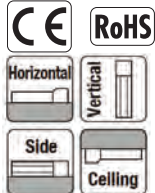


# RCP5-RA10C ROBO Cylinder, High-thrust Rod Type, Motor Unit Coupled, Actuator Width 108mm, 24V Pulse Motor

Model	RCP5-RA10C	WA	86P			P4			
Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		WA: Battery-less absolute specification	86P: Pulse motor, size 86□	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm 800: 800mm (Every 50mm)	P4: PCON-CFA	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



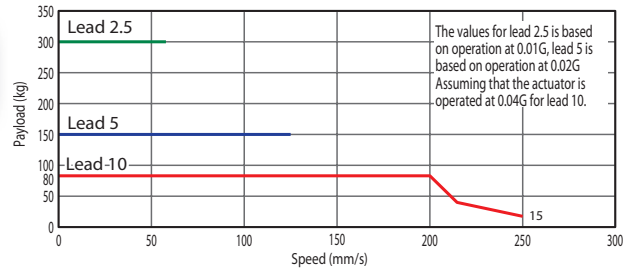
\* Depending on the model, there may be some limitations to using the vertical mount position. Please refer to P.59 for details.



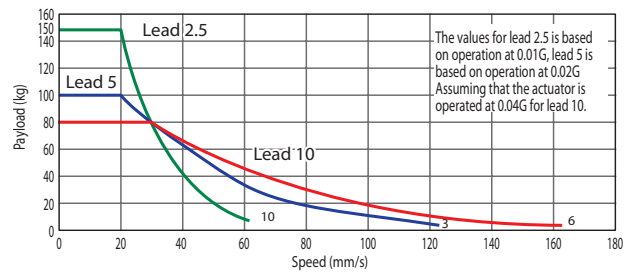
- POINT**  
Note on selection
- (1) The payload assumes operation at an acceleration of 0.01G for lead 2.5, operation at an acceleration of 0.02G for lead 5 and operation at an acceleration of 0.04G for lead 10. The above values are the upper limits of acceleration/deceleration.
  - (2) Please note that the RA10C requires a dedicated controller (high-thrust PCON-CFA).
  - (3) 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

RCP5-RA10C, Horizontal mount, PCON-CFA connected



RCP5-RA10C, Vertical mount, PCON-CFA connected



## Actuator Specifications

### Lead and Payload

Model number	Lead (mm)	Connected controller	Maximum payload		Maximum push force (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCP5-RA10C-WA-86P-10-①-P4-②-③	10	PCON-CFA	80	80	1,500	50~800 (Every 50mm)
RCP5-RA10C-WA-86P-5-①-P4-②-③	5	PCON-CFA	150	100	3,000	
RCP5-RA10C-WA-86P-2.5-①-P4-②-③	2.5	PCON-CFA	300	150	6,000	

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

### Stroke and Maximum Speed

Values in brackets <> are for vertical use. (Unit: mm/s)

Lead (mm)	50 (mm)	100 (mm)	150 (mm)	200~400 (Every 50mm)	450 (mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
10	117	167	200	<167>	250	<167>	220	200	180	160	140	120
5	83		125		110	90	80	70	60	55	50	45
2.5			63				55	50	45	40	35	30

### ① Stroke

Stroke (mm)	Standard price	Stroke (mm)	Standard price
50	-	450	-
100	-	500	-
150	-	550	-
200	-	600	-
250	-	650	-
300	-	700	-
350	-	750	-
400	-	800	-

### 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	-
Non-motor end specification	NM	→P. 11	-

## Actuator Specifications

Item	Description
Drive system	Ball screw Ø20mm (Lead 2.5/10mm), Ø16mm (Lead 5mm), rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Rod	Ø40mm Aluminum
Rod non-rotation precision (*1)	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)

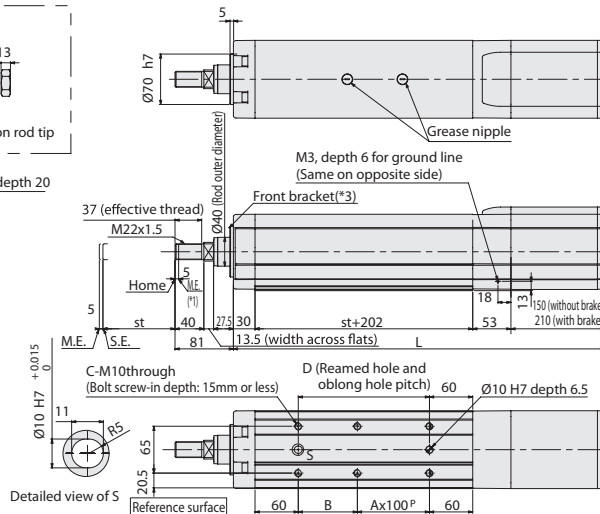
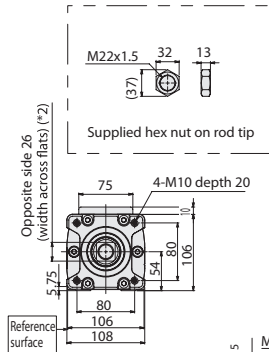
(\*1) Rod's angular displacement in rotational direction with no applied load is shown.

