

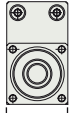


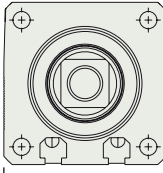
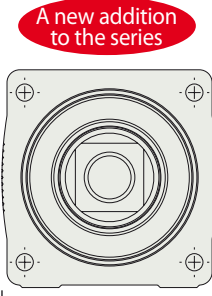
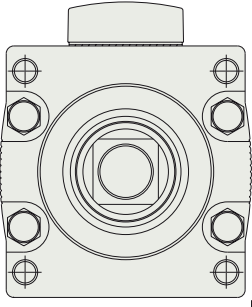
RoboCylinder  
Rod type

# RCP2-RA8C/RA8R



# RA8 (85-mm wide) actuators have been added to the RoboCylinder RCP2 series, rod type, to expand the lineup.

## <RCP2 ROD TYPE VARIATIONS>

	RA2	RA3	RA4	RA6	RA8	RA10
Section view of actuator						
Width	25mm	35mm	45mm	64mm	85mm	100mm
Maximum pushing force	100N	156.8N	358N	800N	1714N	6000N

## Features



Coupling type  
RCP2-RA8C



Side-mounted motor type  
RCP2-RA8R

- The RA8 (pushing force: 1714 N), positioned between the RA6 (pushing force: 800 N) and RA10 (pushing force: 6000 N) size-wise, has been added to the series.
- The side-mounted motor type with a shorter overall length is available.
- A desired motor side-mounted direction and cable exit direction can be selected.

## Specification table

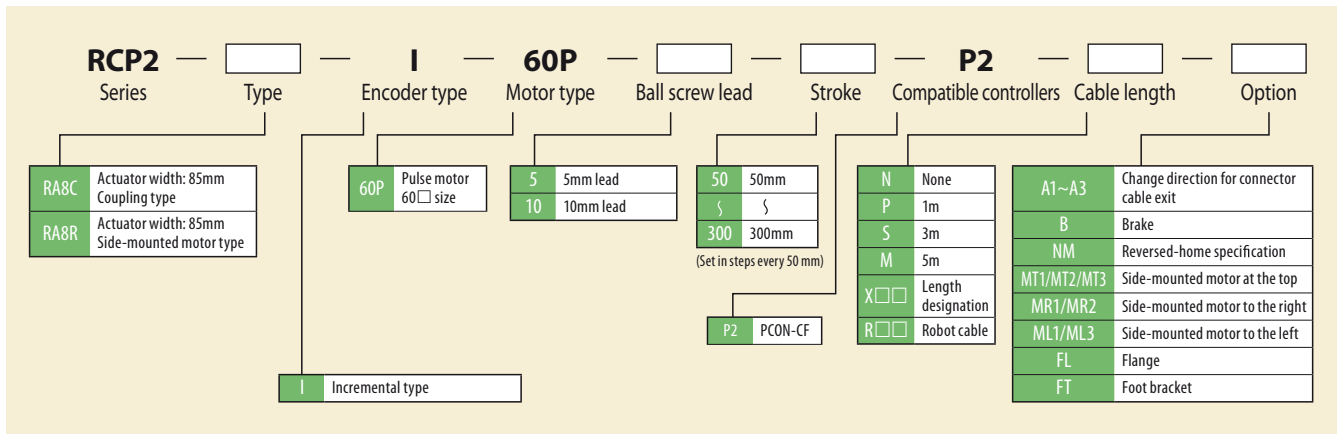
	RA8C		RA8R		
	Coupling		Side-mounted		
Motor installation method	Coupling		Side-mounted		
Motor type	□ 60 Pulse motor				
Actuator section dimensions (*1)	(mm)		85×86		
Stroke	(mm)		50~300		
Drive system	Ø16 Ball screw		Ø16 Ball screw + Timing belt		
Ball screw lead	(mm)	5	10	5	10
Maximum speed	(mm/s)	150	300	100	200
Maximum pushing force (*2)	(N)	1714	857	1714	857
Horizontal payload (*3)	(kg)	100	60	100	60
Vertical payload (*3)	(kg)	70	40	70	40
Positioning repeatability	(mm)	±0.02			
Lost motion	(mm)	0.1			
Rod non-rotation accuracy	(deg)	±1.0			
Ambient operating temperature, humidity	0 to 40°C, 85%RH or less (No condensation)				

(\*1) The motor dimensions are not included.

(\*2) For the pushing force, refer to "Selection Guide (Correlation Diagrams of Pushing Force and Current Limiting Value)".

