

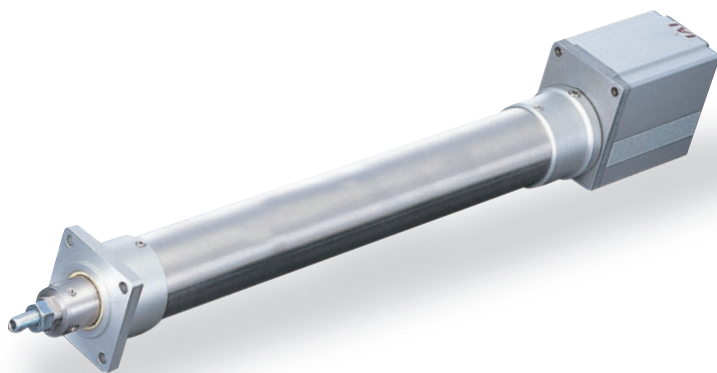
# ERC2-RA7C

Integrated Controller, Rod Type, Actuator Dimensions 68mm, Pulse Motor, Straight Type

Model Description **ERC2 - RA7C - I - PM**

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O Type	Cable length	Option
		I: Incremental specification	PM: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50:50mm ~ 300:300mm (set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIO type	N: None P: 1m S: 3m M: 5m X□□: Length designation W□□: Cable with connectors R□□: Robot cable RW□□: Robot cable with connectors	B : Brake FT : Foot Bracket NM : Reversed-home Specification

See preceding section for model descriptions.

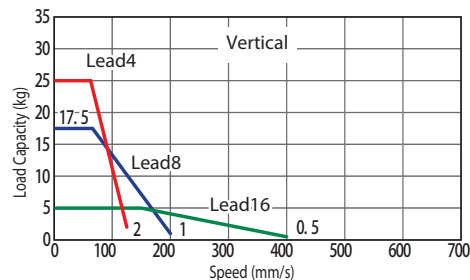
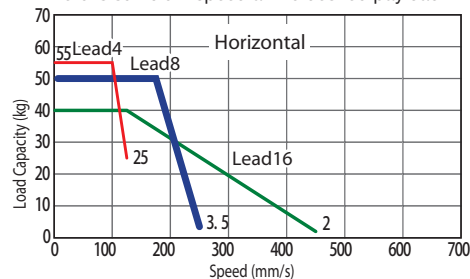


Technical Reference P.451

- POINT** Notes on selection
- As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Confirm the desirable maximum speed in the Actuator Specification Table below.
  - Since the ERC2 Series uses a pulse motor, the payload decreases at high speeds. Confirm the payload at the desired speed in the speed vs. payload graph at right.
  - The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with 4 lead). The above values are maximum acceleration.
  - Horizontal payload is the value when external guides are used.

### Speed vs. Payload Graph

A characteristic of the ERC2 Series pulse motor is that the payload decreases as the speed increases. Use the table below to confirm that there is sufficient speed at the desired payload.



Actuator Specification Table					Stroke and Maximum Speed		
Leads and Payloads					Stroke and Maximum Speed		
Model	Lead (mm)	Maximum payload (Note 1)		Maximum pushing force (N) (Note 2)	Stroke (mm)	Stroke / Lead	50 to 300 (every 50mm)
		Horizontal (kg)	Vertical (kg)				
ERC2-RA7C-I-PM-16-①-②-③-④	16	Up to 40	Up to 5	220	50 to 300 (every 50mm)	16	450 <400>
ERC2-RA7C-I-PM-8-①-②-③-④	8	Up to 50	Up to 17.5	441		8	250 <200>
ERC2-RA7C-I-PM-4-①-②-③-④	4	Up to 55	Up to 25	873		4	125

Legend ① Stroke ② I/O Type ③ Cable Length ④ Options (Note 2) See pushing force graph on P488. \* < > indicate vertical service. (Unit = mm/s)

### ① Price by Stroke and ② I/O Type

① Stroke (mm)	Type code	
	RA7C	
	② By I/O Type	
	NP/PN	SE
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

### ③ Cable Length Price List

Type	Cable symbol	Standard price
Standard type	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) - X10 (10m)	—
Connectors	W01 (1m) - W03 (3m)	—
	W04 (4m) - W05 (5m)	—
	W06 (6m) - W10 (10m)	—
Robot cable	R01 (1m) - R03 (3m)	—
	R04 (4m) - R05 (5m)	—
	R06 (6m) - R10 (10m)	—
Connectors Robot cable	RW01 (1m) - RW03 (3m)	—
	RW04 (4m) - RW05 (5m)	—
	RW06 (6m) - RW10 (10m)	—

See P364 for maintenance cables.

