



Cleanroom Type

RCP2CR

RCACR

RCS2CR

| | | | | | |
|---|-----------------|---------------|-------------|-------------|------------|
| RCP2CR <i>series</i> Pulse Motor Type | Coupling type | Aluminum base | Width 52mm | RCP2CR-SA5C | 269 |
| | | | Width 58mm | RCP2CR-SA6C | 271 |
| | | | Width 73mm | RCP2CR-SA7C | 273 |
| | High-speed type | Steel base | Width 60mm | RCP2CR-SS7C | 275 |
| | | | Width 80mm | RCP2CR-SS8C | 277 |
| | | | Width 80mm | RCP2CR-HS8C | 279 |
| RCACR <i>series</i> 24V Servo Motor Type | Coupling type | Aluminum base | Width 40mm | RCACR-SA4C | 281 |
| | | | Width 52mm | RCACR-SA5C | 283 |
| | | | Width 58mm | RCACR-SA6C | 285 |
| | Built-in type | Aluminum base | Width 52mm | RCACR-SA5D | 287 |
| | | | Width 58mm | RCACR-SA6D | 289 |
| | | | | | |
| RCS2CR <i>series</i> 200V Servo Motor Type | Coupling type | Aluminum base | Width 40mm | RCS2CR-SA4C | 291 |
| | | | Width 52mm | RCS2CR-SA5C | 293 |
| | | | Width 58mm | RCS2CR-SA6C | 295 |
| | Built-in type | Steel base | Width 73mm | RCS2CR-SA7C | 297 |
| | | | Width 60mm | RCS2CR-SS7C | 299 |
| | | | Width 80mm | RCS2CR-SS8C | 301 |
| Built-in type | Aluminum base | Width 52mm | RCS2CR-SA5D | 303 | |
| | | Width 58mm | RCS2CR-SA6D | 305 | |

Controller-
IntegratedSlider
TypeRod
TypeTable
Arm/FlatGripper/
Rotary Type

Cleanroom

Splash-
resistant

Controller

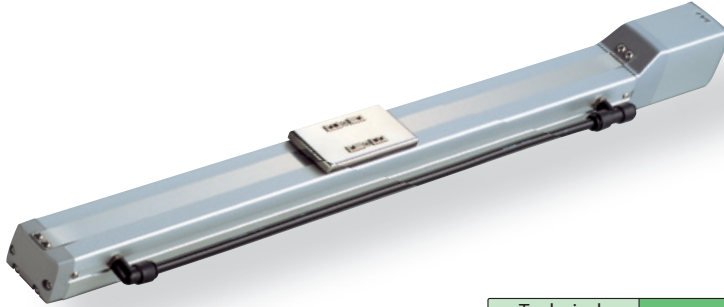
C
CouplingD
Built-in
(Direct)R
Reverse-
mountedPulse Motor
20 PPulse Motor
28 PPulse Motor
35 PPulse Motor
42 PPulse Motor
56 PPulse Motor
86 PServo Motor
10 wServo Motor
20 wServo Motor
30 wServo Motor
60 wServo Motor
100 wServo Motor
150 wServo Motor
750 w

RCP2CR-SA5C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 52mm, Pulse Motor, Straight Type

| | | | | | | | | |
|------------------------------|---|--|---------------|---------------|--|--|--------------|--------|
| Model Description | RCP2CR — SA5C — I — 42P — [] — [] — P1 — [] — [] | | | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option |
| I: Incremental specification | 42: Pulse motor 42□Size | 12: 12mm To 500:500mm (Set steps every 50mm) | 6: 6mm 3: 3mm | P1: PCON PSEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | BE: Brake (cable exiting the end) BL: Brake (cable exiting the left) BR: Brake (cable exiting the right) NM: Reversed-home specification VR: Vacuum joint on opposite side | | |

See preceding section for model descriptions.

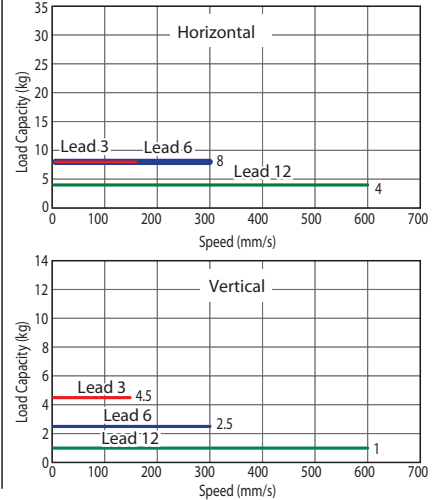


Technical Reference P. 451

- POINT** Notes on selection
- As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
 - The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 3). The above values are maximum acceleration.
 - The Mc Moment is 7.8N·m when exceeding 350 strokes.
 - Class 10 cleanliness is based on the horizontal specification.

Speed vs. Payload Graph

A characteristic of the RCP2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table

| Model | Lead (mm) | Max. payload (Note 1) | | Stroke (mm) | Stroke / Lead | Suction Volume (Nl/min) |
|-------------------------------|-----------|-----------------------|---------------|------------------------|---------------|-------------------------|
| | | Horizontal (kg) | Vertical (kg) | | | |
| RCP2CR-SA5C-I-42P-12-①-P1-②-③ | 12 | 4 | 1 | 50 to 500 (every 50mm) | 12 | 50 |
| RCP2CR-SA5C-I-42P-6-①-P1-②-③ | 6 | 8 | 2.5 | | 6 | 30 |
| RCP2CR-SA5C-I-42P-3-①-P1-②-③ | 3 | 8 | 4.5 | | 3 | 15 |

Legend: ① Stroke ② Cable length ③ Options

① Pricing List By Stroke

| ① Stroke (mm) | Type code |
|---------------|--------------|
| | SA5C |
| | Encoder type |
| | Incremental |
| 50 | — |
| 100 | — |
| 150 | — |
| 200 | — |
| 250 | — |
| 300 | — |
| 350 | — |
| 400 | — |
| 450 | — |
| 500 | — |

② Cable Length Price List

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

*Please see P374 for information on the maintenance cable.

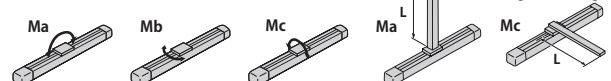
③ Option Price List

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | P437 | — |
| Brake (cable exiting the left) | BL | P437 | — |
| Brake (cable exiting the right) | BR | P437 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ10mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Allowable load moment | Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m |
| Overhang load length | Ma direction 150mm or less Mb-Mc direction 150mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

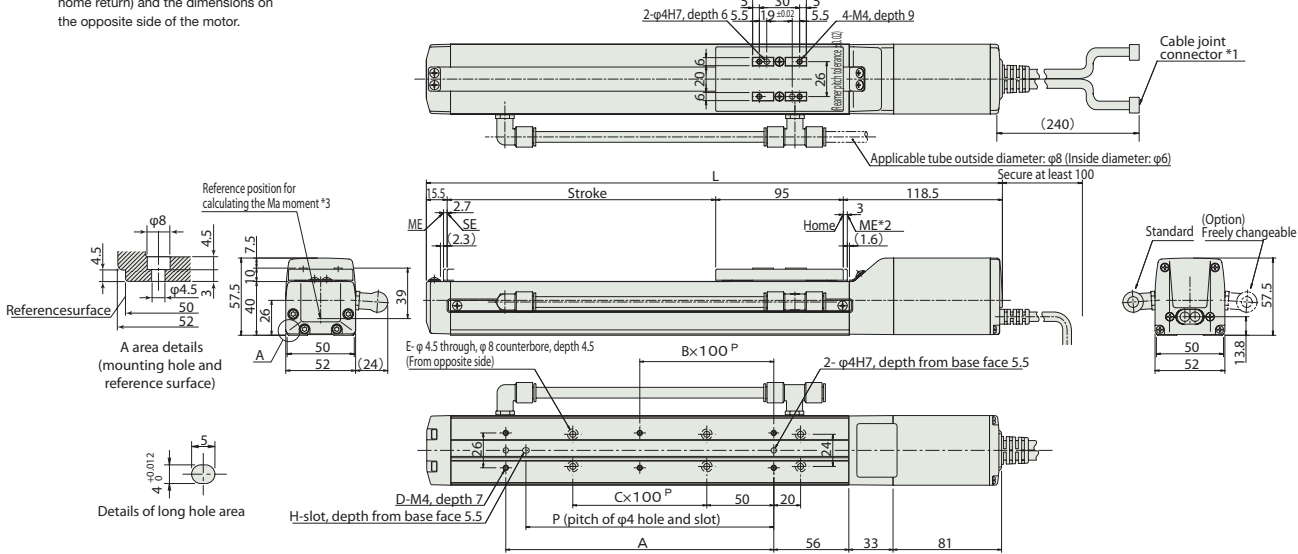
Information on special orders

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*The dimensions for the reverse home return specification varies between the motor side dimensions (the distance to home return) and the dimensions on the opposite side of the motor.

- *1 Connect the motor and encoder cables. See P374 for details on the cables.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: mechanical end
SE: stroke end
Dimensions in () are for reference.
- *3 Reference position for calculating Ma moment.

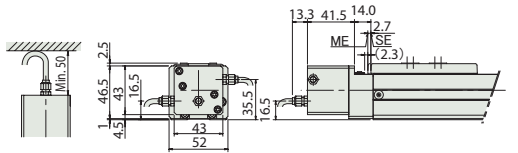


Brake area dimensions

BR: Brake cable taken out from right side

BE: Brake cable taken out from end
BL: Brake cable taken out from left

*Models with brake have their overall length (L) extended by 40mm (see table at right).



Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 279 | 329 | 379 | 429 | 479 | 529 | 579 | 629 | 679 | 729 |
| A | 73 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 |
| B | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 |
| C | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 |
| D | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 |
| E | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 |
| H | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P | 0 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 |
| Weight (kg) | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 |

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|----------------------|--|--------------------------------------|-------------|-----------------------|----------------|----------|---|------|
| Positioner type | | PCON-C-42PI-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Maximum 2A | - | P365 | | |
| Safety category compatible Positioner type | | PCON-CG-42PI-NP-2-0 | | | | | | | | |
| Solenoid valve type | | PCON-CY-42PI-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | PCON-PL-42PI-NP-2-0 | Differential line driver compatible Pulse series input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | PCON-PO-42PI-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | PCON-SE-42PI-0-0 | Serial communications Special type | 64 points | | | | | | |
| Field network type | | RPCON-42P | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | PSEL-C-1-42PI-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P395 |

- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in Direct
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCP2CR-SA6C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 58mm, Pulse Motor, Straight Type

| | | | | | | | | |
|-------------------|---|------------------------------|-------------------------|------------------------------|--|------------------------|---|--|
| Model Description | RCP2CR — SA6C — I — 42P — [] — [] — P1 — [] — [] | | | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option |
| | | I: Incremental specification | 42: Pulse motor 42□Size | 12: 12mm 6: 6mm 3: 3mm | 50:50mm To 600:600mm (Set steps every 50mm) | P1: PCON PSEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | BE: Brake (cable exiting the end) BL: Brake (cable exiting the left) BR: Brake (cable exiting the right) NM: Reversed-home specification VR: Vacuum joint on opposite side |

See preceding section for model descriptions.



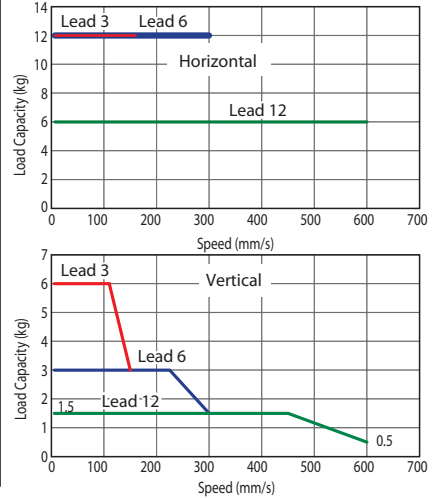
Technical Reference P. 451



- As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
- Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 3). The above values are maximum acceleration.
- Class 10 cleanliness is based on the horizontal specification.

Speed vs. Payload Graph

A characteristic of the RCP2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table

Leads and Payloads

(Note 1) Please note that the maximum payload decreases when the speed increases.

| Model | Lead (mm) | Max. payload (Note 1) | | Stroke (mm) |
|-------------------------------|-----------|-----------------------|---------------|------------------------|
| | | Horizontal (kg) | Vertical (kg) | |
| RCP2CR-SA6C-I-42P-12-①-P1-②-③ | 12 | 6 | Up to 1.5 | 50 to 600 (every 50mm) |
| RCP2CR-SA6C-I-42P-6-①-P1-②-③ | 6 | 12 | Up to 3 | |
| RCP2CR-SA6C-I-42P-3-①-P1-②-③ | 3 | 12 | Up to 6 | |

Legend: ① Stroke ② Cable length ③ Options

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | 50 to 550 (every 50mm) | 600 (mm) | Suction Volume (Nl/min) |
|-------------|------------------------|----------|-------------------------|
| 12 | 600 | 540 | 50 |
| 6 | 300 | 270 | 30 |
| 3 | 150 | 135 | 15 |

(Unit = mm/s)

① Pricing List By Stroke

| ① Stroke (mm) | Type code | |
|---------------|-----------|--------------|
| | SA6C | Encoder type |
| | | Incremental |
| 50 | | — |
| 100 | | — |
| 150 | | — |
| 200 | | — |
| 250 | | — |
| 300 | | — |
| 350 | | — |
| 400 | | — |
| 450 | | — |
| 500 | | — |
| 550 | | — |
| 600 | | — |

② Cable Length Price List

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

*Please see P374 for information on the maintenance cable.

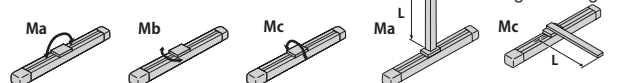
③ Option Price List

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | P437 | — |
| Brake (cable exiting the left) | BL | P437 | — |
| Brake (cable exiting the right) | BR | P437 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ10mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Allowable load moment | Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m |
| Overhang load length | Ma direction 220mm or less Mb-Mc direction 220mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment

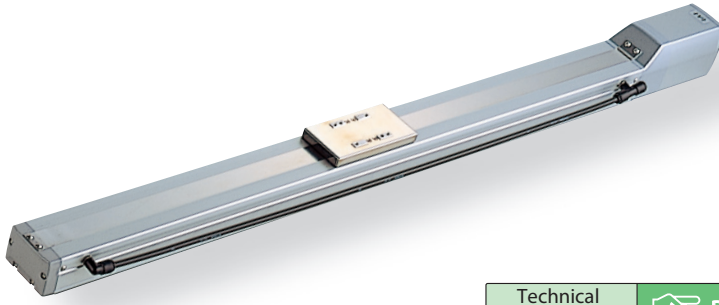


RCP2CR-SA7C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 72mm, Pulse Motor, Straight Type

| | | | | | | | | |
|-------------------|---|------------------------------|----------------------------|------------------------------|--|------------------------|---|---|
| Model Description | RCP2CR — SA7C — I — 56P — — — P1 — — | | | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option |
| | | I: Incremental specification | 56: Pulse motor 56□Size | 16: 16mm 8: 8mm 4: 4mm | 50:50mm To 800:800mm (Set steps every 50mm) | P1: PCON PSEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | BE: Brake (cable exiting the end) BL: Brake (cable exiting the left) BR: Brake (cable exiting the right) NM: Reversed-home specification |

See preceding section for model descriptions.



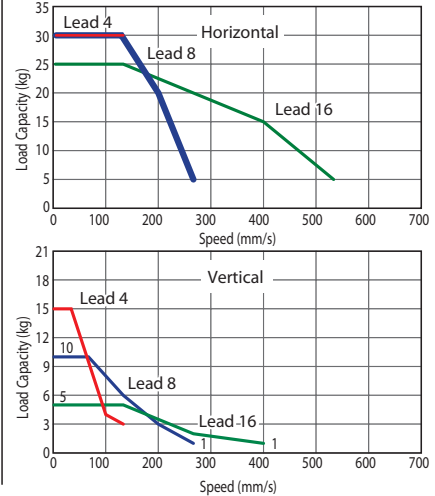
Technical Reference P. 451



- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
- (2) Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
- (3) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 4). The above values are maximum acceleration.
- (4) Class 10 cleanliness is based on the horizontal specification.

Speed vs. Payload Graph

A characteristic of the RCP2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table

Leads and Payloads

(Note 1) Please note that the maximum payload decreases when the speed increases.

| Model | Lead (mm) | Max. payload (Note 1) | | Stroke (mm) |
|-------------------------------|-----------|-----------------------|---------------|---------------------------|
| | | Horizontal (kg) | Vertical (kg) | |
| RCP2CR-SA7C-I-56P-16-①-P1-②-③ | 16 | Up to 25 | Up to 5 | 50 to 800 (every 50mm) |
| RCP2CR-SA7C-I-56P-8-①-P1-②-③ | 8 | Up to 30 | Up to 10 | |
| RCP2CR-SA7C-I-56P-4-①-P1-②-③ | 4 | Up to 30 | Up to 15 | |

Legend: ① Stroke ② Cable length ③ Options

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | 50 to 700 (every 50mm) | Up to 800 (mm) | Suction Volume (Nl/min) |
|----------------|---------------------------|-------------------|----------------------------|
| | 16 | 533 <400> | 480 <400> |
| 8 | 266 | 240 | 40 |
| 4 | 133 | 120 | 30 |

* < > indicate vertical service. (Unit = mm/s)

① Pricing List By Stroke

| ① Stroke (mm) | Type code | |
|---------------|--------------|--|
| | SA7C | |
| | Encoder type | |
| | Incremental | |
| 100 | — | |
| 200 | — | |
| 300 | — | |
| 400 | — | |
| 500 | — | |
| 600 | — | |
| 700 | — | |
| 800 | — | |

② Cable Length Price List

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

*Please see P374 for information on the maintenance cable.

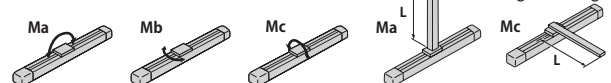
③ Option Price List

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | P437 | — |
| Brake (cable exiting the left) | BL | P437 | — |
| Brake (cable exiting the right) | BR | P437 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ12mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Allowable load moment | Ma: 13.9N·m Mb: 19.9N·m Mc: 38.3N·m |
| Overhang load length | Ma direction 230mm or less Mb-Mc direction 230mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment



- Controller- Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/ Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

Dimensional Drawings

CAD drawings can be downloaded from the website.

