Battery-Body Width Motor **24**_v 70 mm Side-mo Steppe Absolute Type Moto Body width doe not include the width of the side ■ Model RA7R -WA **56P** Specification mounted motor Applicable Controller/I/O Type Encoder Type — Motor Type Stroke Cable Length Options Items [RCP6] P3: PCON N : None P : 1m Please refer to the options table below. RCP6: Separate Controller WA: Battery-less 56P: Stepper 24: 24mm 50: 50mm RCP6S: Built-in Controller Absolute Motor 16: 16mm 8: 8mm MCON MSEL [RCP6S] S : 3m M: 5m 56□ Size 300: 300mm S:3m M:5m X□□: Specified Length When ordering the side 4: 4mm (50mm increments) * RCP6 does not include a controller. RCP6S includes a built-in controller. SE: SIO Type R□□: Robot Cable mounted motor typ



*Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact IAI for more information regarding mounting positions.

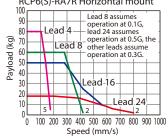


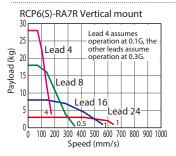
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.

- (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) on P.115 for more details.
- (3) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
- (4) When performing push-motion operation, please confirm the push force of each model by checking the "Correlation diagram of push force and current limit" on P.113.
- (5) Depending on the ambient operational temperature, duty control is necessary for the RCP6S (built-in controller type) with lead 4/8/16. Please refer to P.130 for more information.

■ Correlation Diagrams of Speed and Payload

High-output enabled with PCON/MCON/MSEL connected. RCP6(S)-RA7R Horizontal mount





Actuator Specifications

Lead and Payload

| Model Number | Lead (mm) | Connected Controller | | ayload Vertical (kg) | Stroke (mm) |
|--------------------------------|--------------|-------------------------|----|-------------------------|--------------------------|
| RCP6(S)-RA7R-WA-56P-24-①-②-③-④ | 24 | High-output Enabled | 20 | 3 | |
| RCP6(S)-RA7R-WA-56P-16-①-②-③-④ | 16 | High-output Enabled | 50 | 8 | 50~300 (The increment |
| RCP6(S)-RA7R-WA-56P-8-①-②-③-④ | 8 | High-output Enabled | 60 | 18 | of stroke is 50mm) |
| RCP6(S)-RA7R-WA-56P-4-①-②-③-④ | 4 | High-output Enabled | 80 | 28 | |

Legend: ① Stroke ② Applicable controller/I/O type ③ Cable length ④ Options

| | ■ Street | oke and Ma | ıx. Speed | (Unit: mm/s) |
|----------|--------------|-------------------------|------------------------|--------------|
| | Lead (mm) | Connected Controller | 50~300 (Every 50mm) | |
| | 24 | High-output Enabled | 800 <640> | |
|) ent | 16 | High-output Enabled | 560 | |
| 5 | 8 | High-output Enabled | 420 <350> | |
| | 4 | High-output Enabled | 175 | |

 $\label{eq:Values} \mbox{Values in brackets} < \mbox{$>$$ are for vertical use.}$

| U Stroke | | | | | |
|-------------|------|-------|-------------|------|-------|
| | | 1 | , | | |
| Stroke (mm) | RCP6 | RCP6S | Stroke (mm) | RCP6 | RCP6S |
| 50 | 0 | 0 | 200 | 0 | 0 |
| 100 | 0 | 0 | 250 | 0 | 0 |
| 150 | 0 | 0 | 300 | 0 | 0 |

4 Options

| Name | Option Code | Reference Page |
|---------------------------------|-------------|----------------|
| Brake | В | See P.105 |
| Cable exit direction (Outside) | CJO | See P.105 |
| Flange | FL | See P.106 |
| Foot bracket | FT | See P.107 |
| Motor side-mounted to the left | ML | See P.109 |
| Motor side-mounted to the right | MR | See P.109 |
| Motor side-mounted to the top | MT | See P.109 |
| Tip adapter (Internal thread) | NFA | See P.109 |
| Non-motor end specification | NM | See P.110 |
| T-slot nut bar | NTB | See P.110 |

When selecting multiple options, please list them in alphabetical order. (e.g. B-CJB-NM)

| ③ Cable Len | gth | | |
|------------------|----------------------|------|-------|
| Cable Type | Cable Code | RCP6 | RCP6S |
| | P (1m) | 0 | 0 |
| Standard | S (3m) | 0 | 0 |
| | M (5m) | 0 | 0 |
| | X06 (6m) ~X10 (10m) | 0 | 0 |
| Specified Length | X11 (11m) ~X15 (15m) | 0 | 0 |
| | X16 (16m) ~X20 (20m) | 0 | 0 |
| | R01 (1m) ~R03 (3m) | 0 | 0 |
| Robot Cable | R04 (4m) ~R05 (5m) | 0 | 0 |
| | R06 (6m) ~R10 (10m) | 0 | 0 |
| | R11 (11m) ~R15 (15m) | 0 | 0 |
| | R16 (16m) ~R20 (20m) | 0 | 0 |

* Please refer to P.144 for more information regarding the maintenance cables.

