-20P-1-①-②-③-④ | 1 | 20 (10 per side) | 40~100 (every 20mm) |
| RCP2-GRST-I-20P-2-①-②-③-④ | 2 | 40 (20 per side) | |

Code explanation ① Stroke ② Applicable Controller ③ Cable length ④ Options

Stroke and Max. Opening/Closing Speed

| Stroke Deceleration ratio | 40~100 (mm) |
|------------------------------|-------------|
| | 75 |
| 2 | 34 |

(Unit: mm/s)

① Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 40 | — |
| 60 | — |
| 80 | — |
| 100 | — |

③ Cable Length

| Type | Cable symbol | Standard price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | | — |

* The standard cable is the motor-encoder integrated robot cable.
* See page A-59 for cables for maintenance.

④ Options

| Name | Option code | See page | Standard price |
|-----------------------------|-------------|----------|----------------|
| Non-motor end specification | NM | → A-52 | — |
| Cable exiting from bottom | A0 | → A-41 | — |
| Cable exiting from side | A1 | → A-41 | — |

* Be sure to specify the side from which you want the cable to exit (A0 or A1).

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Timing belt + worm/rack gear |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.2mm or less per side |
| Lost motion | — |
| Guide | Linear guide |
| Allowable static load moment | Ma: 2.93 N·m, Mb: 2.93 N·m, Mc: 5.0 N·m |
| Weight | 0.51kg (40-stroke) ~ 0.66kg (100-stroke) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

RCP2-GRHM

ROBO Cylinder, 2-Finger Gripper, Medium High-force Type, Actuator Width 116mm, 24V Pulse Motor

| | | | | |
|---------------------------|---|--|--|--------------------------|
| Model Specification Items | RCP2 — GRHM — I — 35P — 2 — 32 — | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — | Applicable controller | Cable length | Options |
| | I: Incremental 35P: Pulse motor, 35□ size 2: Feed screw lead 2 32: 32mm (16mm per side) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□□: Custom Length | See Options below. |

* See page Pre-47 for details on the model descriptions.



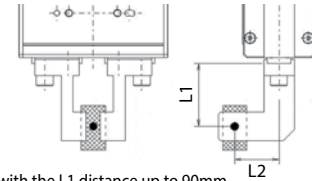
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
- (3) The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

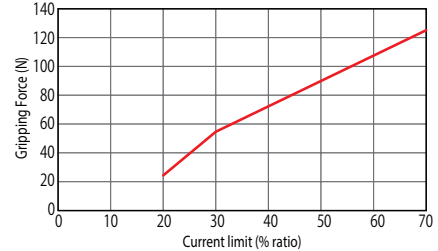
The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Operate with the L1 distance up to 90mm.

* The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|----------------------------|--------------------|----------------------------|------------------|
| RCP2-GRHM-I-35P-2-32-①-②-③ | 2 | 125 (62.5 per side) | 32 (16 per side) |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Stroke | 32 (mm) |
|--------------------|----------------|
| Deceleration ratio | 2 |
| | 100 (per side) |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 32 | — |

② Cable Length

| Type | Cable symbol | Standard price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | | — |

* The standard cable is the motor-encoder integrated robot cable.
* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Cable exit direction (top) | CJT | → A-42 | — |
| Cable exit direction (right) | CJR | → A-42 | — |
| Cable exit direction (left) | CJL | → A-42 | — |
| Cable exit direction (bottom) | CJB | → A-42 | — |
| Flange Bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|---|
| Drive System | Timing belt + trapezoidal screw (2 lead) |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.2mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.15mm or less per side |
| Guide | Linear guide |
| Allowable static load moment (*) | Ma: 11.7 N·m, Mb: 16.7 N·m, Mc: 46.5 N·m |
| Weight | 1.14kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

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

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

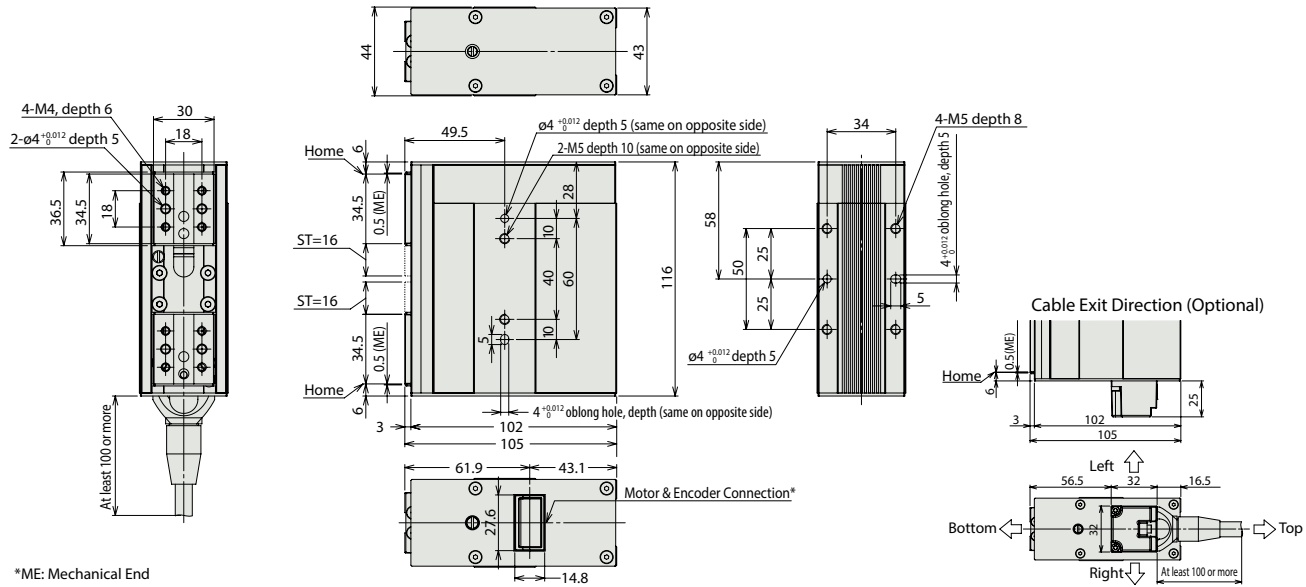


* Connect the motor-encoder integrated cable here. (See page A-59 for details on cables.)

For Special Orders



Appendix P.15



*ME: Mechanical End

Weight (kg) 1.14

Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | | | | | | | | | | |
|--|---------------|----------------------|---|--------------------------------------|-------------|-----------------------|----------------|----------------|-------|---------------|---|--------|-------|---------------|---|--------|-------|---------------|---|--------|
| Solenoid Valve Type | | PMEC-C-35PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | Refer to P541 | — | → P537 | | | | | | | | | | | | |
| | | PSEP-C-35PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | | | | | | | | | | | | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | | DC24V | Refer to P572 | — | → P563 | | | | | | | | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | | | | | | | | | | | | |
| Positioner type High-output specification | | PCON-CA-35PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | | | | | | | | DC24V | Refer to P618 | — | → P607 | | | | |
| Pulse-train type High-output specification | | PCON-CA-35PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | | | | | | | | | | | | | |
| Field network type High-output specification | | PCON-CA-35PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | | | | | | | | | | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-35PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | | | | | | | | | | | | DC24V | Refer to P628 | — | → P623 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-35PI-①-2-0 | Pulse train input type with open collector support | | | | | | | | | | | | | | | | | |
| Serial Communication Type | | PCON-SE-35PI-N-0-0 | Dedicated Serial Communication | 64 points | | | | | | | | | | | | | | | | |
| Program Control Type | | PSEL-CS-1-35PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | DC24V | Refer to P671 | — | → P665 | | | | | | | | | | | | |

* This is for the single-axis PSEL.

* ① indicates I/O type (NP/PN).

* ② indicates power supply voltage (1: 100V / 2: 100~240V).

* ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-GRHB

ROBO Cylinder, 2-Finger Gripper, Large High-force Type, Actuator Width 131 mm, 24V Pulse Motor

| | | | | |
|---------------------------|--|----------------|----------------------------------|--|
| Model Specification Items | RCP2 — GRHB — I — 42P — 2 — 40 — | | | |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — Applicable controller — Cable length — Options | I: Incremental | 42P: Pulse motor, 42□ size | 2: Feed screw lead 2 |
| | | | P1: PCON-PL/PO/SE PSEL | N: None P: 1m S: 3m M: 5m X□□: Custom Length |
| | | | P3: PCON-CA PMEC/PSEP MSEP | See Options below. |

* See page Pre-47 for details on the model descriptions.



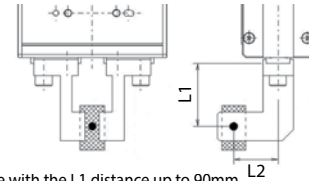
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work piece weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work piece, as well as on the shape of the work piece. As a rough guide, a work piece's weight should not exceed 1/10 to 1/20 of the gripping force. (See page A-86 for details.)
- (3) The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

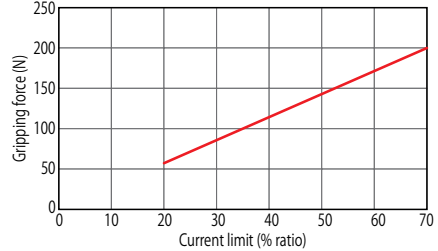
The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Operate with the L1 distance up to 90mm.

* The gripping force value in the graph below is when both L1 and L2 are at 0 mm. (For gripping force reference per L1 distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|----------------------------|--------------------|----------------------------|------------------|
| RCP2-GRHB-I-42P-2-40-①-②-③ | 2 | 200 (100 per side) | 40 (20 per side) |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Stroke | 40 (mm) |
|--------------------|----------------|
| Deceleration ratio | 2 |
| | 100 (per side) |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 40 | — |

② Cable Length

| Type | Cable symbol | Standard price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |

* The standard cable is the motor-encoder integrated robot cable.
* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Cable exit direction (top) | CJT | → A-42 | — |
| Cable exit direction (right) | CJR | → A-42 | — |
| Cable exit direction (left) | CJL | → A-42 | — |
| Cable exit direction (bottom) | CJB | → A-42 | — |
| Flange Bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|---|
| Drive System | Timing belt + trapezoidal screw (2 lead) |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.2mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.15mm or less per side |
| Guide | Linear guide |
| Allowable static load moment (*) | Ma: 15.7 N·m, Mb: 26.4 N·m, Mc: 59.8 N·m |
| Weight | 1.5kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

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

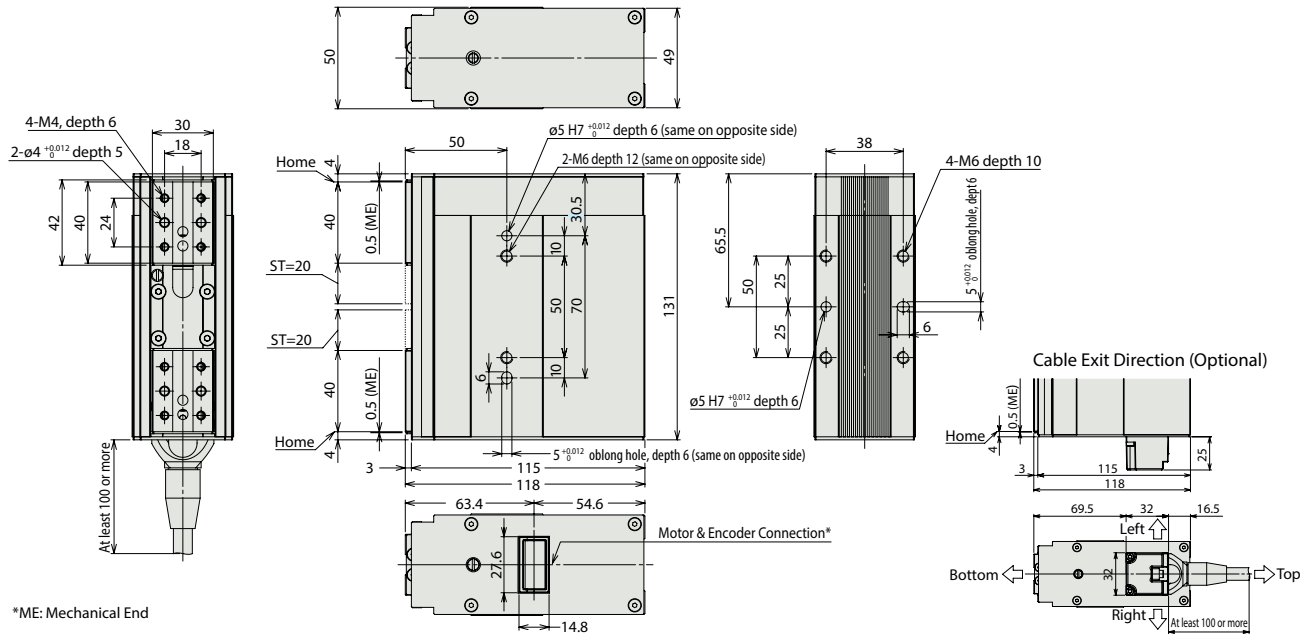
Dimensional Drawings

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

For Special Orders Appendix P.15



* Connect the motor-encoder integrated cable here. (See page A-59 for details on cables.)



*ME: Mechanical End

Weight (kg) 1.5

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | | | | | | | | | | |
|--|---------------|----------------------|---|--------------------------------------|-------------|-----------------------|----------------|----------------|-------|---------------|---|--------|------------|---------------|---|--------|-------|---------------|---|--------|
| Solenoid Valve Type | | PMEC-C-42PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | Refer to P541 | — | → P537 | | | | | | | | | | | | |
| | | PSEP-C-42PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | | | | | | | | | | | | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | | DC24V | Refer to P572 | — | → P563 | | | | | | | | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | | | | | | | | | | | | |
| Positioner type High-output specification | | PCON-CA-42PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | | | | | | | | | | 512 points | | | | | | | |
| Pulse-train type High-output specification | | PCON-CA-42PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | | | | | | DC24V | Refer to P618 | — | → P607 | | | | |
| Field network type High-output specification | | PCON-CA-42PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | | | | | | | | | | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-42PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | | | | | | | | | | | | DC24V | Refer to P628 | — | → P623 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-42PI-①-2-0 | Pulse train input type with open collector support | | | | | | | | | | | | | | | | | |
| Serial Communication Type | | PCON-SE-42PI-N-0-0 | Dedicated Serial Communication | 64 points | DC24V | Refer to P671 | — | → P665 | | | | | | | | | | | | |
| Program Control Type | | PSEL-CS-1-42PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | | | | | | | | | | | | | | | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-GR3LS

ROBO Cylinder, 3-Finger Gripper, Lever Type, Actuator Width 62mm, Pulse Motor

| | | | | |
|---------------------------|--|----------------------------|----------------------------------|--|
| Model Specification Items | RCP2 — GR3LS — I — 28P — 30 — 19 — | | | |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — | Applicable controller | Cable length | Options |
| | I: Incremental * The Simple absolute encoder is also considered type "I". | 28P: Pulse motor, 28□ size | 30: 1/30 deceleration ratio | 19: 19 degrees |
| | | P1: PCON-PL/PO/SE PSEL | P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable |
| | | | | FB: Flange bracket SB: Shaft bracket |

* See page Pre-47 for details on the model descriptions.



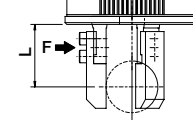
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of all fingers with gripping point distance of 10mm and no overhang distance. For the actual transportable work piece weight, see explanation on the right, or page A-86.
- (3) The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Please note that, when gripping (pushing), the speed is fixed at 5 deg/s.

* The values in the graph below are gripping forces at 10mm gripping point. The actual gripping force decreases inversely proportional to the distance from the opening/closing point.

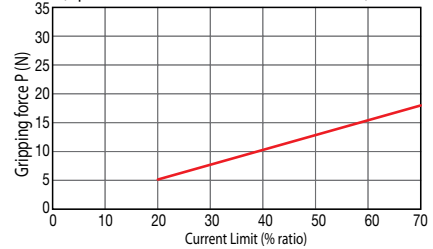
You can calculate the actual gripping force by the following equation.

$$\text{Actual gripping force (GR3LS)} = P \times 24 / (L + 14)$$

P = Gripping force on graph

L = Distance from finger mounting surface to the gripping point.

