RCP6(S)W-RRA4C

Dust/Splash-Proof Spec | Battery-less Absolute | Motor Unit Type | Coupled Motor | Body Width 45 mm | 24V Pulse Motor

Model Specification Items

Series	Type	Encoder Type	Motor Type	Lead	Stroke	Applicable Controller/I/O Type	Cable Length	Options
	RRA4C	WA	35P					
RCP6W: Separate Controller RCP6SW: Built-in Controller		WA: Battery-less Absolute	35P: Pulse Motor 35□ Size	10 : 10mm 5 : 5mm 2.5 : 2.5mm	50:50mm ~ 400:400mm (Every 50mm)	[RCP6] P3 : PCON MCON MSEL P5 : RCM-P6PC (Coming soon) [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.

* RCP6 does not include a controller. RCP6S includes a built-in controller.
* Please refer to P.19 for more information about the model specification items.

Radial Load Applicable

CE RoHS

Horizontal | Vertical | Side | Ceiling

*Some limitations may apply to horizontal/side/ceiling mountings depending on the model. See page 204. Please contact IAI for more information.

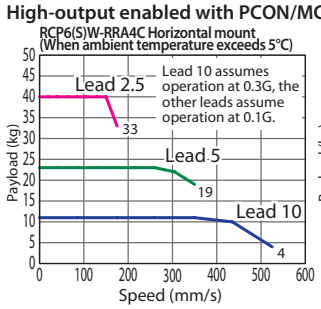
POINT Selection Notes

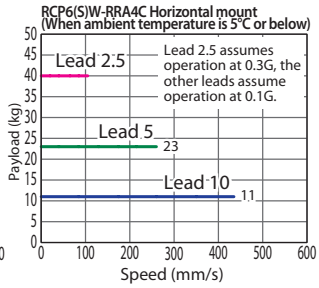
(1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
(2) The actuator specifications displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (Tables of Payload by Speed/Acceleration) on P.235 for more details.
(3) The radial cylinder is equipped with a built-in guide. Please refer to the graphs shown on P.243 and after for the allowable load mass.
(4) Please refer to P205 for performing push-motion operation.
(5) The cable joint connector is not splash-proofed, so it should be located where there is no splash.

Correlation Diagrams of Speed and Payload

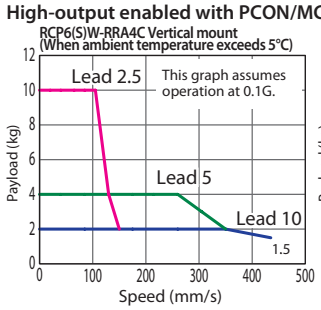
If the ambient temperature is 5°C or below, the speed will be lower than when it exceeds 5°C.

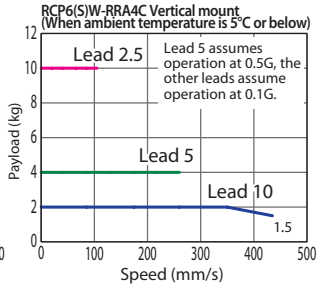
High-output enabled with PCON/MCON/MSEL connected.





High-output enabled with PCON/MCON/MSEL connected.





Actuator Specifications

Lead and Payload

* Horizontal external guide rail required for horizontal payload.
** Push force only available during push mode w/ limited speed.

Model Number	Lead (mm)	Max. Payload Horizontal (kg)*	Max. Payload Vertical (kg)	Max. Push Force (N)**	Stroke (mm)
RCP6(S)W-RRA4C-WA-35P-10-①-②-③-④	10	11	2	77	50~400 (Every 50mm)
RCP6(S)W-RRA4C-WA-35P-5-①-②-③-④	5	23	4	155	
RCP6(S)W-RRA4C-WA-35P-2.5-①-②-③-④	2.5	40	10	310	

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

Stroke and Max Speed (Unit: mm/s)

Lead (mm)	50~350 (Every 50mm)	400
10	525 <435> [435]	
5	350 [260]	340 [260]
2.5	175 <150> [105]	170 <150> [105]

Values in brackets < > are for vertical use.
Values in brackets [ ] are when ambient temperature is 5°C or below.