Actuator Specifications

| ltem | Description |
|---|--|
| Drive system | Ball screw \(\phi 12mm, \text{ rolled C10} \) |
| Positioning repeatability | ±0.01mm |
| Lost motion | 0.1mm or less |
| Rod | φ30mm Material: Aluminum with hard alumite treatment |
| Static allowable torque on rod tip | 2.5N•m |
| Max. angular displacement on rod tip (*1) | ±0.8 deg. |
| Ambient operating temp. & humidity | 0~40°C, 85% RH or less (Non-condensing) |

(*1) This is the displacement angle of the rod tip (initial reference value) when the rod is fully retracted and the static allowable torque is applied at the rod tip.

Dimensions *1 When the rod is returning to its home position, please be careful of interference from CAD drawings can be downloaded from our website surrounding objects, as it will travel until it reaches the M.E. www.intelligentactuator.com M.E: Mechanical end S.E: Stroke end *2 The direction of width across flats varies depending on the product. Grease nipple (ϕ 5 hole) (Top and side) Supplied hex nut Must be 100 or more The orientation of the width across flats is indeterminable (*2) 249.9 (same as the type with brake) 4-M8 depth 16 164.7 4-M8 depth 16 M.E./ S.E. Home/ M.E. **(** 452 h7 430 M3 depth 4 (For ground line) 53.5 (Motor side-mounted to the left) 22.5 (Motor side-mounted to the right), M14×1.5 9.5 Stroke Cable exit direction (Option) Detail view of P * The figure above is the motor side-mounted to the left (ML). ■RCP6S-RA7R Ð 0 Cable exit direction (Option) Must be 100 or more * The figure above is the motor side-mounted to the left (ML). 286.9 (same as the type with brake) 244.8 201.7 M3 depth 4 (For ground line) 4-M8 depth 16

Teaching port

■ Dimensions and Mass by Stroke

| | Strok | e | 50 | 100 | 150 | 200 | 250 | 300 |
|-----------------|-----------|-----------|-------|-------|-------|-------|-------|-------|
| L | | 230 | 280 | 330 | 380 | 430 | 480 | |
| A | | | 197.5 | 247.5 | 297.5 | 347.5 | 397.5 | 447.5 |
| _ | RO | RCP6 | | 30.1 | 80.1 | 130.1 | 180.1 | 230.1 |
| R | RCP6S | | -56.9 | -6.9 | 43.1 | 93.1 | 143.1 | 193.1 |
| Mass (kg) RCP6S | w/o brake | 5.1 | 5.7 | 6.3 | 6.9 | 7.5 | 8.1 | |
| | KCPO | w/brake | 5.2 | 5.8 | 6.4 | 7.0 | 7.6 | 8.2 |
| | RCP6S | w/o brake | 5.2 | 5.8 | 6.4 | 7.0 | 7.6 | 8.1 |
| | | w/brake | 5.3 | 5.9 | 6.5 | 7.1 | 7.7 | 8.2 |

Note: * If the length for R is negative in the table below, the length of the actuator body is shorter than the motor unit.

| he RCP6 series actuators ca | n be operated by | the controlle | ers indicated below | . Please select th | he type dependi | ing on your inte | nded use. * Please | refer to P.147 for mo | re information about the buil | t-in controller of RCP6S series | |
|-----------------------------|------------------|-----------------|----------------------------|--------------------|-------------------------------------|------------------|--|--------------------------------|--------------------------------|---------------------------------------|--|
| Name | External | Max. number of | Input power | | | Control me | ethod | | Maximum number | Reference page | |
| | view | controlled axes | input power | Positioner | Pulse train | Program | Networ | k *Option | of positioning points | Reference page | |
| PCON-CB/CGB | | 1 | DC24V | ● *Option | ● *Option | - | DeviceNet CC-Link | Ether Vet / IP | 512 (768 for network spec.) | Please see P.131 | |
| MCON-C/CG | mi | 4 | DC24V | | This model is k-compatible only. | | CompoNet Note: - The type of compatible networks | | 256 | Please see the MCOI catalog. | |
| MSEL-PC/PG | | 4 | Single-phase 100~230VAC | - | - | • | will vary deper controller. | ding on the reference page for | 30,000 | Please see the MSEL PC/PG catalog. | |

53.5 (Motor side-mounted to the left) 22.5 (Motor side-mounted to the right)