

# RCP2-RA6C

ROBO Cylinder Rod Type 64mm Width Pulse Motor Straight Type

■ Configuration: **RCP2** — **RA6C** — **I** — **56P** — [ ] — [ ] — [ ] — [ ] — [ ]

Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

I: Incremental  
\* The Simple absolute encoder is also considered type "I".

56P: Pulse motor  
56 □ size

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

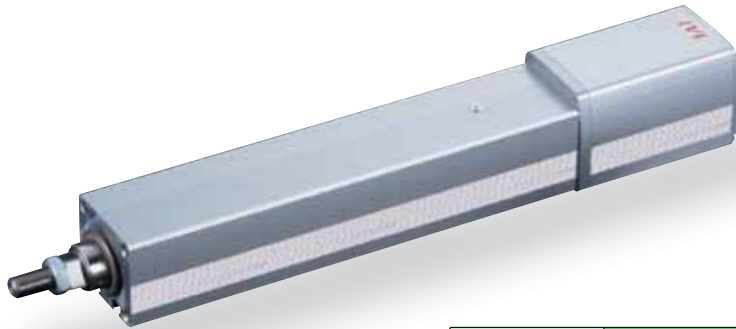
50: 50mm  
300: 300mm (50mm pitch increments)

P1: PCON  
RPCON  
PSEL  
P3: PMEC  
PSEP

N : None  
P : 1m  
S : 3m  
M : 5m  
X □ □ : Custom  
R □ □ : Robot cable

B : Brake  
FL : Flange  
FT : Foot bracket  
NM : Reversed-home

\* See page Pre-35 for an explanation of the naming convention.

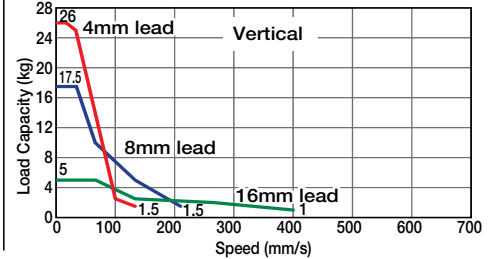
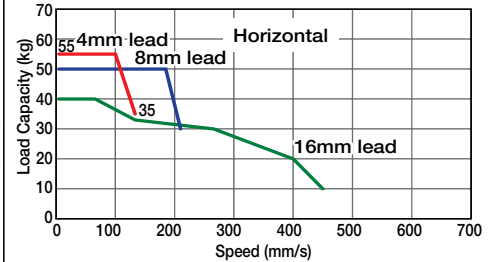


Technical References P. A-5



- (1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (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 0.2G. 0.2G 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.

■ 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

#### Lead and Load Capacity

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

Model	Lead (mm)	Max. Load Capacity (Note 1)		Maximum Push Force (N)(Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-RA6C-I-56P-16-①-②-③-④	16	~ 40	~ 5	240	50 ~ 300 (50mm increments)
RCP2-RA6C-I-56P-8-①-②-③-④	8	~ 50	~ 17.5	470	
RCP2-RA6C-I-56P-4-①-②-③-④	4	~ 55	~ 26	800	

Legend: ① Stroke ② Compatible controller ③ Cable length ④ Options

(Note 2) See page A-69 for the pushing force graphs.

#### Stroke and Maximum Speed

Stroke / Lead	50 ~ 300 (50mm increments)	
	Stroke	50 ~ 300 (50mm increments)
16	450	<400>
8	210	
4	130	

\* The values enclosed in < > apply for vertical usage. (Unit: mm/s)

#### ① Stroke List

Stroke (mm)	Standard Price
50	-
100	-
150	-
200	-
250	-
300	-

#### ③ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	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-39 for cables for maintenance.

#### ④ Option List

Name	Option Code	See Page	Standard Price
Brake	B	→ A-25	-
Flange	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Reversed-home	NM	→ A-33	-

#### Actuator Specifications

Item	Description
Drive System	Ball screw ø12mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Rod Diameter	ø30mm
Non-rotating accuracy of rod	±1.0 deg
Ambient Operating Temp./Humidity	0 ~ 40°C, 85% RH or less (non-condensing)