Cable Length

Cable Type	Cable Code	Cable Type	Cable Code
Standard	**P** (1m)	Robot Cable	**R01** (1m) ~**R03** (3m)
	S (3m)		**R04** (4m) ~**R05** (5m)
	M (5m)		**R06** (6m) ~**R10** (10m)
Specified Length	**X06** (6m) ~**X10** (10m)		**R11** (11m) ~**R15** (15m)
	X11 (11m) ~**X15** (15m)		**R16** (16m) ~**R18** (18m)
	X16 (16m) ~**X18** (18m)		—

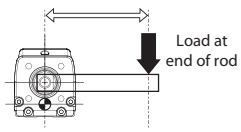
* The total length of the actuator cable and the actuator/controller connection cable must not exceed 20m.
* Please refer to P.267 and 281 for more information regarding the maintenance cables.

Actuator Specifications

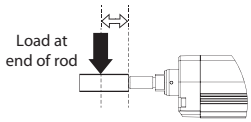
Item	Description
Drive system	Ball screw ø8mm, rolled C10
Positioning repeatability	±0.01mm
Lost motion	0.1mm or less
Rod	ø20mm
Rod non-rotation precision (*)	0 deg.
Allowable load and torque on rod tip	See P. 243
Rod tip offset/overhang distance	dx/dz: 100mm or less
Protective structure	IP65 (IEC 60529)
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.

Offset distance at end of rod (dx: 100mm or less)



Overhang distance at end of rod (dz: 100mm or less)



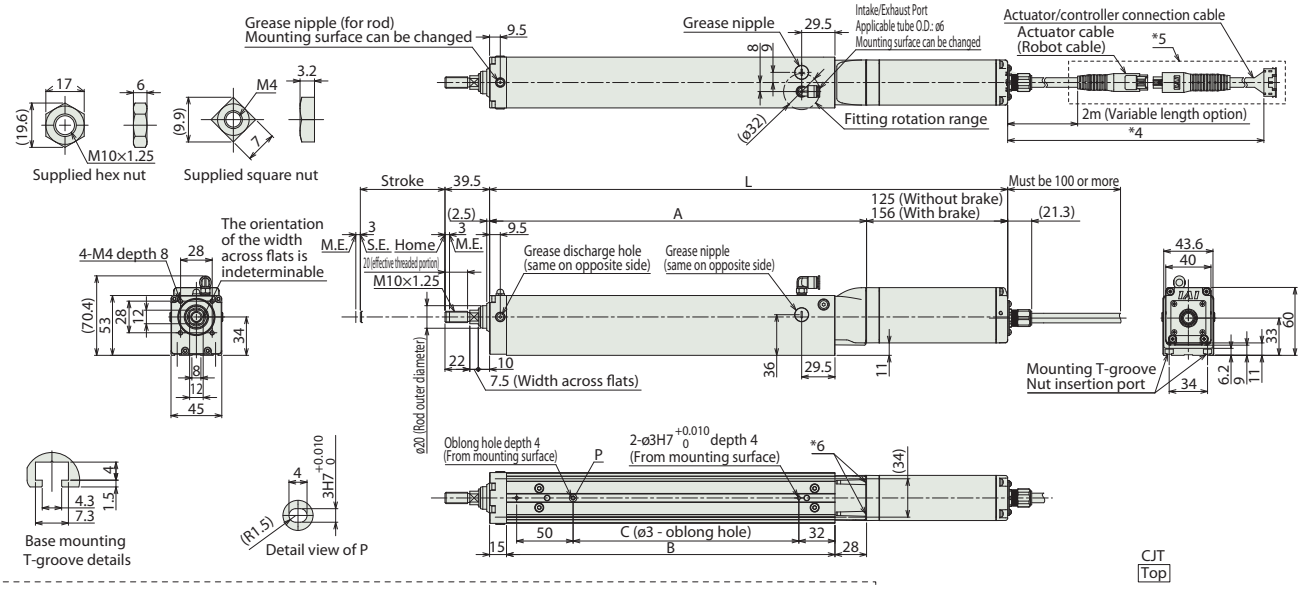
Options

Name	Option Code	Reference Page
Actuator cable length 5m	**AC5**	See P.197
Actuator cable length 10m	**AC10**	See P.197
Actuator cable length 15m	**AC15**	See P.197
Brake	**B**	See P.197
Cable exit direction (Bottom)	**CJB**	See P.197
Cable exit direction (Left)	**CJL**	See P.197
Cable exit direction (Right)	**CJR**	See P.197
Cable exit direction (Top)	**CJT**	See P.197
Flange	**FL**	See P.198
Foot bracket	**FT**	See P.199
Tip adapter (Flange)	**FFA**	See P.197
Tip adapter (Internal thread)	**NFA**	See P.201
Tip adapter (Keyway)	**KFA**	See P.201
Non-motor end specification	**NM**	See P.202
T-slot nut bar	**NTB**	See P.202