(\*3) When the actuator is operated at a rated acceleration of 0.2 G (or 0.1 G if the lead is 5). The horizontal payload assumes use of an external guide. Due to the characteristics of the pulse motor, the payload will decrease as the speed increases. For details, refer to "Correlation Diagrams of Speed and Payload".

## Model Description

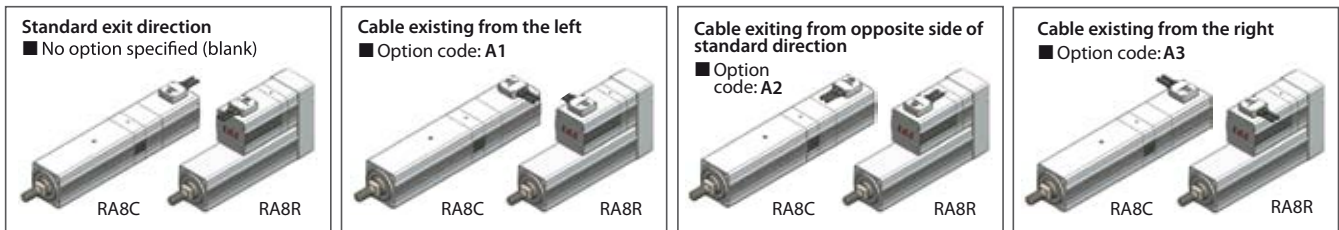


## Change direction for cable exit

To change the direction for cable exit, indicate an appropriate option code such as A1, A2 or A3.

(Note) The direction for connector cable exit is determined by viewing from the rear of the motor.

Take note that the directions are reversed on the coupling type and side-mounted motor type.



## Side-mounted motor direction/cable exit position (for RA8R)

### Note

Be sure to include a code indicating the side-mounted motor direction/cable exit position for your model in the model number.



Option code	MT1	MT2	MT3	MR1	ML1	MR2	ML3
<b>Side-mounted motor direction</b>	Top (standard)	Top	Top	Right	Left	Right	Left
<b>Cable exit position</b>	Top (standard)	Right	Left	Top	Top	Right	Left

## Cable list

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

## Option list

Name	Code
Change direction for connector cable exit	A1~A3
Brake	B
Reversed-home specification	NM
Side-mounted motor at the top	MT1/MT2/MT3
Side-mounted motor to the right	MR1/MR2
Side-mounted motor to the left	ML1/ML3
Flange	FL
Foot bracket	FT

## Controller

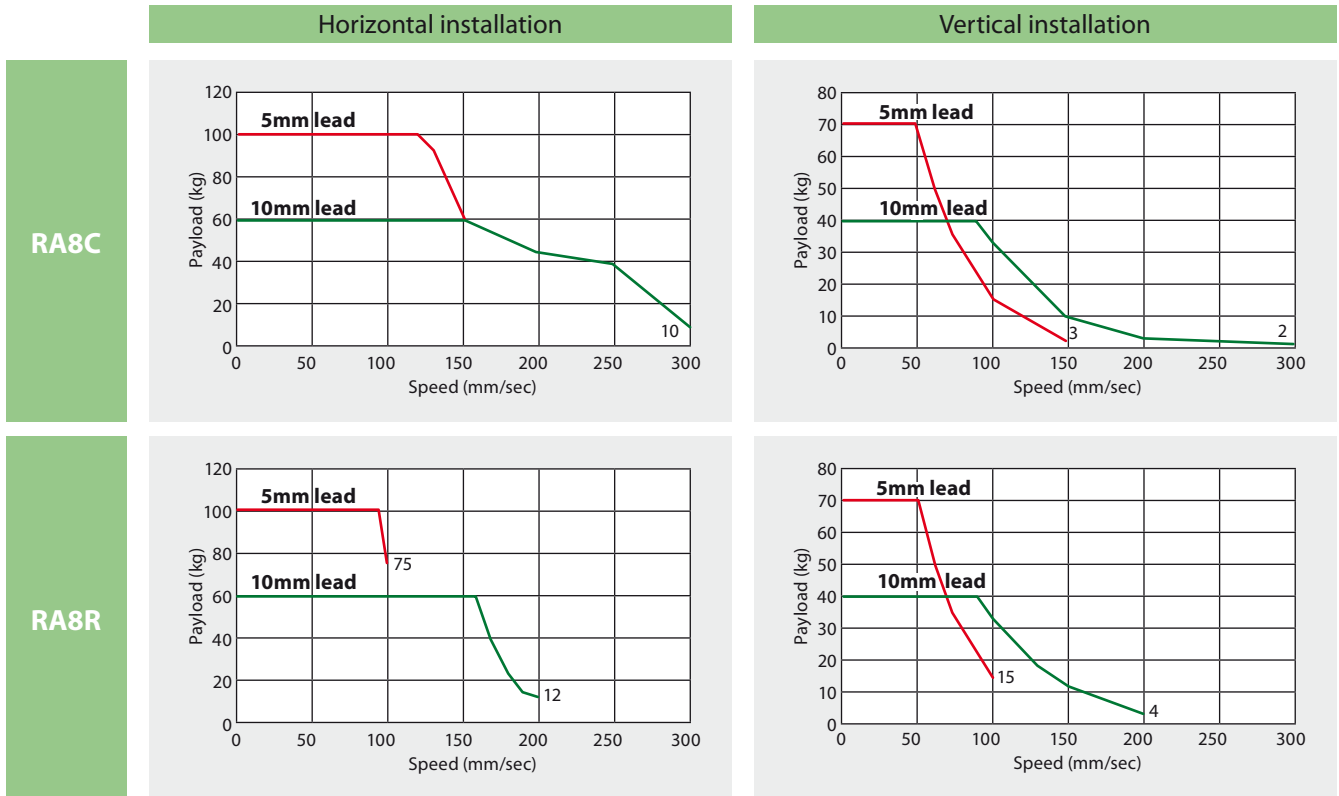
The RCP2-RA8C/RA8R controller are shown below. For details, refer to the RoboCylinder General Catalog.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	See Page
Positioner Type		PCON-CF-60PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	6A max.	→P525 RoboCylinder General Catalog