Dimensions

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

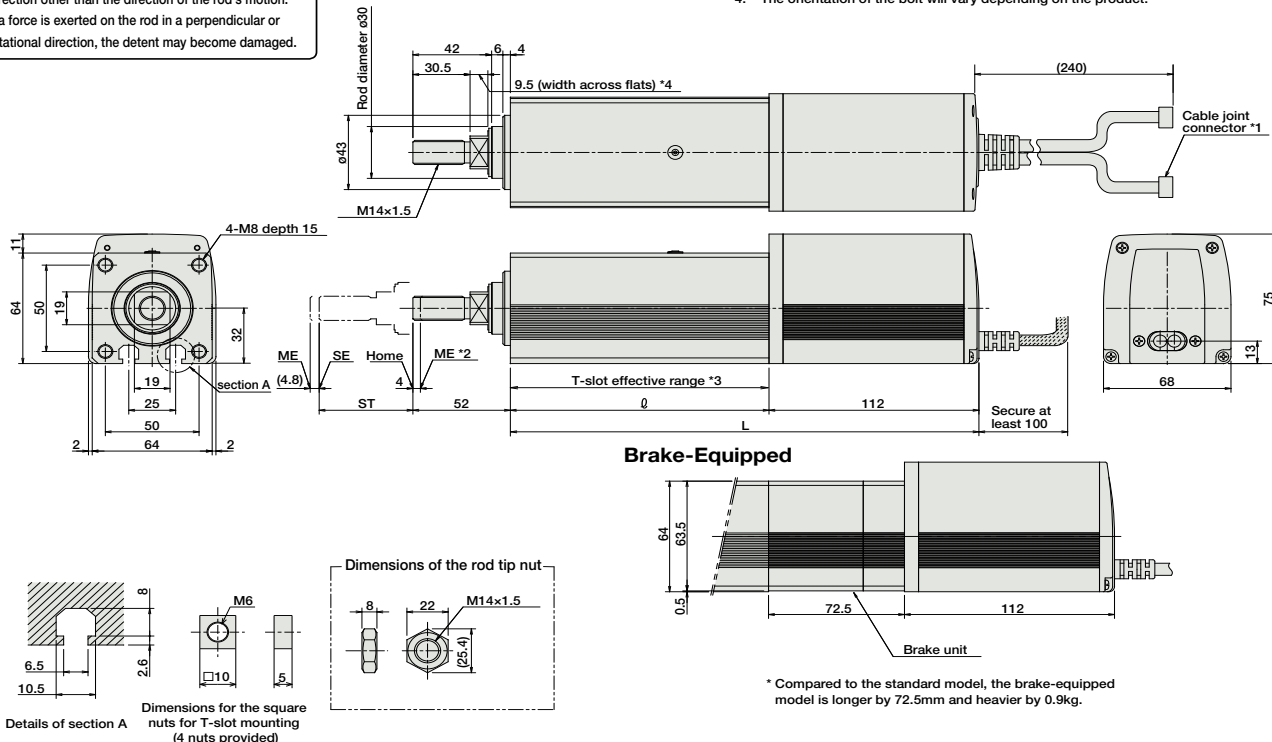
For Special Orders P. A-9



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.

- \*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2. When homing, the rod moves to the M.E.; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end  
SE: Stroke end  
The values enclosed in "( )" are reference dimensions.
- \*3. Please note that there is no T-slot on the base of the brake unit.
- \*4. The orientation of the bolt will vary depending on the product.



■ Dimensions/Weight by Stroke

Stroke	50	100	150	200	250	300
ℓ	138	188	238	288	338	388
L	250	300	350	400	450	500
Weight (kg)	3.1	3.6	4.1	4.6	5.1	5.6

② Compatible Controllers

The RCP2 series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page
Solenoid Valve Type		PMEC-C-56PI-NP-2-①	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	See P481	-	→ P477
		PSEP-C-56PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				-	→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-56PI-NP-2-0					-	
Positioner Type		PCON-C-56PI-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	2A max.	-	→ P525
Safety-Compliant Positioner Type		PCON-CG-56PI-NP-2-0					-	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-56PI-NP-2-0	Pulse train input type with differential line driver support	(-)	DC24V	2A max.	-	→ P525
Pulse Train Input Type (Open Collector)		PCON-PO-56PI-NP-2-0	Pulse train input type with open collector support				-	
Serial Communication Type		PCON-SE-56PI-N-0-0	Dedicated to serial communication	64 points			-	
Field Network Type		RPCON-56P	Dedicated to field network	768 points			-	→ P503
Program Control Type		PSEL-C-1-56PI-NP-2-0	Programmed operation is possible. Operation is possible on up to 2 axes	1500 points			-	→ P557

\* This is for the single-axis PSEL.

\* ① is a placeholder for the power supply voltage (1: 100V, or 2: 100~240V).