

# RCP6(S)-RRA4R

Battery-less Absolute

Motor Unit Type

Side-mounted Motor

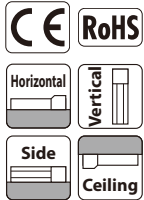
Body Width 40\* mm

24v Stepper Motor

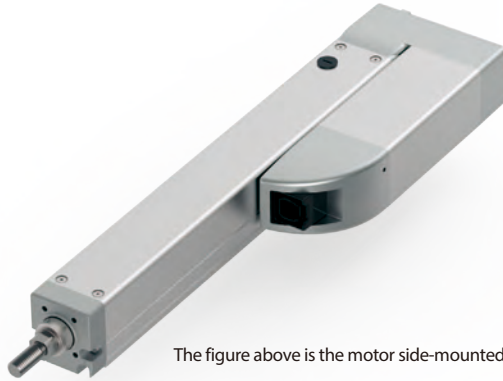
■ Model Specification Items	Series	<b>RRA4R</b>	Encoder Type	<b>WA</b>	Motor Type	<b>35P</b>	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
	RCP6: Separate Controller RCP6S: Built-in Controller	WA: Battery-less Absolute	35P: Stepper Motor 35□ Size	16: 16mm 10: 10mm 5: 5mm 2.5: 2.5mm	60: 60mm 10: 10mm 410: 410mm (50mm increments)	[RCP6] P3: PCON MCON MSEL [RCP6S] SE: SIO Type	N : None P : 1m S : 3m M : 5m X□ : Specified Length R□ : Robot Cable	Please refer to the options table below.  *Please make sure to specify either ML or MR when ordering the side-mounted motor type.			

\* RCP6 does not include a controller. RCP6S includes a built-in controller.  
\* Please refer to P.11 for more information about the model specification items.

## Radial Load OK



\*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.

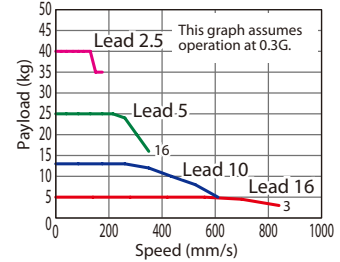


The figure above is the motor side-mounted to the left (ML).

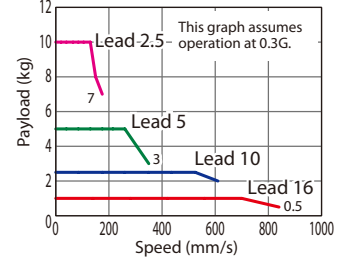
- POINT Selection Notes**
- (1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
  - (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) on P.115 for more details.
  - (3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown in P.127 and after for the allowable load mass.
  - (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.

## Correlation Diagrams of Speed and Payload

High-output enabled with PCON/MCON/MSEL connected.  
RCP6(S)-RRA4R Horizontal mount



RCP6(S)-RRA4R Vertical mount



## Actuator Specifications

### Lead and Payload

(Note 1) The payload assumes that there is an external guide.

Model Number	Lead (mm)	Connected Controller	Max. Payload		Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
RCP6(S)-RRA4R-WA-35P-16-①-②-③-④	16	High-output Enabled	5	1	60~410 (The increment of stroke is 50mm)
RCP6(S)-RRA4R-WA-35P-10-①-②-③-④	10	High-output Enabled	13	2.5	
RCP6(S)-RRA4R-WA-35P-5-①-②-③-④	5	High-output Enabled	28	5	
RCP6(S)-RRA4R-WA-35P-2.5-①-②-③-④	2.5	High-output Enabled	40	10	

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

### Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	Connected Controller	60~360 (Every 50mm)	410 (mm)
16	High-output Enabled	840	
10	High-output Enabled	610	
5	High-output Enabled	350	340
2.5	High-output Enabled	175	170

### ① Stroke

Stroke (mm)	RCP6	RCP6S	Stroke (mm)	RCP6	RCP6S
60	○	○	260	○	○
110	○	○	310	○	○
160	○	○	360	○	○
210	○	○	410	○	○

