ERC2-RA6C

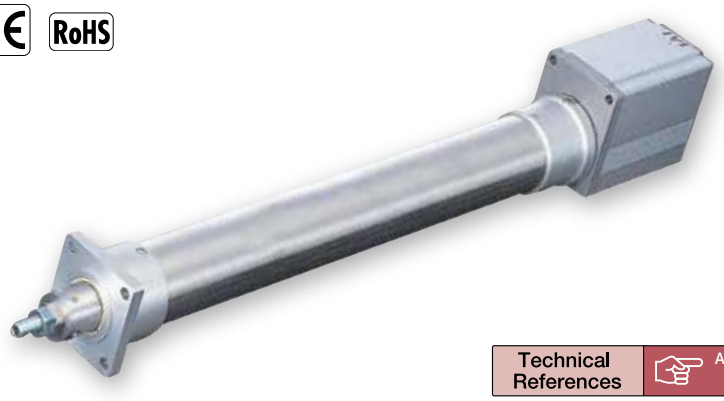
Controller-Integrated, Rod Type, Actuator Width 58mm, Pulse Motor, Straight Type

Model Specification Items	ERC2	—	RA6C	—	I	—	PM	—	☐	—	☐	—	☐	—	☐	—	☐
	Series		Type		Encoder type		Motor type		Lead		Stroke		I/O type		Cable length		Options

- Encoder type: I: Incremental
- Motor type: PM: Pulse motor
- Lead: 12: 12mm, 6: 6mm, 3: 3mm
- Stroke: 50: 50mm ~ 300: 300mm (50mm pitch increments)
- I/O type: NP: PIO (NPN) type; PN: PIO (PNP) type; SE: SIO type
- Cable length: N: None; P: 1m; S: 3m; M: 5m; X☐☐: Custom length; W☐☐: Double-ended cable; R☐☐: Robot cable; RW☐☐: Double-ended Robot cable
- Options: B: Brake; FT: Foot bracket; NM: Non-motor end

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

CE RoHS



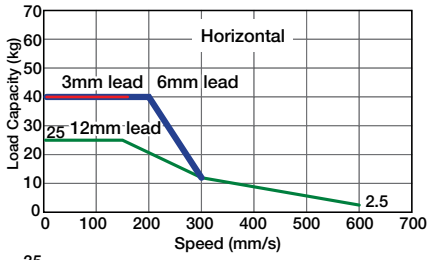
Technical References → Appendix P.5

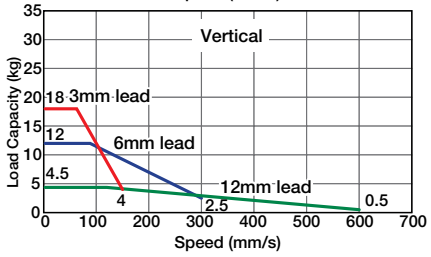
POINT — Notes on Selection

(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 ERC2 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 0.3G (0.2G for the 3mm-lead model, or when used vertically). This is the upper limit of the acceleration.
(4) The value for the horizontal load capacity is with an external guide.
(5) See page A-71 for details on push motion.

■ Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the ERC2 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 push force (N)	Stroke (mm)
ERC2-RA6C-I-PM-12-①-②-③-④	12	~25	~4.5	78	50 to 300 (every 50mm)
ERC2-RA6C-I-PM-6-①-②-③-④	6	~40	~12	157	
ERC2-RA6C-I-PM-3-①-②-③-④	3	40	~18	304	

Code explanation ① Stroke ② I/O type ③ Cable length ④ Options *See page A-71 for details on push motion.

■ Stroke and Maximum Speed

Lead \ Stroke	50~250 (every 50mm)	300 (mm)
12	600	500
6	300	250
3	150	125

(Unit: mm/s)

①Stroke

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

③Cable Length

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

The values in < > apply to the SE type.
* See page 606 for cables for maintenance.

④Options

Name	Option code	Page	Standard Price
Brake	B	→ A-42	—
Foot bracket	FT	→ A-47	—
Non-motor end specification	NM	→ A-52	—

Actuator Specifications

Item	Description
Drive method	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Rod diameter	ø22mm special SUS type
Rod non-rotation precision	±1.5 deg
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

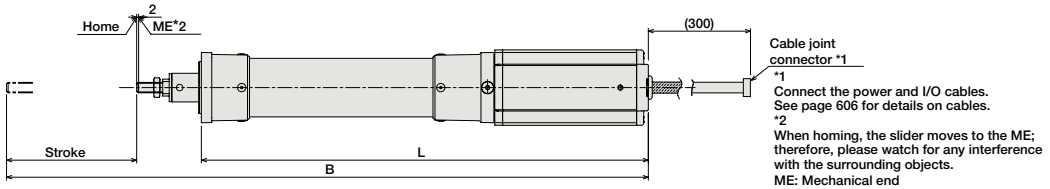
Dimensional Drawings

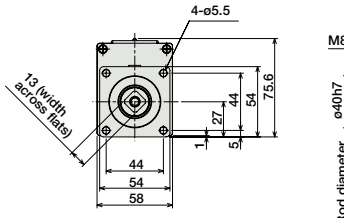
CAD drawings can be downloaded from the website. www.intelligentactuator.com

2D CAD 3D CAD

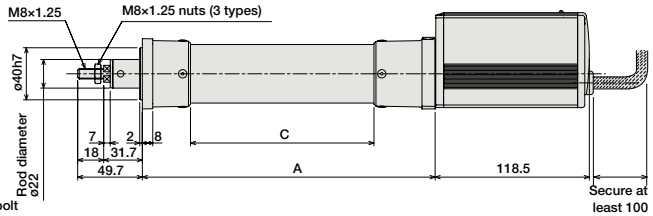
For Special Orders Appendix P.15

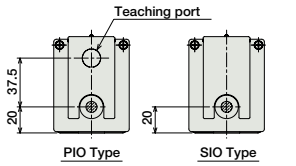
Note:
Do not apply any external force on the rod from any direction other than the direction of the rod's motion. If a force is exerted on the rod in a perpendicular or rotational direction, the detent may become damaged.





(Note) The actual orientation of the bolt may differ by product.

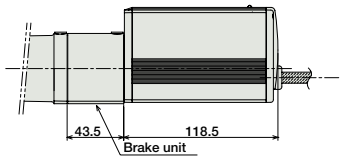




* The SIO type does not have a teaching port.

Brake Specifications Diagram

* Compared to the standard model, the brake-equipped model is longer by 43.5mm and heavier by 0.5kg.



■Dimensions and Mass by Stroke

Stroke	50	100	150	200	250	300
L	293.5	343.5	393.5	443.5	493.5	543.5
A	175	225	275	325	375	425
C	91	141	191	241	291	341
Weight (kg)	1.6	1.7	1.8	2.0	2.1	2.2

I/O type (Controller built into the Actuator)

②I/O type

With the ERC2 series, one of the following three types of built-in controllers can be selected depending on the external input/output (I/O) type. Select the type that meets your purpose.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
PIO Type (NPN Specification)		ERC2-RA6C-I-PM-☐-☐-NP-☐-☐	Simple control type with up to 16-point positioning	16	DC24V	2A max.	—	→ P597
PIO Type (PNP Specification)		ERC2-RA6C-I-PM-☐-☐-PN-☐-☐	Supports the PNP I/O commonly used overseas.	16				
SIO Type		ERC2-RA6C-I-PM-☐-☐-SE-☐-☐	Field Network Connection Serial (Gateway unit used)	64				