(Operate with the L1 distance under 50mm.)



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (deg) |
|------------------------------|--------------------|----------------------------|--------------|
| RCP2-GR3LS-I-28P-30-19-①-②-③ | 30 | 18 (6 per side) | 19 |

Stroke and Max. Opening/Closing Speed

| Stroke | 19 (deg) |
|--------------------|----------|
| Deceleration ratio | 200 |
| 30 | |

Code explanation ① Applicable Controller ② Cable length ③ Options (Unit: degrees/s)

Stroke

| Stroke (deg) | Standard price |
|--------------|----------------|
| 19 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------|-------------|----------|----------------|
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Worm gear + worm wheel gear |
| Positioning repeatability | ±0.01 degrees |
| Backlash | 1 degree or less per side (constantly pressed out by a spring) |
| Lost motion | 0.15 degrees or less per side |
| Weight | 0.6kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

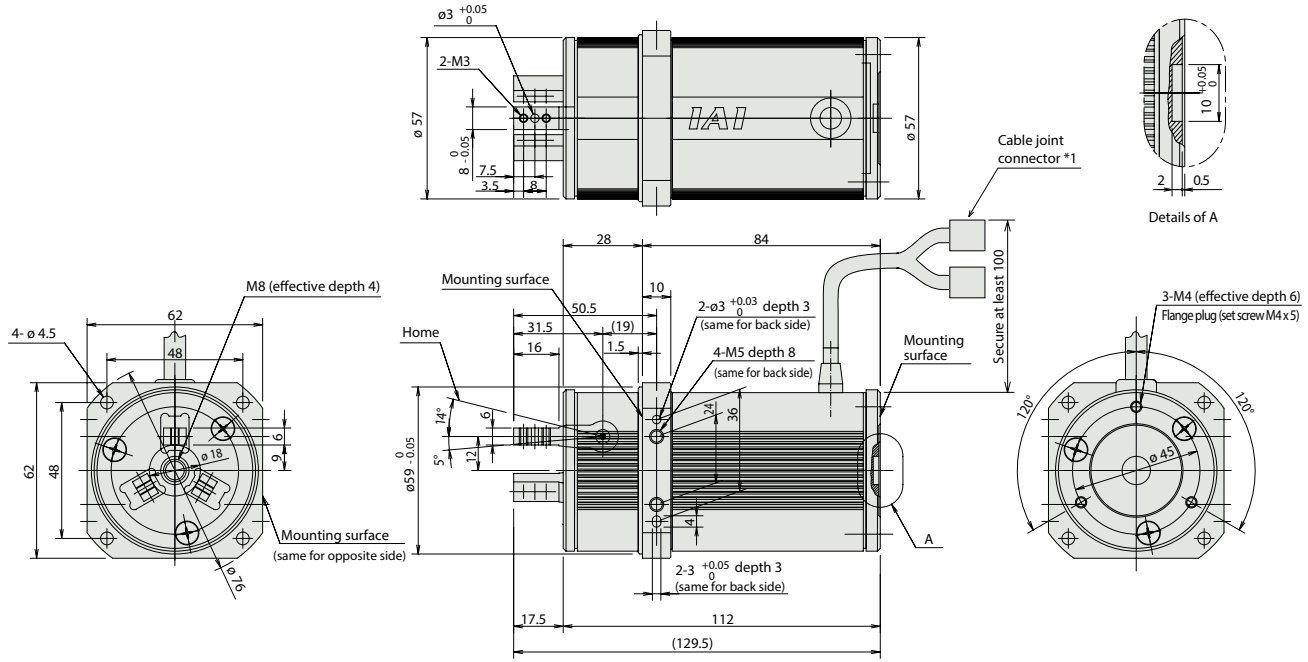


* When homing, the actuator swings 1 degree past the home position before returning. Therefore, please watch for any interference with the surrounding objects.
 (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.

For Special Orders



Appendix P.15



Weight (kg) 0.6

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page |
|--|---------------|-----------------------|---|--------------------------------------|-------------|-----------------------|----------------|----------------|
| Solenoid Valve Type | | PMEC-C-28PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | AC100V | Refer to P541 | — → P537 |
| | | PSEP-C-28PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | AC200V | Refer to P555 | — → P547 |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | Refer to P572 | — → P563 | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-⑤-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | Refer to P618 | — → P607 | |
| Positioner type High-output specification | | PCON-CA-28PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | — | — | |
| Pulse-train type High-output specification | | PCON-CA-28PI-PL-①-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | — | — → P623 | |
| Field network type High-output specification | | PCON-CA-28PI-⑤-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | — | — | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-28PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | Refer to P628 | — → P623 | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-28PI-①-2-0 | Pulse train input type with open collector support | | | Refer to P671 | — → P665 | |
| Serial Communication Type | | PCON-SE-28PI-N-0-0 | Dedicated Serial Communication | 64 points | — | — | | |
| Program Control Type | | PSEL-CS-1-28PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | — | — | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V).
 * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * ⑤ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-GR3LM

ROBO Cylinder, 3-Finger Gripper, Lever Type, Actuator Width 80mm, Pulse Motor

| | | | | | | | | | |
|---------------------------|-------------|--------------|--|----------------------------|-----------------------------|----------------|---|--|---|
| Model Specification Items | RCP2 | GR3LM | I | 42P | 30 | 19 | | | |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Stroke | Applicable controller | Cable length | Options |
| | | | I: Incremental * The Simple absolute encoder is also considered type "I". | 42P: Pulse motor, 42□ size | 30: 1/30 deceleration ratio | 19: 19 degrees | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable | FB: Flange bracket SB: Shaft bracket |

* See page Pre-47 for details on the model descriptions.



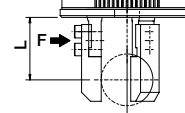
Technical References Appendix P.5



- The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- The maximum gripping force is the sum of the gripping forces of all fingers with gripping point distance of 10mm and no overhang distance. For the actual transportable work piece weight, see explanation on the right, or page A-86.
- The rated acceleration while moving is 0.3G.

Gripping Force Adjustment

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Please note that, when gripping (pushing), the speed is fixed at 5 deg/s.

* The values in the graph below are gripping forces at 10mm gripping point. The actual gripping force decreases inversely proportional to the distance from the opening/closing point.

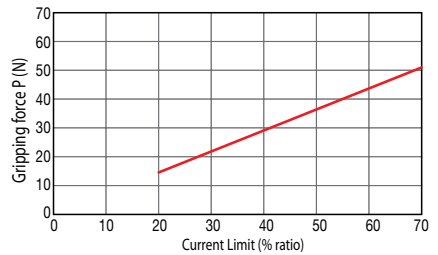
You can calculate the actual gripping force by the following equation.

$$\text{Actual gripping force (GR3LM)} = P \times 28.5 / (L + 18.5)$$

P = Gripping force on graph

L = Distance from finger mounting surface to the gripping point.

(Operate with the L distance up to 80mm.)



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (deg) |
|------------------------------|--------------------|----------------------------|--------------|
| RCP2-GR3LM-I-42P-30-19-①-②-③ | 30 | 51 (17 per side) | 19 |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Deceleration ratio | Stroke | 19 (deg) |
|--------------------|--------|----------|
| | 30 | 200 |

(Unit: degrees/s)

Stroke

| Stroke (deg) | Standard price |
|--------------|----------------|
| 19 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------|-------------|----------|----------------|
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Worm gear + worm wheel gear |
| Positioning repeatability | ±0.01 degrees |
| Backlash | 1 degree or less per side (constantly pressed out by a spring) |
| Lost motion | 0.15 degrees or less per side |
| Weight | 1.1kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

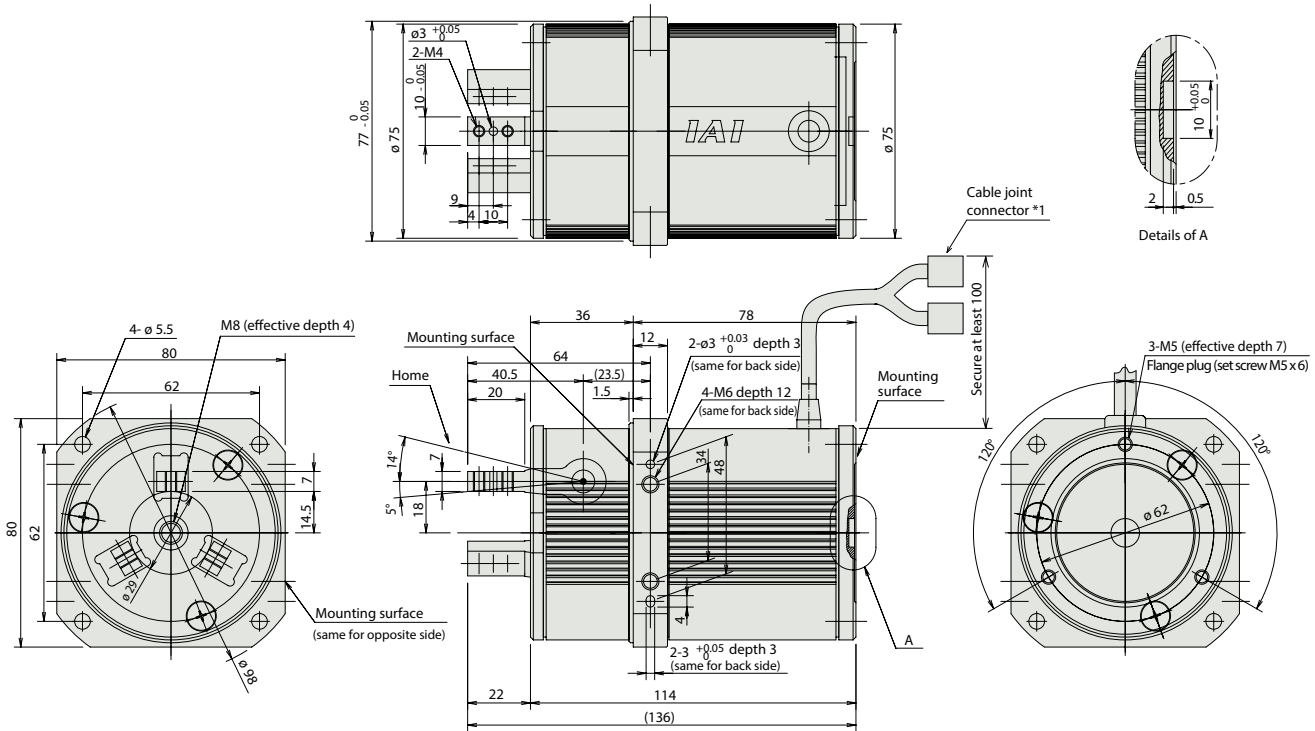


* When homing, the actuator swings 1 degree past the home position before returning. Therefore, please watch for any interference with the surrounding objects.
 (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.

For Special Orders



Appendix P.15



Weight (kg) 1.1

Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | | | | | | | | | | | | | | | | | | |
|--|---------------|-----------------------|---|--------------------------------------|------------------|-----------------------|----------------|----------------|---------------|---|--------------|---------------|---|--------|------------|---------------|---|--------|---------------|---|--------|---|---|---|---|---|---|---|
| Solenoid Valve Type | | PMEC-C-42PI-①-2-①① | Easy-to-use controller, even for beginners | 3 points | AC100V AC200V | Refer to P541 | — | → P537 | | | | | | | | | | | | | | | | | | | | |
| | | PSEP-C-42PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | → P547 | | | | | | | | | | | | | | | | | | | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-①①①-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | DC24V | Refer to P572 | — | → P563 | | | | | | | | | | | | | | | | | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-①①①-①-①-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | | | 512 points | Refer to P618 | — | → P607 | | | | | | | | | | | | | | |
| Positioner type High-output specification | | PCON-CA-42PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | | | | | | | | | | | | 768 points | Refer to P628 | — | → P623 | | | | | | | | | | |
| Pulse-train type High-output specification | | PCON-CA-42PI-PL-①-2-0 | Equipped with a high-output driver Pulse-train input type | 64 points | | | | | | | | | | | | | | | Refer to P671 | — | → P665 | | | | | | | |
| Field network type High-output specification | | PCON-CA-42PI-①-①-0-0 | Equipped with a high-output driver Supporting 7 major field networks | | | | | | | | 1,500 points | | | | | | | | | | | — | — | — | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-42PI-①-2-0 | Pulse train input type with differential line driver support | | | | | | | | | | | | 64 points | | | | | | | | | | — | — | — | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-42PI-①-2-0 | Pulse train input type with open collector support | 1,500 points | | | | | | | — | | | | | | | | | | | | | | | | | — |
| Serial Communication Type | | PCON-SE-42PI-N-0-0 | Dedicated Serial Communication | | 1,500 points | — | — | | | | | | | | — | | | | | | | | | | | | | |
| Program Control Type | | PSEL-CS-1-42PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | | | | | | | | | | | | | | | | | | | | | | | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ①① indicates power supply voltage (1: 100V / 2: 100~240V).
 * ①①① indicates number of axes (1 to 8). * ①①① indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-GR3SS

ROBO Cylinder, 3-Finger Gripper, Slider Type, Actuator Width 62mm, Pulse Motor

| | | | | | | | | | | |
|---------------------------|---|----------------------------|-----------------------------|-------------------------|---|--|---|-----------------------|--------------|---------|
| Model Specification Items | RCP2 — GR3SS — I — 28P — 30 — 10 — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> | Series | Type | Encoder type | Motor type | Deceleration Ratio | Stroke | Applicable controller | Cable length | Options |
| | I: Incremental * The Simple absolute encoder is also considered type "I". | 28P: Pulse motor, 28□ size | 30: 1/30 deceleration ratio | 10: 10mm (5mm per side) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable | FB: Flange bracket SB: Shaft bracket | | | |

* See page Pre-47 for details on the model descriptions.



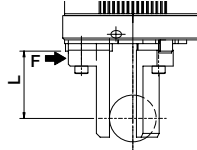
Technical References Appendix P.5



- The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- The maximum gripping force is the sum of the gripping forces of all fingers with gripping point distance of 10mm and no overhang distance. For the actual transportable work piece weight, see explanation on the right, or page A-86.
- The rated acceleration while moving is 0.3G.

Gripping Force vs. Current Limit

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.

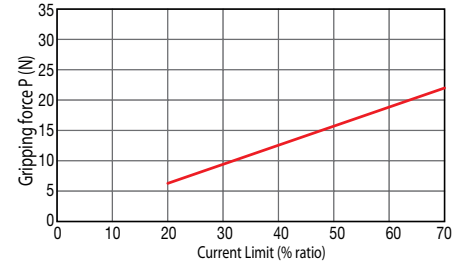


* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

* Operate with the L distance up to 50mm.

* The gripping force value in the graph below is when L is at 0 mm. (For gripping force reference per L distance, see page A-87.)