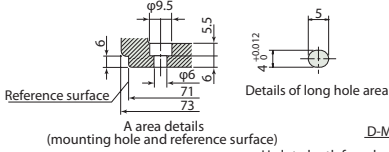
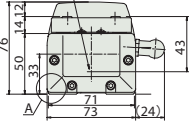
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2D CAD

3D CAD

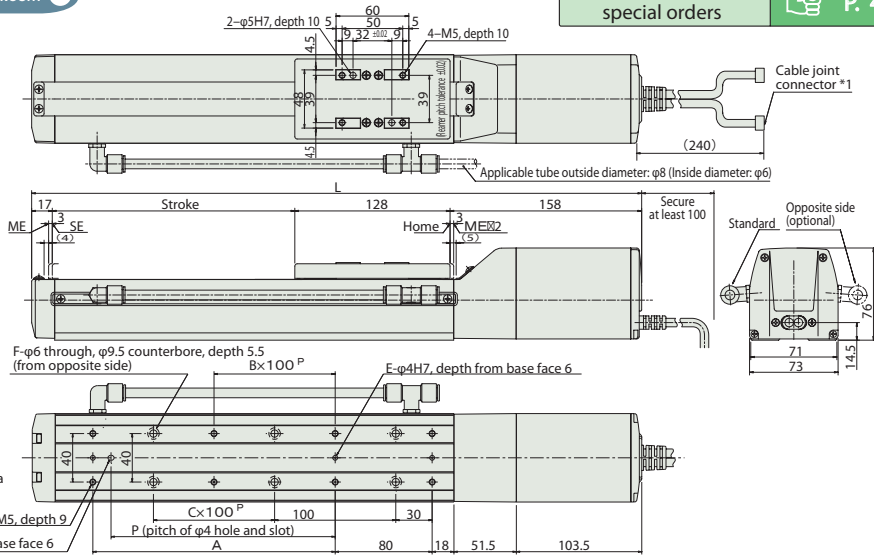
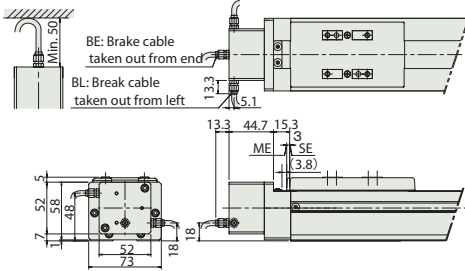
*The dimensions for the reverse home return specification varies between the motor side dimensions (the distance to home return) and the dimensions on the opposite side of the motor.

Reference position for calculating the Ma moment *3



Brake area dimensions

*Models with brake have their overall length (L) extended by 43mm (see table at right).



Information on special orders

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- *1 Connect the motor and encoder cables. See P374 for details on the cables.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: mechanical end
SE: stroke end
- *3 Reference position for calculating Ma moment.

Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| L | 353 | 403 | 453 | 503 | 553 | 603 | 653 | 703 | 753 | 803 | 853 | 903 | 953 | 1003 | 1053 | 1103 |
| A | 0 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 | 500 | 600 | 600 | 700 | 700 | 800 |
| B | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 |
| C | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 |
| D | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | 18 | 20 |
| E | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| F | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | 18 |
| H | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P | 0 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 | 485 | 585 | 585 | 685 | 685 | 785 |
| Weight (kg) | 3.3 | 3.5 | 3.8 | 4.0 | 4.2 | 4.4 | 4.7 | 4.9 | 5.1 | 5.3 | 5.6 | 5.8 | 6.0 | 6.2 | 6.5 | 6.7 |

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|----------------------|--|--------------------------------------|-------------|-----------------------|----------------|----------|---|------|
| Positioner type | | PCON-C-56PI-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Maximum 2A | - | P365 | | |
| Safety category compatible Positioner type | | PCON-CG-56PI-NP-2-0 | | | | | | | | |
| Solenoid valve type | | PCON-CY-56PI-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | PCON-PL-56PI-NP-2-0 | Differential line driver compatible Pulse series input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | PCON-PO-56PI-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | PCON-SE-56PI-0-0 | Serial communications Special type | 64 points | | | | | | |
| Field network type | | RPCON-56P | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | PSEL-C-1-56PI-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P395 |

- Controller- Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/ Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCP2CR-SS7C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 60mm, Pulse Motor, Straight Steel Base Type

| | | | | | | | | |
|-------------------|---|------------------------------|-------------------------|------------------------------|---|------------------------|---|--|
| Model Description | RCP2CR — SS7C — I — 42P — [] — [] — P1 — [] — [] | | | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option |
| | | I: Incremental specification | 42: Pulse motor 42□Size | 12: 12mm 6: 6mm 3: 3mm | 50:50mm To 600:600mm (Set steps every 50mm) | P1: PCON PSEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | B: Brake NM: Reversed-home specification VR: Vacuum joint on opposite side |

See preceding section for model descriptions.

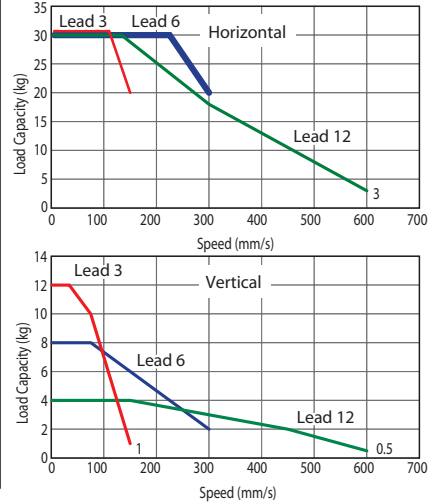


Technical Reference P. 451

- POINT** Notes on selection
- As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
 - The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 3). The above values are maximum acceleration.

Speed vs. Payload Graph

A characteristic of the RCP2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table

| Model | Lead (mm) | Max. payload (Note 1) | | Stroke (mm) | Stroke, Maximum Speed and Suction Volume | | | |
|-------------------------------|-----------|-----------------------|---------------|------------------------|--|------------------------|----------------|-------------------------|
| | | Horizontal (kg) | Vertical (kg) | | Stroke Lead | 50 to 500 (every 50mm) | Up to 600 (mm) | Suction Volume (NL/min) |
| RCP2CR-SS7C-I-42P-12-①-P1-②-③ | 12 | Up to 30 | Up to 4 | 50 to 600 (every 50mm) | 12 | 600 | 470 | 50 |
| RCP2CR-SS7C-I-42P-6-①-P1-②-③ | 6 | Up to 30 | Up to 8 | | 6 | 300 | 230 | 30 |
| RCP2CR-SS7C-I-42P-3-①-P1-②-③ | 3 | Up to 30 | Up to 12 | | 3 | 150 | 115 | 15 |

Legend: ① Stroke ② Cable length ③ Options (Unit = mm/s)

① Pricing List By Stroke

| ① Stroke (mm) | Type code |
|---------------|--------------|
| | |
| | Encoder type |
| | Incremental |
| 100 | — |
| 200 | — |
| 300 | — |
| 400 | — |
| 500 | — |
| 600 | — |

② Cable Length Price List

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

*Please see P374 for information on the maintenance cable.

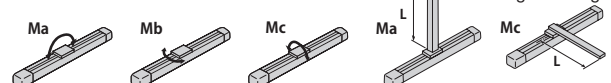
③ Option Price List

| Title | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Brake | B | P437 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ12mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.05mm or less |
| Allowable load moment | Ma: 14.7N·m Mb: 14.7N·m Mc: 33.3N·m |
| Overhang load length | Ma direction 300mm or less Mb-Mc direction 300mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

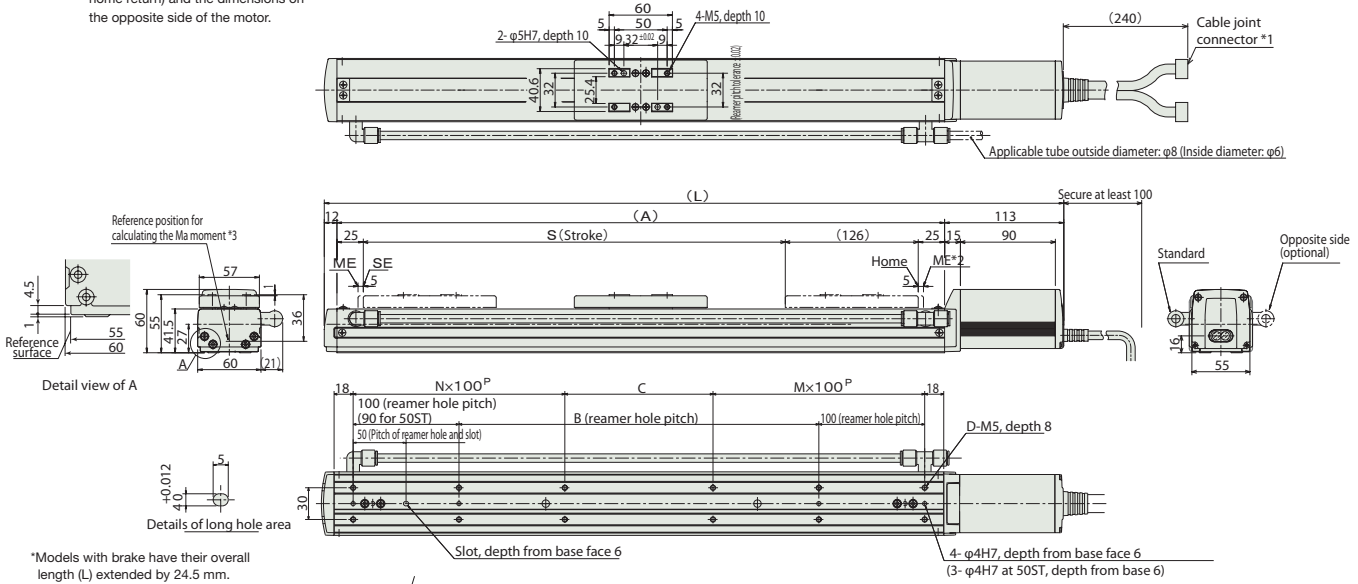
Information on special orders

P. 454



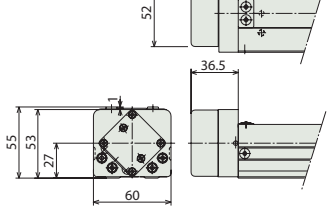
*The dimensions for the reverse home return specification varies between the motor side dimensions (the distance to home return) and the dimensions on the opposite side of the motor.

- *1 Connect the motor-encoder cable. See P374 for cable details.
- *2 Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
ME: mechanical end
SE: stroke end
Dimensions within () are for reference.
- *3 Reference position for calculating Ma moment.



*Models with brake have their overall length (L) extended by 24.5 mm.

Brake area dimensions



■ Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 351 | 401 | 451 | 501 | 551 | 601 | 651 | 701 | 751 | 801 | 851 | 901 |
| A | 226 | 276 | 326 | 376 | 426 | 476 | 526 | 576 | 626 | 676 | 726 | 776 |
| B | 0 | 40 | 90 | 140 | 190 | 240 | 290 | 340 | 390 | 440 | 490 | 540 |
| C | 90 | 40 | 90 | 140 | 190 | 40 | 90 | 140 | 190 | 40 | 90 | 140 |
| D | 6 | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 | 16 | 16 | 16 |
| M | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| N | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| Weight (kg) | 3.3 | 3.6 | 3.9 | 4.2 | 4.6 | 4.9 | 5.3 | 5.6 | 6.0 | 6.3 | 6.6 | 6.9 |

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|----------------------|--|--------------------------------------|-------------|-----------------------|----------------|----------|---|------|
| Positioner type | | PCON-C-42PI-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Maximum 2A | - | P365 | | |
| Safety category compatible Positioner type | | PCON-CG-42PI-NP-2-0 | | | | | | | | |
| Solenoid valve type | | PCON-CY-42PI-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | PCON-PL-42PI-NP-2-0 | Differential line driver compatible Pulse series input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | PCON-PO-42PI-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | PCON-SE-42PI-0-0 | Serial communications Special type | 64 points | | | | | | |
| Field network type | | RPCON-42P | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | PSEL-C-1-42PI-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P395 |

- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/ Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Build-In (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCP2CR-SS8C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 80mm, Pulse Motor, Straight Steel Base Type

| | | | | | | | | | |
|-------------------|---------------|------------------------------|------------------------------|--------------------------------|--|------------------------|---|--|--|
| Model Description | RCP2CR | SS8C | I | 56P | | | P1 | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | |
| | | I: Incremental specification | 56: Pulse motor 56□: Size | 20: 20mm 10: 10mm 5: 5mm | 50:50mm To 1000:1000mm (Set steps every 50mm) | P1: PCON PSEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | B: Brake NM: Reversed-home specification VR: Vacuum joint on opposite side | |

See preceding section for model descriptions.

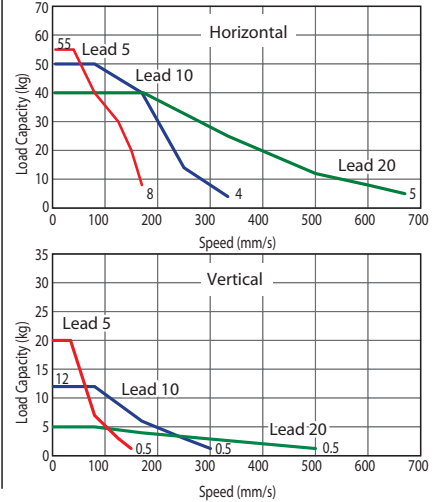


Technical Reference P. 451

- POINT** Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - (2) Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
 - (3) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 5). The above values are maximum acceleration.

Speed vs. Payload Graph

A characteristic of the RCP2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table

Leads and Payloads

(Note 1) Please note that the maximum payload decreases when the speed increases.

| Model | Lead (mm) | Max. payload (Note 1) | | Stroke (mm) |
|-------------------------------|-----------|-----------------------|---------------|----------------------------|
| | | Horizontal (kg) | Vertical (kg) | |
| RCP2CR-SS8C-I-56P-20-①-P1-②-③ | 20 | Up to 40 | Up to 5 | 50 to 1000 (every 50mm) |
| RCP2CR-SS8C-I-56P-10-①-P1-②-③ | 10 | Up to 50 | Up to 12 | |
| RCP2CR-SS8C-I-56P-5-①-P1-②-③ | 5 | Up to 55 | Up to 20 | |

Legend: ① Stroke ② Cable length ③ Options

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | 50 to 800 (every 50mm) | Up to 900 (mm) | Up to 1000 (mm) | Suction Volume (Nl/min) |
|----------------|---------------------------|-------------------|--------------------|----------------------------|
| | 20 | 666 <500> | 625 <500> | |
| 10 | 333 <300> | 310 <300> | 255 | 40 |
| 5 | 165 (150) | 155 (150) | 125 | 20 |

* < > indicate vertical service. (Unit = mm/s)

① Pricing List By Stroke

| ① Stroke (mm) | Type code |
|---------------|--------------|
| | SS8C |
| | Encoder type |
| | Incremental |
| 100 | — |
| 200 | — |
| 300 | — |
| 400 | — |
| 500 | — |
| 600 | — |
| 700 | — |
| 800 | — |
| 900 | — |
| 1000 | — |

② Cable Length Price List

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

*Please see P374 for information on the maintenance cable.

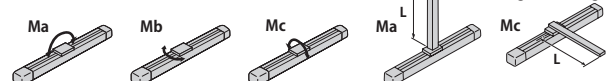
③ Option Price List

| Title | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Brake | B | P437 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ16mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.05mm or less |
| Allowable load moment | Ma: 36.3N·m Mb: 36.3N·m Mc: 77.4N·m |
| Overhang load length | Ma direction 450mm or less Mb-Mc direction 450mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 10000km |

Direction of allowable load moment



RCP2CR-HS8C

Cleanroom ROBO Cylinder, High-Speed Slider Type, Actuator Width 80mm, Pulse Motor, Straight Steel Base Type

| | | | | | | | | | |
|-------------------|---------------|------------------------------|------------------------------|------------|--|------------------------|---|--|--|
| Model Description | RCP2CR | HS8C | I | 86P | | | P2 | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | |
| | | I: Incremental specification | 86: Pulse motor 86□: Size | 30: 30mm | 50:50mm To 1000:1000mm (Set steps every 50mm) | P2: PCON-CF RCP2-CF | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | B: Brake NM: Reversed-home specification VR: Vacuum joint on opposite side | |

See preceding section for model descriptions.

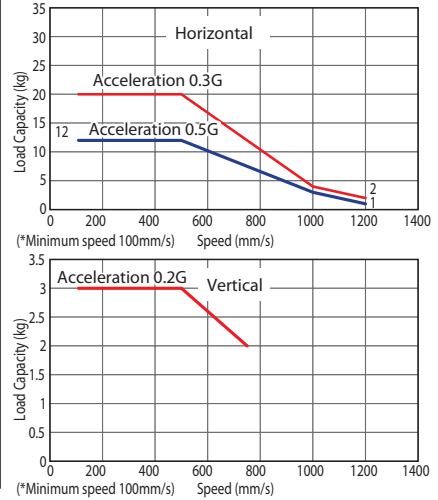


Technical Reference P. 451

- POINT** Notes on selection
- (1) In high-speed types, due to the large leads in ball screws, there are cases where operating at low speeds will cause vibration and noise. Therefore, use at movement speeds over 100mm/s.
 - (2) As the stroke length increases, decrease the maximum speed because the ball screw RPMs become hazardous. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - (3) Since the RCP2 Series uses a pulse motor, the payload decreases at high speeds. Use the diagram of speed and load capacity on the right to check the load capacity at the speed you desire.
 - (4) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation). The load capacity is based on operation at an acceleration of 0.5G (or 0.3G if the actuator is operated vertically).

Speed vs. Payload Graph

A characteristic of the RCP2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table

| Model | Lead (mm) | Max. payload (Note 1) | | Stroke (mm) | Stroke and Maximum Speed | | | | |
|-------------------------------|-----------|-----------------------|---------------|-------------------------|--------------------------|------------------------|----------------|-----------------|-------------------------|
| | | Horizontal (kg) | Vertical (kg) | | Stroke Lead | 50 to 800 (every 50mm) | Up to 900 (mm) | Up to 1000 (mm) | Suction Volume (Nl/min) |
| RCP2CR-HS8C-I-86P-30-①-P2-②-③ | 30 | Up to 20 | Up to 3 | 50 to 1000 (every 50mm) | 30 | 1200 <750> | 1000 <750> | 800 <750> | 180 |

Legend: ① Stroke ② Cable length ③ Options

* < > indicate vertical service. (Unit = mm/s)

① Pricing List By Stroke

| ① Stroke (mm) | Type code | |
|---------------|--------------|--|
| | HS8C | |
| | Encoder type | |
| | Incremental | |
| 100 | — | |
| 200 | — | |
| 300 | — | |
| 400 | — | |
| 500 | — | |
| 600 | — | |
| 700 | — | |
| 800 | — | |
| 900 | — | |
| 1000 | — | |

③ Option Price List

| Title | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Brake | B | P437 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

② Cable Length Price List

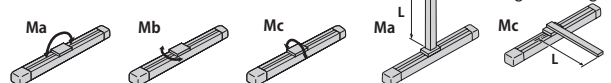
| Type | Cable symbol | Standard price |
|----------------|--------------------------------------|----------------|
| Standard type | P (1m) | — |
| | S (3m) | — |
| | M (5m) | — |
| Special length | X06 (6m) to X10 (10m) | — |
| | X11 (11m) to X15 (15m) | — |
| | X16 (16m) to X20 (20m) | — |
| Robot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

*Please see P374 for information on the maintenance cable.

