

RCP6(S)-RA7R

Battery-less
Absolute

Motor
Unit
Type

Side-mounted
Motor

Body Width
70*
mm

24v
Stepper
Motor

Model Specification Items

Series — Type — Encoder Type — Motor Type — Lead — Stroke — Applicable Controller/I/O Type — Cable Length — Options

RCP6: Separate Controller
RCP6S: Built-in Controller

WA: Battery-less
Absolute

56P: Stepper
Motor
56□ Size

24: 24mm
16: 16mm
8: 8mm
4: 4mm

50: 50mm
300: 300mm
(50mm
increments)

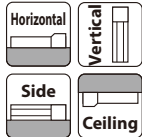
[RCP6]
P3: PCON
MCON
MSEL
[RCP6S]
SE: SIO Type

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 ML, MR or MT
when ordering the side-
mounted motor type.

* Body width does
not include the
width of the side-
mounted motor.

* 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.



*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.



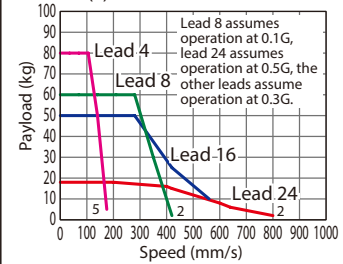
The figure above is the motor side-mounted to the left (ML).



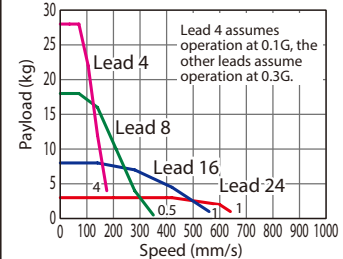
- (1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
- (2) The actuator specification displays the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to the "Selection Guidelines" (RCP6 Tables of Payload by Speed/Acceleration) 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



RCP6(S)-RA7R Vertical mount



Actuator Specifications

Lead and Payload

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

Stroke and Max. Speed

(Unit: mm/s)

Lead (mm)	Connected Controller	50~300 (Every 50mm)
24	High-output Enabled	800 <640>
16	High-output Enabled	560
8	High-output Enabled	420 <350>
4	High-output Enabled	175

Values in brackets < > are for vertical use.

① Stroke

Stroke (mm)	RCP6	RCP6S	Stroke (mm)	RCP6	RCP6S
50	○	○	200	○	○
100	○	○	250	○	○
150	○	○	300	○	○

④ Options

Name	Option Code	Reference Page
Brake	B	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 Length

Cable Type	Cable Code	RCP6	RCP6S
Standard	P (1m)	○	○
	S (3m)	○	○
	M (5m)	○	○
Specified 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.144 for more information regarding the maintenance cables.

Actuator Specifications

Item	Description
Drive system	Ball screw φ12mm, 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.