The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|------------------------------|--------------------|----------------------------|-------------|
| RCP2-GR3SS-I-28P-30-10-①-②-③ | 30 | 22 (7.3 per side) | 10 |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Deceleration ratio | Stroke | 10 (mm) |
|--------------------|--------|---------|
| | 30 | 40 |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 10 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------|-------------|----------|----------------|
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|---|
| Drive System | Worm gear + worm wheel gear |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.3mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.1mm or less per side |
| Guide | Cross roller guide |
| Allowable static load moment | Ma: 3.8 N·m, Mb: 3.8 N·m, Mc: 3.0 N·m |
| Weight | 0.6kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

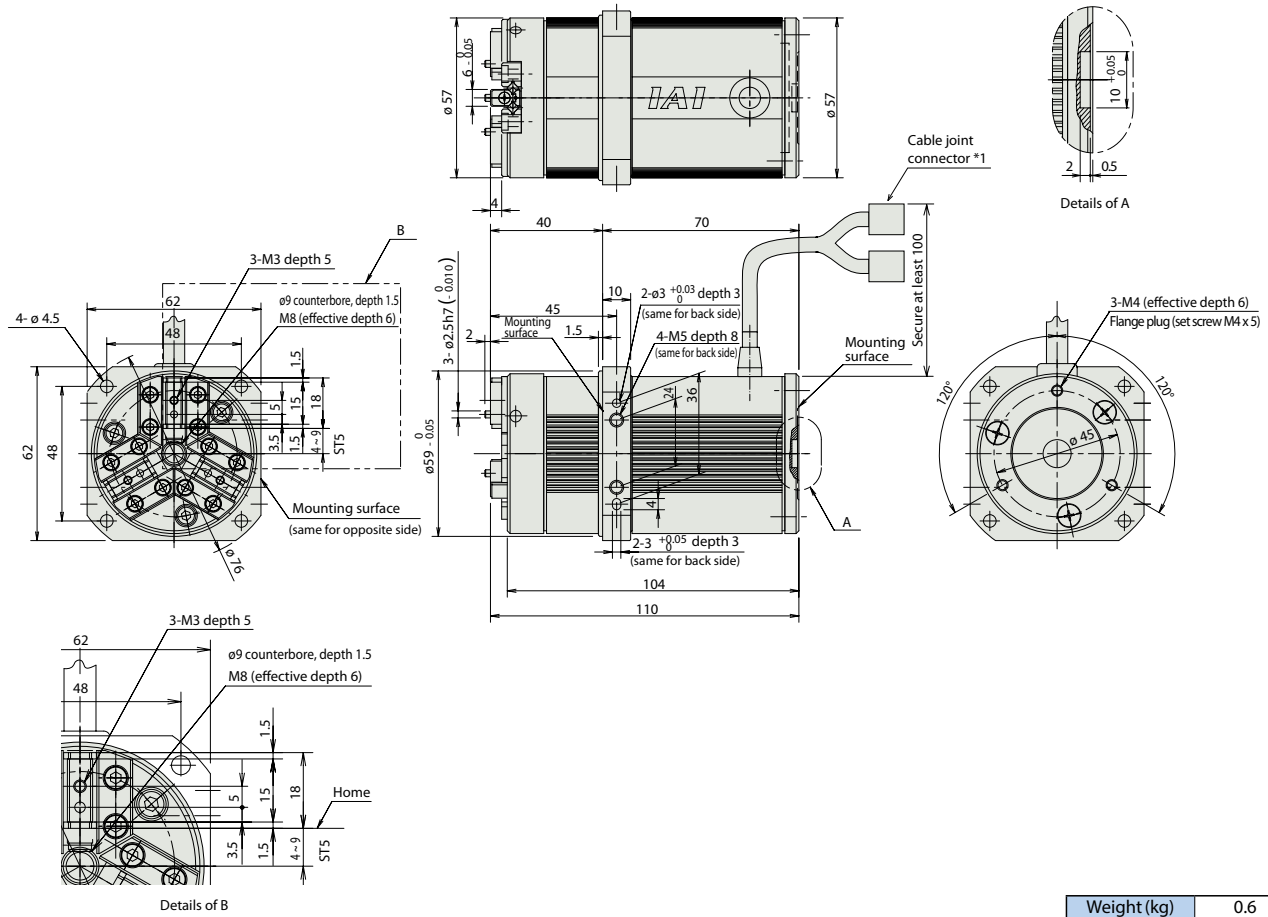
www.intelligentactuator.com

For Special Orders

Appendix P.15



* When homing, the actuator swings 0.5mm past the home position before returning. Therefore, please watch for any interference with the surrounding objects.
 (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.



| | |
|-------------|-----|
| Weight (kg) | 0.6 |
|-------------|-----|

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page |
|--|---------------|----------------------|---|--------------------------------------|---------------|-----------------------|----------------|----------------|
| Solenoid Valve Type | | PMEC-C-28PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | AC100V | Refer to P541 | → P537 |
| | | PSEP-C-28PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | Refer to P555 | → P547 | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | Refer to P572 | → P563 | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | Refer to P618 | → P607 | |
| Positioner type High-output specification | | PCON-CA-28PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | | | 512 points | Refer to P618 | → P607 |
| Pulse-train type High-output specification | | PCON-CA-28PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | Refer to P618 | → P607 | |
| Field network type High-output specification | | PCON-CA-28PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | Refer to P618 | → P607 | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-28PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | DC24V | Refer to P628 | → P623 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-28PI-①-2-0 | Pulse train input type with open collector support | | | | Refer to P628 | → P623 |
| Serial Communication Type | | PCON-SE-28PI-N-0-0 | Dedicated Serial Communication | 64 points | Refer to P671 | | → P665 | |
| Program Control Type | | PSEL-CS-1-28PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | Refer to P671 | | → P665 | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V).
 * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

Slider Type

Mini

Standard

Controllers Integrated

Rod Type

Mini

Standard

Controllers Integrated

Table/Arm/Flat Type

Mini

Standard

Gripper/Rotary Type

Linear Servo Type

Clean-room Type

Splash-Proof Type

Pulse Motor

Servo Motor (24V)

Servo Motor (200V)

Linear Servo Motor

RCP2-GR3SM

ROBO Cylinder, 3-Finger Gripper, Slider Type, Actuator Width 80mm, Pulse Motor

| | | | | |
|---------------------------|--|---|--|---|
| Model Specification Items | RCP2 — GR3SM — I — 42P — 30 — 14 — | | | |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Stroke — | Applicable controller | Cable length | Options |
| | I: Incremental * The Simple absolute encoder is also considered type "I". | 42P: Pulse motor, 42□ size | 30: 1/30 deceleration ratio | 14: 14mm (7mm per side) |
| | | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable | FB: Flange bracket SB: Shaft bracket |

* See page Pre-47 for details on the model descriptions.



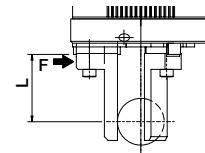
Technical References Appendix P.5



- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of all fingers with gripping point distance of 10mm and no overhang distance. For the actual transportable work piece weight, see explanation on the right, or page A-86.
- (3) The rated acceleration while moving is 0.3G.

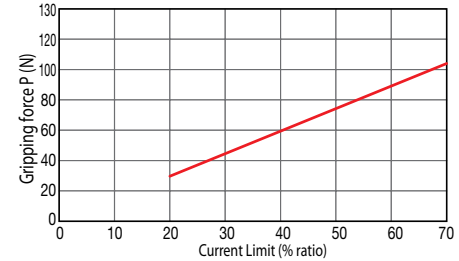
Gripping Force vs. Current Limit

The gripping (pushing) force can be adjusted freely within the range of current limits of 20% to 70%.



* Please note that, when gripping (pushing), the speed is fixed at 5mm/s.

- * Operate with the L distance up to 80mm.
 - * The gripping force value in the graph below is when L is at 0 mm. (For gripping force reference per L distance, see page A-87.)
- The gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows reference numbers. Please allow margins up to ± 15%.

Actuator Specifications

Lead and Payload

| Model number | Deceleration Ratio | Maximum Gripping Force (N) | Stroke (mm) |
|------------------------------|--------------------|----------------------------|-------------|
| RCP2-GR3SM-I-42P-30-14-①-②-③ | 30 | 102 (34 per side) | 14 |

Code explanation ① Applicable Controller ② Cable length ③ Options

Stroke and Max. Opening/Closing Speed

| Stroke / Deceleration ratio | Stroke 14 (mm) |
|-----------------------------|----------------|
| | 30 |

(Unit: mm/s)

Stroke

| Stroke (mm) | Standard price |
|-------------|----------------|
| 14 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------|-------------|----------|----------------|
| Flange bracket | FB | → A-43 | — |
| Shaft bracket | SB | → A-55 | — |

Actuator Specifications

| Item | Description |
|---|---|
| Drive System | Worm gear + worm wheel gear |
| Positioning repeatability | ±0.01mm |
| Backlash | 0.3mm or less per side (constantly pressed out by a spring) |
| Lost motion | 0.1mm or less per side |
| Guide | Cross roller guide |
| Allowable static load moment | Ma: 6.3 N·m, Mb: 6.3 N·m, Mc: 5.7 N·m |
| Weight | 1.2kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

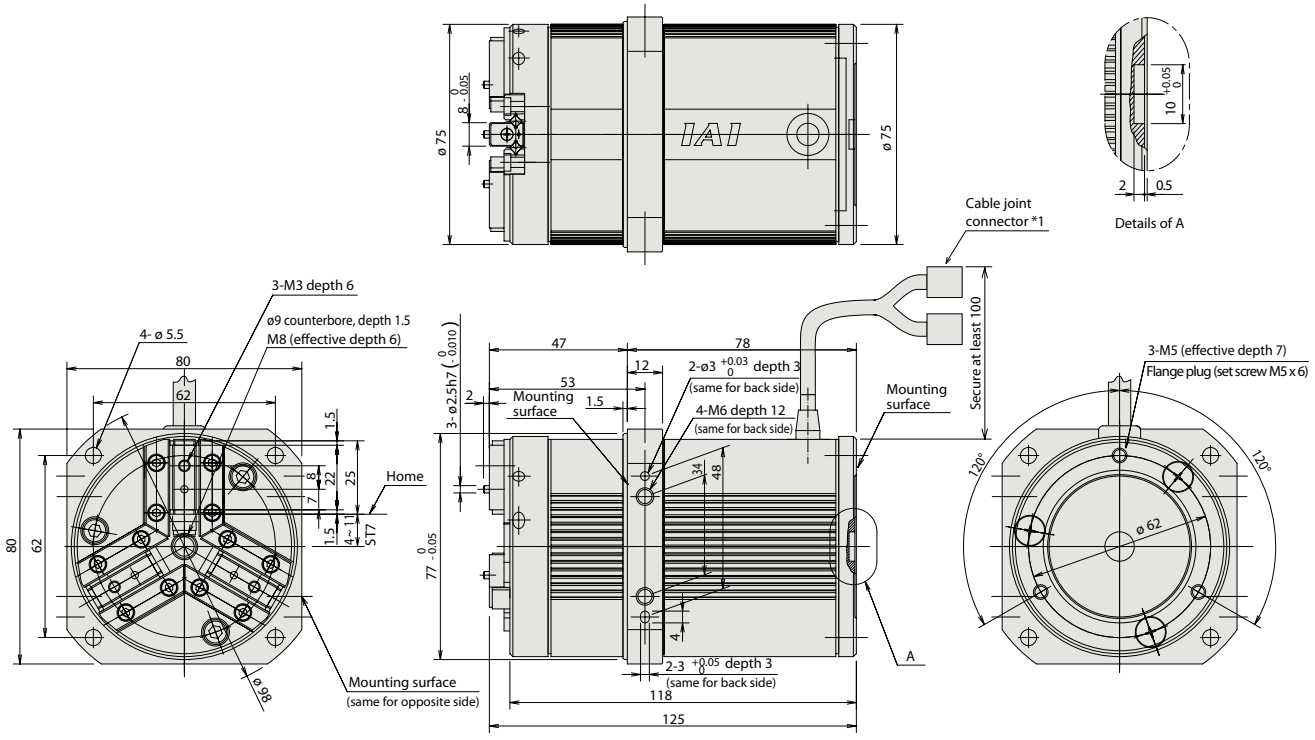
Dimensional Drawings

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



* When homing, the actuator swings 0.5mm past the home position before returning. Therefore, please watch for any interference with the surrounding objects.
 (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.

For Special Orders Appendix P.15



Weight (kg) 1.2

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | | | | | | | | | | |
|--|---------------|----------------------|---|--------------------------------------|-------------|--------------------------------|----------------|------------------|-------|---------------|---|------------------|-------|---------------|---|--------|-------|---------------|---|--------|
| Solenoid Valve Type | | PMEC-C-42PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | Refer to P541 Refer to P555 | — | → P537 → P547 | | | | | | | | | | | | |
| | | PSEP-C-42PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | | | | | | | | | | | | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | | DC24V | Refer to P618 | — | → P563 → P607 | | | | | | | | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | | | | | | | | | | | | |
| Positioner type High-output specification | | PCON-CA-42PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | | | | | | | | DC24V | Refer to P618 | — | → P607 | | | | |
| Pulse-train type High-output specification | | PCON-CA-42PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | | | | | | | | | | | | | |
| Field network type High-output specification | | PCON-CA-42PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | | | | | | | | | | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-42PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | | | | | | | | | | | | DC24V | Refer to P628 | — | → P623 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-42PI-①-2-0 | Pulse train input type with open collector support | | | | | | | | | | | | | | | | | |
| Serial Communication Type | | PCON-SE-42PI-N-0-0 | Dedicated Serial Communication | 64 points | | | | | | | | | | | | | | | | |
| Program Control Type | | PSEL-CS-1-42PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | | | | | | | | | | | | | | | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V).
 * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

RCS2-GR8

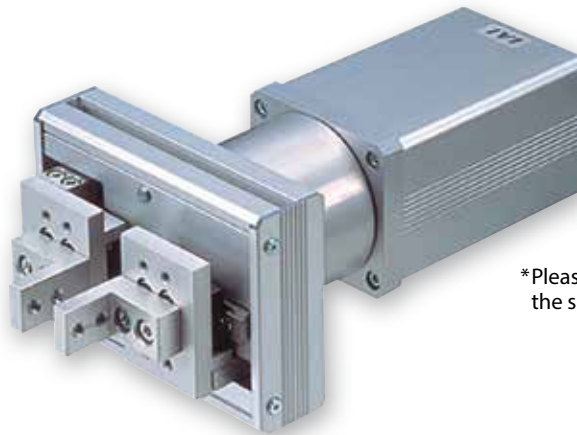
ROBO Cylinder, 2-Finger Gripper, Long Stroke Slider Type, Actuator Width 104 ~ 284mm, 200V servo Motor

| | | | | | | | | | | |
|---------------------------|--|--------|----------------|---------------------|------------|--|---|--|--------------------|---------|
| Model Specification Items | RCP2 — GR8 — I — 60 — 5 — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> | Series | Type | Encoder type | Motor type | Deceleration Ratio | Stroke | Applicable controller | Cable length | Options |
| | | | I: Incremental | 60: 60W Servo motor | 5:1/5 | 20: 20mm 40: 40mm (60): 60mm (80): 80mm 100: 100mm (120): 120mm (200): 200mm | T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S | N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable | See Options below. | |

* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



*Please note that, when gripping (pressing), the speed is fixed at 10mm/s

Technical References Appendix P.5



- (1) Stroke values enclosed in "()" are (60, 80, 120, 200) are semi-standard models.
- (2) The maximum gripping force is the sum of both fingers.

Actuator Specifications

Lead and Payload

| Model number | Motor Output (W) | Deceleration Ratio | Gripping force at a stop (N) (Note 1) | Rated gripping force at a travel (N) (Note 2) | Stroke (mm) |
|-------------------------|------------------|--------------------|---------------------------------------|---|---------------------------------------|
| RCS2-GR8-I-60-5-①-②-③-④ | 60 | 1/5 | 22.5 (11.25 per side) | 31.3 (15.65 per side) | 20, 40, (60), (80), 100, (120), (200) |

Code explanation ① Stroke ② Applicable controller ③ Cable length ④ Options

(Note 1) The value of allowable load at a stop
(Note 2) The value of allowable load when fingers are traveling

① Stroke

| ① Stroke (mm) | Standard price |
|---------------|----------------|
| 20 | — |
| 40 | — |
| (60) | — |
| (80) | — |
| 100 | — |
| (120) | — |
| (200) | — |

③ Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |

* See page A-59 for cables for maintenance.