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ16mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.05mm or less |
| Allowable load moment | Ma: 36.3N·m Mb: 36.3N·m Mc: 77.4N·m |
| Overhang load length | Ma direction 450mm or less Mb-Mc direction 450mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 10000km |

Direction of allowable load moment



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

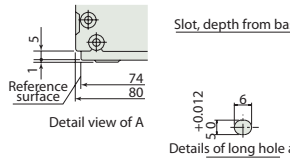
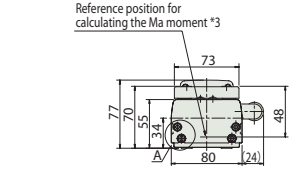
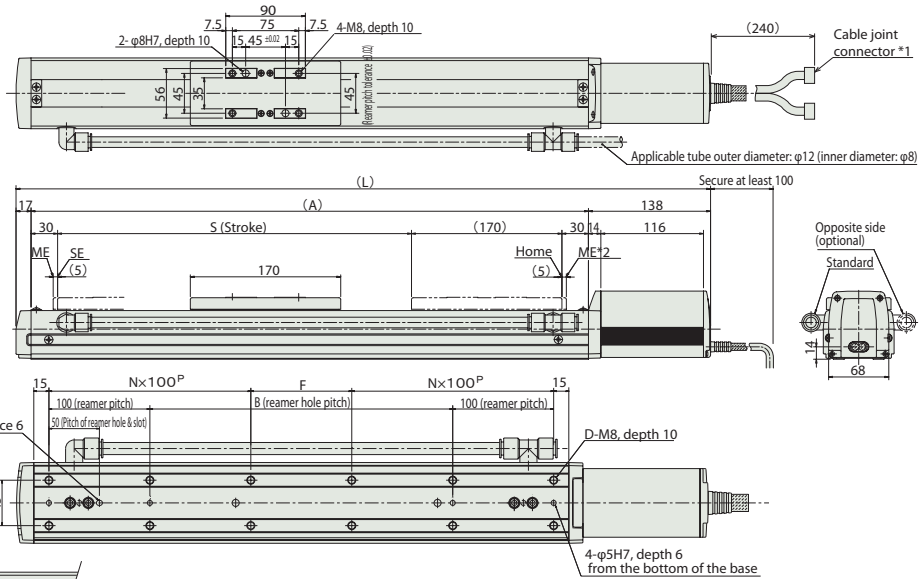
Information on special orders

P. 454



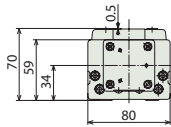
- *1 Connect the motor-encoder cable. See P374 for cable details.
- *2 Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
ME: mechanical end
SE: stroke end
- *3 Reference position for calculating Ma moment.

*The dimensions for the reverse home return specification varies between the motor side dimensions (the distance to home return) and the dimensions on the opposite side of the motor.



Brake area dimensions

*The total length (L) with brake becomes 26mm longer than the standard length (see table at right).



■ Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 |
|-------------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| L | 435 | 485 | 535 | 585 | 635 | 685 | 735 | 785 | 835 | 885 | 935 | 985 | 1035 | 1085 | 1135 | 1185 | 1235 | 1285 | 1335 | 1385 |
| A | 280 | 330 | 380 | 430 | 480 | 530 | 580 | 630 | 680 | 730 | 780 | 830 | 880 | 930 | 980 | 1030 | 1080 | 1130 | 1180 | 1230 |
| B | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 |
| D | 8 | 8 | 8 | 10 | 12 | 12 | 12 | 14 | 16 | 16 | 16 | 18 | 20 | 20 | 20 | 22 | 24 | 24 | 24 | 26 |
| F | 50 | 100 | 150 | 0 | 50 | 100 | 150 | 0 | 50 | 100 | 150 | 0 | 50 | 100 | 150 | 0 | 50 | 100 | 150 | 0 |
| N | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 |
| Weight (kg) | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 | 9.6 | 10.1 | 10.6 | 11.2 | 11.7 | 12.3 | 12.7 | 13.3 | 13.8 | 14.4 | 14.9 | 15.4 | 15.9 | 16.5 | 17.0 |

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page |
|-----------------|---------------|---------------------|--------------------------------------|--------------------------------------|-------------|-----------------------|----------------|----------|
| Positioner type | | PCON-CF-86PI-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Maximum 6A | — | P365 |

Caution Please note that the CF-type dedicated encoder cable used differs from that used with the PCON-C/CG/CY/PL/PO/SE controllers.

- Controller- Integrated
- Slider Type
- Rod Type
- Table Arm/Fat
- Gripper/ Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10w
- Servo Motor 20w
- Servo Motor 30w
- Servo Motor 60w
- Servo Motor 100w
- Servo Motor 150w
- Servo Motor 750w

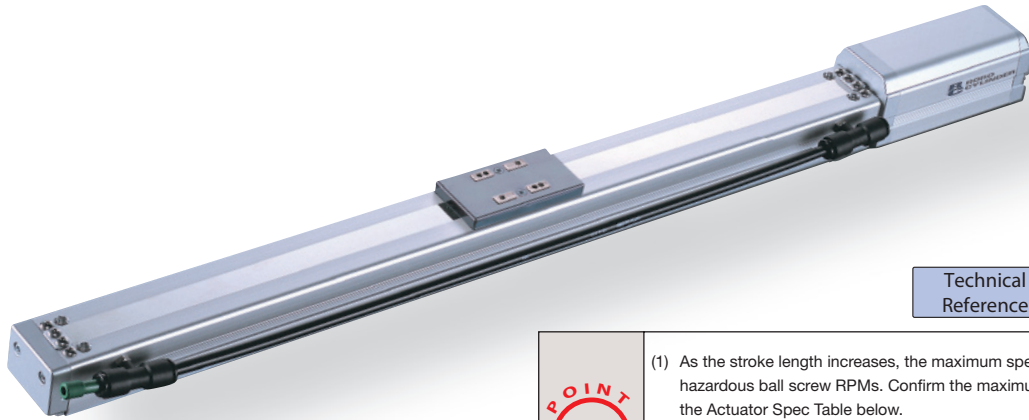
RCACR-SA4C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Coupling Specification

| | | | | | |
|-------------------|------------------------------|---|------------------------|----------------------------------|--|
| Model Description | RCACR — SA4C — | 20 — | A1 — | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke |
| | | I: Incremental specification A: Absolute specification | 20: Servo motor 20W | 10: 10mm 5: 5mm 2.5: 2.5mm | 50:50mm To 400:400mm (Set steps every 50mm) |
| | | | | | Compatible Controllers |
| | | | | | A1: ACON ASEL |
| | | | | | Cable length |
| | | | | | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable |
| | | | | | Option |
| | | | | | B: Brake FT: Foot bracket HS: Home check sensor LA: Power saving NM: Reversed-home specification SS: Slider spacer VR: Vacuum joint on opposite side |

See preceding section for model descriptions.

Power saving



Technical Reference P. 451

- POINT**
Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - (2) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation at lead 2.5). The above values are maximum acceleration.

Actuator Specifications Table

Leads and Payloads

| Model | Motor output | Lead (mm) | Max. payload | | Thrust (N) | Stroke (mm) |
|-----------------------------|--------------|-----------|-----------------|---------------|------------|---------------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCACR-SA4C-①-20-10-②-A1-③④ | 20 | 10 | 4 | 1 | 19.6 | 50 to 400 (Every 50mm) |
| RCACR-SA4C-①-20-5-②-A1-③④ | | 5 | 6 | 2.5 | 39.2 | |
| RCACR-SA4C-①-20-2.5-②-A1-③④ | | 2.5 | 8 | 4.5 | 78.4 | |

Legend: ① Encoder type ② Stroke ③ Cable length ④ Option

Stroke, Maximum Speed and Suction Volume

| Lead | Stroke | 50 to 400 (every 50mm) | Suction Volume (Nl/min) |
|------|--------|---------------------------|----------------------------|
| | | | |
| 10 | | 665 | 50 |
| 5 | | 330 | 30 |
| 2.5 | | 165 | 15 |

(Unit = mm/s)

① Pricing List By Encoder Type and ② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA4C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| | I | A |
| 50 | — | — |
| 100 | — | — |
| 150 | — | — |
| 200 | — | — |
| 250 | — | — |
| 300 | — | — |
| 350 | — | — |
| 400 | — | — |

③ Cable Length Price List

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

*See P384 for maintenance cables.

④ Option Price List

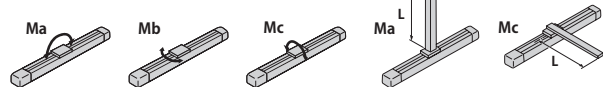
| Title | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Brake | B | P437 | — |
| Foot bracket | FT | P440 | — |
| Home check sensor | HS | P442 | — |
| Power saving | LA | P442 | — |
| Reversed-home specification | NM | P442 | — |
| Slider spacer | SS | P445 | — |
| Vacuum joint on opposite side | VR | P446 | — |

Actuator Specification

| Item | Description |
|---|---|
| Drive method | Ball screw φ8mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.05mm or less |
| Base | Material Aluminum White alumite treated |
| Allowable load moment | Ma: 2.7N·m Mb: 3.9N·m Mc: 6.8N·m |
| Overhang load length | Ma direction: 120mm or less, Mb-Mc direction: 120mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/Flat
Gripper/Rotary Type
Cleanroom
Splash-resistant
Controller mounted
Coupling C
Built-in Direct D
Reverse-mounted R
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

RCACR-SA5C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 52mm, 24V Servo Motor, Coupling Specification

Model Description **RCACR — SA5C** — **20** — **A1**

| | | | | | | | | |
|---|------------------------|------------------------------|--|------------------|---|---|--------------|--------|
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option |
| I: Incremental specification A: Absolute specification | 20: Servo motor 20W | 12: 12mm 6: 6mm 3: 3mm | 50:50mm To 500:500mm (Set steps every 50mm) | A1: ACON ASEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | B: Brake FT: Foot bracket HS: Home check sensor LA: Power saving NM: Reversed-home specification VR: Vacuum joint on opposite side | | |

See preceding section for model descriptions.

Power saving



Technical Reference P. 451

- POINT** Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - (2) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation at lead 3). The above values are maximum acceleration.

Actuator Specifications Table

Leads and Payloads

| Model | Motor output | Lead (mm) | Max. payload | | Thrust (N) | Stroke (mm) |
|----------------------------|--------------|-----------|-----------------|---------------|------------|---------------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCACR-SA5C-①-20-12-②-A1-③④ | 20 | 12 | 4 | 1 | 16.7 | 50 to 500 (Every 50mm) |
| RCACR-SA5C-①-20-6-②-A1-③④ | | 6 | 8 | 2 | 33.3 | |
| RCACR-SA5C-①-20-3-②-A1-③④ | | 3 | 12 | 4 | 65.7 | |

Legend: ① Encoder type ② Stroke ③ Cable length ④ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | Stroke | | | Suction Volume (Nl/min) |
|-------------|------------------------|----------|----|-------------------------|
| | 50 to 450 (every 50mm) | 500 (mm) | | |
| 12 | 800 | 760 | 50 | |
| 6 | 400 | 380 | 30 | |
| 3 | 200 | 190 | 15 | |

(Unit = mm/s)

① Pricing List By Encoder Type and ② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA5C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | — | — |
| 100 | — | — |
| 150 | — | — |
| 200 | — | — |
| 250 | — | — |
| 300 | — | — |
| 350 | — | — |
| 400 | — | — |
| 450 | — | — |
| 500 | — | — |

④ Option Price List

| Title | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Brake | B | P437 | — |
| Foot bracket | FT | P440 | — |
| Home check sensor | HS | P442 | — |
| Power saving | LA | P442 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

③ Cable Length Price List

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

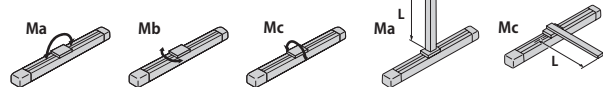
*See P384 for maintenance cables.

Actuator Specification

| Item | Description |
|---|---|
| Drive method | Ball screw φ10mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material Aluminum White alumite treated |
| Allowable load moment | Ma: 4.9N·m Mb: 6.8N·m Mc:11.7N·m |
| Overhang load length | Ma direction: 150mm or less, Mb-Mc direction: 150mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/Flat
Gripper/Rotary Type
Cleanroom
Splash-resistant
Controller mounted
Coupling
Built-in (Direct)
Reverse-
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

2D CAD

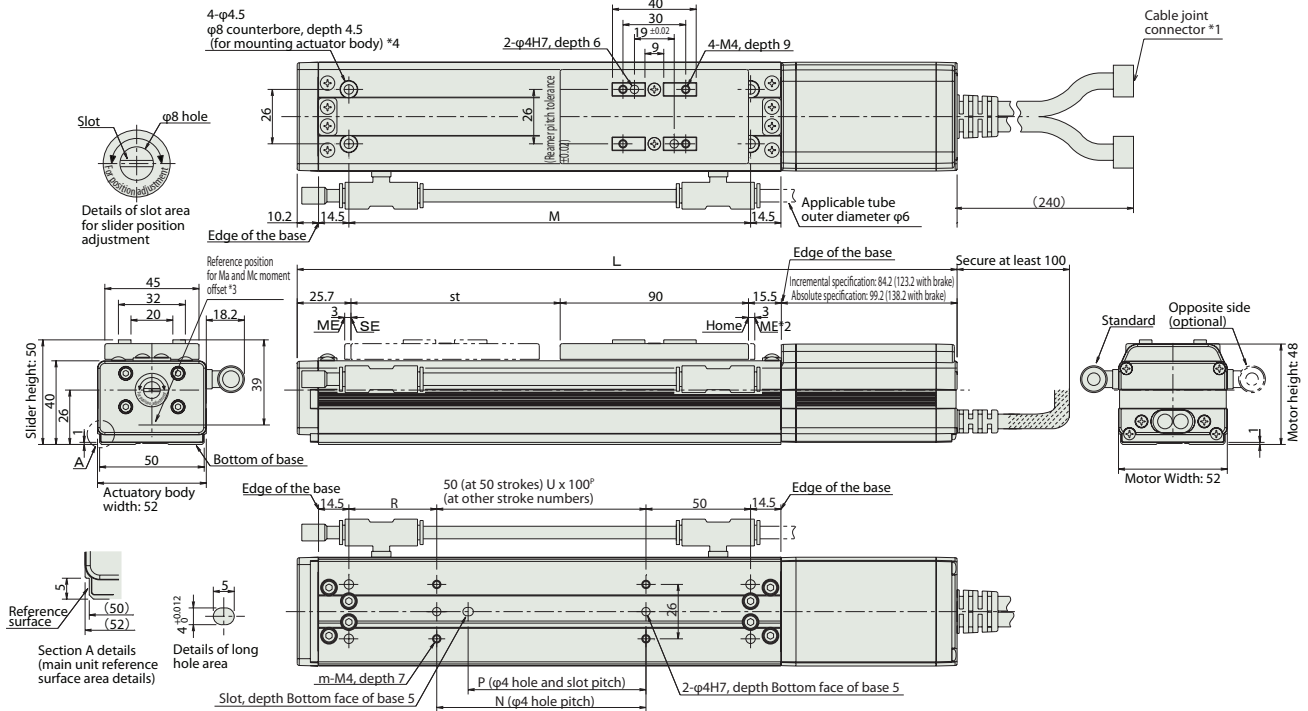
3D CAD

Information on special orders

P. 454

- *1. Connect the motor-encoder cable. See P384 for cable details.
- *2. Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
- *3. ME: mechanical end SE: stroke end ME: mechanical end SE: stroke end
- *3. Offset reference position for Ma moment.

- *4. If the actuator is affixed using only the mounting holes provided in the top face of the base, the base may twist to cause abnormal sliding of the slider or noise. When the mounting holes in the top face of the base are used, keep the stroke to 200mm or less.



■ Dimensions and Weight by Stroke

*Adding a brake increases the weight 0.3kg.

| | | Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|-------------|-------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | Incremental | Without brake | 265.4 | 315.4 | 365.4 | 415.4 | 465.4 | 515.4 | 565.4 | 615.4 | 665.4 | 715.4 |
| | | With brake | 304.4 | 354.4 | 404.4 | 454.4 | 504.4 | 554.4 | 604.4 | 654.4 | 704.4 | 754.4 |
| | Absolute | Without brake | 280.4 | 330.4 | 380.4 | 430.4 | 480.4 | 530.4 | 580.4 | 630.4 | 680.4 | 730.4 |
| | | With brake | 319.4 | 369.4 | 419.4 | 469.4 | 519.4 | 569.4 | 619.4 | 669.4 | 719.4 | 769.4 |
| M | | | 142 | 192 | 242 | 292 | 342 | 392 | 442 | 492 | 542 | 592 |
| N | | | 50 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 |
| P | | | 35 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 |
| R | | | 42 | 42 | 92 | 42 | 92 | 42 | 92 | 42 | 92 | 42 |
| U | | | - | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 |
| m | | | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 |
| Weight (kg) | | | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2 | 2.1 | 2.2 |

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|---------------------|--|--------------------------------------|-------------|-------------------------|----------------|----------|---|------|
| Positioner type | | ACON-C-20I-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Rated 1.3A Peak 5.1A | - | P375 | | |
| Safety category compatible Positioner type | | ACON-CG-20I-NP-2-0 | | | | | | | | |
| Solenoid valve type | | ACON-CY-20I-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | ACON-PL-20I-NP-2-0 | Compatible with differential line driver Pulse train input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | ACON-PO-20I-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | ACON-SE-20I-0-0 | Serial communications Special Type | 64 points | | | | | | |
| Field network type | | RACON-20 | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | ASEL-C-1-20I-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P405 |

*ASEL is for 1-axis specification.

① For entering the encoder type (I: incremental/A: absolute).

- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Fat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCACR-SA6C

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 58mm, 24V Built-in Servo Motor, Coupling Specification

Model Description **RCACR — SA6C** — **30** — **A1**

| | | | | | | | | |
|---|------------------------|------------------------------|--|------------------|---|---|--------------|--------|
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option |
| I: Incremental specification A: Absolute specification | 30: Servo motor 30W | 12: 12mm 6: 6mm 3: 3mm | 50:50mm To 600:600mm (Set steps every 50mm) | A1: ACON ASEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | B: Brake FT: Foot bracket HS: Home check sensor LA: Power saving NM: Reversed-home specification VR: Vacuum joint on opposite side | | |

See preceding section for model descriptions.

Power saving



Technical Reference P. 451

- POINT** Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - (2) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation at lead 3). The above values are maximum acceleration.

