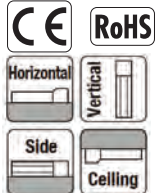


RCP5-RA6C ROBO Cylinder, Rod Type, Motor Unit Coupled, Actuator Width 58mm, 24V Pulse Motor

| | | | | | | | | | |
|---------------------|--------|------|---|----------------------------|--|-------------------------------------|--------------------------------|---|--|
| Model | RCP5 | RA6C | WA | 42P | | | | | |
| Specification Items | Series | Type | Encoder type | Motor type | Lead | Stroke | Applicable controllers | Cable length | Options |
| | | | WA: Battery-less absolute specification | 42P: Pulse motor, size 42□ | 20: 20mm 12: 12mm 6: 6mm 3: 3mm | 65: 65mm 415: 415mm (Every 50mm) | P3: PCON/MSEL P5: RCON/RSEL | N: No cable P: 1m S: 3m M: 5m X□: Specified length R□: Robot cable | Please refer to the options table below. |

*Controller is not included.

Radial Load Applicable

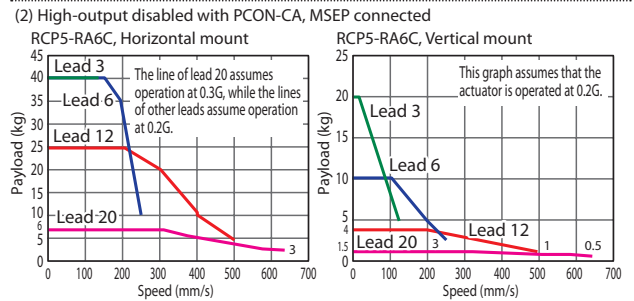
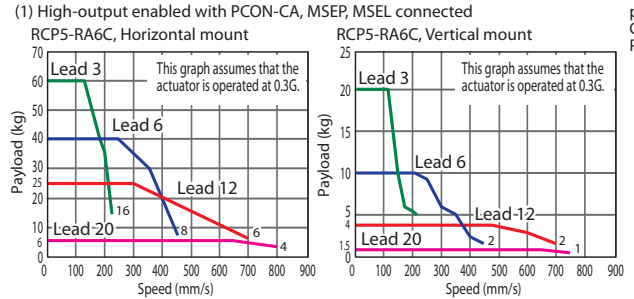


* Depending on the model, there may be some limitations to using the vertical mount position. Please refer to P.59 for details.



- POINT**
Note on selection
- The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration. Please refer to the "Selection Guidelines" (RCP5 Payload by Speed/Acceleration Table) on P. 61.
 - Please refer to P. 59 for push-motion operation.
 - The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown in P. 65 and after for the allowable load mass.

Correlation Diagrams of Speed and Payload



Actuator Specifications

Lead and Payload

| Model number | Lead (mm) | Connected controller | Maximum payload | | Maximum push force (N) | Stroke (mm) |
|------------------------------|-----------|----------------------|-----------------|---------------|------------------------|---------------------|
| | | | Horizontal (kg) | Vertical (kg) | | |
| RCP5-RA6C-WA-42P-20-①-P3-②-③ | 20 | High-output enabled | 6 | 1.5 | 56 | 65~415 (Every 50mm) |
| | | High-output disabled | | | | |
| RCP5-RA6C-WA-42P-12-①-P3-②-③ | 12 | High-output enabled | 25 | 4 | 93 | |
| | | High-output disabled | | | | |
| RCP5-RA6C-WA-42P-6-①-P3-②-③ | 6 | High-output enabled | 40 | 10 | 185 | |
| | | High-output disabled | | | | |
| RCP5-RA6C-WA-42P-3-①-P3-②-③ | 3 | High-output enabled | 60 | 20 | 370 | |
| | | High-output disabled | 40 | | | |

Legend: ① Stroke ② Cable length ③ Options *Please refer to P.59 for push-motion operation.