④ Options

| Name | Option code | See page | Standard price |
|---------------|-------------|----------|----------------|
| CE compliance | CE | → A-42 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Rack and pinion |
| Positioning repeatability | ±0.04mm |
| Lost motion | 0.7mm or less per side |
| Base | Material: Aluminum, white alumite treated |
| Allowable static load moment | Ma: 5.1 N·m, Mb: 5.1 N·m, Mc: 10.4 N·m |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

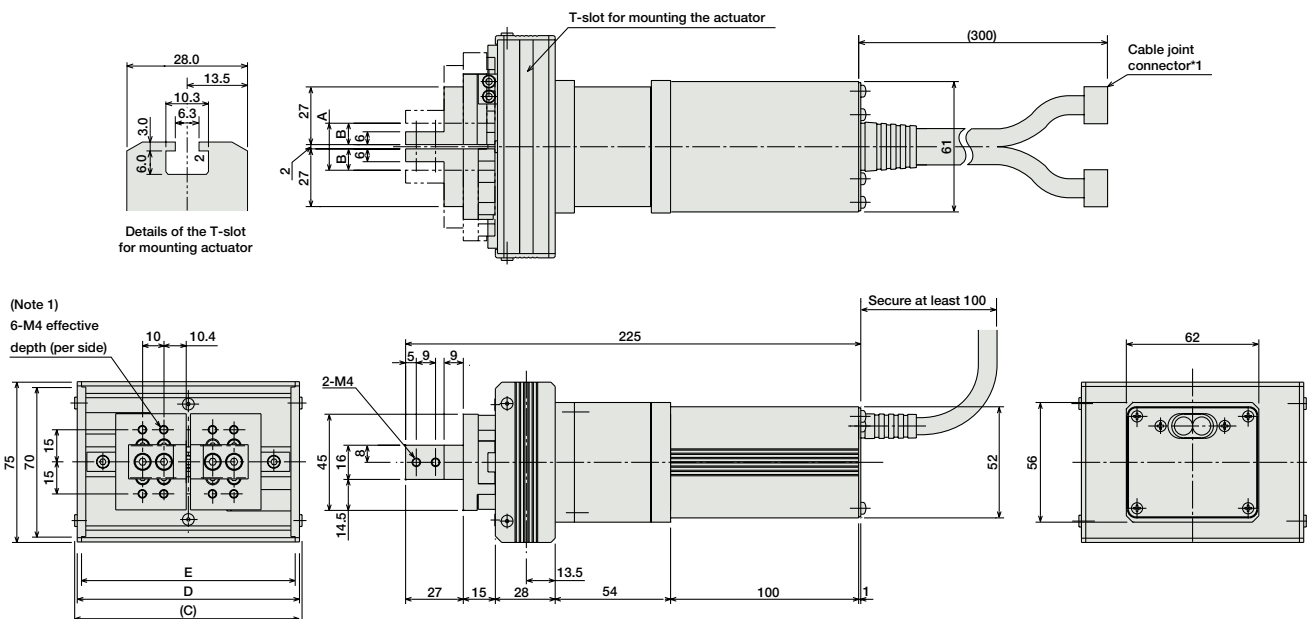
Dimensional Drawings

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

For Special Orders Appendix P.15



*The opening side of the slider is the home position.



(*1) Connect the motor and encoder cables here. See page A-59 for details on cables. (Note 1) The number of tapped holes on the finger mounting plate is for one side. In addition, by default, each finger is secured using 2 tapped holes

Dimensions and Weight by Stroke

| Stroke | 20 | 40 | (60) | (80) | 100 | (120) | (200) |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| A | 22 | 42 | 62 | 82 | 102 | 122 | 202 |
| B | 10 | 20 | 30 | 40 | 50 | 60 | 100 |
| C | 106.4 | 126.4 | 146.4 | 166.4 | 186.4 | 206.4 | 286.4 |
| D | 104 | 124 | 144 | 164 | 184 | 204 | 284 |
| E | 100 | 120 | 140 | 160 | 180 | 200 | 280 |
| Weight (kg) | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.3 |

*1 The strokes enclosed in "()" are semi-standard configurations, and will require longer delivery time.

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power supply capacity | Standard price | Reference page | | |
|-------------------------------------|---------------|-------------------------|---|--|--|---|----------------|----------------|---|--------|
| Positioner mode | | SCON-CA-60I-NP-2-① | Up to 512 positioning points are supported. | 512 points | Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P643 | | |
| Solenoid valve mode | | | Actuators can be operated through the same control used for solenoid valves. | 7 points | | | | | | |
| Field network type | | | Movement by numerical specification is supported. | 768 points | | | | | | |
| Pulse-train input control type | | | Dedicated pulse-train input type | (-) | | | | | | |
| Positioner multi-axis, network type | | MSCON-C-1-60-NP-0-① | Up to 6 axes can be operated. Movement by numerical specification is supported. | 256 points | 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P655 | | |
| Program control type, 1 to 2 axes | | SSEL-CS-1-60I-NP-2-① | Program operation is supported. Up to 2 axes can be operated. | 20,000 points | | | | | — | → P685 |
| Program control type, 1 to 8 axes | | XSEL-①-1-60I-N1-EEE-2-① | Program operation is supported. Up to 8 axes can be operated. | Varies depending on the number of axis connected | | | | | — | → P695 |

* This is for the single-axis MSCON, SSEL, and XSEL.
 * ① indicates the XSEL type (J / K / P / Q / R / S).
 * ② indicates field network specification symbol.

* ① indicates the power-supply voltage type (1: 100 V / 2: Single-phase 200 V).
 * ② indicates the power-supply voltage type (1: 100 V / 2: Single-phase 200 V / 3: Three-phase 200 V).

RCP2-RTBS/RTBSL

ROBO Cylinder, Rotary, Small Vertical Type, Actuator Width 45mm, Pulse Motor

| | |
|---------------------------|---|
| Model Specification Items | RCP2 — <input type="checkbox"/> — I — 20P — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> — <input type="checkbox"/> |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Oscillation Angle — Applicable controller — Cable length — Options |
| | RTBS: 330-deg rotation RTBSL: Multiple rotation |
| | I: Incremental rotation * The Simple absolute encoder is also considered type "I". |
| | 20P: Pulse motor, 20□ size |
| | 30: 1/30 deceleration ratio 45: 1/45 deceleration ratio |
| | 330: 330-degrees (RTBS only) 360: 360-degrees (RTBSL only) |
| | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP |
| | N: None P: 1m S: 3m M: 5m X□□: Custom length |
| | NM: Non-motor end SA: Shaft adapter TA: Table adapter |

* See page Pre-47 for details on the model descriptions.



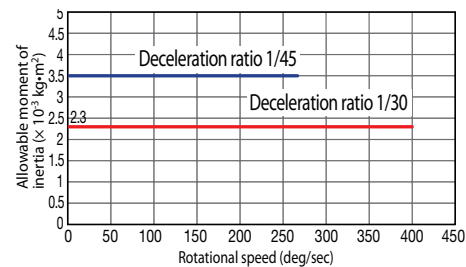
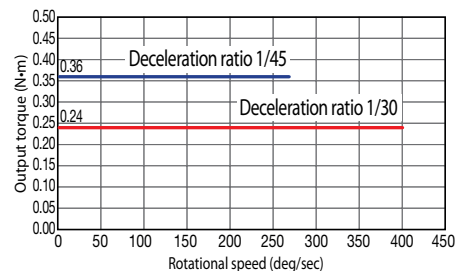
Technical References Appendix P.5



- (1) The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.
- (2) The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.
- (3) The rated acceleration while moving is 0.2G.
- (4) Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

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

Leads and Payload

| Model number | Deceleration Ratio | Max. Torque (N · m) | Allowable Movement of Inertia (kg · m ²) | Oscillation Angle (deg) |
|-------------------------------|--------------------|---------------------|--|-------------------------|
| RCP2-RTBS-I-20P-30-330-①-②-③ | 1/30 | 0.24 | 0.0023 | 330 |
| RCP2-RTBS-I-20P-45-330-①-②-③ | 1/45 | 0.36 | 0.0035 | |
| RCP2-RTBSL-I-20P-30-360-①-②-③ | 1/30 | 0.24 | 0.0023 | 360 |
| RCP2-RTBSL-I-20P-45-360-①-②-③ | 1/45 | 0.36 | 0.0035 | |

Deceleration Ratio and Max. Speed

| Stroke | 330/360 (deg) |
|-------------------------|---------------|
| Deceleration ratio 1/30 | 400 |
| Deceleration ratio 1/45 | 266 |

(Unit: degrees/s)

Code explanation ① Applicable Controller ② Cable Length ③ Options

Stroke

| Type | Oscillation Angle (deg) | Standard price |
|-------|-------------------------|----------------|
| RTBS | 330 | — |
| RTBSL | 360 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | — | — |

* The standard cable is the motor-encoder integrated robot cable.
* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------|-------------|----------|----------------|
| Reversed-rotation | NM | → A-52 | — |
| Shaft adapter | SA | → A-54 | — |
| Table adapter | TA | → A-56 | — |

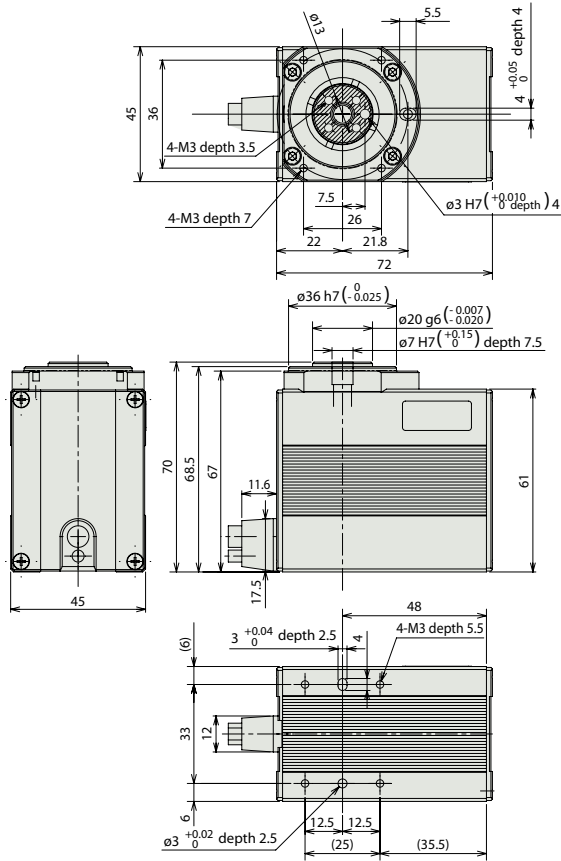
Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Hypoid gear |
| Positioning repeatability | ±0.05 degrees |
| Homing accuracy | ±0.05 degrees |
| Lost motion | ±0.1 degrees |
| Allowable thrust load | 30N |
| Allowable load moment | 3.6 N·m |
| Weight | 0.52kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

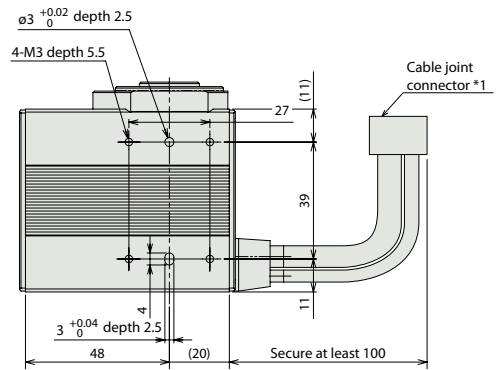
CAD drawings can be downloaded from the website. www.intelligentactuator.com

For Special Orders  Appendix P.15



Note:
* In the 2D drawing on the left, the shaded area indicates the rotating part.

(*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.



Note:
The position shown in the top view of the drawing is the home position for both the standard type and reversed rotation type (Option "-NM"). Looking from above, the standard type will rotate counter clockwise during homing, and it then moves clockwise afterward. The reverse rotation type will move clockwise during homing and then moves counter clockwise afterward. Please be aware that the homing direction cannot be changed after shipment. Please refer to the Appendix for the details.

Weight (kg) 0.52

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page |
|--|---------------|----------------------|---|--------------------------------------|---------------|-----------------------|----------------|----------------|
| Solenoid Valve Type | | PMEC-C-20PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | AC100V | Refer to P541 | → P537 |
| | | PSEP-C-20PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | Refer to P555 | → P547 | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-①①①-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | Refer to P572 | → P563 | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-①①①-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | |
| Positioner type High-output specification | | PCON-CA-20PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | Refer to P618 | → P607 | |
| Pulse-train type High-output specification | | PCON-CA-20PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | |
| Field network type High-output specification | | PCON-CA-20PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-20PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | Refer to P628 | → P623 | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-20PI-①-2-0 | Pulse train input type with open collector support | | | | | |
| Serial Communication Type | | PCON-SE-20PI-N-0-0 | Dedicated Serial Communication | 64 points | Refer to P671 | → P665 | | |
| Program Control Type | | PSEL-CS-1-20PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | Refer to P671 | → P665 | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ④ indicates power supply voltage (1: 100V / 2: 100~240V). * ①①① indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-RTCS/RTCSL

ROBO Cylinder, Rotary, Small Flat Type, Actuator Width 72mm, Pulse Motor

| | | | | | | | | | | | | | |
|---------------------------|--|--|----------------------------|--|---|---|--|---|---------|---|---|---|---|
| Model Specification Items | RCP2 | — | — | I | — | 20P | — | — | — | — | — | — | — |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length | Options | | | | |
| | RTCS: 330-deg rotation RTCSL: Multiple rotation | I: Incremental * The Simple absolute encoder is also considered type "I". | 20P: Pulse motor, 20□ size | 30: 1/30 deceleration ratio 45: 1/45 deceleration ratio | 330: 330-degrees (RTCS only) 360: 360-degrees (RTCSL only) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□□: Custom length | NM: Non-motor end SA: Shaft adapter TA: Table adapter | | | | | |

* See page Pre-47 for details on the model descriptions.



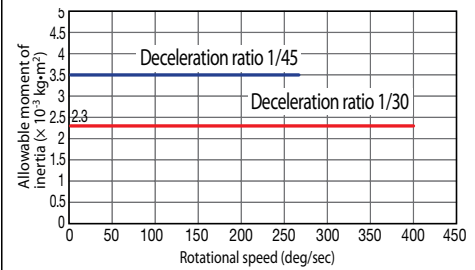
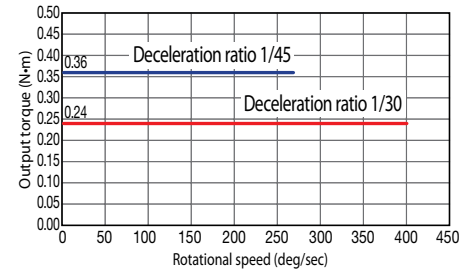
Technical References Appendix P.5



- (1) The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.
- (2) The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.
- (3) The rated acceleration while moving is 0.2G.
- (4) Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

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

Leads and Payload

| Model number | Deceleration Ratio | Max. Torque (N·m) | Allowable Movement of Inertia (kg·m ²) | Oscillation Angle (deg) |
|-------------------------------|--------------------|-------------------|--|-------------------------|
| RCP2-RTCS-I-20P-30-330-①-②-③ | 1/30 | 0.24 | 0.0023 | 330 |
| RCP2-RTCS-I-20P-45-330-①-②-③ | 1/45 | 0.36 | 0.0035 | |
| RCP2-RTCSL-I-20P-30-360-①-②-③ | 1/30 | 0.24 | 0.0023 | 360 |
| RCP2-RTCSL-I-20P-45-360-①-②-③ | 1/45 | 0.36 | 0.0035 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 330/360 (deg) |
|--------------------|--------|---------------|
| | 1/30 | 400 |
| 1/45 | 266 | |

(Unit: degrees/s)

Code explanation ① Applicable Controller ② Cable Length ③ Options

Stroke

| Type | Oscillation Angle (deg) | Standard price |
|-------|-------------------------|----------------|
| RTCS | 330 | — |
| RTCSL | 360 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|-------------------------|-----------------------|----------------|
| Standard (Robot Cables) | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | | |

* The standard cable is the motor-encoder integrated robot cable.