Actuator Specifications Table

Leads and Payloads

| Model | Motor output | Lead (mm) | Max. payload | | Thrust (N) | Stroke (mm) |
|----------------------------|--------------|-----------|-----------------|---------------|------------|---------------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCACR-SA6C-①-30-12-②-A1-③④ | 30 | 12 | 6 | 1.5 | 24.2 | 50 to 600 (Every 50mm) |
| RCACR-SA6C-①-30-6-②-A1-③④ | | 6 | 12 | 3 | 48.4 | |
| RCACR-SA6C-①-30-3-②-A1-③④ | | 3 | 18 | 6 | 96.8 | |

Legend: ① Encoder type ② Stroke ③ Cable length ④ Option

Stroke, Maximum Speed and Suction Volume

| Stroke / Lead | Maximum Speed (mm/min) | | | | | Suction Volume (Nl/min) |
|---------------|------------------------|----------|----------|----------|----------|-------------------------|
| | 50 to 450 (every 50mm) | 500 (mm) | 550 (mm) | 600 (mm) | 600 (mm) | |
| 12 | 800 | 760 | 640 | 540 | 50 | |
| 6 | 400 | 380 | 320 | 270 | 30 | |
| 3 | 200 | 190 | 160 | 135 | 15 | |

(Unit = mm/s)

① Pricing List By Encoder Type and ② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA6C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | I | A |
| 100 | — | — |
| 150 | — | — |
| 200 | — | — |
| 250 | — | — |
| 300 | — | — |
| 350 | — | — |
| 400 | — | — |
| 450 | — | — |
| 500 | — | — |
| 550 | — | — |
| 600 | — | — |

④ Option Price List

| Title | Option code | See page | Standard price |
|-------------------------------|-------------|----------|----------------|
| Brake | B | P437 | — |
| Foot bracket | FT | P440 | — |
| Home check sensor | HS | P442 | — |
| Power saving | LA | P442 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

③ Cable Length Price List

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

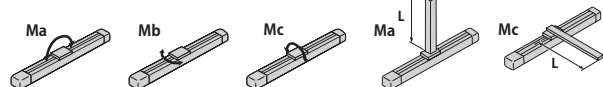
*See P384 for maintenance cables.

Actuator Specification

| Item | Description |
|---|---|
| Drive method | Ball screw φ10mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material Aluminum White alumite treated |
| Allowable load moment | Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m |
| Overhang load length | Ma direction: 220mm or less, Mb-Mc direction: 220mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller mounted
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

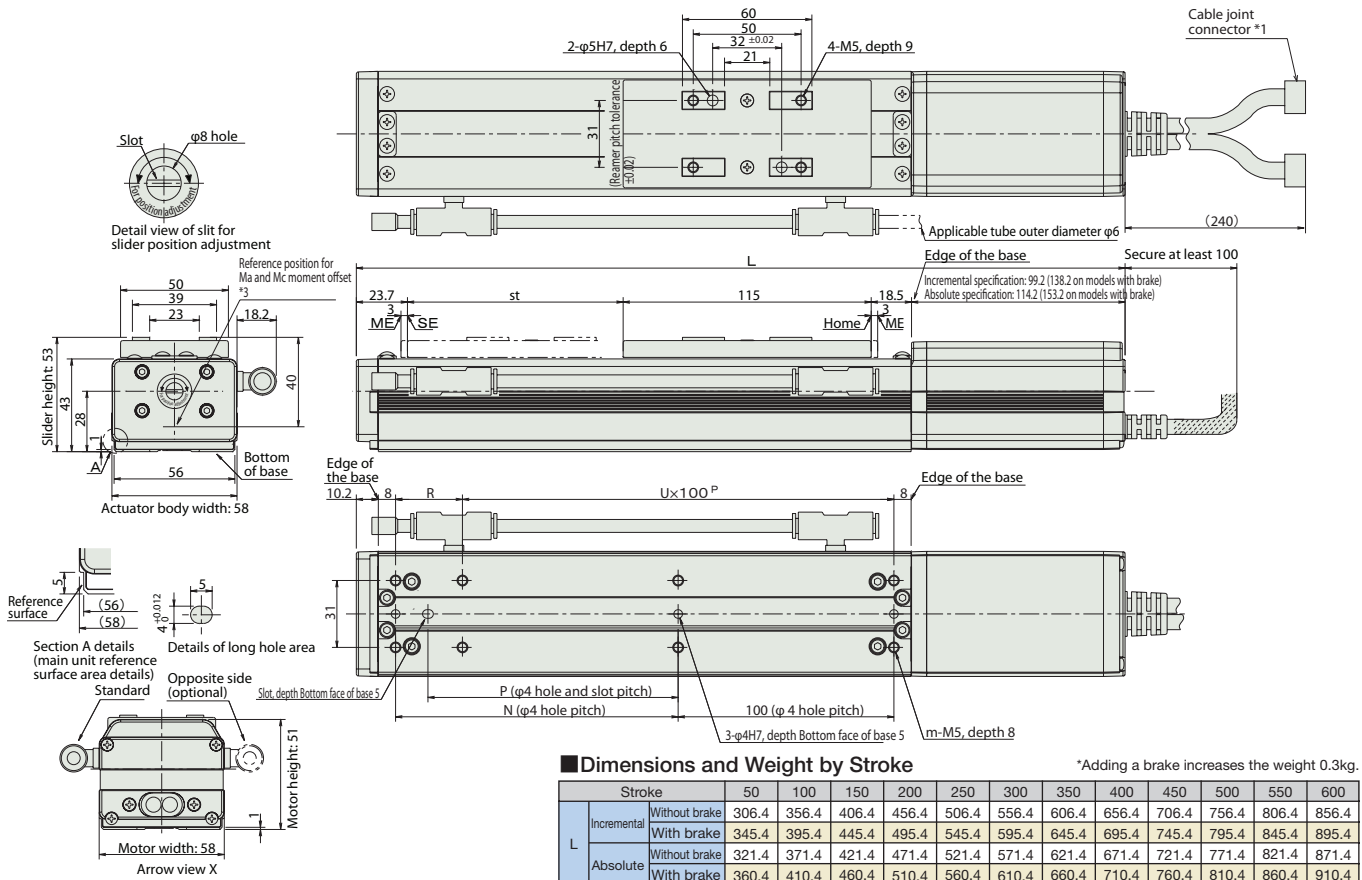
2D CAD

3D CAD

Information on special orders

P. 454

- *1. Connect the motor-encoder cable. See P384 for cable details.
- *2. Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
- ME: mechanical end SE: stroke end
- *3. Offset reference position for Ma moment.



Dimensions and Weight by Stroke

*Adding a brake increases the weight 0.3kg.

| L | Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
|-------------|---------------|-------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | Incremental | Without brake | 306.4 | 356.4 | 406.4 | 456.4 | 506.4 | 556.4 | 606.4 | 656.4 | 706.4 | 756.4 |
| Absolute | With brake | 345.4 | 395.4 | 445.4 | 495.4 | 545.4 | 595.4 | 645.4 | 695.4 | 745.4 | 795.4 | 845.4 | 895.4 |
| | Without brake | 321.4 | 371.4 | 421.4 | 471.4 | 521.4 | 571.4 | 621.4 | 671.4 | 721.4 | 771.4 | 821.4 | 871.4 |
| N | With brake | 360.4 | 410.4 | 460.4 | 510.4 | 560.4 | 610.4 | 660.4 | 710.4 | 760.4 | 810.4 | 860.4 | 910.4 |
| | Without brake | 81 | 131 | 181 | 231 | 281 | 331 | 381 | 431 | 481 | 531 | 581 | 631 |
| P | | 66 | 116 | 166 | 216 | 266 | 316 | 366 | 416 | 466 | 516 | 566 | 616 |
| R | | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 |
| U | | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 |
| m | | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 |
| Weight (kg) | | 1.4 | 1.6 | 1.8 | 2 | 2.2 | 2.4 | 2.6 | 2.8 | 3 | 3.2 | 3.4 | 3.6 |

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|---------------------|--|--------------------------------------|-------------|-------------------------|----------------|----------|---|------|
| Positioner type | | ACON-C-30I-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Rated 1.3A Peak 5.1A | - | P375 | | |
| Safety category compatible Positioner type | | ACON-CG-30I-NP-2-0 | | | | | | | | |
| Solenoid valve type | | ACON-CY-30I-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | ACON-PL-30I-NP-2-0 | Compatible with differential line driver Pulse train input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | ACON-PO-30I-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | ACON-SE-30I-0-0 | Serial communications Special Type | 64 points | | | | | | |
| Field network type | | RACON-30 | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | ASEL-C-1-30I-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P405 |

*ASEL is for 1-axis specification.

① For entering the encoder type (I: incremental/A: absolute).

Controller-Integrated
Slider Type
Rod Type
Table Arm/Flat
Gripper/Rotary Type
Cleanroom
Splash-resistant
Controller
Coupling
Built-in Direct
Reverse-mounted
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

RCACR-SA5D

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 52mm, 24V Built-in Servo Motor (Direct Coupling) Specification

| | | | | | | | | | | | |
|-------------------|---|------|--------------|------------------------|------------------------------|--|------------------------|---|--|---|--|
| Model Description | RCACR — SA5D | — | 20 | — | | — | A1 | — | | — | |
| | Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | | |
| | I: Incremental specification A: Absolute specification | | | 20: Servo motor 20W | 12: 12mm 6: 6mm 3: 3mm | 50:50mm To 500:500mm (Set steps every 50mm) | A1: ACON ASEL | N: None P: 1m S: 3m M: 5m X: Length designation R: Robot cable | BE: Brake (cable exiting the end) BL: Brake (cable exiting the left) BR: Brake (cable exiting the right) LA: Power saving NM: Reversed-home specification VR: Vacuum joint on opposite side | | |

See preceding section for model descriptions.

Power saving



Technical Reference P. 451

- POINT**
Notes on selection
- As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - The load capacity is based on operation at an acceleration of 0.3G (0.2G if lead is 3). The above values are maximum acceleration.
 - Class 10 cleanliness is based on the horizontal specification. Operations run vertically may not meet this Class 10 specification.

Actuator Specifications Table

Leads and Payloads

| Model | Motor output | Lead (mm) | Max. payload | | Thrust (N) | Stroke (mm) |
|----------------------------|--------------|-----------|-----------------|---------------|------------|---------------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCACR-SA5D-①-20-12-②-A1-③④ | 20 | 12 | 4 | 1 | 16.7 | 50 to 500 (Every 50mm) |
| RCACR-SA5D-①-20-6-②-A1-③④ | | 6 | 8 | 2 | 33.3 | |
| RCACR-SA5D-①-20-3-②-A1-③④ | | 3 | 12 | 4 | 65.7 | |

Legend: ① Encoder type ② Stroke ③ Cable length ④ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | 50 to 450 (every 50mm) | | 500 (mm) | Suction Volume (Nl/min) |
|----------------|---------------------------|-----|-------------|-------------------------------|
| | 12 | 800 | 760 | 50 |
| 6 | 400 | 380 | 30 | |
| 3 | 200 | 190 | 15 | |

(Unit = mm/s)

① Pricing List By Encoder Type and ② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA5D | |
| | ① Encoder type | |
| | Incremental | Absolute |
| | I | A |
| 50 | — | — |
| 100 | — | — |
| 150 | — | — |
| 200 | — | — |
| 250 | — | — |
| 300 | — | — |
| 350 | — | — |
| 400 | — | — |
| 450 | — | — |
| 500 | — | — |

④ Option Price List

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | P437 | — |
| Brake (cable exiting the left) | BL | P437 | — |
| Brake (cable exiting the right) | BR | P437 | — |
| Power saving | LA | P442 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

③ Cable Length Price List

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

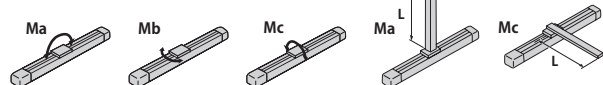
*See P384 for maintenance cables.

Actuator Specification

| Item | Description |
|---|---|
| Drive method | Ball screw φ10mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material Aluminum White alumite treated |
| Allowable load moment | Ma: 4.9N·m Mb: 6.8N·m Mc: 11.7N·m |
| Overhang load length | Ma direction: 150mm or less, Mb-Mc direction: 150mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller mounted
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

2D CAD

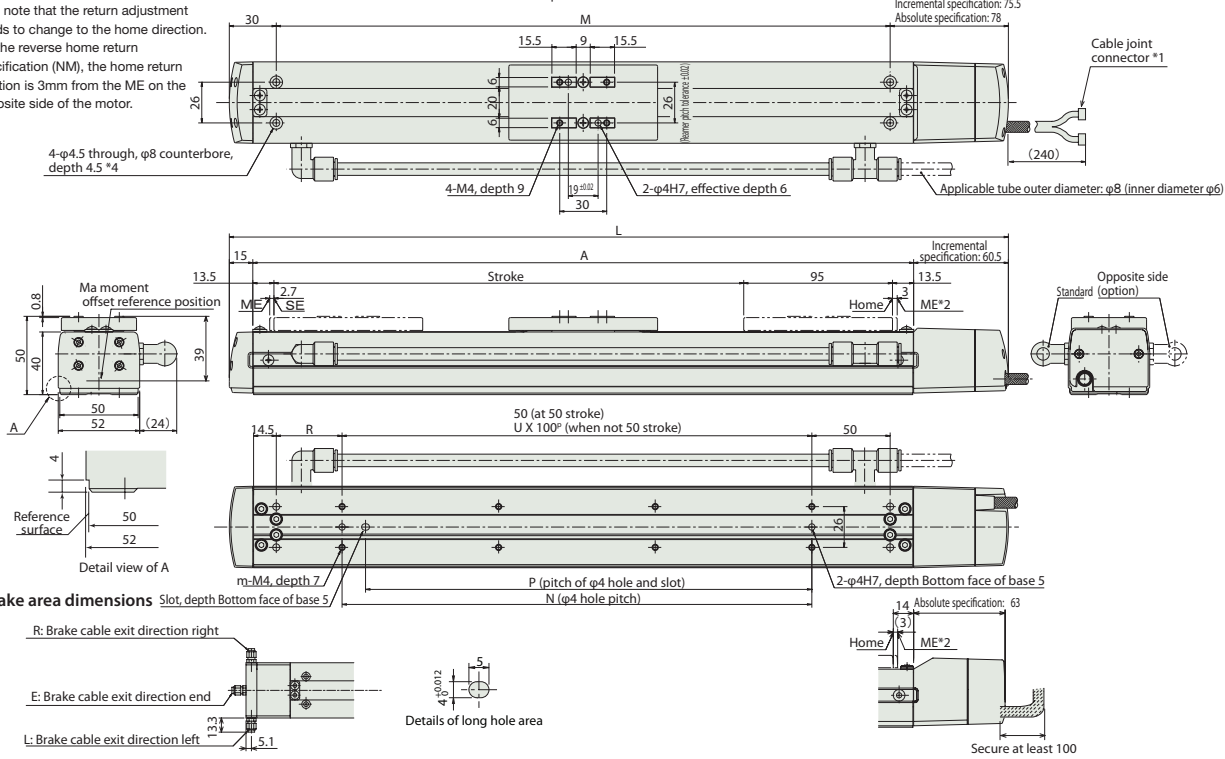
3D CAD

Information on special orders

P. 454

*Take note that the return adjustment needs to change to the home direction.
*For the reverse home return specification (NM), the home return position is 3mm from the ME on the opposite side of the motor.

- *1. Connect the motor-encoder cable. See P384 for cable details.
- *2. Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
ME: mechanical end. SE: stroke end
- *3. Offset reference position for Ma moment.
- *4. If the actuator is affixed using only the mounting holes provided in the top face of the base, the base may twist to cause abnormal sliding of the slider or generate noise. When the mounting holes in the top face of the base are used, keep the stroke to 300mm or less.



Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|-------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | Incremental | 247.5 | 297.5 | 347.5 | 397.5 | 447.5 | 497.5 | 547.5 | 597.5 | 647.5 |
| | Absolute | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 |
| A | 172 | 222 | 272 | 322 | 372 | 422 | 472 | 522 | 572 | 622 |
| M | 142 | 192 | 242 | 292 | 342 | 392 | 442 | 492 | 542 | 592 |
| N | 50 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 |
| P | 35 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 |
| R | 42 | 42 | 92 | 42 | 92 | 42 | 92 | 42 | 92 | 42 |
| U | - | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 |
| m | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 |
| Weight (kg) | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 |

*Models with brake have their overall length (L) extended by 26.5 mm (39.8mm with wire taken out of end) and the weight increases by 0.3kg with brake.

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|---------------------|--|--------------------------------------|-------------|-------------------------|----------------|----------|---|------|
| Positioner type | | ACON-C-20I-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Rated 1.3A Peak 5.1A | - | P375 | | |
| Safety category compatible Positioner type | | ACON-CG-20I-NP-2-0 | | | | | | | | |
| Solenoid valve type | | ACON-CY-20I-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | ACON-PL-20I-NP-2-0 | Compatible with differential line driver Pulse train input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | ACON-PO-20I-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | ACON-SE-20I-0-0 | Serial communications Special Type | 64 points | | | | | | |
| Field network type | | RACON-20 | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | ASEL-C-1-20I-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P405 |

*ASEL is for 1-axis specification.

① For entering the encoder type (I: incremental/A: absolute).

- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/ Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCACR-SA6D

Cleanroom ROBO Cylinder, Slider Type, Actuator Width 58mm, 24V Built-in Servo Motor (Direct Coupling) Specification

Model Description **RCACR — SA6D** — **30** — **A1**

Series — Type — Encoder type — Motor type — Lead — Stroke — Compatible Controllers — Cable length — Option

I: Incremental specification
A: Absolute specification

30: Servo motor 30W

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

50:50mm To 600:600mm (Set steps every 50mm)

A1: ACON ASEL

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

BE: Brake (cable exiting the end)
BL: Brake (cable exiting the left)
BR: Brake (cable exiting the right)
LA: Power saving
NM: Reversed-home specification
VR: Vacuum joint on opposite side

See preceding section for model descriptions.

Power saving



Technical Reference P. 451

- POINT**
Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the maximum desired stroke speed in the Actuator Spec Table below.
 - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G if lead is 3). The above values are maximum acceleration.
 - (3) Class 10 cleanliness is based on the horizontal specification. Operations run vertically may not meet this Class 10 specification.

Actuator Specifications Table

Leads and Payloads

| Model | Motor output | Lead (mm) | Max. payload | | Thrust (N) | Stroke (mm) |
|----------------------------|--------------|-----------|-----------------|---------------|------------|------------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCACR-SA6D-①-30-12-②-A1-③④ | 30 | 12 | 6 | 1.5 | 24.2 | 50 to 600 (Every 50mm) |
| RCACR-SA6D-①-30-6-②-A1-③④ | | 6 | 12 | 3 | 48.4 | |
| RCACR-SA6D-①-30-3-②-A1-③④ | | 3 | 18 | 6 | 96.8 | |

Legend: ① Encoder type ② Stroke ③ Cable length ④ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | Stroke (mm) | | | | | Suction Volume (Nl/min) |
|-------------|------------------------|----------|----------|----------|----------|-------------------------|
| | 50 to 450 (every 50mm) | 500 (mm) | 550 (mm) | 600 (mm) | 600 (mm) | |
| 12 | 800 | 760 | 640 | 540 | 50 | |
| 6 | 400 | 380 | 320 | 270 | 30 | |
| 3 | 200 | 190 | 160 | 135 | 15 | |

(Unit = mm/s)

① Pricing List By Encoder Type and ② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA6D | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | I | A |
| 100 | — | — |
| 150 | — | — |
| 200 | — | — |
| 250 | — | — |
| 300 | — | — |
| 350 | — | — |
| 400 | — | — |
| 450 | — | — |
| 500 | — | — |
| 550 | — | — |
| 600 | — | — |

④ Option Price List

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | P437 | — |
| Brake (cable exiting the left) | BL | P437 | — |
| Brake (cable exiting the right) | BR | P437 | — |
| Power saving | LA | P442 | — |
| Reversed-home specification | NM | P442 | — |
| Vacuum joint on opposite side | VR | P446 | — |

③ Cable Length Price List

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

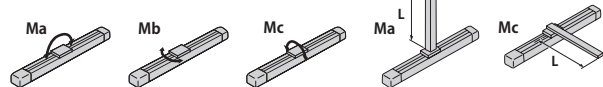
*See P384 for maintenance cables.

