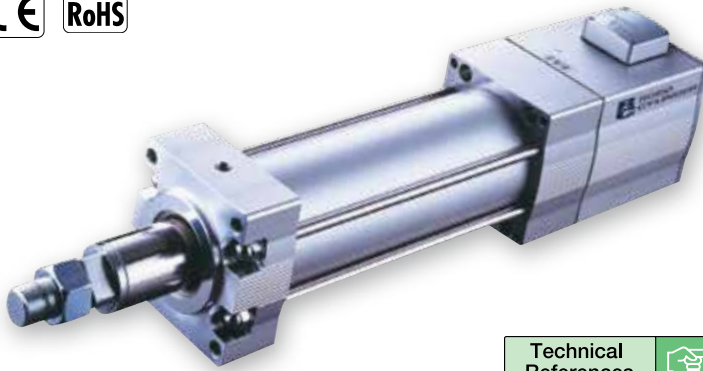


RCP2-RA10C

ROBO Cylinder, High-Thrust Rod Type, Actuator Width 100mm, Pulse Motor, Straight Type

Model Specification Items	RCP2	RA10C	I	86P	<input type="checkbox"/>	<input type="checkbox"/>	P4	<input type="checkbox"/>	<input type="checkbox"/>
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
			I: Incremental	86P: Pulse motor, size 86□	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm ? 300: 300mm (50mm pitch increments)	P4: PCON-CFA	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below.

* See page Pre-47 for details on the model descriptions.

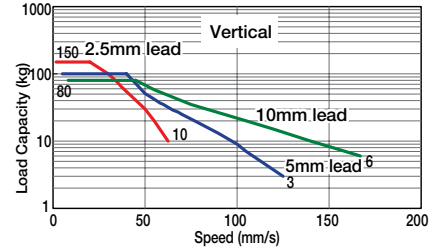
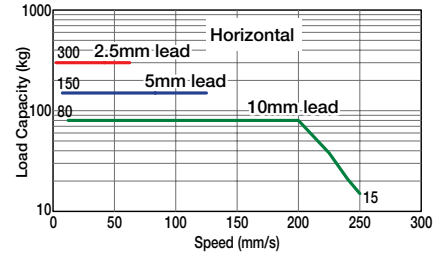


Technical References Appendix P.5

- POINT** Notes on Selection
- (1) Minimum speed is set per each lead. (10mm-lead: 10mm/s, 5mm-lead: 5mm/s, 2.5-lead: 1mm/s) Please note that if the actuator is operated below the minimum speed, vibration may occur.
 - (2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds. Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.
 - (3) The load capacity is based on operation at an acceleration of 0.04G for 10mm-lead, 0.02G for 5mm-lead, and 0.01G for 2.5-lead. This is the upper limit of the acceleration. In addition, the horizontal load capacity is based on the use of an external guide. If an external force is exerted on the rod from a direction other than the motion of the rod, the detent may become damaged.
 - (4) See page A-71 for details on push motion.

Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.



Actuator Specifications

Leads and Payloads

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

Model number	Lead (mm)	Maximum payload (Note 1)		Positioning repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA10C-1-86P-10-①-P4-②-③	10	~80	~80	1,500	50 to 300 (every 50mm)
RCP2-RA10C-1-86P-5-①-P4-②-③	5	150	~100	3,000	
RCP2-RA10C-1-86P-2.5-①-P4-②-③	2.5	300	~150	6,000	

Legend ① Stroke ② Cable length ③ Options *See page A-71 for details on push motion.

Stroke and Maximum Speed

Stroke / Lead	50~300 (every 50mm)
10	250 <167>
5	125
2.5	63

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

① Stroke

① Stroke (mm)	Standard price
50	—
100	—
150	—
200	—
250	—
300	—

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)	—

* See page A-59 for cables for maintenance.

③ Options

Name	Option code	Page	Standard Price
Connector cable exit direction	A1 ~ A3	→ A-41	—
Brake	B	→ A-42	—
Flange	FL	→ A-46	—
Foot bracket	FT	→ A-48	—

Actuator Specifications

Item	Description
Drive method	Ball screw, ø20mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Rod diameter	ø40mm
Rod non-rotation precision	±1.0 deg
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