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------|-------------|----------|----------------|
| Reversed-rotation | NM | → A-52 | — |
| Shaft adapter | SA | → A-54 | — |
| Table adapter | TA | → A-56 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Hypoid gear |
| Positioning repeatability | ±0.05 degrees |
| Homing accuracy | ±0.05 degrees |
| Lost motion | ±0.1 degrees |
| Allowable thrust load | 30N |
| Allowable load moment | 3.6 N·m |
| Weight | 0.48kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

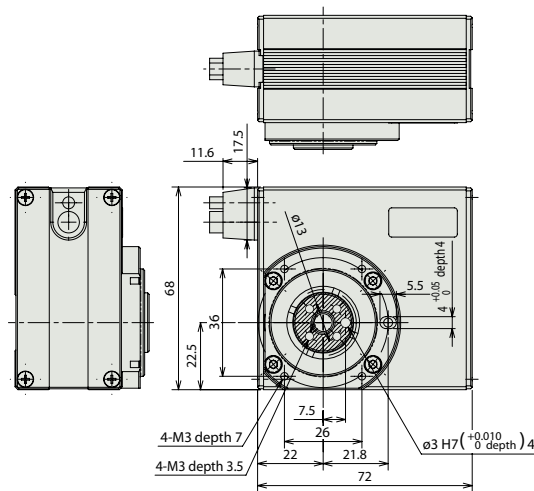
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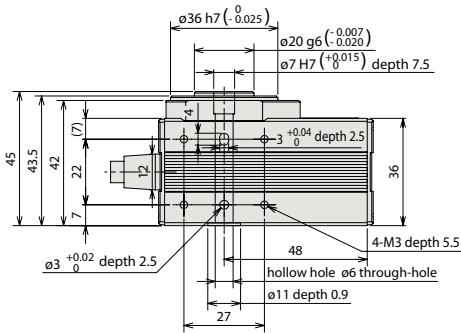
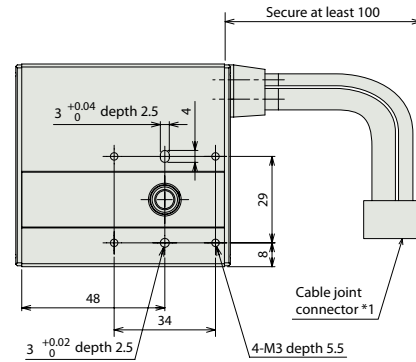
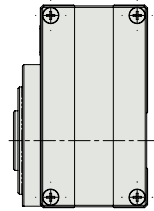


Appendix P.15



Note:
* In the 2D drawing on the left, the shaded area indicates the rotating part.

(*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.



Note:
The position shown in the top view of the drawing is the home position for both the standard type and reversed rotation type (Option "-NM"). Looking from above, the standard type will rotate counter clockwise during homing, and it then moves clockwise afterward. The reverse rotation type will move clockwise during homing and then moves counter clockwise afterward. Please be aware that the homing direction cannot be changed after shipment. Please refer to the Appendix for the details.

Weight (kg) 0.48

Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | | | | | |
|--|---------------|-----------------------|---|--------------------------------------|------------------|-----------------------|----------------|----------------|---------------|---|---------------|---|---|--------|--------|
| Solenoid Valve Type | | PMEC-C-20PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | AC100V AC200V | Refer to P541 | — | → P537 | | | | | | | |
| | | PSEP-C-20PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | → P547 | | | | | | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | DC24V | Refer to P618 | — | → P563 | | | | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④V-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | | | → P607 | | | | |
| Positioner type High-output specification | | PCON-CA-20PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | | | | | | Refer to P628 | — | — | → P623 | |
| Pulse-train type High-output specification | | PCON-CA-20PI-PL-□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | | | | | | | | |
| Field network type High-output specification | | PCON-CA-20PI-④V-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | | | | | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-20PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | | | | | | | | | | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-20PI-①-2-0 | Pulse train input type with open collector support | | | | | | | | | | | | |
| Serial Communication Type | | PCON-SE-20PI-N-0-0 | Dedicated Serial Communication | 64 points | Refer to P671 | — | — | | | | | | | | → P665 |
| Program Control Type | | PSEL-CS-1-20PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | | | | | | | | | | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-RTB/RTBL

ROBO Cylinder, Rotary, Medium Vertical Type, Actuator Width 50mm, Pulse Motor

| | | | | | | | | |
|---------------------------|--|---|----------------------------|--|---|---|--|---|
| Model Specification Items | RCP2 | I | 28P | | | | | |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length |
| | RTB: 330-deg rotation RTBL: Multiple rotation | I: Incremental rotation * The Simple absolute encoder is also considered type "I". | 28P: Pulse motor, 28□ size | 20: 1/20 deceleration ratio 30: 1/30 deceleration ratio | 330: 330-degrees (RTB only) 360: 360-degrees (RTBL only) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable | NM: Non-motor end SA: Shaft adapter TA: Table adapter |

* See page Pre-47 for details on the model descriptions.



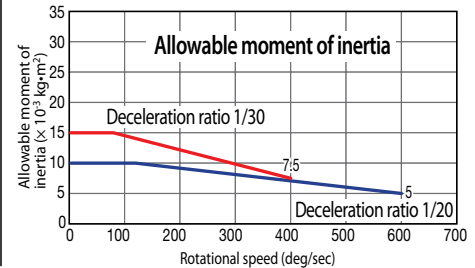
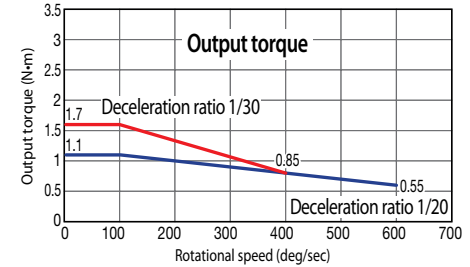
Technical References Appendix P.5



- The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.
- The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.
- The rated acceleration while moving is 0.3G.
- Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

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

Leads and Payload

| Model number | Deceleration Ratio | Max. Torque (N·m) | Allowable Movement of Inertia (kg·m ²) | Oscillation Angle (deg) |
|------------------------------|--------------------|-------------------|--|-------------------------|
| RCP2-RTB-I-28P-20-330-①-②-③ | 1/20 | 1.1 | 0.01 | 330 |
| RCP2-RTB-I-28P-30-330-①-②-③ | 1/30 | 1.7 | 0.015 | |
| RCP2-RTBL-I-28P-20-360-①-②-③ | 1/20 | 1.1 | 0.01 | 360 |
| RCP2-RTBL-I-28P-30-360-①-②-③ | 1/30 | 1.7 | 0.015 | |

Code explanation ① Applicable Controller ② Cable Length ③ Options

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 330/360 (deg) |
|--------------------|--------|---------------|
| | 1/20 | 600 |
| 1/30 | 400 | |

(Unit: degrees/s)

Stroke

| Type | Oscillation Angle (deg) | Standard price |
|------|-------------------------|----------------|
| RTB | 330 | — |
| RTBL | 360 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | 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-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------|-------------|----------|----------------|
| Reversed-rotation | NM | → A-52 | — |
| Shaft adapter | SA | → A-54 | — |
| Table adapter | TA | → A-56 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Hypoid gear |
| Positioning repeatability | ±0.01 degrees |
| Homing accuracy | ±0.01 degrees (RTB) / ±0.05 (RTBL) |
| Lost motion | ±0.1 degrees |
| Allowable thrust load | 50N |
| Allowable load moment | 3.9 N·m |
| Weight | 0.86kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

RCP2-RTC/RTCL

ROBO Cylinder, Rotary, Medium Flat Type, Actuator Width 88mm, Pulse Motor

| | | | | | | | | | | | | | | | | | |
|---------------------------|--|---|----------------------------|--|---|---|--|---|---------|---|---|---|---|---|---|---|---|
| Model Specification Items | RCP2 | — | □ | — | I | — | 28P | — | □ | — | □ | — | □ | — | □ | — | □ |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length | Options | | | | | | | | |
| | RTC: 330-deg rotation RTCL: Multiple rotation | I: Incremental rotation * The Simple absolute encoder is also considered type "I". | 28P: Pulse motor, 28□ size | 20: 1/20 deceleration ratio 30: 1/30 deceleration ratio | 330: 330-degrees (RTC only) 360: 360-degrees (RTCL only) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable | NM: Non-motor end SA: Shaft adapter TA: Table adapter | | | | | | | | | |

* See page Pre-47 for details on the model descriptions.



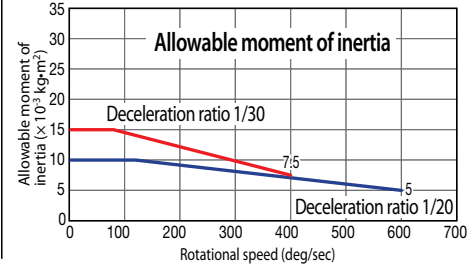
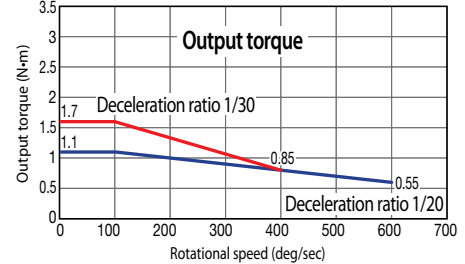
Technical References Appendix P.5



- (1) The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.
- (2) The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.
- (3) The rated acceleration while moving is 0.3G.
- (4) Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

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

Leads and Payload

| Model number | Deceleration Ratio | Max. Torque (N·m) | Allowable Movement of Inertia (kg·m ²) | Oscillation Angle (deg) |
|------------------------------|--------------------|-------------------|--|-------------------------|
| RCP2-RTC-I-28P-20-330-①-②-③ | 1/20 | 1.1 | 0.01 | 330 |
| RCP2-RTC-I-28P-30-330-①-②-③ | 1/30 | 1.7 | 0.015 | |
| RCP2-RTCL-I-28P-20-360-①-②-③ | 1/20 | 1.1 | 0.01 | 360 |
| RCP2-RTCL-I-28P-30-360-①-②-③ | 1/30 | 1.7 | 0.015 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 330/360 (deg) |
|--------------------|--------|---------------|
| | 1/20 | 600 |
| 1/30 | 400 | |

(Unit: degrees/s)

Code explanation ① Applicable Controller ② Cable Length ③ Options

Stroke

| Type | Oscillation Angle (deg) | Standard price |
|------|-------------------------|----------------|
| RTC | 330 | — |
| RTCL | 360 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | X06 (6m) ~ X20 (20m) | — |
| Robot Cable | R01 (1m) ~ R03 (3m) | — |
| | R04 (4m) ~ R05 (5m) | — |
| | R06 (6m) ~ R10 (10m) | — |
| | R11 (11m) ~ R15 (15m) | — |
| | R16 (16m) ~ R20 (20m) | — |
| | R16 (16m) ~ R20 (20m) | — |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------|-------------|----------|----------------|
| Reversed-rotation | NM | → A-52 | — |
| Shaft adapter | SA | → A-54 | — |
| Table adapter | TA | → A-56 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Hypoid gear |
| Positioning repeatability | ±0.01 degrees |
| Homming accuracy | ±0.01 degrees (RTC) / ±0.05 (RTCL) |
| Lost motion | ±0.1 degrees |
| Allowable thrust load | 50N |
| Allowable load moment | 3.9 N·m |
| Weight | 0.92kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

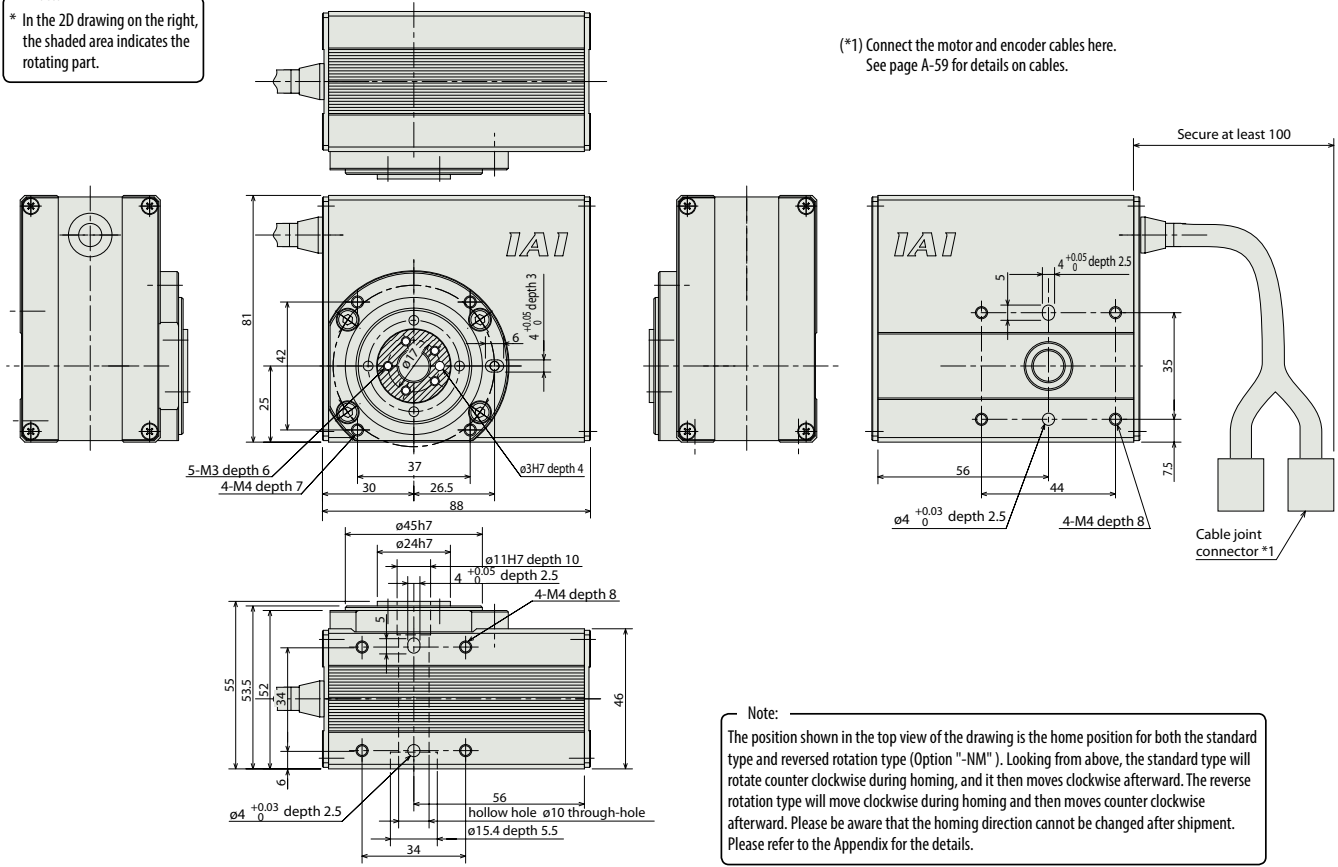
CAD drawings can be downloaded from the website. www.intelligentactuator.com



For Special Orders Appendix P.15

Note:
* In the 2D drawing on the right, the shaded area indicates the rotating part.

(*1) Connect the motor and encoder cables here. See page A-59 for details on cables.



Note:
The position shown in the top view of the drawing is the home position for both the standard type and reversed rotation type (Option "-NM"). Looking from above, the standard type will rotate counter clockwise during homing, and it then moves clockwise afterward. The reverse rotation type will move clockwise during homing and then moves counter clockwise afterward. Please be aware that the homing direction cannot be changed after shipment. Please refer to the Appendix for the details.

*The bend radius R of the cable is the same as other models.