Actuator Specification

| Item | Description |
|---|---|
| Drive method | Ball screw φ10mm rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material Aluminum White alumite treated |
| Allowable load moment | Ma: 8.9N·m Mb: 12.7N·m Mc: 18.6N·m |
| Overhang load length | Ma direction: 220mm or less, Mb-Mc direction: 220mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness class | Class 10 (0.1μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (non-condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com

2D CAD

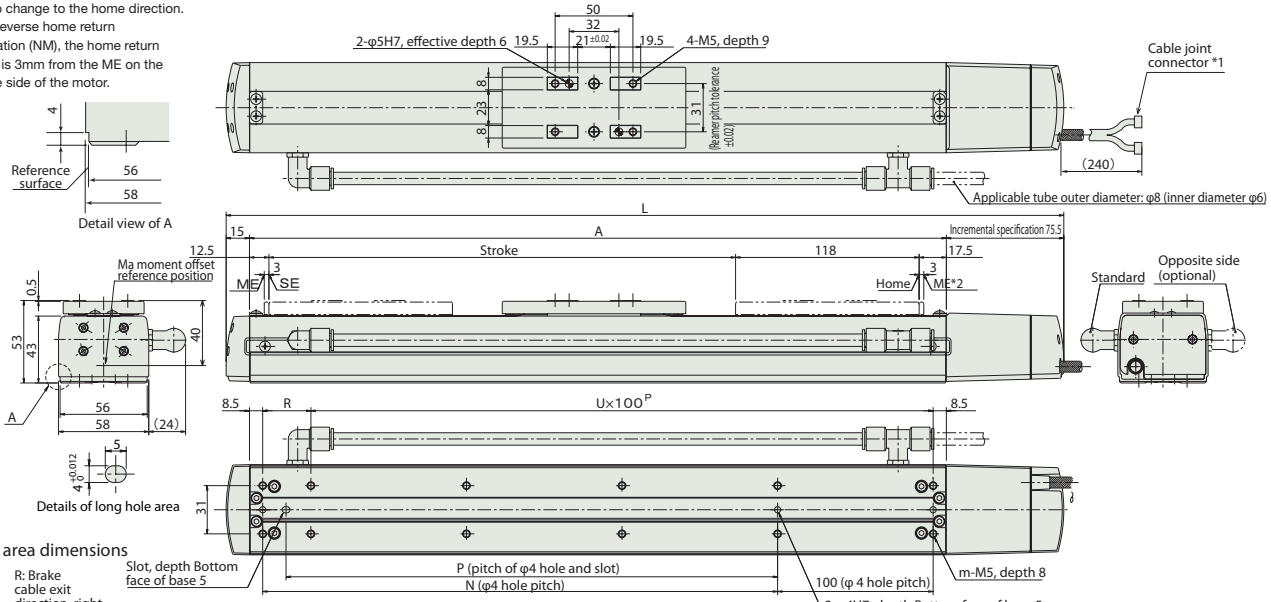
3D CAD

Information on special orders

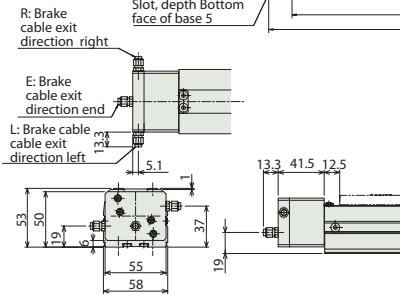
P. 454

*Take note that the return adjustment needs to change to the home direction.
 *For the reverse home return specification (NM), the home return position is 3mm from the ME on the opposite side of the motor.

- *1. Connect the motor-encoder cable. See P384 for cable details.
- *2. Watch out for interference with peripheral objects since the slider moves as far as the ME when returning home.
 ME: mechanical end SE: stroke end
- *3. Offset reference position for Ma moment.



Brake area dimensions



*Overall length (L) is increased by 26.5mm, (39.8mm with end wiring exit) and weight is increased by 0.3kg when brake-equipped.

■ Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | |
|-------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | Incremental | 288.5 | 338.5 | 388.5 | 438.5 | 488.5 | 538.5 | 588.5 | 638.5 | 688.5 | 738.5 | 788.5 | 838.5 |
| | Absolute | 292.5 | 342.5 | 392.5 | 442.5 | 492.5 | 542.5 | 592.5 | 642.5 | 692.5 | 742.5 | 792.5 | 842.5 |
| A | 198 | 248 | 298 | 348 | 398 | 448 | 498 | 548 | 598 | 648 | 698 | 748 | |
| N | 81 | 131 | 181 | 231 | 281 | 331 | 381 | 431 | 481 | 531 | 581 | 631 | |
| P | 66 | 116 | 166 | 216 | 266 | 316 | 366 | 416 | 466 | 516 | 566 | 616 | |
| R | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | |
| U | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | |
| m | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | |
| Weight (kg) | 1.3 | 1.5 | 1.7 | 1.9 | 2.1 | 2.3 | 2.5 | 2.7 | 2.9 | 3.1 | 3.3 | 3.5 | |

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Maximum number of positioning points | Input power | Power-supply capacity | Standard price | See page | | |
|--|---------------|---------------------|--|--------------------------------------|-------------|-------------------------|----------------|----------|---|------|
| Positioner type | | ACON-C-30I-NP-2-0 | Up to 512-point positioning possible | 512 points | DC24V | Rated 1.3A Peak 5.1A | - | P375 | | |
| Safety category compatible Positioner type | | ACON-CG-30I-NP-2-0 | | | | | | | | |
| Solenoid valve type | | ACON-CY-30I-NP-2-0 | Same as solenoid valve Controlled operation enabled | 3 points | | | | | | |
| Pulse series input type (Differential line driver specification) | | ACON-PL-30I-NP-2-0 | Compatible with differential line driver Pulse train input type | (-) | | | | | | |
| Pulse series input type (Open collector specification) | | ACON-PO-30I-NP-2-0 | Open collector compatible Pulse series input type | | | | | | | |
| Serial communication type | | ACON-SE-30I-N-0 | Serial communications Special Type | 64 points | | | | | | |
| Field network type | | RACON-30 | Field network Dedicated type | 768 points | | | | | - | P343 |
| Program control type | | ASEL-C-1-30I-NP-2-0 | Programmable type capable of operating up to 2 axes | 1500 points | | | | | - | P405 |

*ASEL is for 1-axis specification.

① For entering the encoder type (I: incremental/A: absolute).

- Controller- Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/ Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCS2CR-SA4C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 40mm, 200-V Servo Motor, Coupling Specification

Model Description **RCS2CR** — **SA4C** — [] — **20** — [] — [] — [] — [] — []

Series — Type — Encoder type — Motor type — Lead — Stroke — Compatible Controllers — Cable length — Option

I: Incremental specification
A: Absolute specification

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

50: 50mm to 400: 400mm (Set steps every 50mm)

T1: XSEL-J/K
T2: SCON
SSEL
XSEL-P/Q

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

B : Brake
FT : Foot bracket
HS : Home check sensor
NM : Reversed-home specification
SS : Slider spacer
VR : Variable Vacuum coupling mount

See preceding section for model descriptions.



Technical Reference P. 451

POINT Notes on selection

(1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.

(2) The load capacity is based on operation at an acceleration of 0.3G (or 0.2G if the lead is 2.5).
The above values are maximum acceleration.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|------------------------------|------------------|-----------|-----------------|--------------|------------------|------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SA4C-①-20-10-②-③-④-⑤ | 20 | 10 | 4 | 1 | 19.6 | 50 to 400 (every 50mm) |
| RCS2CR-SA4C-①-20-5-②-③-④-⑤ | | 5 | 6 | 2.5 | 39.2 | |
| RCS2CR-SA4C-①-20-2.5-②-③-④-⑤ | | 2.5 | 8 | 4.5 | 78.4 | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Lead | Stroke | 50 to 400 (every 50mm) | Suction Volume (Nl/min) |
|------|--------|------------------------|-------------------------|
| | Stroke | 50 to 400 (every 50mm) | Suction Volume (Nl/min) |
| 10 | 665 | 50 | |
| 5 | 330 | 30 | |
| 2.5 | 165 | 15 | |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA4C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | I | A |
| 100 | - | - |
| 150 | - | - |
| 200 | - | - |
| 250 | - | - |
| 300 | - | - |
| 350 | - | - |
| 400 | - | - |

④ Cable Length Price Table

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

*See P394 for details on maintenance cable.

⑤ Option Price Table

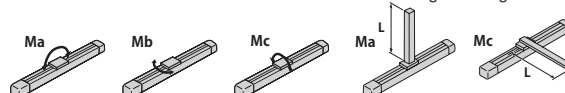
| Title | Option code | See page | Standard price |
|--------------------------------|-------------|----------|----------------|
| Brake | B | →P437 | - |
| Foot bracket | FT | →P440 | - |
| Home check sensor | HS | →P442 | - |
| Reversed-home specification | NM | →P442 | - |
| Slider Spacer | SS | →P445 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ8mm, rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: aluminum with alumite treatment |
| Allowable load moment | Ma: 2.7N·m, Mb: 3.9N·m, Mc: 6.8N·m |
| Overhang load length | Ma direction: 120mm or less, Mb Mc direction: 120 mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/flap
Gripper/Rotary Type
Cleanroom
Splash-resistant
Controller
Coupling
Built-in (Direct)
Reverse-mounted
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

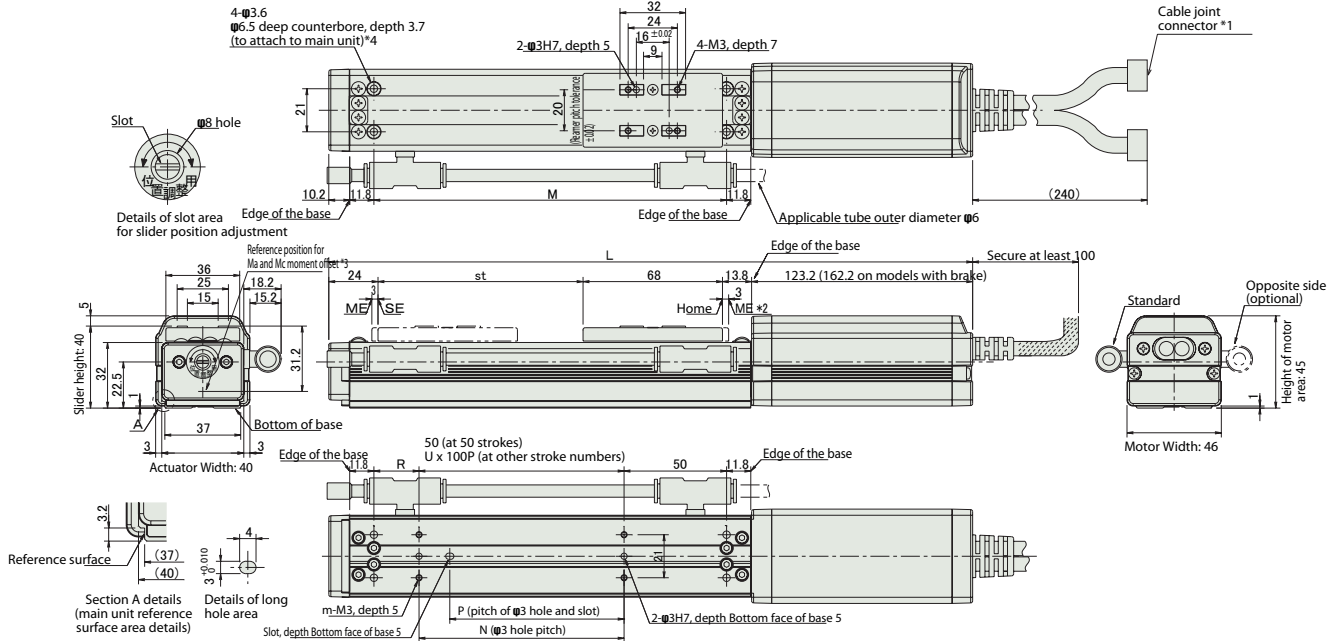
Dimensional Drawings

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

Information on special orders P. 454



- *1 Connect motor encoder cable. See P394 for details on cables.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: Mechanical End SE: Stroke End
- *3 This is standard position when calculating Ma moment.
- *4 If the actuator is affixed using only the mounting holes provided in the top face of the base, the base may twist to cause abnormal sliding of the slider or generate noise. When the mounting holes in the top face of the base are used, keep the stroke to 200 mm or less.



■ Dimensions and Weight by Stroke * Adding a brake increases the weight 0.3kg.

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
|------------|---------------|-----|-----|-----|-----|-----|-----|-----|
| L | Without brake | 279 | 329 | 379 | 429 | 479 | 529 | 579 |
| | With brake | 318 | 368 | 418 | 468 | 518 | 568 | 618 |
| M | 122 | 172 | 222 | 272 | 322 | 372 | 422 | 472 |
| N | 50 | 100 | 100 | 200 | 200 | 300 | 300 | 400 |
| P | 35 | 85 | 85 | 185 | 185 | 285 | 285 | 385 |
| R | 22 | 22 | 72 | 22 | 72 | 22 | 72 | 22 |
| U | - | 1 | 1 | 2 | 2 | 3 | 3 | 4 |
| m | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 |
| Weight(kg) | 0.7 | 0.8 | 0.9 | 1 | 1.1 | 1.2 | 1.3 | 1.4 |

Compatible Controllers

RCS2 Series Actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Max. positioning p points | Input power | Power-supply capacity | Standard price | See page |
|--------------------------------|---------------|-------------------------|---|---------------------------|---|---|----------------|----------|
| Positioner type | | SCON-C-20①-NP-2-② | Up to 512-point positioning possible | 512 points | Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only) | Maximum 360VA *1 axis specification for 150W operation | - | →P385 |
| Solenoid valve type | | | Same as solenoid valve controlled operation enabled | 7 points | | | | |
| Serial communication type | | | Serial communications special type | 64 points | | | | |
| Pulse train input control type | | | Pulse train input special type | (-) | | | | |
| Program control 1-2 axis type | | SSEL-C-1-20①-NP-2-② | Programmed operation enabled Maximum 2-axes operation enabled | 20000 points | | | - | →P415 |
| Program control 1-6 axis type | | XSEL-③-1-20①-N1-EEE-2-④ | Programmed operation enabled, maximum of 6-axes operation possible | 4000 points | | | - | →P425 |

*SSEL, XSEL are for 1-axis specification.
 ① indicates the encoder type (I: Incremental, A: Absolute).
 ② indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V).
 ③ indicates the XSEL type (J/K/P/Q).
 ④ indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V, 3: Three-phase 200V).

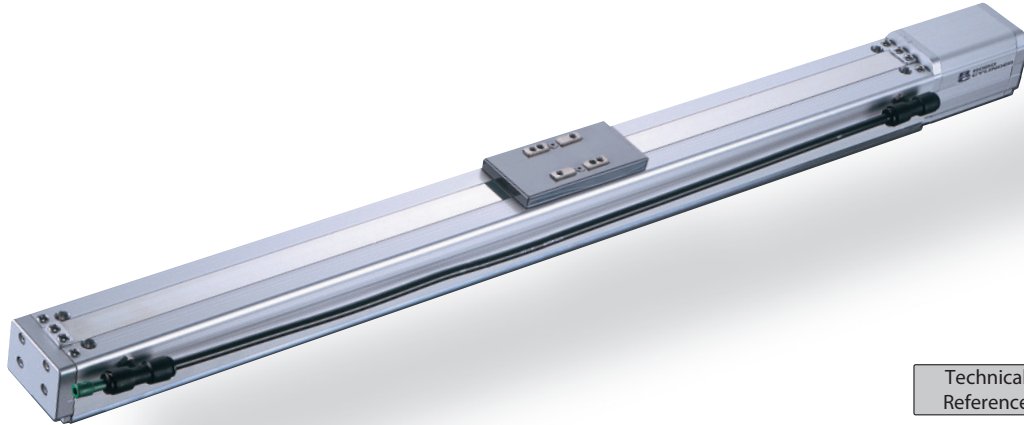
- Controler-Integrated
- Slider Type
- Rod Type
- Table Arm/flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in Direct
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCS2CR-SA5C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 52mm, 200-V Servo Motor, Coupling Specification

| | | | | | | | | | |
|---|--------|--------------|------------------------|------------------------------|--|--|---|---|--|
| Model Description | RCS2CR | SA5C | | 20 | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | |
| I: Incremental specification A: Absolute specification | | | 20: Servo motor 20W | 12: 12mm 6: 6mm 3: 3mm | 50: 50mm to 500: 500mm (Set steps every 50mm) | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q | N : None P : 1m S : 3m M : 5m X□□: Length R□□: Robot cable | B : Brake FT : Foot bracket HS : Home check sensor NM : Reversed-home specification VR : Variable Vacuum coupling mount | |

See preceding section for model descriptions.



Technical Reference P. 451

POINT
Notes on selection

- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (or 0.2G if the lead is 3). The above values are maximum acceleration.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|-----------------------------|------------------|-----------|-----------------|--------------|------------------|---------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SA5C-①-20-12-②-③-④-⑤ | 20 | 12 | 4 | 1 | 16.7 | 50 to 500 (every 50mm) |
| RCS2CR-SA5C-①-20-6-②-③-④-⑤ | | 6 | 8 | 2 | 33.3 | |
| RCS2CR-SA5C-①-20-3-②-③-④-⑤ | | 3 | 12 | 4 | 65.7 | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | Stroke | | Suction Volume (Nl/min) |
|----------------|------------------------|----------|-------------------------|
| | 50 to 450 (every 50mm) | 500 (mm) | |
| 12 | 800 | 760 | 50 |
| 6 | 400 | 380 | 30 |
| 3 | 200 | 190 | 15 |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA5C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | I | A |
| 100 | - | - |
| 150 | - | - |
| 200 | - | - |
| 250 | - | - |
| 300 | - | - |
| 350 | - | - |
| 400 | - | - |
| 450 | - | - |
| 500 | - | - |

⑤ Option Price Table

| Title | Option code | See page | Standard price |
|--------------------------------|-------------|----------|----------------|
| Brake | B | →P437 | - |
| Foot bracket | FT | →P440 | - |
| Home check sensor | HS | →P442 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

④ Cable Length Price Table

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

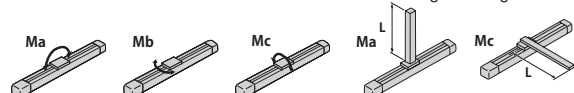
*See P394 for details on maintenance cable.