### ④ Options

Name	Option Code	Reference Page
Brake	<b>B</b>	See P.105
Cable exit direction (Outside)	<b>CJO</b>	See P.105
Flange	<b>FL</b>	See P.106
Tip adapter (Flange)	<b>FFA</b>	See P.105
Tip adapter (Internal thread)	<b>NFA</b>	See P.109
Tip adapter (Keyway)	<b>KFA</b>	See P.108
Motor side-mounted to the left	<b>ML</b>	See P.109
Motor side-mounted to the right	<b>MR</b>	See P.109
Knuckle joint*	<b>NJ</b>	See P.110
Non-motor end specification	<b>NM</b>	See P.110
Clevis bracket*	<b>QR</b>	See P.111

\* The clevis (QR) and knuckle joint (NJ) are sold as a set.

The assembly is to be performed by the customer.

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

### ③ Cable Length

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

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

## Actuator Specifications

Item	Description
Drive system	Ball screw φ8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	φ20mm Aluminum
Rod non-rotation precision*	0 deg.
Allowable load and torque on rod tip	See P. 127
Rod tip overhang distance	100mm
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

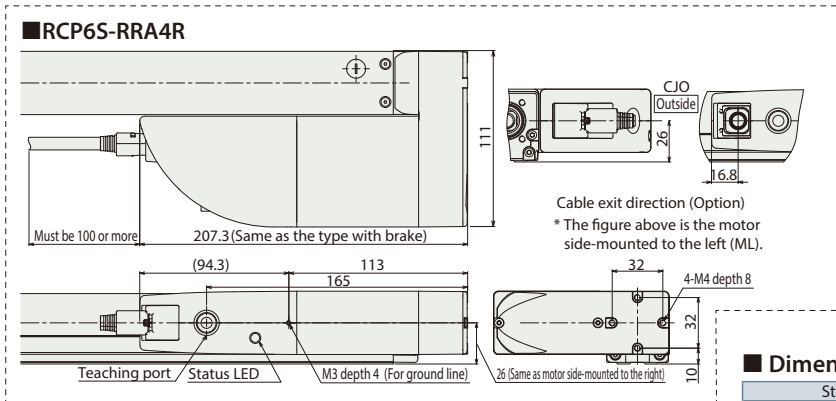
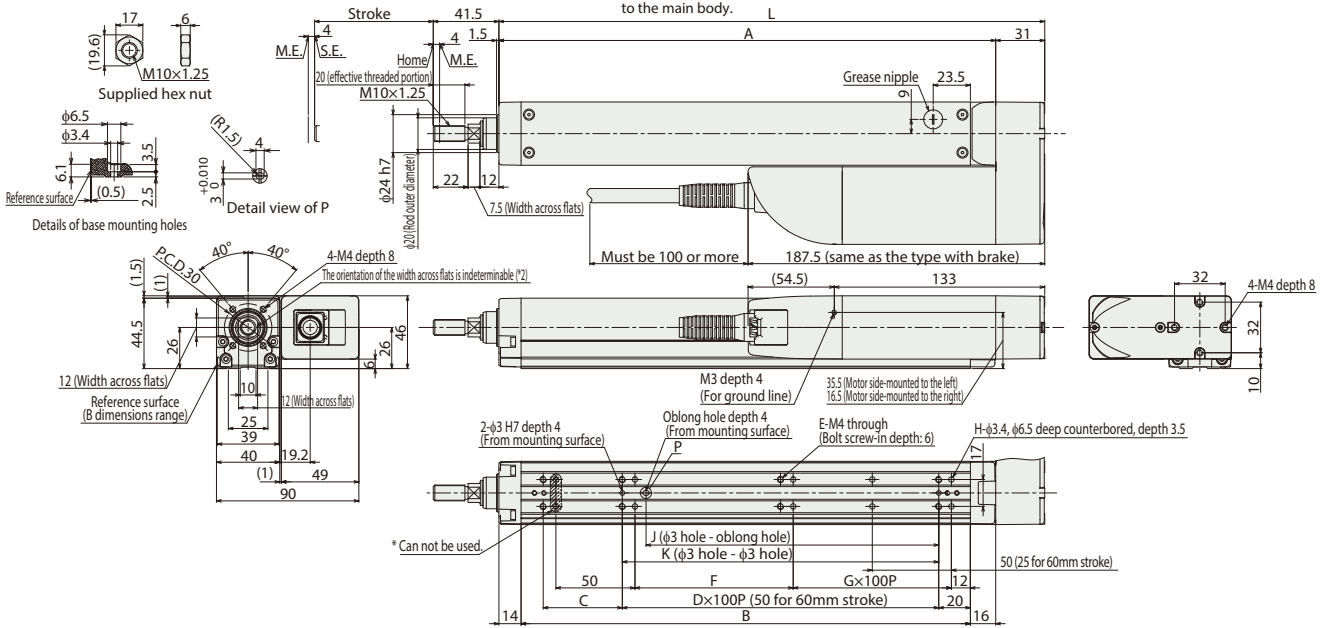
\* Rod's angular displacement in rotational direction with no load applied to the rod.