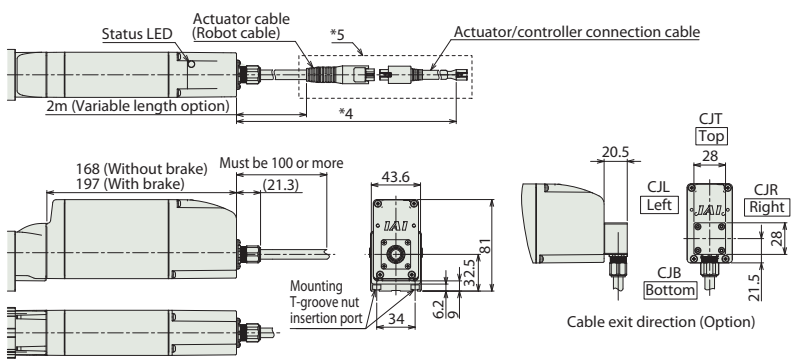
Dimensions

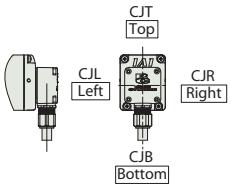
CAD drawings can be downloaded from our website.
www.robocylinder.de

*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.



■ RCP6SW-RRA4C

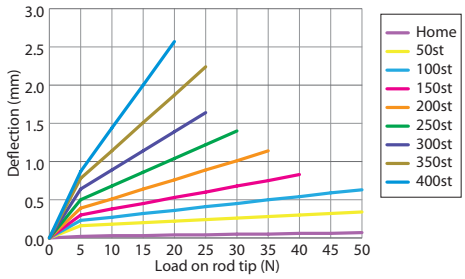




Cable exit direction (Option)

*4 Select the length of the actuator cable and the actuator/controller connection cable so that the total is 20m or less.
*5 The cable joint (connector) within the dotted line is not splash-proofed.
*6 Part of the gasket lifts up, but this does not affect splash-proof performance.
*7 Hex nut x 1 pc., square nut x 4 pcs. included.

■ Rod Deflection of RCP6(S)W-RRA4C (Reference Values)



* Please refer to P.251 for more information on component materials.

■ Dimensions and Mass by Stroke

Stroke			50	100	150	200	250	300	350	400
L	RCP6W	w/o brake	309	359	409	459	509	559	609	659
		w/ brake	340	390	440	490	540	590	640	690
	RCP6SW	w/o brake	352	402	452	502	552	602	652	702
		w/ brake	381	431	481	531	581	631	681	731
A			184	234	284	334	384	434	484	534
B			141	191	241	291	341	391	441	491
C			50	100	150	200	250	300	350	400
Allowable static load on rod tip (N)			63.4	50.7	42.1	36.0	31.3	27.6	24.6	22.2
Allowable dynamic load on rod tip (5,000km life) (N)		Load offset 0mm	28.9	22.2	17.9	14.8	12.6	10.8	9.4	8.2
		Load offset 100mm	17.9	15.5	13.4	11.6	10.2	9.0	8.0	7.1
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)	RCP6W	w/o brake	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9
		w/ brake	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
	RCP6SW	w/o brake	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1
		w/ brake	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2

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.270 for more information about the built-in controller of RCP6S series.

Name	External view	Max. number of controlled axes	Input power	Control method: Positioner	Pulse train	Program	Network * Option	Maximum number of positioning points	Reference page
PCON-CYB/PLB/POB (*)		1	DC24V	● * Option	● * Option	–	Network cannot be selected	64	—
PCON-CB/CGB		1	DC24V	● * Option	● * Option	–	DeviceNet, CC-Link, EtherCAT, EtherNet/IP, PROFIBUS, CompoNet	512 (768 for network spec.)	Please see P.255
MCON-C/CG (**)		8	DC24V	This model is network-compatible only.				256	Please see the MCON-C catalog or manual.
MCON-LC/LCG (*)(**)		6	DC24V	–	–	●		256	—
MSEL-PC/PG		4	Single-phase 100 ~ 230 VAC	–	–	●		30000	Please see the MSEL catalog or manual.
RCM-P6PC (*)		1	Usable within the RCP6S Gateway system.					768	Please see P.277

Note: · The type of compatible networks will vary depending on the controller. Please refer to reference page for more information.

(*) Coming soon. (**) For the MCON controller, high-output enabled operation is only available if "high-output setting" is selected as an option. The maximum connectable axes with high-output enabled are C: 4 and LC: 3.