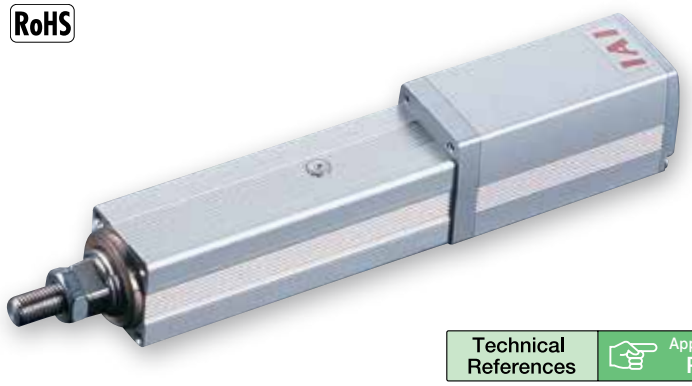
RCP2-RA3C

ROBO Cylinder, Rod Type, Actuator Width 35mm, Pulse Motor, Straight Type

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	RCP2	RA3C	I	28P	□	□	□	□	□
			I: Incremental *The Simple absolute encoder is also considered type "I".	28P: Pulse motor, 28□size	5: 5mm 2.5: 2.5mm	50: 50mm ~ 200: 200mm (50mm pitch increments)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M: 5m X□□:Custom length X□□:Robot cable	See Options below.

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



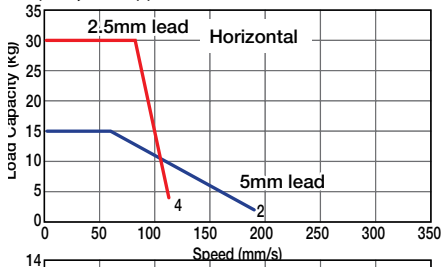
Technical References Appendix P.5

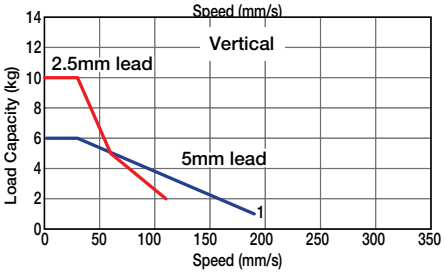
POINT Notes on Selection

(1) 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 0.02G.
0.02G 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) Horizontal (kg)	Maximum payload (Note 1) Vertical (kg)	Maximum pushing force (Note 2)	Stroke (mm)
RCP2-RA3C-I-28P-5-①-②-③-④	5	~15	~6	73.5	50 to 200 (every 50mm)
RCP2-RA3C-I-28P-2.5-①-②-③-④	2.5	~30	~10	156.8	

■ Stroke and Maximum Speed

Lead \ Stroke	50~200 (every 50mm)
5	187
2.5	114

(Unit: mm/s)

Code explanation ①Stroke ②Applicable Controller ③Cable length ④Options *See page A-71 for details on push motion.

①Stroke

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

③Cable 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.

④Options

Name	Option code	Page	Standard Price
Flange	**FL**	→ A-44	—
Foot bracket	**FT**	→ A-48	—
Non-motor end specification	**NM**	→ A-52	—

Actuator Specifications

Item	Description
Drive method	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Rod	ø22mm
Rod non-rotation precision	±1.5 deg
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