### ④ Option Price List

Title	Option code	See page	Standard price
Brake	B	P437	—
Foot bracket	FT	P440	—
Reversed-home specification	NM	P442	No charge

### Actuator Specification

Item	Description
Drive System	Ball screw φ 12mm rolled C10
Positioning Repeatability	±0.05mm
Backlash	0.1mm or less
Rod Diameter	φ 30mm special SUS type
Non-rotary Rod Precision	±1.5 degree
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (non-condensing)

Dimensional Drawings

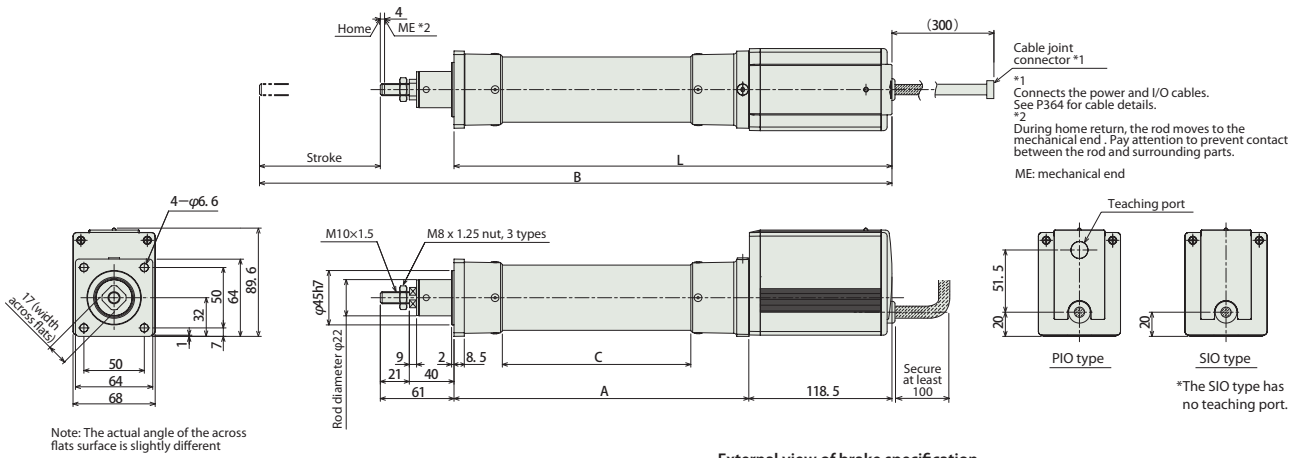
CAD drawings can be downloaded from the website. [www.intelligentactuator.com](http://www.intelligentactuator.com)



Caution

Do not apply external force on the rod in any direction other than the moving direction of the rod. If the rod receives external force from the right-angle direction or rotating direction, the detent may be damaged.

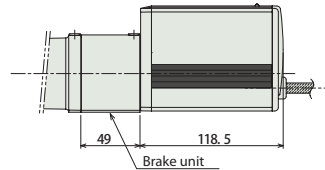
Information on special orders P.454



Note: The actual angle of the cross flats surface is slightly different

External view of brake specification

\*Models of the brake specification have their overall length extended by 49 mm and weight increased by 0.5 kg compared to the standard specification.



Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
L	312.5	362.5	412.5	462.5	512.5	562.5
A	194	244	294	344	394	444
B	423.5	523.5	623.5	723.5	823.5	923.5
C	106	156	206	256	306	356
Weight (kg)	2.7	2.9	3.0	3.2	3.3	3.5

I/O Type (Integrated Controller)

I/O Type

The integrated controller in the ERC2 Series can be selected from the following 3 types based on the type of external input and output (I/O). Select the type according to your application

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	See page
PIO Type (NPN Specifications)		ERC2-RA7C-I-PM-□-□-NP-□-□	Simple control type capable of positioning to a maximum of 16 points.	16				
PIO Type (PNP Specifications)		ERC2-RA7C-I-PM-□-□-PN-□-□	This type is compatible with the PNP specification I/O commonly used overseas. This is the PNP specification for the I/O type	16	DC24V	Maximum 2A	(See page at left)	P355
SIO Type		ERC2-RA7C-I-PM-□-□-SE-□-□	Field Network Connection Serial Type (Gateway unit used)	64				