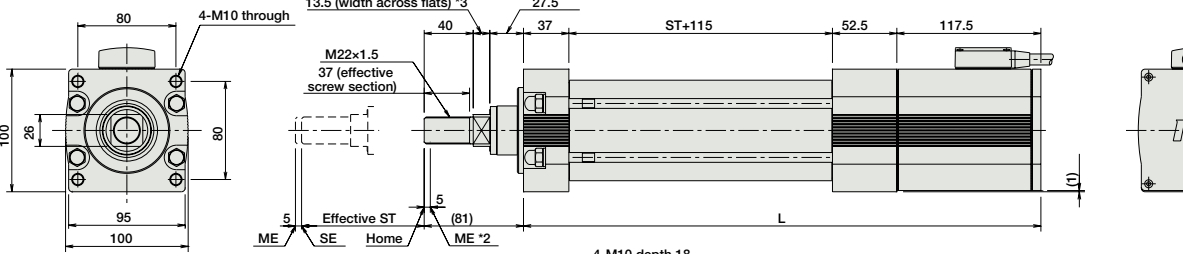
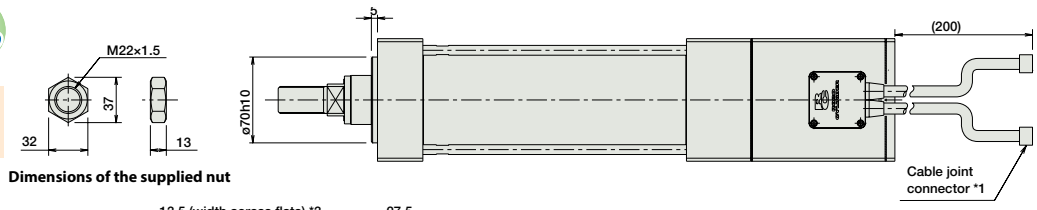
Dimensional Drawings

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

For Special Orders Appendix P.15



* The RA10C is not available in non-motor end configuration, due to its construction.



- (*1) Connect the motor and encoder cables here. Please note that although the motor cable is the same as RCP2 series, the encoder cable is series-specific. (See page A-59 for details on cables.)
- (*2) During home return, be careful to avoid interference from peripheral objects because the slider travels until the mechanical end. ME : Mechanical end SE : Stroke end The values enclosed in "()" are reference dimensions.
- (*3) The orientation of the bolt varies depending on the product.

Note:
Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.

* Compared to the standard model, the brake-equipped model is longer by 45.5mm and heavier by 1.5kg.

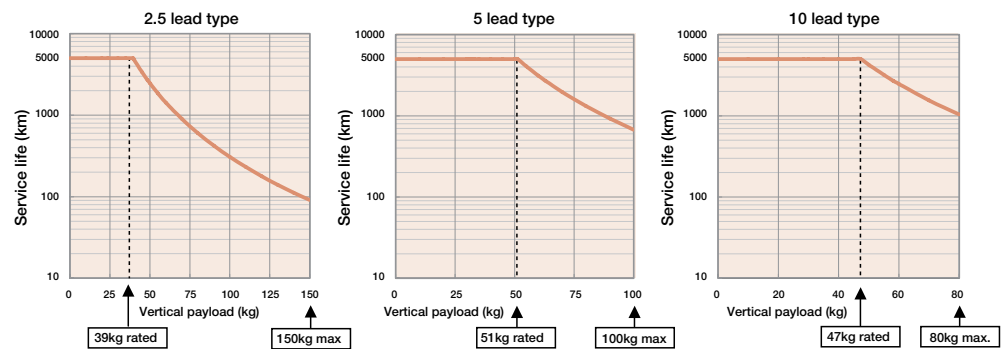
Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300
L	372	422	472	522	572	622
Weight (kg)	9	9.5	10	10.5	11	11.5

Vertical Payload and Service Life

The service life of a rod-type ROBO Cylinder is 5,000km. However, since the RCP2-RA10C has a larger maximum thrust compared to other types, its service life will largely depend on the load capacity and pushing force used. Therefore, when selecting your product using the Speed vs. Load Capacity, or Pushing Force vs. Current Limit graphs, check the service life using the Load Capacity vs. Load Capacity, and Pushing Force vs. Load Capacity graphs.

Note:
The rated value is the maximum value that can meet a service life of 5,000km. The maximum value is the value at which it is still operable. Please note that operation with values exceeding the rated value will result in a decrease in the service life, as shown in the graphs.



Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-CFA-86PI-NP-□-0-□ PCON-CFA-86PI-PN-□-0-□	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type		PCON-CFA-86PI-PLN-□-0-□ PCON-CFA-86PI-PLP-□-0-□	Equipped with a high-output driver Pulse-train input type	(—)				
Field network type		PCON-CFA-86PI-①-0-0-□	Equipped with a high-output driver Supporting 7 major field networks	768 points				

* ① indicates field network specification symbol (DV, CC, PR, CN, ML, EC, EP).