Weight (kg) 0.92

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page | | | |
|--|---------------|------------------------|---|--------------------------------------|-------------|-----------------------|----------------|----------------|---------------|---|--------|
| Solenoid Valve Type | | PMEC-C-28PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | Refer to P541 | — | → P537 | | | |
| | | PSEP-C-28PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | | | | → P547 | | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-⑤-⑥-⑦-⑧-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | | | | Refer to P572 | — | → P563 |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-⑤-⑥-⑦-⑧-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | | Refer to P618 | — | → P607 |
| Positioner type High-output specification | | PCON-CA-28PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | | | | Refer to P628 | — | → P623 |
| Pulse-train type High-output specification | | PCON-CA-28PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | | | — | |
| Field network type High-output specification | | PCON-CA-28PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | | | — | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-28PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | | | | Refer to P671 | — | → P665 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-28PI-①-2-0 | Pulse train input type with open collector support | | | | | | | — | |
| Serial Communication Type | | PCON-SE-28PI-N-0-0 | Dedicated Serial Communication | 64 points | — | — | — | | | | |
| Program Control Type | | PSEL-CS-1-28PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | — | — | — | | | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-RTBB/RTBBL

ROBO Cylinder, Rotary, Large Vertical Type, Actuator Width 76mm, Pulse Motor

| | | | | | | | | |
|---------------------------|--|--|----------------------------|--|---|---|--|---|
| Model Specification Items | RCP2 | I | 35P | | | | | |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length |
| | RTBB: 330-deg rotation RTBBL: Multiple rotation | I: Incremental * The Simple absolute encoder is also considered type "I". | 35P: Pulse motor, 35□ size | 20: 1/20 deceleration ratio 30: 1/30 deceleration ratio | 330: 330-degrees (RTBB only) 360: 360-degrees (RTBBL only) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable | NM: Non-motor end SA: Shaft adapter TA: Table adapter |

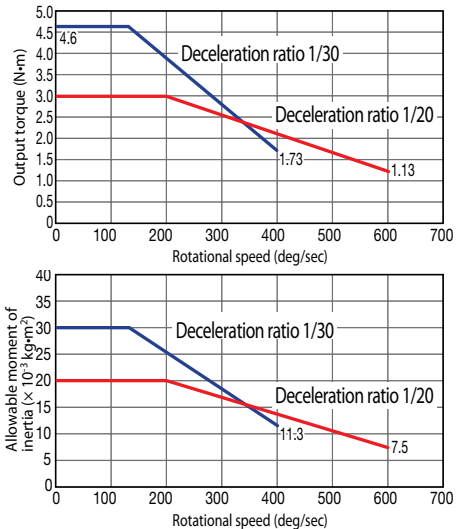
* See page Pre-47 for details on the model descriptions.



Technical References Appendix P.5

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.



- POINT** Notes on selection
- The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.
 - The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.
 - The rated acceleration while moving is 0.3G.
 - Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

Actuator Specifications

Leads and Payload

| Model number | Deceleration Ratio | Max. Torque (N·m) | Allowable Movement of Inertia (kg·m ²) | Oscillation Angle (deg) |
|-------------------------------|--------------------|-------------------|--|-------------------------|
| RCP2-RTBB-I-35P-20-330-①-②-③ | 1/20 | 3.0 | 0.02 | 330 |
| RCP2-RTBB-I-35P-30-330-①-②-③ | 1/30 | 4.6 | 0.03 | |
| RCP2-RTBBL-I-35P-20-360-①-②-③ | 1/20 | 3.0 | 0.02 | 360 |
| RCP2-RTBBL-I-35P-30-360-①-②-③ | 1/30 | 4.6 | 0.03 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 330/360 (deg) |
|--------------------|--------|---------------|
| | 1/20 | 600 |
| 1/30 | 400 | |

(Unit: degrees/s)

Code explanation ① Applicable Controller ② Cable Length ③ Options

Stroke

| Type | Oscillation Angle (deg) | Standard price |
|-------|-------------------------|----------------|
| RTBB | 330 | — |
| RTBBL | 360 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | — |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|-------------------|-------------|----------|----------------|
| Reversed-rotation | NM | → A-52 | — |
| Shaft adapter | SA | → A-54 | — |
| Table adapter | TA | → A-56 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Hypoid gear |
| Positioning repeatability | ±0.01 degrees |
| Homming accuracy | ±0.01 degrees (RTBB) / ±0.03 (RTBBL) |
| Lost motion | ±0.1 degrees |
| Allowable thrust load | 200N |
| Allowable load moment | 17.7 N·m |
| Weight | 2.3kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

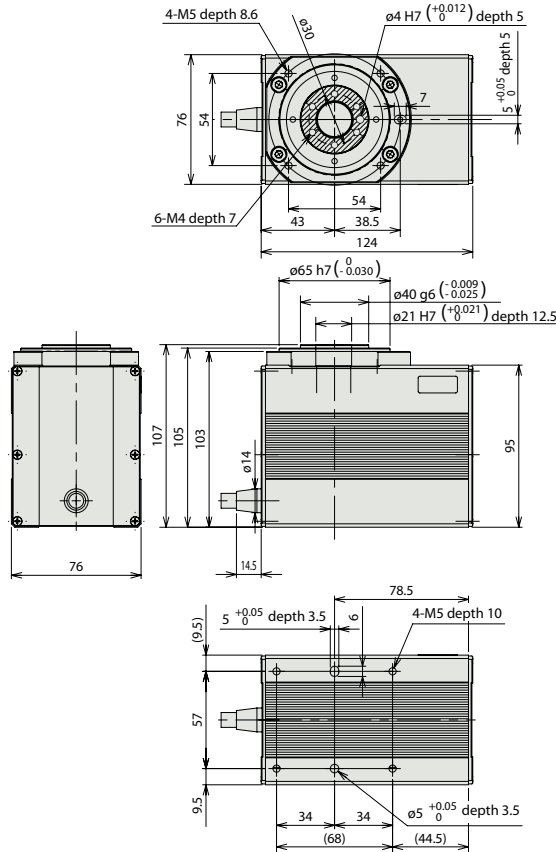
Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

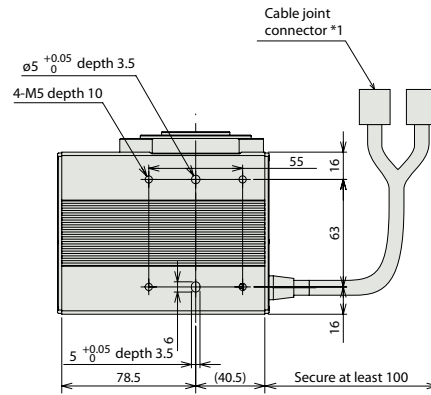
For Special Orders

Appendix P.15



Note:
* In the 2D drawing on the left, the shaded area indicates the rotating part.

(*1) Connect the motor and encoder cables here. See page A-59 for details on cables.



Note:
The position shown in the top view of the drawing is the home position for both the standard type and reversed rotation type (Option "-NM"). Looking from above, the standard type will rotate counter clockwise during homing, and it then moves clockwise afterward. The reverse rotation type will move clockwise during homing and then moves counter clockwise afterward. Please be aware that the homing direction cannot be changed after shipment. Please refer to the Appendix for the details.

Weight (kg) 2.3

Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page |
|--|---------------|----------------------|---|--------------------------------------|---------------|-----------------------|----------------|----------------|
| Solenoid Valve Type | | PMEC-C-35PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | Refer to P541 | — | → P537 |
| | | PSEP-C-35PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | Refer to P555 | — | → P547 |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | Refer to P572 | — | → P563 |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | — | — | — |
| Positioner type High-output specification | | PCON-CA-35PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | Refer to P618 | — | → P607 |
| Pulse-train type High-output specification | | PCON-CA-35PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | — | |
| Field network type High-output specification | | PCON-CA-35PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | — | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-35PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | Refer to P628 | — | → P623 |
| Pulse Train Input Type (Open Collector) | | PCON-PO-35PI-①-2-0 | Pulse train input type with open collector support | | | | — | |
| Serial Communication Type | | PCON-SE-35PI-N-0-0 | Dedicated Serial Communication | 64 points | — | — | — | |
| Program Control Type | | PSEL-CS-1-35PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | Refer to P671 | — | → P665 | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCP2-RTCB/RTCBL

ROBO Cylinder, Rotary, Large Flat Type, Actuator Width 124mm, Pulse Motor

| | | | | | | | | | |
|---------------------------|--|---|----------------------------|--|---|---|--|---|--------------------------|
| Model Specification Items | RCP2 | <input type="checkbox"/> | I | 35P | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length | Options |
| | RTCB: 330-deg rotation RTCBL: Multiple rotation | I: Incremental rotation * The Simple absolute encoder is also considered type "I". | 35P: Pulse motor, 35□ size | 20: 1/20 deceleration ratio 30: 1/30 deceleration ratio | 330: 330-degrees (RTCB only) 360: 360-degrees (RTCBL only) | P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP | N: None P: 1m S: 3m M: 5m X□: Custom length R□: Robot cable | NM: Non-motor end SA: Shaft adapter TA: Table adapter | |

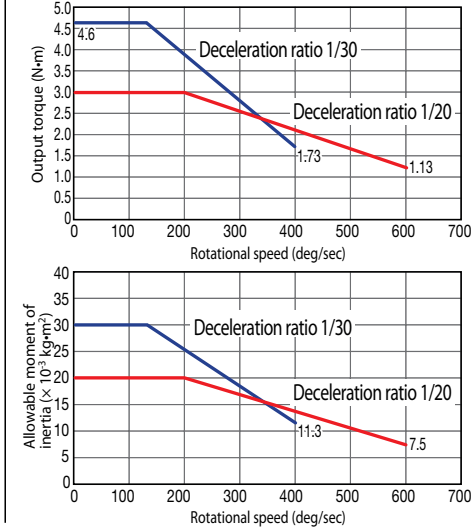
* See page Pre-47 for details on the model descriptions.



Technical References Appendix P.5

- POINT** Notes on selection
- The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.
 - The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.
 - The rated acceleration while moving is 0.3G.
 - Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

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

Leads and Payload

| Model number | Deceleration Ratio | Max. Torque (N · m) | Allowable Movement of Inertia (kg · m ²) | Oscillation Angle (deg) |
|-------------------------------|--------------------|---------------------|--|-------------------------|
| RCP2-RTCB-I-35P-20-330-①-②-③ | 1/20 | 3.0 | 0.02 | 330 |
| RCP2-RTCB-I-35P-30-330-①-②-③ | 1/30 | 4.6 | 0.03 | |
| RCP2-RTCBL-I-35P-20-360-①-②-③ | 1/20 | 3.0 | 0.02 | 360 |
| RCP2-RTCBL-I-35P-30-360-①-②-③ | 1/30 | 4.6 | 0.03 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 330/360 (deg) |
|--------------------|--------|---------------|
| | 1/20 | 600 |
| 1/30 | 400 | |

(Unit: degrees/s)

Code explanation ① Applicable Controller ② Cable Length ③ Options

Stroke

| Type | Oscillation Angle (deg) | Standard price |
|-------|-------------------------|----------------|
| RTCB | 330 | — |
| RTCBL | 360 | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) ~ X10 (10m) | — |
| | X11 (11m) ~ X15 (15m) | — |
| | X16 (16m) ~ X20 (20m) | — |
| | X06 (6m) ~ X20 (20m) | — |
| Robot Cable | R01 (1m) ~ R03 (3m) | — |
| | R04 (4m) ~ R05 (5m) | — |
| | R06 (6m) ~ R10 (10m) | — |
| | R11 (11m) ~ R15 (15m) | — |
| | R16 (16m) ~ R20 (20m) | — |
| | R16 (16m) ~ R20 (20m) | — |

* See page A-59 for cables for maintenance.

③ Options


| Name | Option code | See page | Standard price |
|-------------------|-------------|----------|----------------|
| Reversed-rotation | NM | → A-52 | — |
| Shaft adapter | SA | → A-54 | — |
| Table adapter | TA | → A-56 | — |

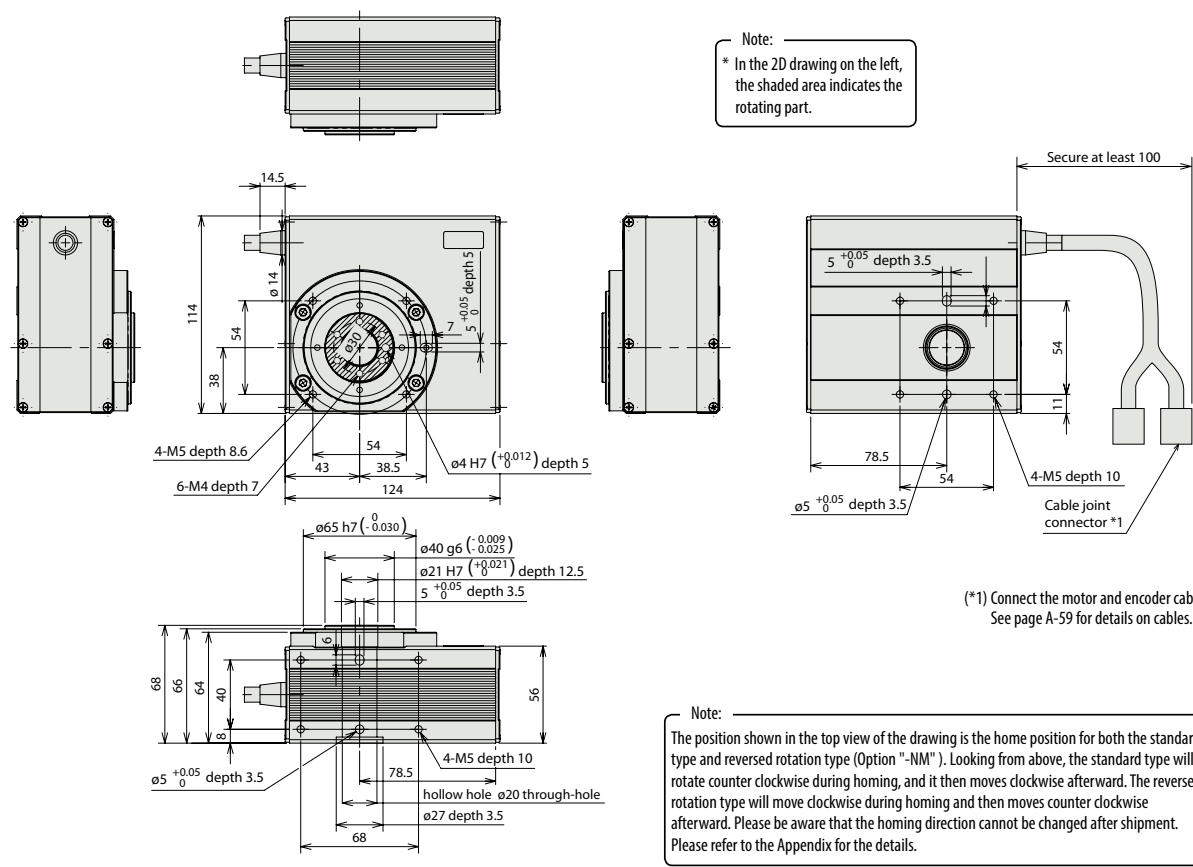
Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Hypoid gear |
| Positioning repeatability | ±0.01 degrees |
| Homing accuracy | ±0.01 degrees (RTCB) / ±0.03 (RTCBL) |
| Lost motion | ±0.1 degrees |
| Allowable thrust load | 200N |
| Allowable load moment | 17.7 N·m |
| Weight | 2.2kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

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

For Special Orders  Appendix P.15



Weight (kg) 2.2

① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | Reference page |
|--|---------------|----------------------|---|--------------------------------------|---------------|-----------------------|----------------|----------------|
| Solenoid Valve Type | | PMEC-C-35PI-①-2-② | Easy-to-use controller, even for beginners | 3 points | DC24V | AC100V | Refer to P541 | → P537 |
| | | PSEP-C-35PI-①-2-0 | Simple controller operable with the same signal as a solenoid valve | | | Refer to P555 | → P547 | |
| Solenoid valve multi-axis type PIO specification | | MSEP-C-③-④-①-2-0 | Positioner type based on PIO control, allowing up to 8 axes to be connected | 256 points | | Refer to P572 | → P563 | |
| Solenoid valve multi-axis type Network specification | | MSEP-C-③-④-④-0-0 | Field network-ready positioner type, allowing up to 8 axes to be connected | | | | | |
| Positioner type High-output specification | | PCON-CA-35PI-①-2-0 | Equipped with a high-output driver Positioner type based on PIO control | 512 points | | Refer to P618 | → P607 | |
| Pulse-train type High-output specification | | PCON-CA-35PI-PL□-2-0 | Equipped with a high-output driver Pulse-train input type | (—) | | | | |
| Field network type High-output specification | | PCON-CA-35PI-④-0-0 | Equipped with a high-output driver Supporting 7 major field networks | 768 points | | | | |
| Pulse Train Input Type (Differential Line Driver) | | PCON-PL-35PI-①-2-0 | Pulse train input type with differential line driver support | (—) | | Refer to P628 | → P623 | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-35PI-①-2-0 | Pulse train input type with open collector support | | | | | |
| Serial Communication Type | | PCON-SE-35PI-N-0-0 | Dedicated Serial Communication | 64 points | Refer to P671 | → P665 | | |
| Program Control Type | | PSEL-CS-1-35PI-①-2-0 | Programmed operation is possible. Can operate up to 2 axes | 1,500 points | Refer to P671 | → P665 | | |