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ 10mm, rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: aluminum with alumite treatment |
| Allowable load moment | Ma: 4.9N·m, Mb: 6.8N·m, Mc: 11.7N·m |
| Overhanging load length | Ma direction: 150mm or less, Mb/Mc directions: 150mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhanging load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/flat
Gripper/ Rotary Type
Cleanroom
Splash-resistant
Controller
Coupling
Built-in (Direct)
Reverse-mounted
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

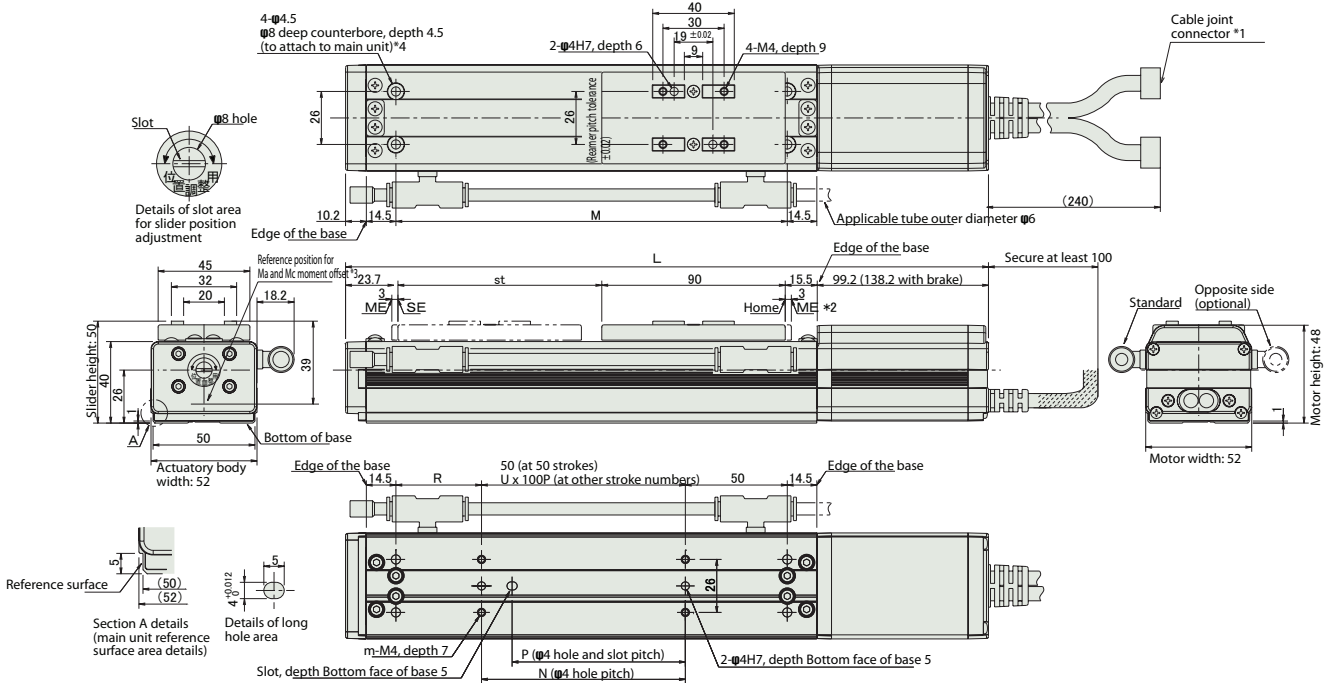
Dimensional Drawings

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

Information on special orders P. 454



- *1 Connect motor encoder cable. See P394 for details on cables.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: Mechanical End SE: Stroke End
- *3 This is standard position when calculating Ma moment.
- *4 If the actuator is affixed using only the mounting holes provided in the top face of the base, the base may twist to cause abnormal sliding of the slider or generate noise. When the mounting holes in the top face of the base are used, keep the stroke to 300 mm or less.



■ Dimensions and Weight by Stroke *Adding a brake increases the weight 0.3kg.

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | Without brake | 280.4 | 330.4 | 380.4 | 430.4 | 480.4 | 530.4 | 580.4 | 630.4 | 730.4 |
| | With brake | 319.4 | 369.4 | 419.4 | 469.4 | 519.4 | 569.4 | 619.4 | 669.4 | 769.4 |
| M | 142 | 192 | 242 | 292 | 342 | 392 | 442 | 492 | 542 | 592 |
| N | 50 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 |
| P | 35 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 |
| R | 42 | 42 | 92 | 42 | 92 | 42 | 92 | 42 | 92 | 42 |
| U | - | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 |
| m | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 |
| Weight(kg) | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2 | 2.1 | 2.2 |

Compatible Controllers

RCS2 Series Actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Max. positioning p points | Input power | Power-supply capacity | Standard price | See page |
|--------------------------------|---------------|-------------------------|---|---------------------------|---|---|----------------|----------|
| Positioner type | | SCON-C-20①-NP-2-② | Up to 512-point positioning possible | 512 points | Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only) | Maximum 360VA *1 axis specification for 150W operation | - | →P385 |
| Solenoid valve type | | | Same as solenoid valve controlled operation enabled | 7 points | | | | |
| Serial communication type | | | Serial communications special type | 64 points | | | | |
| Pulse train input control type | | | Pulse train input special type | (-) | | | | |
| Program control 1-2 axis type | | SSEL-C-1-20①-NP-2-② | Programmed operation enabled Maximum 2-axes operation enabled | 20000 points | | | - | →P415 |
| Program control 1-6 axis type | | XSEL-③-1-20①-N1-EEE-2-④ | Programmed operation enabled, maximum of 6-axes operation possible | 4000 points | | | - | →P425 |

*SSEL, XSEL are for 1-axis specification.
 ① indicates the encoder type (I: Incremental, A: Absolute).
 ② indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V).
 ③ indicates the XSEL type (J/K/P/Q).
 ④ indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V, 3: Three-phase 200V).

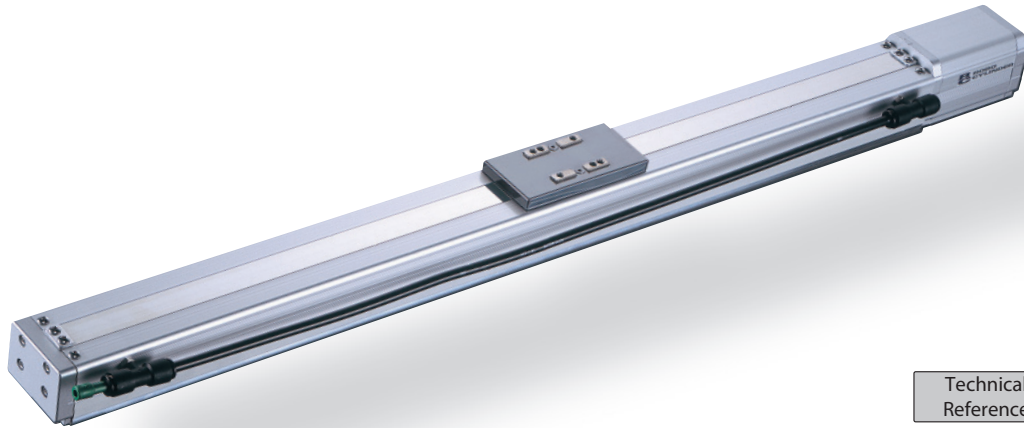
- Control-Integrated
- Slider Type
- Rod Type
- Table Arm/flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in Direct
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCS2CR-SA6C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 58mm, 200-V Servo Motor, Coupling Specification

| | | | | | | | | | |
|------------------------------|---------------------------|---------------------|------------------------------|--|--|---|---|--------|--|
| Model Description | RCS2CR | SA6C | | 30 | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | |
| I: Incremental specification | A: Absolute specification | 30: Servo motor 30W | 12: 12mm 6: 6mm 3: 3mm | 50: 50mm to 600: 600mm (Set steps every 50mm) | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q | N : None P : 1m S : 3m M : 5m X□□: Length R□□: Robot cable | B : Brake FT : Foot bracket HS : Home check sensor NM : Reversed-home specification VR : Variable Vacuum coupling mount | | |

See preceding section for model descriptions.



Technical Reference P. 451

POINT
Notes on selection

- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operation at an acceleration of 0.3G (or 0.2G if the lead is 3). The above values are maximum acceleration.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|-----------------------------|------------------|-----------|-----------------|---------------|------------------|---------------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCS2CR-SA6C-①-30-12-②-③-④-⑤ | 30 | 12 | 6 | 1.5 | 24.2 | 50 to 600 (every 50mm) |
| RCS2CR-SA6C-①-30-6-②-③-④-⑤ | | 6 | 12 | 3 | 48.4 | |
| RCS2CR-SA6C-①-30-3-②-③-④-⑤ | | 3 | 18 | 6 | 96.8 | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Stroke (mm) | Maximum Speed (mm/s) | | | | Suction Volume (Nl/min) |
|-------------|------------------------|----------|----------|----------|-------------------------|
| | 50 to 450 (every 50mm) | 500 (mm) | 550 (mm) | 600 (mm) | |
| 12 | 800 | 760 | 640 | 540 | 50 |
| 6 | 400 | 380 | 320 | 270 | 30 |
| 3 | 200 | 190 | 160 | 135 | 15 |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA6C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | - | - |
| 100 | - | - |
| 150 | - | - |
| 200 | - | - |
| 250 | - | - |
| 300 | - | - |
| 350 | - | - |
| 400 | - | - |
| 450 | - | - |
| 500 | - | - |
| 550 | - | - |
| 600 | - | - |

⑤ Option Price Table

| Title | Option code | See page | Standard price |
|--------------------------------|-------------|----------|----------------|
| Brake | B | →P437 | - |
| Foot bracket | FT | →P440 | - |
| Home check sensor | HS | →P442 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

④ Cable Length Price Table

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

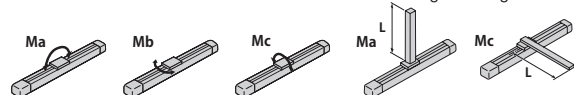
*See P394 for details on maintenance cable.

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ10mm, rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: aluminum with alumite treatment |
| Allowable load moment | Ma: 8.9N·m, Mb: 12.7N·m, Mc: 18.6N·m |
| Overhang load length | Ma direction: 220mm or less, Mb/Mc directions: 220mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
 Slider Type
 Rod Type
 Table Arm/flat
 Gripper/ Rotary Type
 Cleanroom
 Splash-resistant
 Controller
 Coupling
 Built-in (Direct)
 Reverse-mounted
 Pulse Motor 20P
 Pulse Motor 28P
 Pulse Motor 35P
 Pulse Motor 42P
 Pulse Motor 56P
 Pulse Motor 86P
 Servo Motor 10W
 Servo Motor 20W
 Servo Motor 30W
 Servo Motor 60W
 Servo Motor 100W
 Servo Motor 150W
 Servo Motor 750W

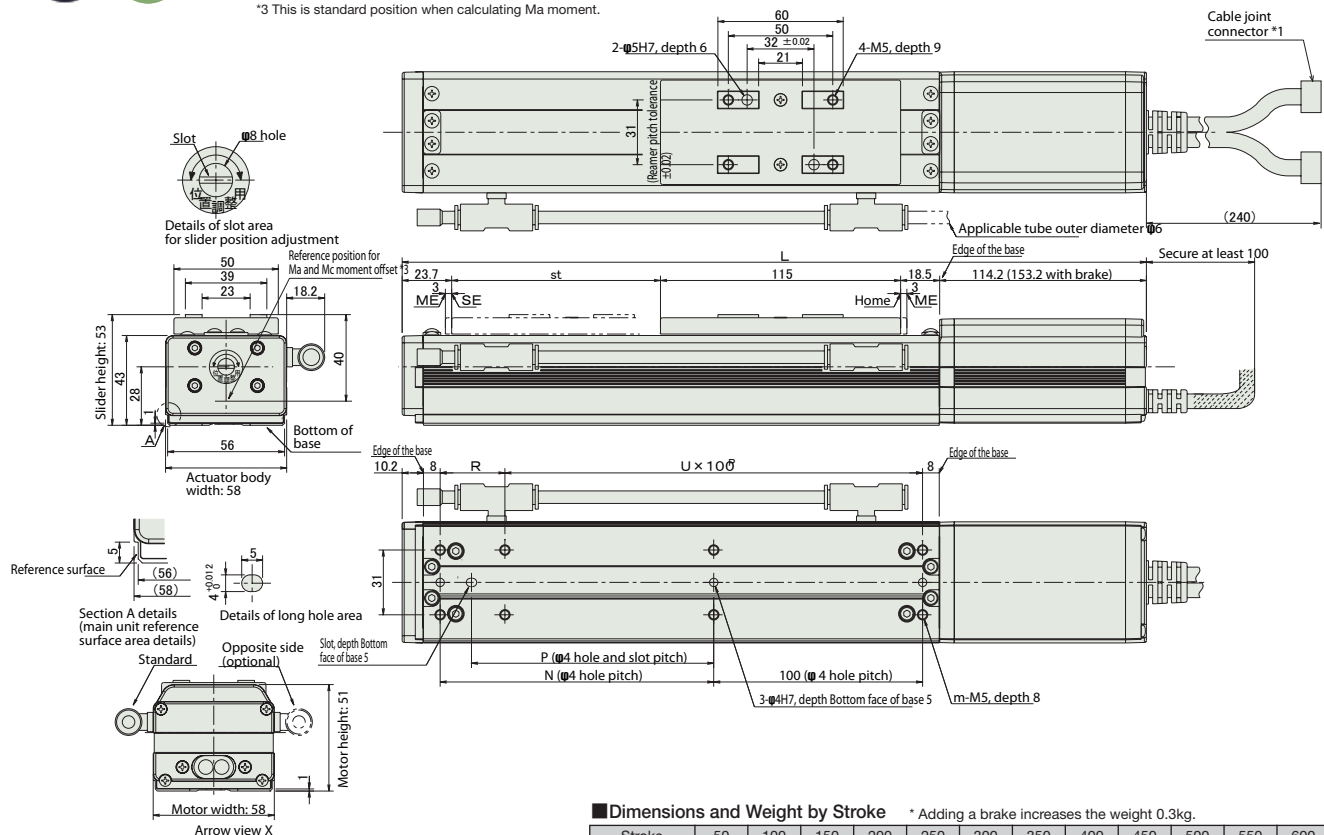
Dimensional Drawings

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

Information on special orders P. 454



- *1 Connect motor encoder cable. See P394 for details on cables.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
- ME: Mechanical End SE: Stroke End
- *3 This is standard position when calculating Ma moment.



Dimensions and Weight by Stroke * Adding a brake increases the weight 0.3kg.

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | |
|------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | Without brake | 321.4 | 371.4 | 421.4 | 471.4 | 521.4 | 571.4 | 621.4 | 671.4 | 721.4 | 771.4 | 821.4 | 871.4 |
| | With brake | 360.4 | 410.4 | 460.4 | 510.4 | 560.4 | 610.4 | 660.4 | 710.4 | 760.4 | 810.4 | 860.4 | 910.4 |
| N | 81 | 131 | 181 | 231 | 281 | 331 | 381 | 431 | 481 | 531 | 581 | 631 | |
| P | 66 | 116 | 166 | 216 | 266 | 316 | 366 | 416 | 466 | 516 | 566 | 616 | |
| R | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | |
| U | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | |
| m | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | |
| Weight(kg) | 1.4 | 1.6 | 1.8 | 2 | 2.2 | 2.4 | 2.6 | 2.8 | 3 | 3.2 | 3.4 | 3.6 | |

Compatible Controllers

RCS2 Series Actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Max. positioning p points | Input power | Power-supply capacity | Standard price | See page |
|--------------------------------|---------------|--------------------------|---|---------------------------|---|---|----------------|----------|
| Positioner type | | SCON-C-30D①-NP-2-② | Up to 512-point positioning possible | 512 points | Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only) | Maximum 360VA *1 axis specification for 150W operation | - | →P385 |
| Solenoid valve type | | | Same as solenoid valve controlled operation enabled | 7 points | | | | |
| Serial communication type | | | Serial communications special type | 64 points | | | | |
| Pulse train input control type | | | Pulse train input special type | (-) | | | | |
| Program control 1-2 axis type | | SSEL-C-1-30D①-NP-2-② | Programmed operation enabled Maximum 2-axes operation enabled | 20000 points | | | - | →P415 |
| Program control 1-6 axis type | | XSEL-③-1-30D①-N1-EEE-2-④ | Programmed operation enabled, maximum of 6-axes operation possible | 4000 points | | | - | →P425 |

*SSEL, XSEL are for 1-axis specification.
 ① indicates the encoder type (L: Incremental, A: Absolute).
 ② indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V).
 ③ indicates the XSEL type (J/K/P/Q).
 ④ indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V, 3: Three-phase 200V).

- Controler-Integrated
- Slider Type
- Rod Type
- Table Arm/flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCS2CR-SA7C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 73mm, 200-V Servo Motor, Coupling Specification

| | | | | | | | | | |
|-------------------|--------|---|------------------------|------------------------------|---|--|---|--|--|
| Model Description | RCS2CR | SA7C | | 60 | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | |
| | | I: Incremental specification A: Absolute specification | 60: Servo motor 60W | 16: 16mm 8: 8mm 4: 4mm | 50: 50mm to 800: 800mm (Set steps every 50mm) | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q | N : None P : 1m S : 3m M : 5m X□□: Length R□□: Robot cable | BE : Brake (cable exiting the end) BL : Brake (cable exiting the left) BR : Brake (cable exiting the right) NM : Reversed-home specification VR : Variable Vacuum coupling mount | |

See preceding section for model descriptions.



Technical Reference P. 451

- POINT**
Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.
 - (2) The load capacity is based on operation at an acceleration of 0.3G (or 0.2G if the lead is 3).
The above values are maximum acceleration.
 - (3) Class 10 cleanliness is based on the horizontal specification.
Note: There are cases where Class 10 will not apply when placed horizontally, on one side, or vertically.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|-----------------------------|------------------|-----------|-----------------|--------------|------------------|---------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SA7C-①-60-16-②-③-④-⑤ | 60 | 16 | 12 | 3 | 63.8 | 50 to 800 (every 50mm) |
| RCS2CR-SA7C-①-60-8-②-③-④-⑤ | | 8 | 25 | 6 | 127.5 | |
| RCS2CR-SA7C-①-60-4-②-③-④-⑤ | | 4 | 40 | 12 | 255.0 | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Stroke / Lead | 50 to 600 (every 50mm) | Up to 700 (mm) | Up to 800 (mm) | Suction Volume (Nl/min) |
|---------------|------------------------|----------------|----------------|-------------------------|
| | 16 | 800 | 640 | 480 |
| 8 | 400 | 320 | 240 | 30 |
| 4 | 200 | 160 | 120 | 10 |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA7C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 100 | - | - |
| 200 | - | - |
| 300 | - | - |
| 400 | - | - |
| 500 | - | - |
| 600 | - | - |
| 700 | - | - |
| 800 | - | - |

④ Cable Length Price Table

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

*See P394 for details on maintenance cable.