Dimensions

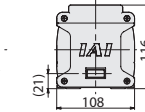
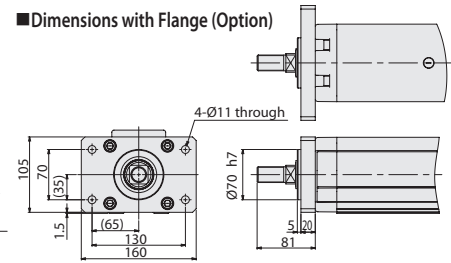
CAD drawings can be downloaded from our website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



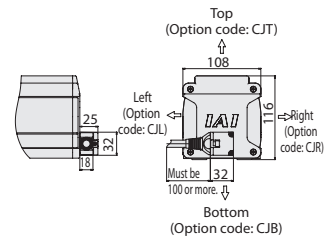
- \*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
- \*2 The direction of width across flats varies depending on the product.
- \*3 If the actuator is installed using the front housing and flange,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



Dimensions with Flange (Option)

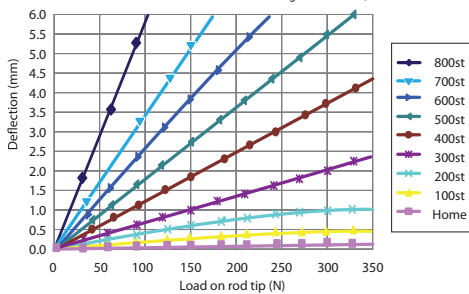


4 Cable Exit Directions (Option)



Rod Deflection of RCP5-RA10C

(The graph below shows the measurements of how much a horizontally installed rod would deflect when a load is applied to the end of the rod. The measured deflection includes the deflection due to the weight of the rod.)



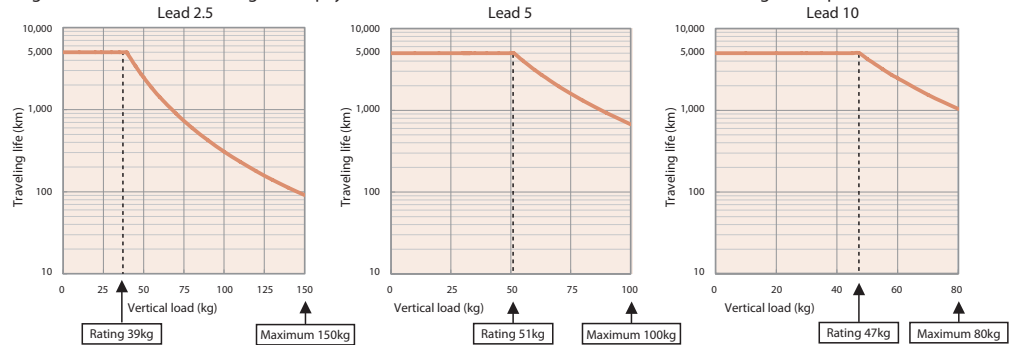
Dimensions and Mass by Stroke

Stroke	L	Stroke															
		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Without brake	485	535	585	635	685	735	785	835	885	935	985	1,035	1,085	1,135	1,185	1,235	
	545	595	645	695	745	795	845	895	945	995	1,045	1,095	1,145	1,195	1,245	1,295	
With brake	0	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
	132	82	132	82	132	82	132	82	132	82	132	82	132	82	132	82	
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	
	132	182	232	282	332	382	432	482	532	582	632	682	732	782	832	882	
Allowable static load on rod tip (N)	316.9	268.4	232.6	205.1	183.4	165.7	151.0	138.6	128.1	119.0	111.0	103.9	97.7	92.1	87.0	82.5	
	119.1	99.1	84.7	73.8	65.3	58.5	52.8	48.1	44.0	40.5	37.5	34.8	32.4	30.2	28.3	26.5	
Allowable dynamic load on rod tip (N)	100.7	85.9	74.9	66.3	59.3	53.6	48.8	44.7	41.2	38.1	35.4	32.9	30.8	28.8	27.0	25.4	
	31.8	27.0	23.4	20.7	18.5	16.8	15.3	14.1	13.1	12.2	11.4	10.7	10.1	9.6	9.1	8.6	
Allowable static torque on rod tip (N·m)	10.1	8.6	7.5	6.6	5.9	5.4	4.9	4.5	4.1	3.8	3.5	3.3	3.1	2.9	2.7	2.5	
	11.5	12.2	12.9	13.6	14.3	15	15.7	16.4	17.1	17.8	18.5	19.2	19.9	20.6	21.3	22	
Mass (kg)	13.1	13.8	14.5	15.2	15.9	16.6	17.3	18	18.7	19.4	20.1	20.8	21.5	22.2	22.9	23.6	

Correlation Diagrams of Vertical Load and Traveling Life

Since the RCP5-RA10C has a greater maximum thrust than other types, its service life varies significantly depending on the payload and push force applied when the actuator is installed vertically. When selecting an appropriate type from the correlation diagram of speed and payload or correlation diagram of push force and current-limiting value, check its traveling life on the correlation diagram of payload and service life as well as on the correlation diagram of push force and service life.

**Note**  
The rated value represents the maximum value at a traveling life of 5,000km. The greatest value is the maximum value at which the actuator can operate. Take note that, if an actuator is operated beyond its rating, its service life will drop as shown by the applicable graph on the right.



Applicable Controllers

The RCP5 series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Name	External view	Model number	Maximum number of positioning points	Input power	Standard price	Reference page
Positioner type		PCON-CFA-86PWAI-NP-2-0 PCON-CFA-86PWAI-PN-2-0	512 points	DC24V	-	→P. 69
Pulse-train type		PCON-CFA-86PWAI-PLN-2-0 PCON-CFA-86PWAI-PLP-2-0	-		-	
Field network type		PCON-CFA-86PWAI-①-0-0	768 points		-	

\*① Field network specification code (DV, CC, PR, CN, ML, EC, EP)