* This is for the single-axis PSEL. * ① indicates I/O type (NP/PN). * ② indicates power supply voltage (1: 100V / 2: 100~240V). * ③ indicates number of axes (1 to 8). * ④ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

RCS2-RTC8L

ROBO Cylinder, Hollow Rotary, Small Standard Type, Actuator Width 85mm, 200V servo Motor

RCS2-RTC8HL

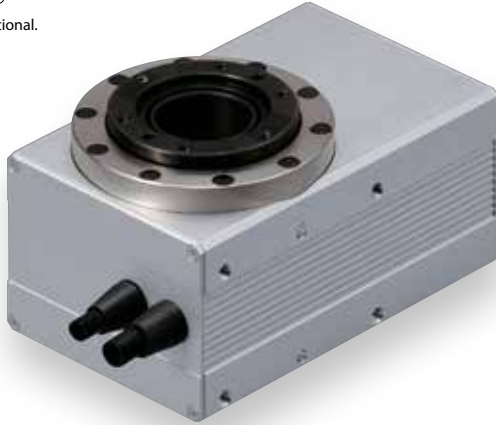
ROBO Cylinder, Hollow Rotary, Small High Output Type, Actuator Width 85mm, 200V servo Motor

| | | | | | | | | | |
|---------------------------|----------------------------|-------------------------------|--|--|--------------------------------------|---|--|--------------------------|--------------------------|
| Model Specification Items | RCS2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 360 | T2 | <input type="checkbox"/> | <input type="checkbox"/> |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length | Options |
| | RTC8L: Small standard type | I: Incremental A: Absolute | 12: 12W Servo motor 20: 20W Servo motor | 15: 1/15 deceleration ratio 24: 1/24 deceleration ratio | 360: 360-degrees (multiple rotation) | T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S | N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable | See Options below. | |

* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



Technical References Appendix P.5

POINT
Notes on selection

- The rated and maximum acceleration is 0.3G.
- Positioning mode can move between 0 to 9,999.99 deg (0 to 7,670.99 deg with reduction ratio of 1/24). Index rotation mode can move from 0 to 359.99 deg. (Once the actuator moves beyond 359.99 deg, it resets to 0 without having to rotate back to home.)
- Actuator may vibrate as it moves if the speed is lower than 100 deg/s. Please drive the unit at or above 100mm/s.

Actuator Specifications

Leads and Payload

| Model number | Motor Output (N) | Deceleration Ratio | Max. Torque (N · m) | Allowable Movement of Inertia (kg · m ²) | Oscillation Angle (deg) |
|--------------------------------|------------------|--------------------|---------------------|--|-------------------------|
| RCS2-RTC8L-①-12-24-360-T2-②-③ | 12 | 1/24 | 0.55 | 0.011 | 360 (*) |
| RCS2-RTC8HL-①-20-15-360-T2-②-③ | 20 | 1/15 | 0.53 | 0.01 | |
| RCS2-RTC8HL-①-20-24-360-T2-②-③ | | 1/24 | 0.85 | 0.017 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 360 (deg) |
|--------------------|--------|-----------|
| | 1/15 | 1200 |
| 1/24 | 750 | |

(Unit: degrees/s)

Code explanation ① Encoder type ② Cable length ③ Options

* Refer to "POINT Notes on Selection" above.

① Encoder Type

| Type | Standard price | |
|--------|----------------|----------|
| | ① Encoder Type | |
| | Incremental | Absolute |
| RTC8L | — | — |
| RTC8HL | — | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake | B | → A-42 | — |
| CE compliance | CE | → A-42 | — |
| Limit switch (standard feature) | L | → A-51 | — |
| Reversed-rotation | NM | → A-52 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Timing belt drive system + hypoid gear |
| Positioning repeatability | ±0.005 degrees |
| Backlash | ±0.05 degrees or less |
| Allowable thrust load | 400N |
| Allowable load moment | 5 N·m |
| Brake retention torque | 0.42 N·m |
| Weight | 2.3kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

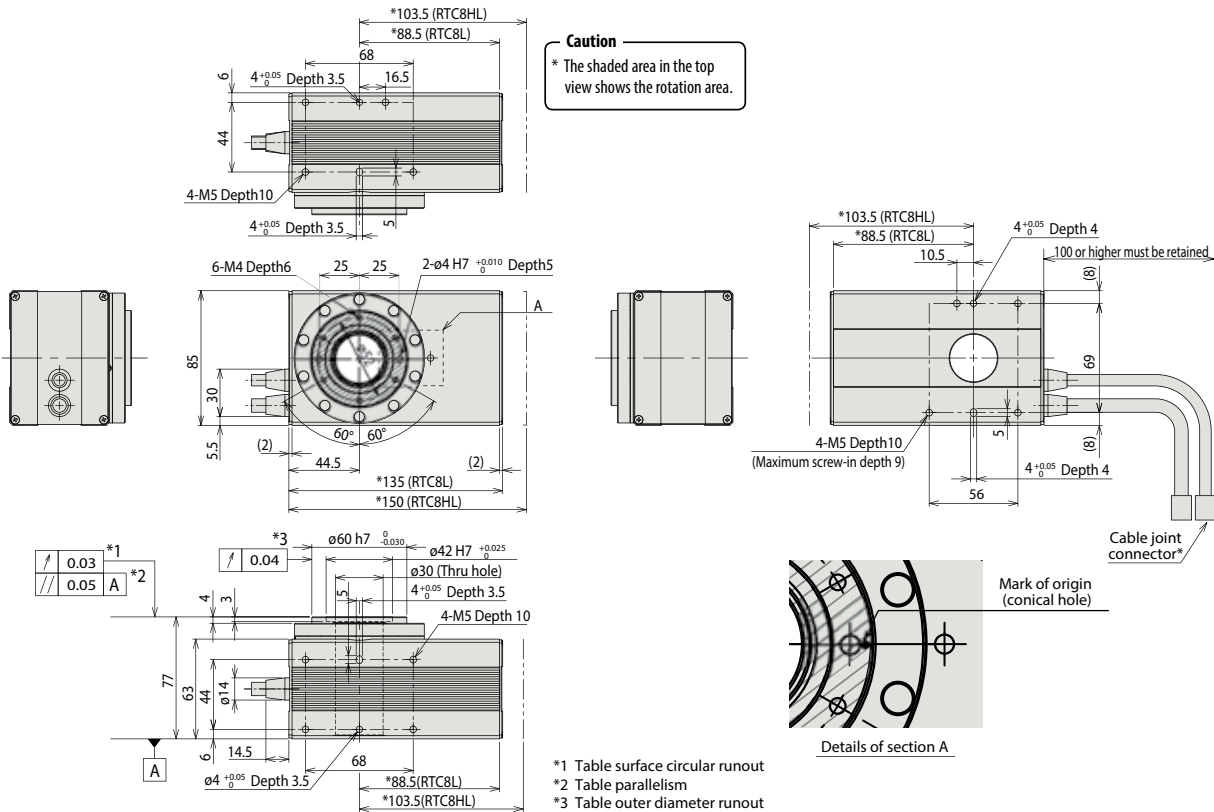


* Connect the motor and encoder cables here. (See page A-59 for details on cables.)

For Special Orders



Appendix P.15



Note:
The position in the detail A drawing above is the homing location for both standard type/reversed rotation type (Option "-NM"). Looking from the above, the standard type will rotate counter clockwise during homing, and it moves clockwise afterward. Reverse rotation type will move clockwise during homing and moves counter clockwise afterward.

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power supply capacity | Standard price | Reference page | |
|-------------------------------------|---------------|--|---|--|--|---|----------------|----------------|--------|
| Positioner mode | | SCON-CA-12①-NP-2-② SCON-CA-20①-NP-2-② | Up to 512 positioning points are supported. | 512 points | Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P643 | |
| Solenoid valve mode | | | Actuators can be operated through the same control used for solenoid valves. | 7 points | | | | | |
| Field network type | | | Movement by numerical specification is supported. | 768 points | | | | | |
| Pulse-train input control type | | | Dedicated pulse-train input type | (—) | | | | | |
| Positioner multi-axis, network type | | MSCON-C-1-12①-④-0-② MSCON-C-1-20①-④-0-② | Up to 6 axes can be operated. Movement by numerical specification is supported. | 256 points | | — | → P655 | | |
| Program control type, 1 to 2 axes | | SSEL-CS-1-12①-NP-2-② SSEL-CS-1-20①-NP-2-② | Program operation is supported. Up to 2 axes can be operated. | 20,000 points | | | | — | → P685 |
| Program control type, 1 to 8 axes | | XSEL-③-1-12①-N1-EEE-2-④ XSEL-③-1-20①-N1-EEE-2-④ | Program operation is supported. Up to 8 axes can be operated. | Varies depending on the number of axes connected | | | | | |

* This is for the single-axis MSCON, SSEL, and XSEL.

* ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).

* ④ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).

* ② indicates the encoder type (I: Incremental / A: Absolute).

* ③ indicates the XSEL type (J / K / P / Q / R / S).

* ⑤ indicates field network specification symbol.

RCS2-RTC10L

Robo Cylinder, Hollow Rotary, Medium Type, Actuator Width 99mm, 200V Servo Motor

Model Specification Items

RCS2 — **RTC10L** — — **60** — — **360** — **T2** — —

Series — Type — Encoder type — Motor type — Deceleration Ratio — Oscillation Angle — Applicable controller — Cable length — Options

RTC10L: Medium type I: Incremental type A: Absolute 60: 60W Servo motor 15: 1/15 deceleration ratio 24: 1/24 deceleration ratio 360: 360-degrees (multiple rotation) T2: SCON, MCON, SSEL, XSEL-P/Q, XSEL-R/S N: None, P: 1m, S: 3m, M: 5m, X: Custom length, R: Robot cable See Options below.

* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



Technical References Appendix P.5

POINT Notes on selection

- (1) The rated and maximum acceleration is 0.3G.
- (2) Positioning mode can move between 0 to 9,999.99 deg (0 to 7,670.99 deg with reduction ratio of 1/24). Index rotation mode can move from 0 to 359.99 deg. (Once the actuator moves beyond 359.99 deg, it resets to 0 without having to rotate back to home.)
- (3) Actuator may vibrate as it moves if the speed is lower than 100 deg/s. Please drive the unit at or above 100mm/s.

Actuator Specifications

Leads and Payload

| Model number | Motor Output (W) | Deceleration Ratio | Max. Torque (N·m) | Allowable Movement of Inertia (kg·m ²) | Oscillation Angle (deg) |
|--------------------------------|------------------|--------------------|-------------------|--|-------------------------|
| RCS2-RTC10L-①-60-15-360-T2-②-③ | 60 | 1/15 | 1.7 | 0.033 | 360 (*) |
| RCS2-RTC10L-①-60-24-360-T2-②-③ | | 1/24 | 2.8 | 0.054 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 360 (deg) |
|--------------------|--------|-----------|
| | 1/15 | 1200 |
| 1/24 | 750 | |

Code explanation ① Encoder type ② Cable length ③ Options

* Refer to "POINT Notes on Selection" above.

(Unit: degrees/s)

① Encoder Type

| Type | Standard price | |
|---------------|----------------|----------|
| | ① Encoder Type | |
| | Incremental | Absolute |
| RTC10L | — | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-------------------------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------------------|-------------|----------|----------------|
| Brake | B | → A-42 | — |
| CE-compliant specification | CE | → A-42 | — |
| Limit switch (standard) | L | → A-51 | — |
| Reversed-rotation | NM | → A-52 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Timing belt drive system + hypoid gear |
| Positioning repeatability | ±0.005 degrees |
| Backlash | ±0.05 degrees or less |
| Allowable thrust load | 600N |
| Allowable load moment | 10 N·m |
| Brake retention torque | 0.45 N·m |
| Weight | 3.5kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

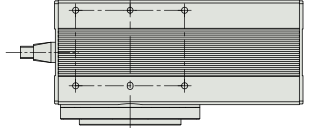
CAD drawings can be downloaded from the website. www.intelligentactuator.com

For Special Orders Appendix P.15

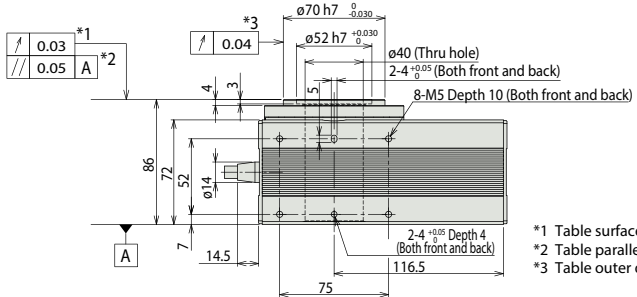
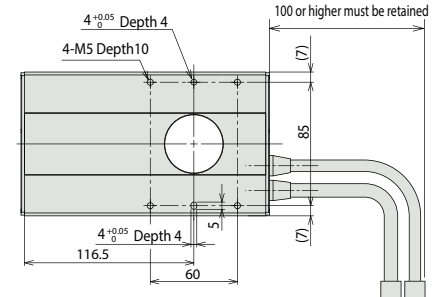
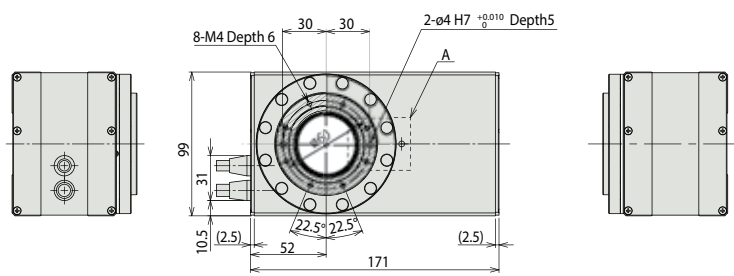


* Connect the motor and encoder cables here. (See page A-59 for details on cables.)

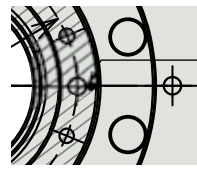
Dimensions of mounting holes on the side are bilaterally symmetric.



Caution
* The shaded area in the top view shows the rotation area.



*1 Table surface circular runout
*2 Table parallelism
*3 Table outer diameter runout



Details of section A

Note:
The position in the detail A drawing above is the homing location for both standard type/reversed rotation type (Option "-NM"). Looking from the above, the standard type will rotate counter clockwise during homing, and it moves clockwise afterward. Reverse rotation type will move clockwise during homing and moves counter clockwise afterward.