Dimensional Drawings

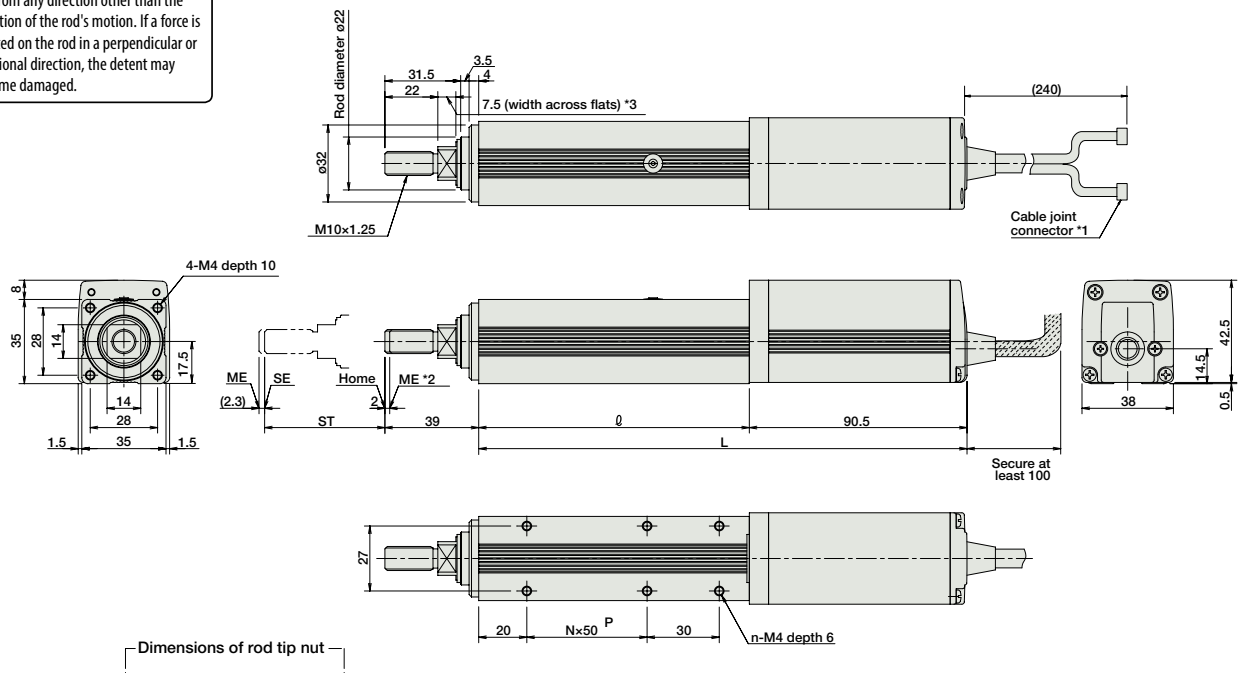
CAD drawings can be downloaded from the website. www.intelligentactuator.com

2D CAD 3D CAD

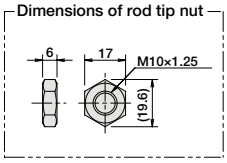
For Special Orders Appendix P.15

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) Connect the motor and encoder cables here. (See page A-59 for details on cables.)
(*2) When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end
SE: Stroke end
(*3) The orientation of the bolt will vary depending on the product.



Dimensions of rod tip nut



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200
ℓ	112.5	162.5	212.5	262.5
L	203	253	303	353
N	1	2	3	4
n	6	8	10	12
Weight (kg)	0.8	0.95	1.1	1.25

②Applicable 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
Solenoid Valve Type		PMEC-C-28SPI-Ⓘ-2-Ⓘⅈ	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-28SPI-Ⓘ-2-0	Simple controller operable with the same signal as a solenoid valve		DC24V	Refer to P555	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-Ⓘⅈ-~-Ⓘ-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected			Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-Ⓘⅈ-~-Ⓥ-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points				
Positioner type High-output specification		PCON-CA-28SPI-Ⓘ-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points		Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-28SPI-PL☐-2-0	Equipped with a high-output driver Pulse-train input type	(—)			—	
Field network type High-output specification		PCON-CA-28SPI-Ⓥ-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points			—	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28SPI-Ⓘ-2-0	Pulse train input type with differential line driver support	(—)		Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-28SPI-Ⓘ-2-0	Pulse train input type with open collector support				—	
Serial Communication Type		PCON-SE-28SPI-N-0-0	Dedicated Serial Communication	64 points			—	
Program Control Type		PSEL-CS-1-28SPI-Ⓘ-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points		Refer to P671	—	→ P665

* This is for the single-axis PSEL.
* Ⓘ indicates I/O type (NP/PN).
* Ⓘⅈ indicates power supply voltage (1: 100V / 2: 100~240V).
* Ⓘⅈ indicates number of axes (1 to 8).
* Ⓥ indicates field network specification symbol.
* ☐ indicates N (NPN specification) or P (PNP specification) symbol.