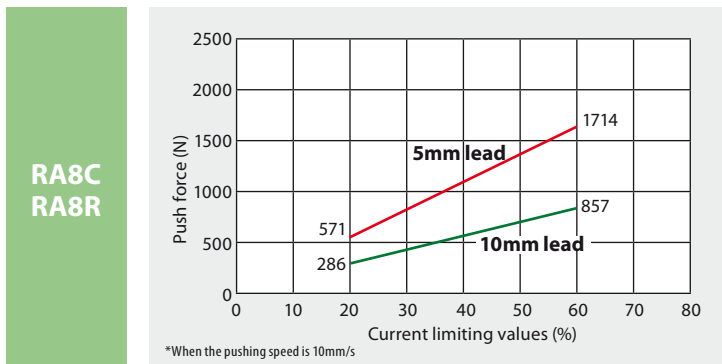
- Note:
- Please note that the encoder cable is a dedicated cable for the CF model, which is different from the PCON-C/CG/CY/PL/PO/SE controllers.
  - The simple absolute unit cannot be used.



## Selection Guide (Correlation Diagrams of Speed and Payload)



## Selection Guide (Push Force and Current Limiting Value Correlation Diagram)



### Note

The moving speed is fixed to 10mm/s during push-motion operation. Take note that the graphs assume the actuator pushes the work at a speed of 10mm/s and that the pushing force will decrease as the speed changes.

Also note that, while the RA8C/RA8R can perform push-motion operation at current limiting values of up to 70%, certain conditions must be met if the current limiting value exceeds 60%.

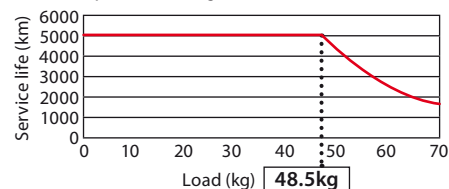
For details, refer to the operation manual of your actuator.

## Notes

### 1. Life

Rod-type RoboCylinder actuators have a service life of 5000km, but the RCP2-RA8C/RA8R types with a lead of 5 may have a shorter service life depending on the transferring mass because the applicable thrust is higher. Check the relationship of transferring mass and service life for your actuator on the graph shown to the right.

Relationship of transferring mass and service life (lead 5, used vertically)



### 2. External Force on Rod

Do not apply an external force to the rod from any direction other than the moving direction of the rod. If a force is applied to the rod from the direction perpendicular to the rod or rotating direction of the rod, the stopper may be damaged.