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power supply capacity | Standard price | Reference page |
|-------------------------------------|---------------|-------------------------|---|--|--|---|----------------|----------------|
| Positioner mode | | SCON-CA-60①-NP-2-② | Up to 512 positioning points are supported. | 512 points | Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P643 |
| Solenoid valve mode | | | Actuators can be operated through the same control used for solenoid valves. | 7 points | | | | |
| Field network type | | | Movement by numerical specification is supported. | 768 points | | | | |
| Pulse-train input control type | | | Dedicated pulse-train input type | (—) | | | | |
| Positioner multi-axis, network type | | MSCON-C-1-60①-V③-0-② | Up to 6 axes can be operated. Movement by numerical specification is supported. | 256 points | | | — | → P655 |
| Program control type, 1 to 2 axes | | SSEL-CS-1-60①-NP-2-② | Program operation is supported. Up to 2 axes can be operated. | 20,000 points | | | — | → P685 |
| Program control type, 1 to 8 axes | | XSEL-③-1-60①-N1-EEE-2-④ | Program operation is supported. Up to 8 axes can be operated. | Varies depending on the number of axes connected | | | — | → P695 |

* This is for the single-axis MSCON, SSEL, and XSEL.
 * ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).
 * ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).
 * ③ indicates the encoder type (I: Incremental / A: Absolute).
 * ④ indicates the XSEL type (J / K / P / Q / R / S).
 * ⑤ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

RCS2-RTC12L

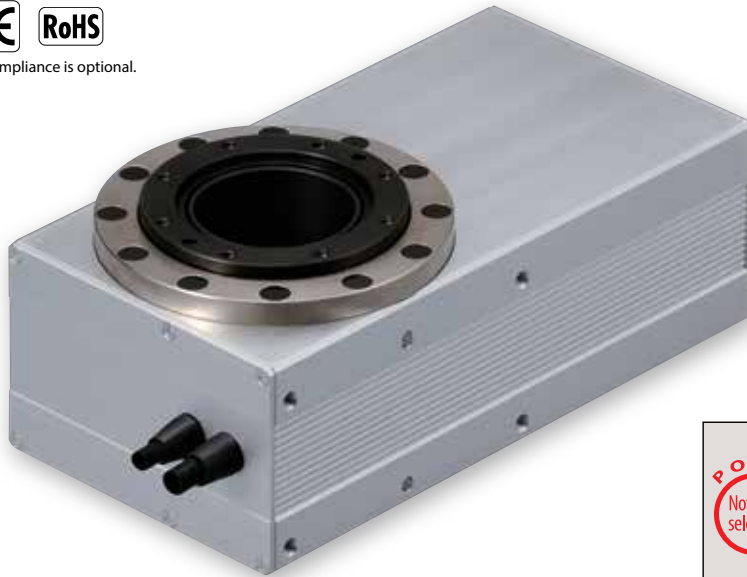
Robo Cylinder, Hollow Rotary, Large Type, Actuator Width 123mm, 200V Servo Motor

| | |
|---------------------------|---|
| Model Specification Items | RCS2 — RTC12L — <input type="checkbox"/> — 150 — <input type="checkbox"/> — 360 — T2 — <input type="checkbox"/> — <input type="checkbox"/> |
| | Series — Type — Encoder type — Motor type — Deceleration Ratio — Oscillation Angle — Applicable controller — Cable length — Options |
| | RTC12L: Large type I: Incremental A: Absolute 150: 150W Servo motor 18: 1/18 deceleration ratio 30: 1/30 deceleration ratio 360: 360-degrees (multiple rotation) T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable |

* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



Technical References Appendix P.5



- The rated and maximum acceleration is 0.3G.
- Positioning mode can move between 0 to 9,999.99 deg (0 to 6,140.99 deg with reduction ratio of 1/30). Index rotation mode can move from 0 to 359.99 deg. (Once the actuator moves beyond 359.99 deg, it resets to 0 without having to rotate back to home.)
- Actuator may vibrate as it moves if the speed is lower than 100 deg/s. Please drive the unit at or above 100mm/s.

Actuator Specifications

Leads and Payload

| Model number | Motor Output (W) | Deceleration Ratio | Max. Torque (N·m) | Allowable Movement of Inertia (kg·m ²) | Oscillation Angle (deg) |
|---------------------------------|------------------|--------------------|-------------------|--|-------------------------|
| RCS2-RTC12L-①-150-18-360-T2-②-③ | 150 | 1/18 | 5.2 | 0.1 | 360 (*) |
| RCS2-RTC12L-①-150-30-360-T2-②-③ | | 1/30 | 8.6 | 0.17 | |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Stroke | 360 (deg) |
|--------------------|--------|-----------|
| | 1/18 | 800 |
| 1/30 | 600 | |

Code explanation ① Encoder type ② Cable length ③ Options

* Refer to "POINT Notes on Selection" above.

(Unit: degrees/s)

① Encoder Type

| Type | Standard price | |
|--------|----------------|----------|
| | ① Encoder Type | |
| | Incremental | Absolute |
| RTC12L | — | — |

② Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |
| | | |

* See page A-59 for cables for maintenance.

③ Options

| Name | Option code | See page | Standard price |
|----------------------------|-------------|----------|----------------|
| Brake | B | → A-42 | — |
| CE-compliant specification | CE | → A-42 | — |
| Limit switch (standard) | L | → A-51 | — |
| Reversed-rotation | NM | → A-52 | — |

Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Timing belt drive system + hypoid gear |
| Positioning repeatability | ±0.005 degrees |
| Backlash | ±0.05 degrees or less |
| Allowable thrust load | 800N |
| Allowable load moment | 25 N·m |
| Brake retention torque | 1.0 N·m |
| Weight | 6.5kg |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

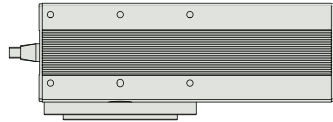
CAD drawings can be downloaded from the website. www.intelligentactuator.com

For Special Orders Appendix P.15

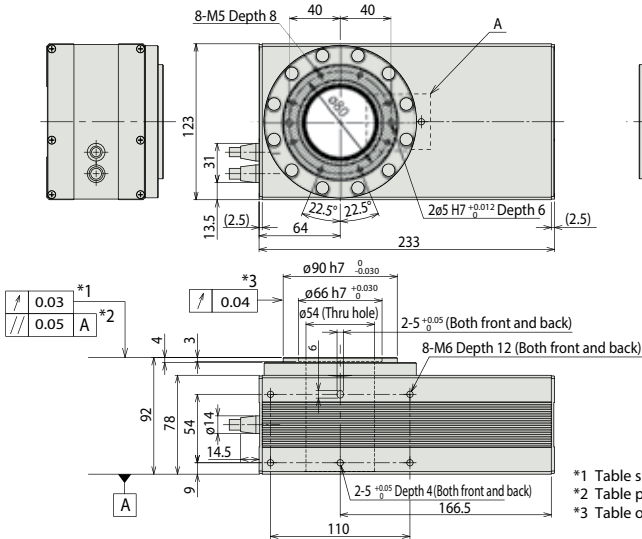


* Connect the motor and encoder cables here. (See page A-59 for details on cables.)

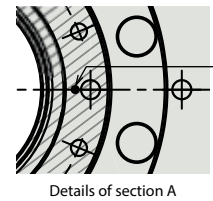
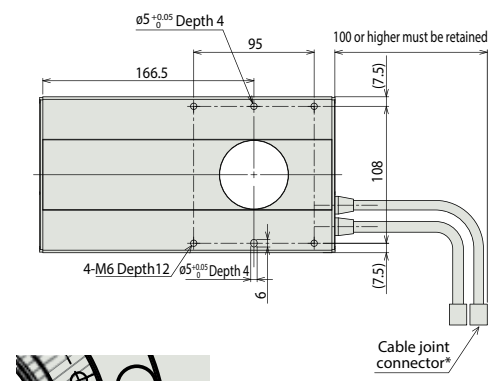
Dimensions of mounting holes on the side are bilaterally symmetric.



Caution
* The shaded area in the top view shows the rotation area.



*1 Table surface circular runout
*2 Table parallelism
*3 Table outer diameter runout



Note:
The position in the detail A drawing above is the homing location for both standard type/reversed rotation type (Option "-NM"). Looking from the above, the standard type will rotate counter clockwise during homing, and it moves clockwise afterward. Reverse rotation type will move clockwise during homing and moves counter clockwise afterward.

Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power supply capacity | Standard price | Reference page | | |
|-------------------------------------|---------------|-------------------------|---|--|--|---|----------------|----------------|---|--------|
| Positioner mode | | SCON-CA-150①-NP-2-② | Up to 512 positioning points are supported. | 512 points | Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 408 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P643 | | |
| Solenoid valve mode | | | Actuators can be operated through the same control used for solenoid valves. | 7 points | | | | | | |
| Field network type | | | Movement by numerical specification is supported. | 768 points | | | | | | |
| Pulse-train input control type | | | Dedicated pulse-train input type | (—) | | | | | | |
| Positioner multi-axis, network type | | MSCON-C-1-150①-③-0-④ | Up to 6 axes can be operated. Movement by numerical specification is supported. | 256 points | 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 408 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P655 | | |
| Program control type, 1 to 2 axes | | SSEL-CS-1-150①-NP-2-② | Program operation is supported. Up to 2 axes can be operated. | 20,000 points | | | | | — | → P685 |
| Program control type, 1 to 8 axes | | XSEL③-1-150①-N1-EEE-2-④ | Program operation is supported. Up to 8 axes can be operated. | Varies depending on the number of axes connected | | | | | — | → P695 |

* This is for the single-axis MSCON, SSEL, and XSEL.
 * ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).
 * ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).
 * ③ indicates the encoder type (I: Incremental / A: Absolute).
 * ④ indicates the XSEL type (J / K / P / Q / R / S).
 * ⑤ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

RCS2-RT6

Robo Cylinder, Rotary, Straight Motor Model, Actuator Width 64mm, 200V Servo Motor

| | | | | | | | | | | |
|---------------------------|-------------|--------------|----------------|---------------------|--------------------|-------------------|--|--|--------------------------|------------|
| Model Specification Items | RCS2 | — RT6 | — I | — 60 | — 18 | — 300 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | — L |
| | Series | Type | Encoder type | Motor type | Deceleration Ratio | Oscillation Angle | Applicable controller | Cable length | Options | |
| | | | I: Incremental | 60: 60W Servo motor | 18: 1/18 | 300: 300-degrees | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q XSEL-R/S | N: None P: 1m S: 3m M: 5m X <input type="checkbox"/> : Custom length R <input type="checkbox"/> : Robot cable | See Options below. | |

* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



Technical References Appendix P.5



- (1) The thrust load is the mechanical strength of the output axis at rest. When selecting, take into account the load moment and the load inertia.
- (2) The rated acceleration while moving is 0.3G.

Actuator Specifications

Lead and Payload

| Model number | Motor Output (W) | Deceleration Ratio | Rated Torque (N·m) | Allowable Moment of Inertia (kg·m ²) | Oscillation Angle (deg) |
|---|------------------|--------------------|--------------------|--|-------------------------|
| RCS2-RT6-I-60-18-300- <input type="checkbox"/> - <input type="checkbox"/> - <input type="checkbox"/> -L | 60 | 1/18 | 2.4 | 2.5 x 10 ⁻³ or less | 300 |

Deceleration Ratio and Max. Speed

| Deceleration ratio | Oscillation Angle | 300 (deg) |
|--------------------|-------------------|-----------|
| | 1/18 | 500 |

Code explanation Applicable Controller Cable Length Options

Stroke

| Oscillation Angle (deg) | Standard price |
|-------------------------|----------------|
| 300 | — |

Cable Length

| Type | Cable symbol | Standard Price |
|----------------|-----------------------|----------------|
| Standard | 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) | — |

* See page A-59 for cables for maintenance.

Options

| Name | Option code | See page | Standard price |
|-------------------------|-------------|----------|----------------|
| CE compliance | CE | → A-42 | — |
| Limit switch (standard) | L | → A-51 | — |

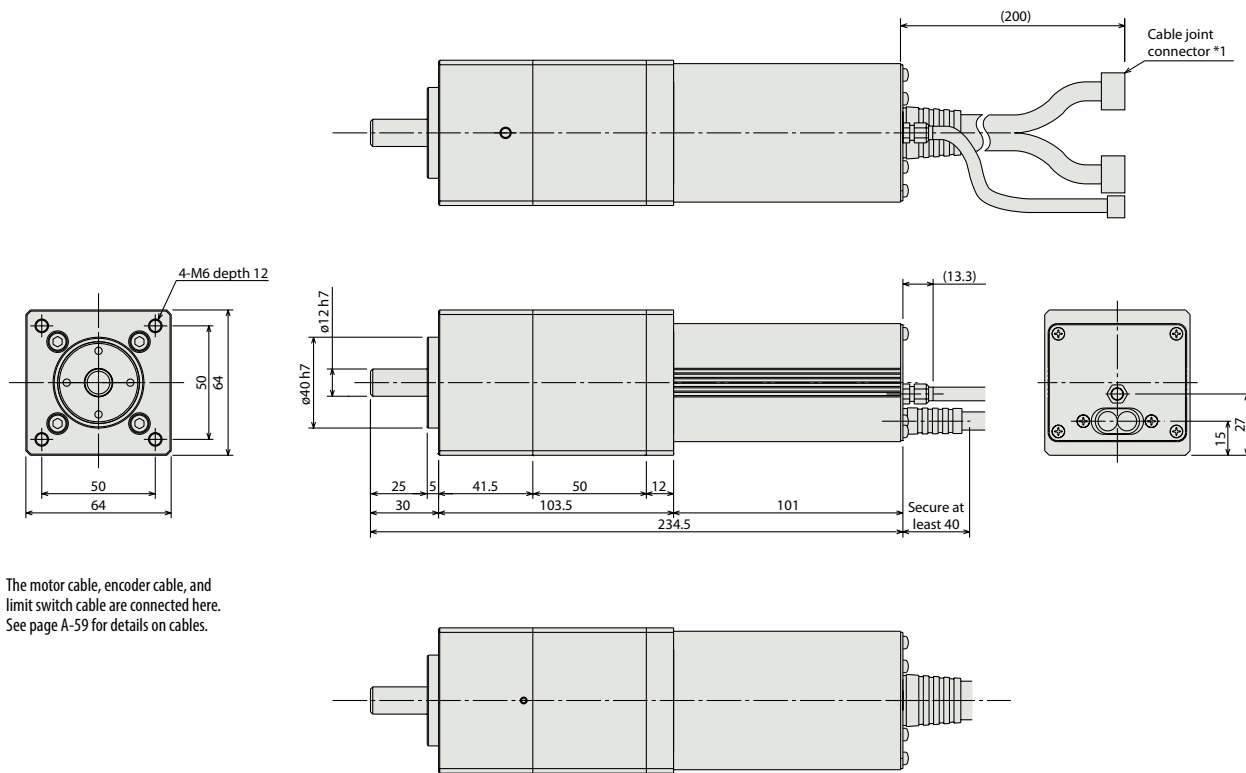
Actuator Specifications

| Item | Description |
|---|--|
| Drive System | Ball speed reducer |
| Positioning repeatability | ±0.02 degrees |
| Lost motion | 0.1 degrees or less |
| Base | Material: Aluminum, white alumite treated |
| Allowable load moment | Ma: 6.8 N·m or less |
| Thrust load | 100N or less |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

Dimensional Drawings

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

For Special Orders Appendix P.15



(*1) The motor cable, encoder cable, and limit switch cable are connected here. See page A-59 for details on cables.

Weight (kg) 1.9

① Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

| Name | External view | Model number | Features | Maximum number of positioning points | Input power | Power supply capacity | Standard price | Reference page | | |
|-------------------------------------|---------------|-------------------------|---|--|--|---|----------------|----------------|---|--------|
| Positioner mode | | SCON-CA-60I-NP-2-① | Up to 512 positioning points are supported. | 512 points | Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P643 | | |
| Solenoid valve mode | | | Actuators can be operated through the same control used for solenoid valves. | 7 points | | | | | | |
| Field network type | | | Movement by numerical specification is supported. | 768 points | | | | | | |
| Pulse-train input control type | | | Dedicated pulse-train input type | (-) | | | | | | |
| Positioner multi-axis, network type | | MSCON-C-1-60-④-0-① | Up to 6 axes can be operated. Movement by numerical specification is supported. | 256 points | 3-phase 200VAC (XSEL-P/Q/R/S ONLY) | 218 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details. | — | → P655 | | |
| Program control type, 1 to 2 axes | | SSEL-CS-1-60I-NP-2-① | Program operation is supported. Up to 2 axes can be operated. | 20,000 points | | | | | — | → P685 |
| Program control type, 1 to 8 axes | | XSEL-①-1-60I-N1-EEE-2-④ | Program operation is supported. Up to 8 axes can be operated. | Varies depending on the number of axes connected | | | | | | |

* This is for the single-axis MSCON, SSEL, and XSEL.
 * ① indicates the power-supply voltage type (1: 100 V / 2: Single-phase 200 V).
 * ④ indicates the XSEL type (J / K / P / Q / R / S).
 * ④ indicates the power-supply voltage type (1: 100 V / 2: Single-phase 200 V / 3: Three-phase 200 V).
 * ④ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor