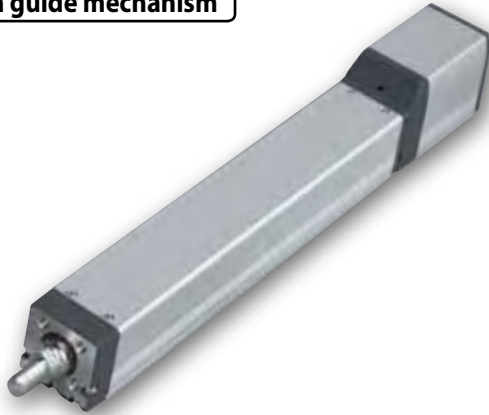


# RCP4-RA6C

ROBO Cylinder, Rod Type, Motor Unit Coupled, Actuator Width 61mm, 24-V Pulse Motor

Model Specification Items	<b>RCP4</b>	<b>RA6C</b>	<b>I</b>	<b>56P</b>					
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	I: Incremental specification	56P: Pulse motor, size 56□	24: 24mm 16: 16mm 8: 8mm 4: 4mm	50: 50mm 500: 500mm (every 50mm)	P3: PCON / MSEL P5: RCON / RSEL	N: None P: 1 m S: 3 m M: 5 m X□□: Specified length R□□: Robot cable	Refer to the options table below.		

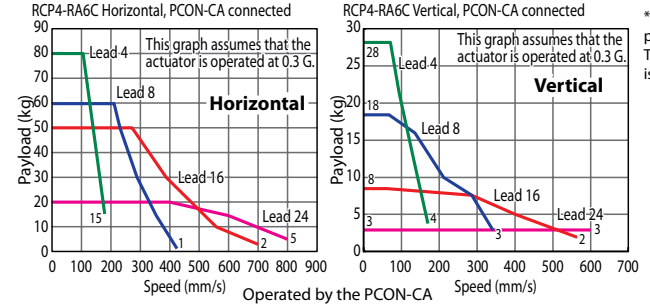
## Built-in guide mechanism



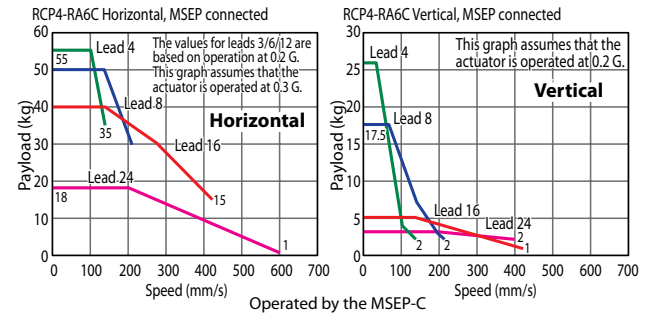
- POINT**  
Notes on selection
- (1) The maximum payload is the value when operated at 0.3G (0.2G with some models) acceleration. The upper limit of acceleration is 1 G (\*). Note that raising the acceleration causes the payload to drop.
  - (\*) The specific value varies depending on the connected controller and actuator lead. For details, refer to "Selection References" on P. 37 to 40.
  - (2) Take note that the maximum payload and maximum speed vary depending on the controller connected to the RCP4. (Refer to the actuator specifications below.)
  - (3) All horizontal payloads are values when an external guide is used.

## Correlation Diagrams of Speed and Payload

\*The values of the horizontal specification assume that an external guide is used.



\* PCON-CA is a previous model. The current model is PCON-CB.



## Actuator Specifications

\* PCON-CA is a previous model. The current model is PCON-CB.

### Leads and Payloads

Model number	Lead (mm)	Connected controller	Maximum payload		Max. push force (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCP4-RA6C-I-56P-24-①-P3-②-③	24	PCON-CA	20	3	182	50~500 (every 50mm)
		MSEP-C	18	3 (*)		
RCP4-RA6C-I-56P-16-①-P3-②-③	16	PCON-CA	50	8	273	
		MSEP-C	40 (*)	5 (*)		
RCP4-RA6C-I-56P-8-①-P3-②-③	8	PCON-CA	60	18	547	
		MSEP-C	50 (*)	17.5 (*)		
RCP4-RA6C-I-56P-4-①-P3-②-③	4	PCON-CA	80	28	1094	
		MSEP-C	55 (*)	26 (*)		

Code explanation ① Stroke ② Cable length ③ Options (\*) When operated at 0.2 G

### Stroke and Maximum Speed

Lead (mm)	Connected controller	50~500 (every 50mm)
24	PCON-CA	800<600>
	MSEP-C	600<400>
16	PCON-CA	700<560>
	MSEP-C	420
8	PCON-CA	420
	MSEP-C	210
4	PCON-CA	210
	MSEP-C	140

The values in <> apply when the actuator is used vertically. (unit: mm/s)

### ① Stroke

Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—
350	—
400	—
450	—
500	—

### ② Cable Length

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

### ③ Options \*

Name	Option code	See page	Standard price
Brake	B	P8	—
Optional cable exit direction (top)	CJT	P8	—
Optional cable exit direction (right)	CJR	P8	—
Optional cable exit direction (left)	CJL	P8	—
Optional cable exit direction (bottom)	CJB	P8	—
Flange bracket	FL	P8	—
Non-motor end specification	NM	P8	—
Scraper	SC	P8	—

### Actuator Specifications

Item	Description
Drive system	Ball screw $\phi$ 12 mm, rolled C10
Positioning repeatability (*1)	$\pm 0.02$ mm [ $\pm 0.03$ mm]
Lost motion	0.1mm or less
Rod	$\phi$ 25mm stainless steel pipe
Rod non-rotation precision	$\pm 0$ deg
Allowable rod load mass	Refer to P. 24 and P. 36
Rod tip overhang distance	100mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(\*1) The value at lead 20 is shown in [ ].

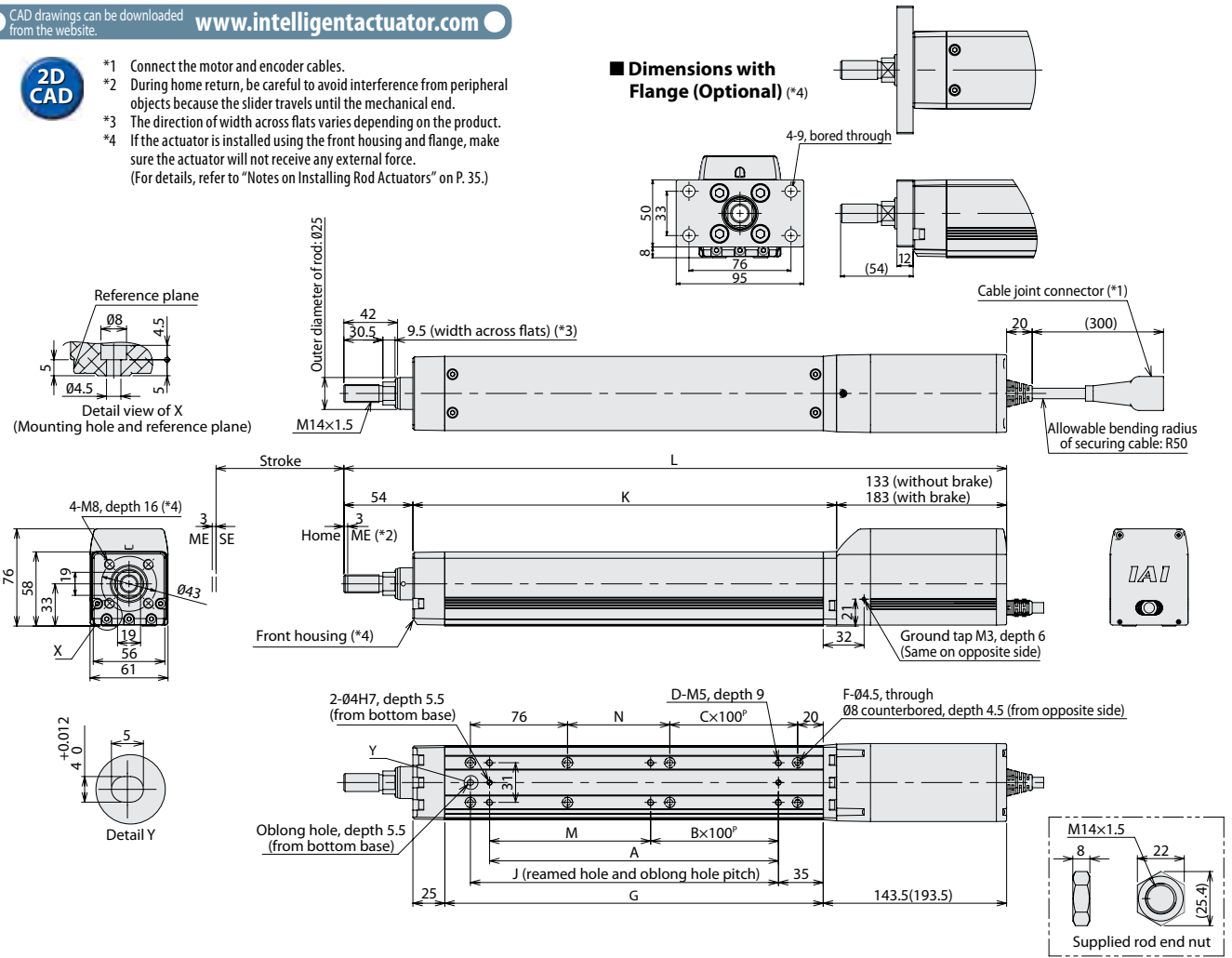
CAD drawings can be downloaded from the website.