⑤ Option Price Table

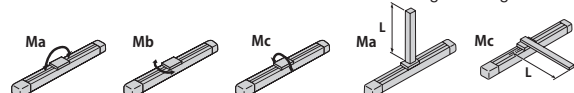
| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | →P437 | - |
| Brake (cable exiting the left) | BL | →P437 | - |
| Brake (cable exiting the right) | BR | →P437 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw ϕ 12mm, rolled C10 |
| Positioning Repeatability | \pm 0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: aluminum with alumite treatment |
| Allowable load moment | Ma: 13.9N·m, Mb: 19.9N·m, Mc: 38.3N·m |
| Overhang load length | Ma direction 230mm or less, Mb, Mc direction 230mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μ m) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/flat
Gripper/Rotary Type
Cleanroom
Splash-resistant
Controller
Coupling
Built-in (Direct)
Reverse-mounted
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

Dimensional Drawings

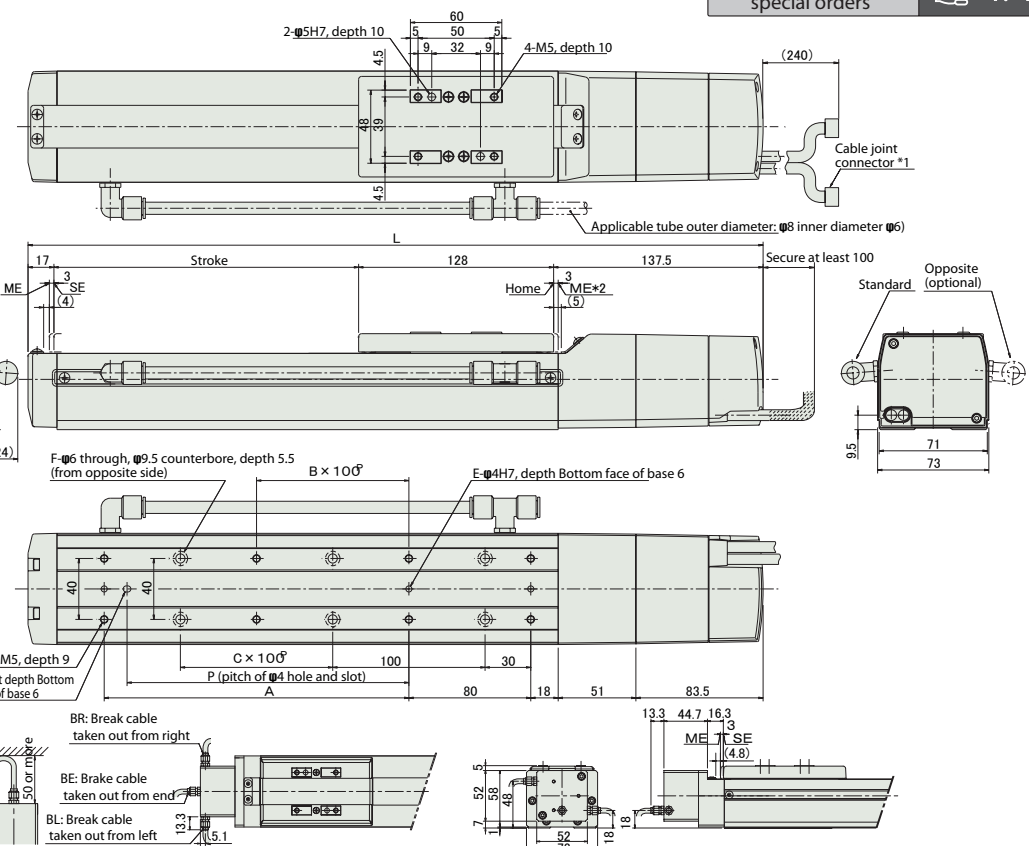
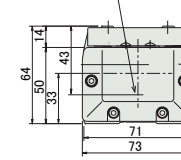
CAD drawings can be downloaded from the website. www.intelligentactuator.com

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* With the reversed-home specification, the dimension on the motor side (distance from the ME to the home) and that on the counter-motor side are reversed.

Reference position for calculating the Ma moment *3



Details of long hole area

Brake area dimensions

* Adding a brake increases overall length by 43mm (56.3mm with an end wiring exit) and weight by 0.6kg.

Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| L | 332.5 | 382.5 | 432.5 | 482.5 | 532.5 | 582.5 | 632.5 | 682.5 | 732.5 | 782.5 | 832.5 | 882.5 | 932.5 | 982.5 | 1032.5 | 1082.5 |
| A | 0 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 | 500 | 600 | 600 | 700 | 700 | 800 |
| B | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 |
| C | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 |
| D | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | 18 | 20 |
| E | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| F | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | 18 |
| H | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P | 0 | 85 | 85 | 185 | 185 | 385 | 385 | 385 | 385 | 485 | 485 | 585 | 585 | 685 | 685 | 785 |
| Weight(kg) | 2.6 | 2.8 | 3.0 | 3.2 | 3.5 | 3.7 | 3.9 | 4.1 | 4.4 | 4.6 | 4.8 | 5.0 | 5.3 | 5.5 | 5.7 | 5.9 |

- *1 Connect the motor-encoder cable. See P394 for cable details.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts. ME: Mechanical End SE: Stroke End Dimensions in () are for reference.
- *3 Reference position for calculating Ma moment.

Compatible Controllers

RCS2 Series Actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Max. positioning p points | Input power | Power-supply capacity | Standard price | See page |
|--------------------------------|---------------|-------------------------|---|---------------------------|---|---|----------------|----------|
| Positioner type | | SCON-C-60①-NP-2-② | Up to 512-point positioning possible | 512 points | Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only) | Maximum 360VA *1 axis specification for 150W operation | - | →P385 |
| Solenoid valve type | | | Same as solenoid valve controlled operation enabled | 7 points | | | | |
| Serial communication type | | | Serial communications special type | 64 points | | | | |
| Pulse train input control type | | | Pulse train input special type | (-) | | | | |
| Program control 1-2 axis type | | SSEL-C-1-60①-NP-2-② | Programmed operation enabled Maximum 2-axes operation enabled | 20000 points | | | - | →P415 |
| Program control 1-6 axis type | | XSEL-③-1-60①-N1-EEE-2-④ | Programmed operation enabled, maximum of 6-axes operation possible | 4000 points | | | - | →P425 |

*XSEL, XSEL are for 1-axis specification.
 ① indicates the encoder type (I: Incremental, A: Absolute).
 ② indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V).
 ③ indicates the XSEL type (J/K/P/Q).
 ④ indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V, 3: Three-phase 200V).

- Controler-Integrated
- Slider Type
- Rod Type
- Table Arm/flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in Direct
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCS2CR-SS7C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 60mm, 200-V Servo Motor, Coupling Specification

Model Description **RCS2CR** — **SS7C** — — **60** — — — — —

Series — Type — Encoder type — Motor type — Lead — Stroke — Compatible Controllers — Cable length — Option

I: Incremental specification
 A: Absolute specification

60: Servo motor 60W
 12: 12mm
 6: 6mm

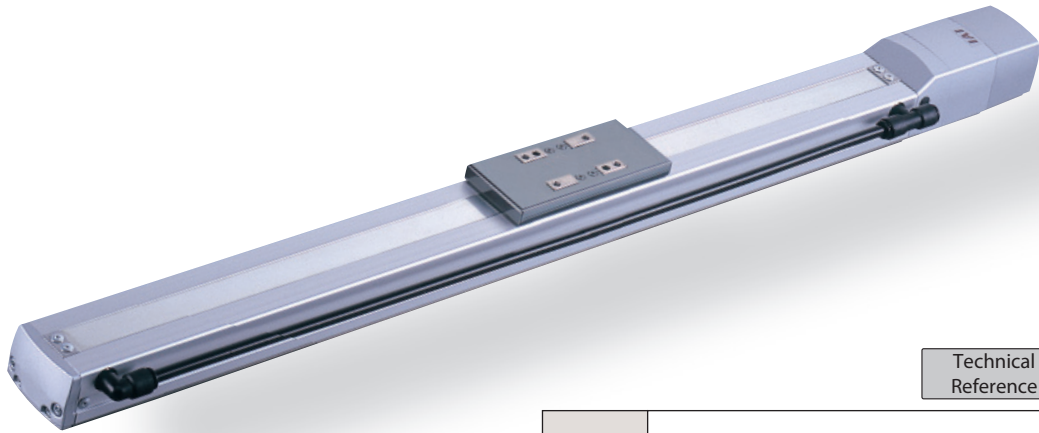
50: 50mm to 600: 600mm (Set steps every 50mm)

T1: XSEL-J/K
 T2: SCON
 SSEL
 XSEL-P/Q

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

B : Brake
 NM : Reversed-home specification
 VR : Variable Vacuum coupling mount

See preceding section for model descriptions.



Technical Reference P. 451

POINT
 Notes on selection

(1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.

(2) The load capacity is based on operation at an acceleration of 0.3G. This is the maximum acceleration.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|-----------------------------|------------------|-----------|-----------------|--------------|------------------|------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SS7C-①-60-12-②-③-④-⑤ | 60 | 12 | 15 | 4 | 85 | 50 to 600 (every 50mm) |
| RCS2CR-SS7C-①-60-6-②-③-④-⑤ | | 6 | 30 | 8 | 170 | |

Legend: ① Encoder type ② Stroke response ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Lead | Stroke | 50 to 500 (every 50mm) | Up to 600 (mm) | Suction Volume (Nl/min) |
|------|--------|------------------------|----------------|-------------------------|
| | | | | |
| 6 | 300 | 230 | 30 | |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SS7C | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 100 | - | - |
| 200 | - | - |
| 300 | - | - |
| 400 | - | - |
| 500 | - | - |
| 600 | - | - |

④ Cable Length Price Table

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

*See P394 for details on maintenance cable.

⑤ Option Price Table

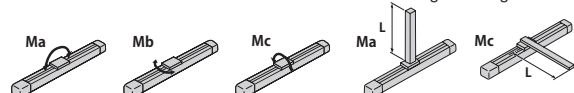
| Title | Option code | See page | Standard price |
|--------------------------------|-------------|----------|----------------|
| Brake | B | →P437 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ10mm, rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: Special alloy steel |
| Allowable load moment | Ma: 14.7N·m, Mb: 14.7N·m, Mc: 33.3N·m |
| Overhang load length | Ma direction 300mm or less, Mb, Mc direction 300mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 10000km |

Direction of allowable load moment

Overhang load length



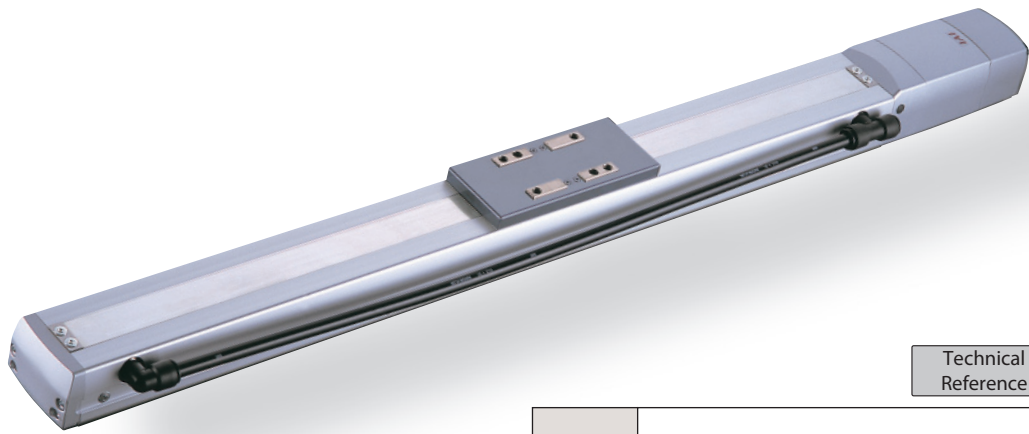
Controller-Integrated
 Slider Type
 Rod Type
 Table Arm/flat
 Gripper/Rotary Type
 Cleanroom
 Splash-resistant
 Controller
 Coupling
 Built-in Direct
 Reverse-mounted
 Pulse Motor 20P
 Pulse Motor 28P
 Pulse Motor 35P
 Pulse Motor 42P
 Pulse Motor 56P
 Pulse Motor 86P
 Servo Motor 10W
 Servo Motor 20W
 Servo Motor 30W
 Servo Motor 60W
 Servo Motor 100W
 Servo Motor 150W
 Servo Motor 750W

RCS2CR-SS8C

Cleanroom Type ROBO Cylinder, Slider Type, Actuator Width 80mm, 200-V Servo Motor, Coupling Specification

| | | | | | | | | | | |
|------------------------------|---------------------------|---------------------------|---------------------------|---------------------|--|--|---|---|--|--|
| Model Description | RCS2CR | SS8C | | | | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | | |
| I: Incremental specification | A: Absolute specification | 100 : Servo Motor 100W | 150 : Servo Motor 150W | 20: 20mm 10:10mm | 50: 50mm to 1000: 1000mm (Set steps every 50mm) | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q | N : None P : 1m S : 3m M : 5m X□□: Length R□□: Robot cable | B : Brake FT : Foot bracket HS : Home check sensor NM : Reversed-home specification VR : Variable Vacuum coupling mount | | |

See preceding section for model descriptions.



Technical Reference P. 451

POINT
Notes on selection

(1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.

(2) The load capacity is based on operation at an acceleration of 0.3G. This is the maximum acceleration.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|------------------------------|------------------|-----------|-----------------|--------------|------------------|----------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SS8C-①-100-20-②-③-④-⑤ | 100 | 20 | 20 | 4 | 84.9 | 50 to 1000 (every 50mm) |
| RCS2CR-SS8C-①-100-10-②-③-④-⑤ | | | 10 | 8 | | |
| RCS2CR-SS8C-①-150-20-②-③-④-⑤ | 150 | 20 | 30 | 6 | 128 | |
| RCS2CR-SS8C-①-150-10-②-③-④-⑤ | | | 10 | 12 | | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | 50 to 600 (every 50mm) | Up to 700 (mm) | Up to 800 (mm) | Up to 900 (mm) | Up to 1000 (mm) | Suction Volume (Nl/min) |
|-------------|------------------------|----------------|----------------|----------------|-----------------|-------------------------|
| 20 | 1000 | 960 | 765 | 625 | 515 | 80 |
| 10 | 500 | 480 | 380 | 310 | 255 | 40 |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code SS8C | | | |
|---------------|----------------|----------------|----------------|----------------|
| | ① Encoder type | | | |
| | Incremental | | Absolute | |
| | Motor W number | Motor W number | Motor W number | Motor W number |
| | 100W | 150W | 100W | 150W |
| 100 | - | - | - | - |
| 200 | - | - | - | - |
| 300 | - | - | - | - |
| 400 | - | - | - | - |
| 500 | - | - | - | - |
| 600 | - | - | - | - |
| 700 | - | - | - | - |
| 800 | - | - | - | - |
| 900 | - | - | - | - |
| 1000 | - | - | - | - |

④ Cable Length Price Table

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

*See P394 for details on maintenance cable.

⑤ Option Price Table

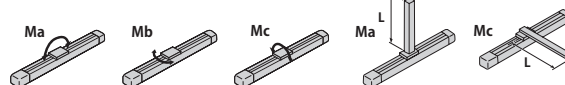
| Title | Option code | See page | Standard price |
|--------------------------------|-------------|----------|----------------|
| Brake | B | →P437 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ16mm, rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: Special alloy steel |
| Allowable load moment | Ma: 36.3N·m, Mb: 36.3N·m, Mc: 77.4N·m |
| Overhang load length | Ma direction: 450mm or less, Mb/Mc directions: 450mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 10000km |

Direction of allowable load moment

Overhang load length



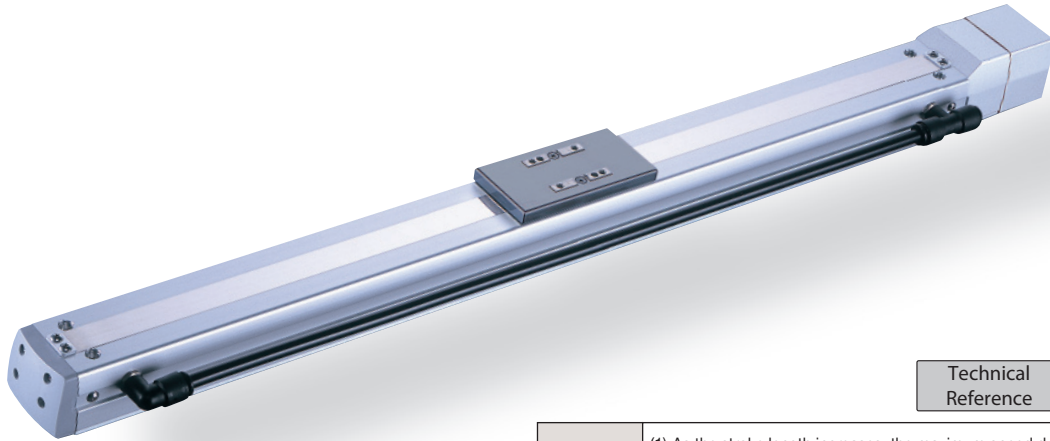
Controller-Integrated
Slider Type
Rod Type
Table Arm/flat
Gripper/ Rotary Type
Cleanroom
Splash-resistant
Controller
Coupling
Built-in (Direct)
Reverse-mounted
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

RCS2CR-SA5D

ROBO Cylinder, Slider Type, Actuator Width 52mm, 200-V Servo Motor, Built-in (Direct Coupled) Motor Specification

| | | | | | | | | | |
|------------------------------|---------------------|------------------------------|--|--|---|--|--------------|--------|--|
| Model Description | RCS2CR | SA5D | | 20 | | | | | |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | |
| I: Incremental specification | 20: Servo motor 20W | 12: 12mm 6: 6mm 3: 3mm | 50: 50mm to 500: 500mm (Set steps every 50mm) | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q | N : None P : 1m S : 3m M : 5m X□□: Length R□□: Robot cable | BE : Brake (cable exiting the end) BL : Brake (cable exiting the left) BR : Brake (cable exiting the right) NM : Reversed-home specification VR : Variable Vacuum coupling mount | | | |

See preceding section for model descriptions.



Technical Reference P. 451

- POINT**
Notes on selection
- (1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.
 - (2) Payload is the value when operated at 0.3G acceleration (0.2G if the lead is 3). The above values are maximum acceleration.
 - (3) Class 10 cleanliness is based on the horizontal specification.
Note: there are cases where Class 10 will not apply when placed horizontally, on one side, or vertically.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|-----------------------------|------------------|-----------|-----------------|--------------|------------------|---------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SA5D-①-20-12-②-③-④-⑤ | 20 | 12 | 4 | 1 | 16.7 | 50 to 500 (every 50mm) |
| RCS2CR-SA5D-①-20-6-②-③-④-⑤ | | 6 | 8 | 2 | 33.3 | |
| RCS2CR-SA5D-①-20-3-②-③-④-⑤ | | 3 | 12 | 4 | 65.7 | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | Stroke | 50 to 450 (every 50mm) | 500 (mm) | Suction Volume (Nr/min) |
|-------------|--------|------------------------|----------|-------------------------|
| | 12 | 800 | 760 | 50 |
| 6 | 400 | 380 | 30 | |
| 3 | 200 | 190 | 15 | |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA5D | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | I | A |
| 100 | - | - |
| 150 | - | - |
| 200 | - | - |
| 250 | - | - |
| 300 | - | - |
| 350 | - | - |
| 400 | - | - |
| 450 | - | - |
| 500 | - | - |

⑤ Option Price Table

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | →P437 | - |
| Brake (cable exiting the left) | BL | →P437 | - |
| Brake (cable exiting the right) | BR | →P437 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

④ Cable Length Price Table

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

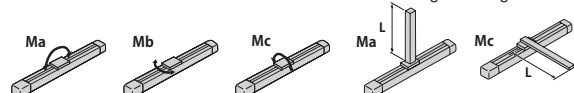
*See P394 for details on maintenance cable.