Stroke and Maximum Speed

| Lead (mm) | Connected controller | Maximum speed (Unit: mm/s) | |
|-----------|----------------------|----------------------------|----------|
| | | 65~365 (Every 50mm) | 415 (mm) |
| 20 | High-output enabled | 800 | |
| | High-output disabled | 640 | |
| 12 | High-output enabled | 700 | |
| | High-output disabled | 500 | |
| 6 | High-output enabled | 450 | |
| | High-output disabled | 250 | |
| 3 | High-output enabled | 225 | 220 |
| | High-output disabled | 125 | |

① Stroke

| Stroke (mm) | Standard price | Stroke (mm) | Standard price |
|-------------|----------------|-------------|----------------|
| 65 | - | 265 | - |
| 115 | - | 315 | - |
| 165 | - | 365 | - |
| 215 | - | 415 | - |

② Cable Length

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

*Please refer to P.89 for maintenance cables.

③ Options

| Name | Option code | Reference page | Standard price |
|-------------------------------|-------------|----------------|----------------|
| Brake | B | →P. 11 | - |
| Cable exit direction (Top) | CJT | →P. 11 | - |
| Cable exit direction (Right) | CJR | →P. 11 | - |
| Cable exit direction (Left) | CJL | →P. 11 | - |
| Cable exit direction (Bottom) | CJB | →P. 11 | - |
| Flange | FL | →P. 12 | - |
| Tip adapter (Flange) | FFA | →P. 12 | - |
| Tip adapter (Internal thread) | NFA | →P. 13 | - |
| Tip adapter (Keyway) | KFA | →P. 13 | - |
| Non-motor end specification | NM | →P. 11 | - |

Actuator Specifications

| Item | Description |
|---|--|
| Drive system | Ball screw Ø10mm, rolled C10 |
| Positioning repeatability (*1) | ±0.02mm [±0.03mm] |
| Lost motion | 0.1mm or less |
| Rod | Ø25mm Aluminum |
| Rod non-rotation precision (*2) | 0 deg. |
| Allowable load and torque on rod tip | Refer to table in the page on the right, refer to P.65 |
| Rod tip overhang distance | 100mm or less |
| Ambient operating temperature, humidity | 0 to 40°C, 85% RH or less (Non-condensing) |

(*1) The values in brackets [] are for Lead 20.

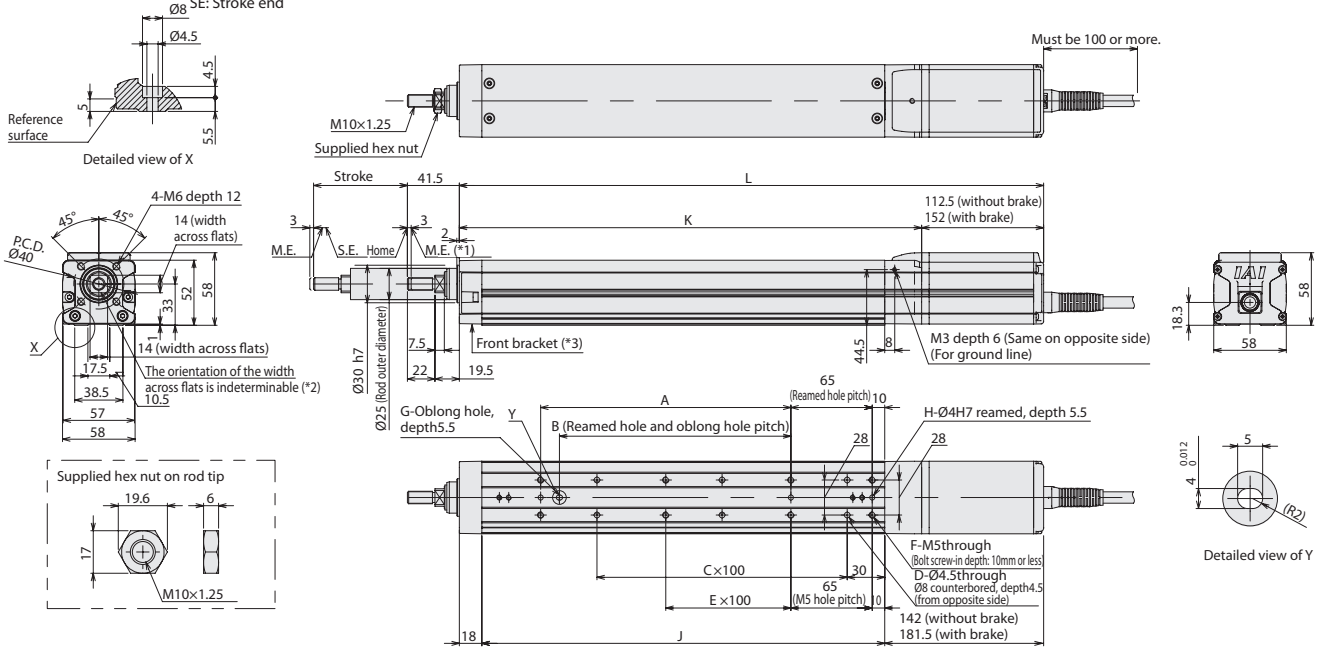
(*2) Rod's angular displacement in rotational direction with no applied load is shown.