### 3. Run-out of Rod

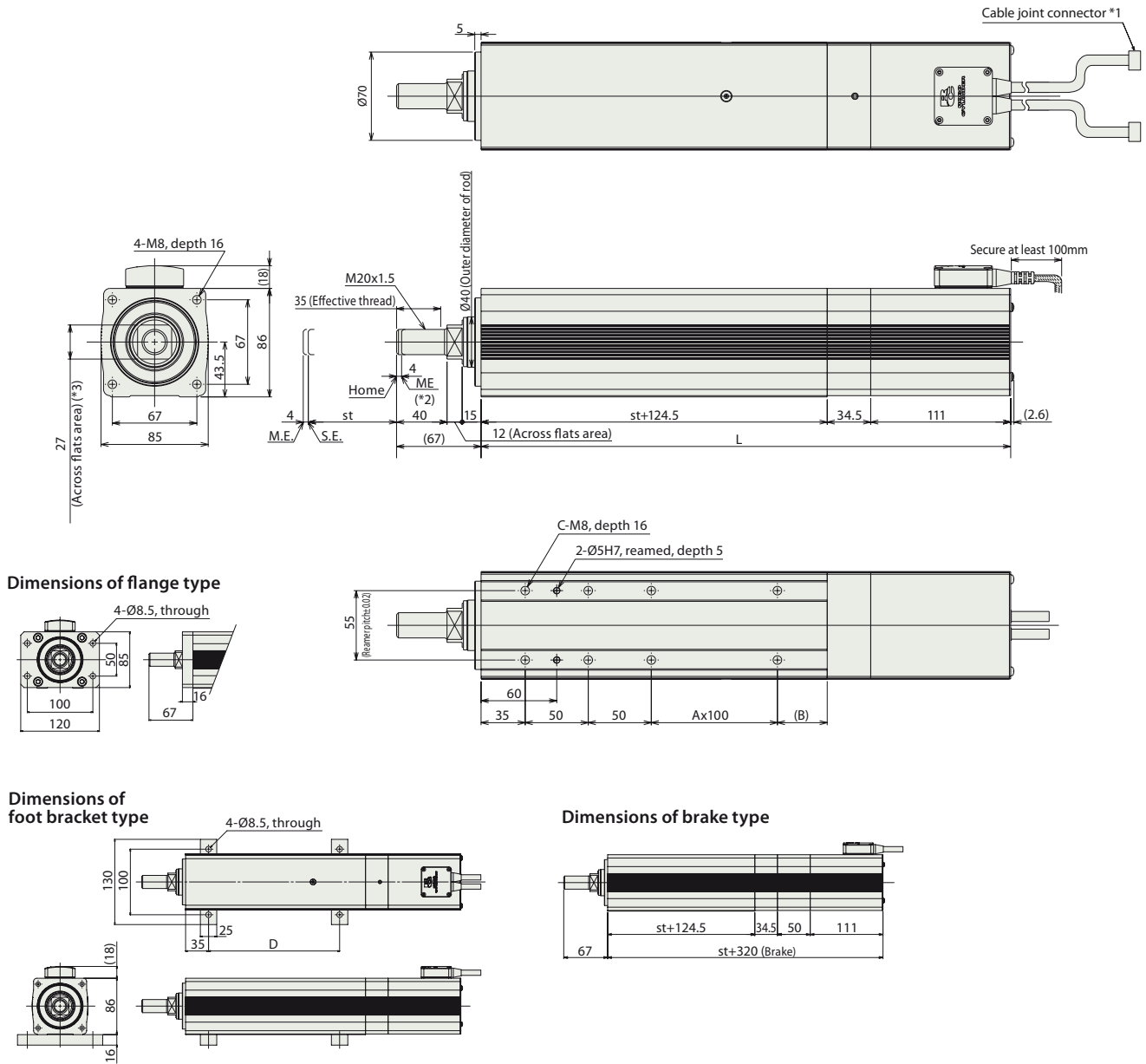
With the standard rod types, run-out at the tip of the rod is not considered. If there is a noticeable run-out of the rod, use an external guide.

# Dimensions

## RA8C

### Note

Do not apply an external force to the rod from any direction other than the moving direction of the rod. If a force is applied to the rod from the direction perpendicular to the rod or rotating direction of the rod, the stopper may be damaged.



- \*1. Connect the motor/encoder cables.
- \*2. During home return, the rod will move all the way to the ME. Accordingly, pay attention to prevent possible contact between the rod and surrounding parts during home return.  
ME: Mechanical End      SE: Stroke End  
Reference dimensions are shown in parentheses.
- \*3. The direction of two sides defining the across flat area varies depending on the product.