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw ϕ 10mm, rolled C10 |
| Positioning Repeatability | ± 0.02 mm |
| Backlash | 0.1mm or less |
| Base | Material: aluminum with alumite treatment |
| Allowable load moment | Ma: 4.9N·m, Mb: 6.8N·m, Mc: 11.7N·m |
| Overhang load length | Ma direction: 150mm or less, Mb/Mc directions: 150mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μ m) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/flat Rotary Type
Gripper/ Rotary Type
Cleanroom
Splash-resistant
Controller
C
D
R
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

Dimensional Drawings

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

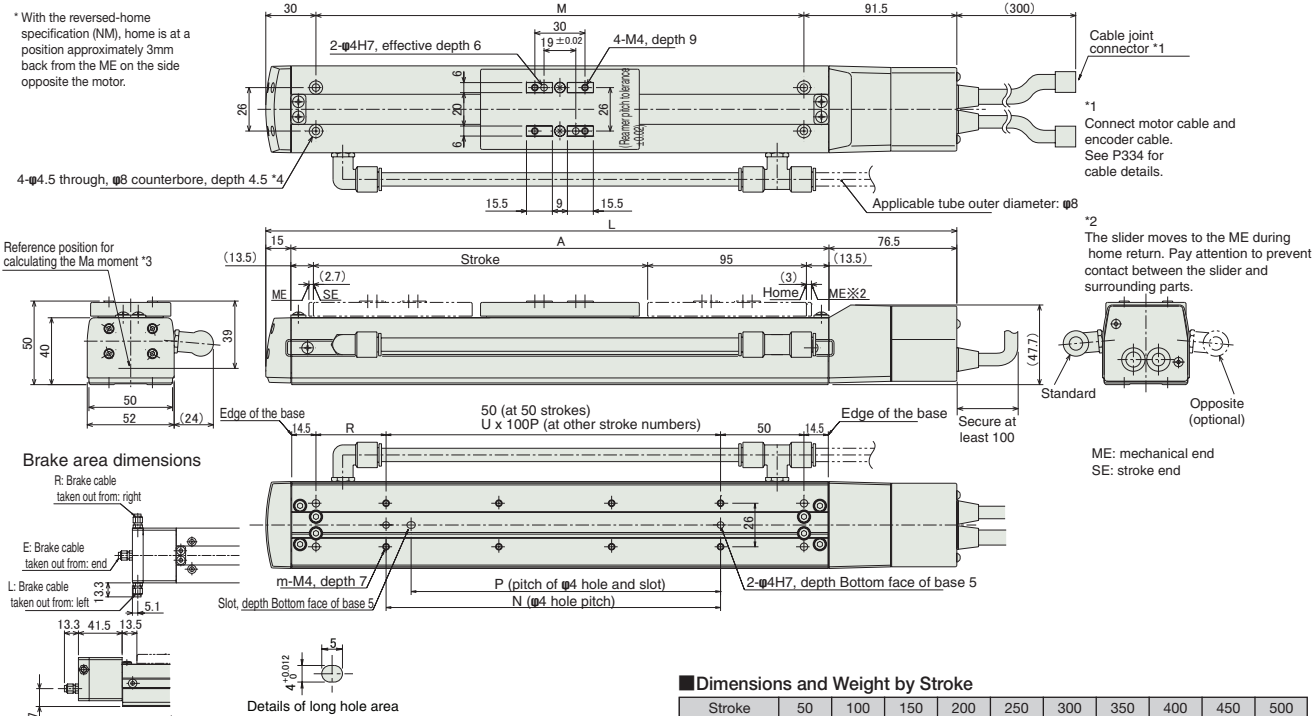
Information on special orders P. 454



- *1 Connect motor encoder cable. See P394 for details on cables.
- *2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: Mechanical End
SE: Stroke End
Dimensions in () are for reference.
- *3 Reference position for calculating Ma moment.

- *4 If the actuator is affixed using only the mounting holes provided in the top face of the base, the base may twist to cause abnormal sliding of the slider or generate noise. When the mounting holes in the top face of the base are used, keep the stroke to 300 mm or less.

* Take note that the return adjustment needs to change to the home direction.
* With the reversed-home specification (NM), home is at a position approximately 3mm back from the ME on the side opposite the motor.



Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | 263.5 | 313.5 | 363.5 | 413.5 | 463.5 | 513.5 | 563.5 | 613.5 | 663.5 | 713.5 |
| A | 172 | 222 | 272 | 322 | 372 | 422 | 472 | 522 | 572 | 622 |
| M | 142 | 192 | 242 | 292 | 342 | 392 | 442 | 492 | 542 | 592 |
| N | 50 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 |
| P | 35 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 |
| R | 42 | 42 | 92 | 42 | 92 | 42 | 92 | 42 | 92 | 42 |
| U | - | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 |
| m | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 |
| Weight(kg) | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.5 |

* Adding a brake increases overall length by 26.5mm (39.8mm with an end wiring exit) and weight by 0.3kg.

Compatible Controllers

RCS2 Series Actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Max. positioning p points | Input power | Power-supply capacity | Standard price | See page |
|--------------------------------|---------------|-------------------------|---|---------------------------|---|---|----------------|----------|
| Positioner type | | SCON-C-20①-NP-2-② | Up to 512-point positioning possible | 512 points | Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only) | Maximum 360VA *1 axis specification for 150W operation | - | →P385 |
| Solenoid valve type | | | Same as solenoid valve controlled operation enabled | 7 points | | | | |
| Serial communication type | | | Serial communications special type | 64 points | | | | |
| Pulse train input control type | | | Pulse train input special type | (-) | | | | |
| Program control 1-2 axis type | | SSEL-C-1-20①-NP-2-② | Programmed operation enabled Maximum 2-axes operation enabled | 20000 points | | | - | →P415 |
| Program control 1-6 axis type | | XSEL-③-1-20①-N1-EEE-2-④ | Programmed operation enabled, maximum of 6-axes operation possible | 4000 points | | | - | →P425 |

*SSEL, XSEL are for 1-axis specification.
① indicates the encoder type (I: Incremental, A: Absolute).
② indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V).
③ indicates the XSEL type (J/K/P/Q).
④ indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V, 3: Three-phase 200V).

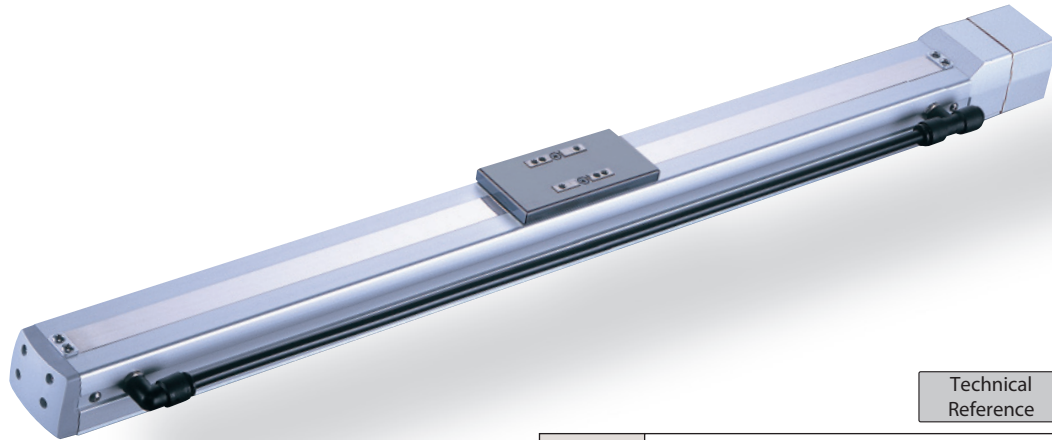
- Controler-Integrated
- Slider Type
- Rod Type
- Table Arm/flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W

RCS2CR-SA6D

ROBO Cylinder, Slider Type, Actuator Width 58mm, 200-V Servo Motor, Built-in Motor (Direct Coupling) Specification

| | | | | | | | | | | | | | |
|------------------------------|-------------------------------|------------------------------|--|--|---|--|--------------------------|--------|--------------------------|---|--------------------------|---|--------------------------|
| Model Description | RCS2CR — SA6D — | <input type="checkbox"/> | — | 30 — | <input type="checkbox"/> | — | <input type="checkbox"/> | — | <input type="checkbox"/> | — | <input type="checkbox"/> | — | <input type="checkbox"/> |
| Series | Type | Encoder type | Motor type | Lead | Stroke | Compatible Controllers | Cable length | Option | | | | | |
| I: Incremental specification | 30: Servo motor 30W | 12: 12mm 6: 6mm 3: 3mm | 50: 50mm to 600: 600mm (Set steps every 50mm) | T1: XSEL-J/K T2: SCON SSEL XSEL-P/Q | N : None P : 1m S : 3m M : 5m X□□: Length R□□: Robot cable | BE : Brake (cable exiting the end) BL : Brake (cable exiting the left) BR : Brake (cable exiting the right) NM : Reversed-home specification VR : Variable Vacuum coupling mount | | | | | | | |

See preceding section for model descriptions.



Technical Reference P. 451

POINT
Notes on selection

- As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- Payload is the value when operated at 0.3G acceleration (0.2G if the lead is 3). The above values are maximum acceleration.
- Class 10 cleanliness is based on the horizontal specification. Note: there are cases where Class 10 will not apply when placed horizontally, on one side, or vertically.

Actuator Specification Table

Leads and Payloads

| Model | Motor output (W) | Lead (mm) | Maximum payload | | Rated thrust (N) | Stroke (mm) |
|-----------------------------|------------------|-----------|-----------------|--------------|------------------|---------------------------|
| | | | Horizontal(kg) | Vertical(kg) | | |
| RCS2CR-SA6D-①-30-12-②-③-④-⑤ | 30 | 12 | 6 | 1.5 | 24.2 | 50 to 600 (every 50mm) |
| RCS2CR-SA6D-①-30-6-②-③-④-⑤ | | 6 | 12 | 3 | 48.4 | |
| RCS2CR-SA6D-①-30-3-②-③-④-⑤ | | 3 | 18 | 6 | 96.8 | |

Legend: ① Encoder type ② Stroke ③ Controller ④ Cable length ⑤ Option

Stroke, Maximum Speed and Suction Volume

| Stroke Lead | Stroke 50 to 450 (every 50mm) | 500 (mm) | 550 (mm) | 600 (mm) | Suction Volume (Nl/min) |
|-------------|-------------------------------|----------|----------|----------|-------------------------|
| | 12 | 800 | 760 | 640 | |
| 6 | 400 | 380 | 320 | 270 | 30 |
| 3 | 200 | 190 | 160 | 135 | 15 |

(Unit = mm/s)

Price List by ① Encoder Type/② Stroke

| ② Stroke (mm) | Type code | |
|---------------|----------------|----------|
| | SA6D | |
| | ① Encoder type | |
| | Incremental | Absolute |
| 50 | - | - |
| 100 | - | - |
| 150 | - | - |
| 200 | - | - |
| 250 | - | - |
| 300 | - | - |
| 350 | - | - |
| 400 | - | - |
| 450 | - | - |
| 500 | - | - |
| 550 | - | - |
| 600 | - | - |

⑤ Option Price Table

| Title | Option code | See page | Standard price |
|---------------------------------|-------------|----------|----------------|
| Brake (cable exiting the end) | BE | →P437 | - |
| Brake (cable exiting the left) | BL | →P437 | - |
| Brake (cable exiting the right) | BR | →P437 | - |
| Reversed-home specification | NM | →P442 | - |
| Variable Vacuum coupling mount | VR | →P446 | - |

④ Cable Length Price Table

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

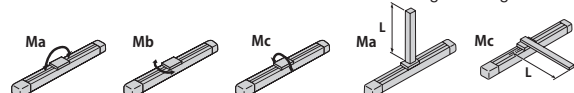
*See P394 for details on maintenance cable.

Actuator Specification

| Item | Description |
|---|--|
| Drive System | Ball screw φ10mm, rolled C10 |
| Positioning Repeatability | ±0.02mm |
| Backlash | 0.1mm or less |
| Base | Material: aluminum with alumite treatment |
| Allowable load moment | Ma: 8.9N·m, Mb: 12.7N·m, Mc: 18.6N·m |
| Overhang load length | Ma direction: 220mm or less, Mb/Mc directions: 220mm or less |
| Grease | Low-dust-raising grease (both ball screw and guide) |
| Cleanliness | Class 10 compatible (0.1 μm) |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (no condensing) |
| Service life | 5000km |

Direction of allowable load moment

Overhang load length



Controller-Integrated
Slider Type
Rod Type
Table Arm/flat
Gripper/Rotary Type
Cleanroom
Splash-resistant
Controller
Coupling
Built-in (Direct)
Reverse-mounted
Pulse Motor 20P
Pulse Motor 28P
Pulse Motor 35P
Pulse Motor 42P
Pulse Motor 56P
Pulse Motor 86P
Servo Motor 10W
Servo Motor 20W
Servo Motor 30W
Servo Motor 60W
Servo Motor 100W
Servo Motor 150W
Servo Motor 750W

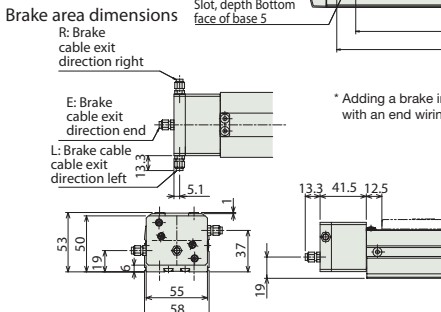
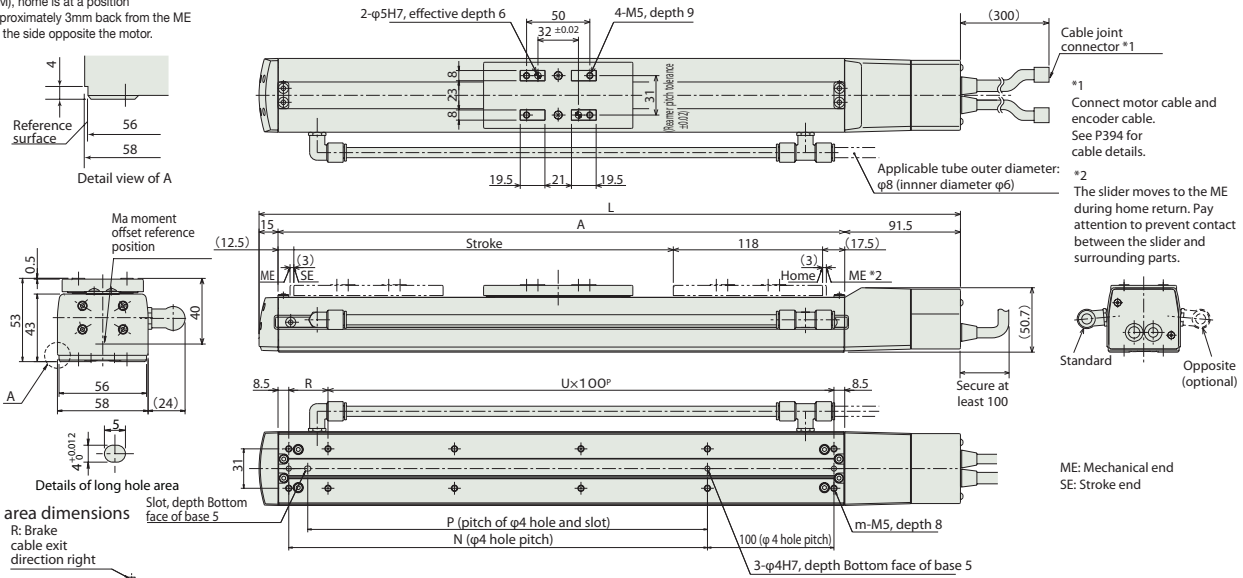
Dimensional Drawings

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

Information on special orders P. 454



* Take note that the return adjustment needs to change to the home direction.
 * With the reversed-home specification (NM), home is at a position approximately 3mm back from the ME on the side opposite the motor.



* Adding a brake increases overall length by 26.5mm (39.8mm with an end wiring exit) and weight by 0.3kg.

* Overall length (L) is increased by 26.5mm, (39.8mm with end wiring exit) and weight is increased by 0.3kg when brake-equipped.

■ Dimensions and Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L | 304.5 | 354.5 | 404.5 | 454.5 | 504.5 | 554.5 | 604.5 | 654.5 | 704.5 | 754.5 | 804.5 | 854.5 |
| A | 198 | 248 | 298 | 348 | 398 | 448 | 498 | 548 | 598 | 648 | 698 | 748 |
| N | 81 | 131 | 181 | 231 | 281 | 331 | 381 | 431 | 481 | 531 | 581 | 631 |
| P | 66 | 116 | 166 | 216 | 266 | 316 | 366 | 416 | 466 | 516 | 566 | 616 |
| R | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 | 81 | 31 |
| U | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 |
| m | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 |
| Weight(kg) | 2.0 | 2.1 | 2.3 | 2.4 | 2.6 | 2.7 | 2.9 | 3.0 | 3.2 | 3.3 | 3.5 | 3.6 |

Compatible Controllers

RCS2 Series Actuators can be operated with the following controllers. Select the type that is compatible with your application.

| Title | External View | Model | Features | Max. positioning p points | Input power | Power-supply capacity | Standard price | See page |
|--------------------------------|---------------|--------------------------|---|---------------------------|---|---|----------------|----------|
| Positioner type | | SCON-C-30D①-NP-2-② | Up to 512-point positioning possible | 512 points | Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only) | Maximum 360VA *1 axis specification for 150W operation | - | →P385 |
| Solenoid valve type | | | Same as solenoid valve controlled operation enabled | 7 points | | | | |
| Serial communication type | | | Serial communications special type | 64 points | | | | |
| Pulse train input control type | | | Pulse train input special type | (-) | | | | |
| Program control 1-2 axis type | | SSEL-C-1-30D①-NP-2-② | Programmed operation enabled Maximum 2-axes operation enabled | 20000 points | | | - | →P415 |
| Program control 1-6 axis type | | XSEL-③-1-30D①-N1-EEE-2-④ | Programmed operation enabled, maximum of 6-axes operation possible | 4000 points | | | - | →P425 |

*SSEL, XSEL are for 1-axis specification.
 ① indicates the encoder type (I: Incremental, A: Absolute).
 ② indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V).
 ③ indicates the XSEL type (J/K/P/Q).
 ④ indicates the power-supply voltage type (1: 100V, 2: Single-phase 200V, 3: Three-phase 200V).

- Controler-Integrated
- Slider Type
- Rod Type
- Table Arm/flat
- Gripper/Rotary Type
- Cleanroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W