[www.intelligentactuator.com](http://www.intelligentactuator.com)



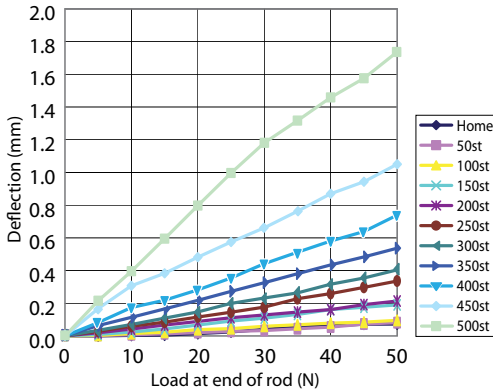
- \*1 Connect the motor and encoder cables.
- \*2 During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end.
- \*3 The direction of width across flats varies depending on the product.
- \*4 If the actuator is installed using the front housing and flange, make sure the actuator will not receive any external force.  
(For details, refer to "Notes on Installing Rod Actuators" on P. 35.)

■ Dimensions with Flange (Optional) (\*4)



■ Rod Deflection of RCP4-RA6C (Reference Values)

(The graph below plots deflection as measured by installing the actuator vertically and applying a radial force to the rod from one side.)



■ Dimensions and Mass by Stroke

L	Stroke		50	100	150	200	250	300	350	400	450	500
	Without brake		368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5
With brake		418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5
A		76	126	176	226	276	326	376	426	476	526	576
B		0	0	1	1	2	2	3	3	4	4	4
C		0	0	0	1	1	2	2	3	3	4	4
D		4	4	6	6	8	8	10	10	12	12	12
F		6	6	6	8	8	10	10	12	12	14	14
G		146	196	246	296	346	396	446	496	546	596	646
J		91	141	191	241	291	341	391	441	491	541	591
K		181.5	231.5	281.5	331.5	381.5	431.5	481.5	531.5	581.5	631.5	681.5
M		76	126	176	226	276	326	376	426	476	526	576
N		30	80	130	180	230	280	330	380	430	480	530
Allowable static load at end of rod (N)		112.7	91.5	76.7	65.7	57.2	50.4	44.8	40.2	36.2	32.7	29.7
Allowable dynamic load at end of rod (N)		49.0	37.4	29.9	24.5	20.4	17.1	14.5	12.3	10.3	8.6	7.3
Load offset 0mm		38.7	31.0	25.5	21.4	18.1	15.4	13.2	11.2	9.5	8.0	6.8
Load offset 100mm		11.4	9.3	7.9	6.8	6.0	5.4	4.9	4.5	4.1	3.8	3.5
Allowable static torque at end of rod (N·m)		3.9	3.1	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.8	0.7
Allowable dynamic torque at end of rod (N·m)		3.9	3.1	2.5	2.1	1.8	1.5	1.3	1.1	1.0	0.8	0.7
Mass (kg)	Without brake	3.4	3.7	4.1	4.4	4.7	5.0	5.4	5.7	6.0	6.3	6.6
	With brake	3.9	4.2	4.6	4.9	5.2	5.5	5.9	6.2	6.5	6.8	7.1

Applicable Controller

\* Controller for RCP4 series is PCON, MSEL, RCON or RSEL.  
Please refer our Controller General Catalog and/or contact IAI.