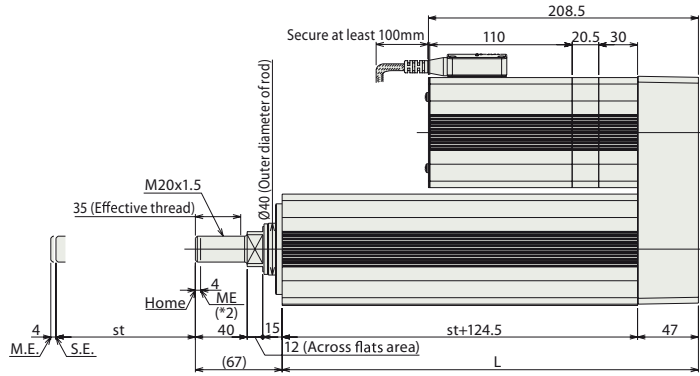
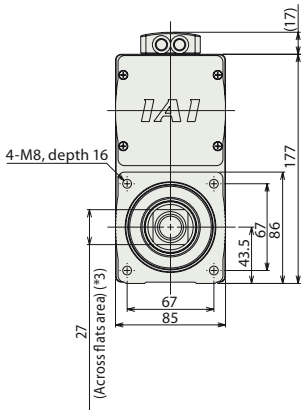
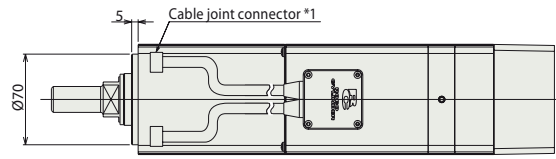
### ■ Dimensions by Stroke (mm)

Stroke	50	100	150	200	250	300
L	320	370	420	470	520	570
A	0	0	1	1	2	2
B	39.5	89.5	39.5	89.5	39.5	89.5
C	6	6	8	8	10	10
D	100	100	200	200	300	300
Mass (kg)	No brake	6.5	7.4	8.2	9.1	10.7
	Brake-equipped	7.5	8.4	9.2	10.1	10.9

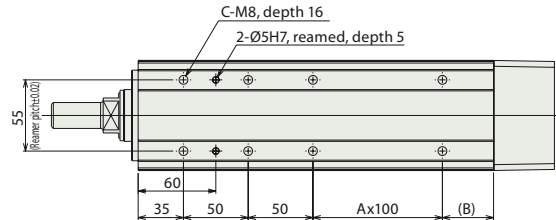
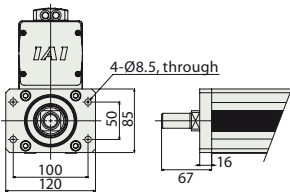
# Dimensions

## ■ RA8R

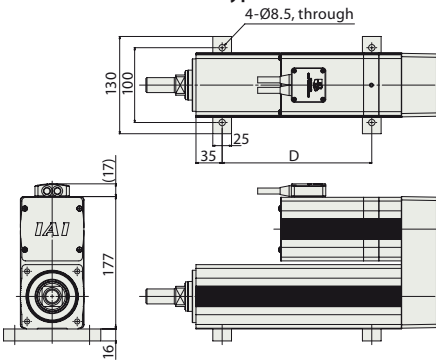
**Note**  
Do not apply an external force to the rod from any direction other than the moving direction of the rod. If a force is applied to the rod from the direction perpendicular to the rod or rotating direction of the rod, the stopper may be damaged.



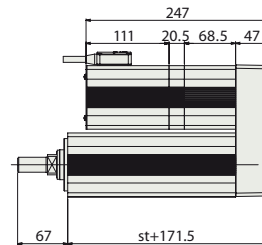
### Dimensions of flange type



### Dimensions of foot bracket type



### Dimensions of brake type



- \*1. Connect the motor/encoder cables.
- \*2. During home return, the rod will move all the way to the ME. Accordingly, pay attention to prevent possible contact between the rod and surrounding parts during home return.  
ME: Mechanical End      SE: Stroke End  
Reference dimensions are shown in parentheses.
- \*3. The direction of two sides defining the across flat area varies depending on the product.

### ■ Dimensions by Stroke (mm)

Stroke	50	100	150	200	250	300	
L	221.5	271.5	321.5	371.5	421.5	471.5	
A	0	0	1	1	2	2	
B	39.5	89.5	39.5	89.5	39.5	89.5	
C	6	6	8	8	10	10	
D	100	100	200	200	300	300	
Mass (kg)	No brake	7.7	8.6	9.4	10.3	11.1	12
	Brake-equipped	8.6	9.5	10.3	11.2	12.0	12.9