Dimensions

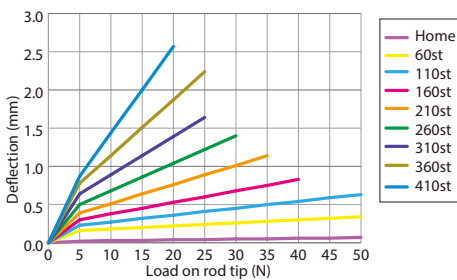
CAD drawings can be downloaded from our website.  
www.intelligentactuator.com



- \*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 M.E. M.E: Mechanical end S.E: Stroke end
- \*2 The direction of width across flats varies depending on the product.
- \*3 When fixing the actuator using a front bracket or flange, please make sure that there is no external force applied to the main body.



■ Rod Deflection of RCP6(S)-RRA4R (Reference Values)



■ Dimensions and Mass by Stroke

Stroke	60	110	160	210	260	310	360	410		
L	195	245	295	345	395	445	495	545		
A	164	214	264	314	364	414	464	514		
B	134	184	234	284	334	384	434	484		
C	50	50	100	50	100	50	100	50		
D	0	1	2	2	3	3	3	4		
E	6	6	6	8	8	10	10	12		
F	50	100	50	100	50	100	50	100		
G	0	0	1	1	2	2	3	3		
H	6	6	8	8	10	10	12	12		
J	35	85	85	185	185	285	285	385		
K	50	100	100	200	200	300	300	400		
Allowable static load on rod tip (N)	63.4	50.7	42.1	36	31.3	27.6	24.6	22.2		
Allowable dynamic Load offset 0mm	2.9	2.3	1.8	1.5	1.3	1.1	1.0	0.8		
load on rod tip (kg) Load offset 100mm	1.8	1.6	1.4	1.2	1.0	0.9	0.8	0.7		
Allowable static torque on rod tip (N·m)	6.4	5.1	4.3	3.7	3.2	2.9	2.6	2.3		
Allowable dynamic torque on rod tip (N·m)	1.7	1.5	1.3	1.1	1.0	0.9	0.7	0.7		
Mass (kg)	RCP6	w/o brake	1.4	1.5	1.6	1.8	1.9	2.0	2.1	2.3
		w/ brake	1.4	1.6	1.7	1.8	1.9	2.1	2.2	2.3
	RCP6S	w/o brake	1.5	1.6	1.8	1.9	2.0	2.1	2.3	2.4
		w/ brake	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4

② Applicable Controllers

The RCP6 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use. \* Please refer to P.147 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method				Maximum number of positioning points	Reference page
				Positioner	Pulse train	Program	Network *Option		
PCON-CB/CGB		1	DC24V	*Option	*Option	-	 Note: The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.	512 (768 for network spec.)	Please see P.131
MCON-C/CG		4		This model is network-compatible only.					
MSEL-PC/PG		4	Single-phase 100~230VAC	-	-	●	30,000	Please see the MSEL-PC/PG catalog.	

\*Please select "high-output specification" as an option for the MCON. With the MCON, operation is possible only when the high-output specification is selected.