Dimensions

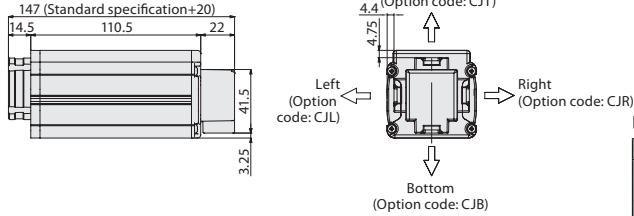
CAD drawings can be downloaded from our website. www.intelligentactuator.com



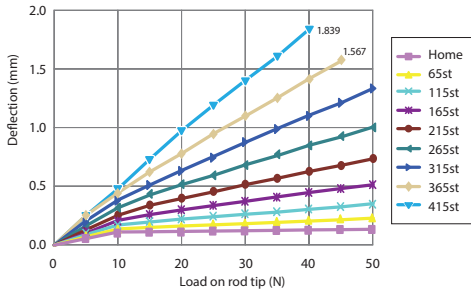
- *1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
 - *2 The direction of width across flats varies depending on the product.
 - *3 If the actuator is installed using the front housing and flange, make sure the actuator will not receive any external force.
- ME: Mechanical end
SE: Stroke end



■ Cable Exit Direction (Option)



■ Rod Deflection of RCP5-RA6C (Reference Values)



■ Dimensions and Mass by Stroke

| Stroke | Stroke | | | | | | | | |
|--|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 65 | 115 | 165 | 215 | 265 | 315 | 365 | 415 | |
| L | Without brake | 332 | 382 | 432 | 482 | 532 | 582 | 632 | 682 |
| | With brake | 371.5 | 421.5 | 471.5 | 521.5 | 571.5 | 621.5 | 671.5 | 721.5 |
| A | 0 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 |
| B | 0 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 |
| C | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| D | 4 | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 10 |
| E | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 |
| F | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 |
| G | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| H | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| J | 172 | 222 | 272 | 322 | 372 | 422 | 472 | 522 | 522 |
| K | 219.5 | 269.5 | 319.5 | 369.5 | 419.5 | 469.5 | 519.5 | 569.5 | 569.5 |
| Allowable static load on rod tip (N) | Without brake | 113.8 | 92.6 | 78.0 | 67.3 | 59.0 | 52.5 | 47.2 | 42.8 |
| | With brake | 45.7 | 36.3 | 29.8 | 25.1 | 21.6 | 18.8 | 16.6 | 14.7 |
| Allowable dynamic load on rod tip (N) | Load offset 0mm | 32.1 | 28.3 | 24.6 | 21.5 | 18.9 | 16.7 | 14.9 | 13.4 |
| | Load offset 100mm | 11.5 | 9.4 | 7.9 | 6.8 | 6.0 | 5.4 | 4.9 | 4.5 |
| Allowable static torque on rod tip (N-m) | Without brake | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.9 | 3.1 | 3.3 |
| | With brake | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.1 | 3.3 | 3.5 |

Applicable Controllers

* Controller for RCP6 series is PCON, MSEL, RCON or RSEL.
Please refer our Controller General Catalog and/or contact IAI.