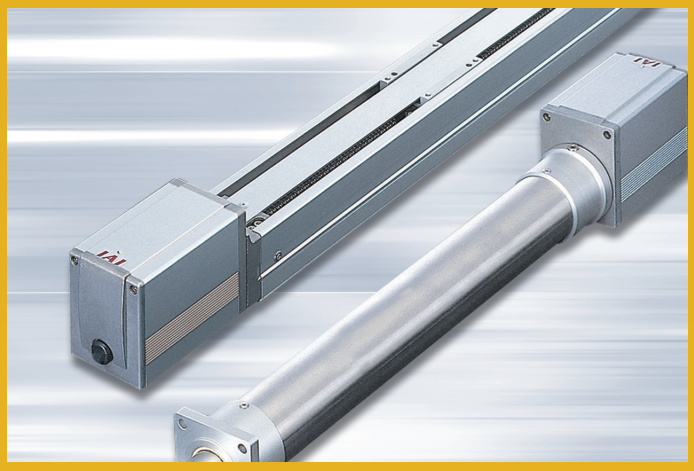
ROBO CYLINDER



Controller-Integrated Type

ERC2

ERC2 series

Slider type	Motor straight type		Width 58mm	ERC2-SA6C	3
			Width 68mm	ERC2-SA7C	5
Rod type	Standard type		Width 58mm	ERC2-RA6C	7
			Width 68mm	ERC2-RA7C	9
	Guide type	Single-guide type	Width 58mm	ERC2-RGS6C	11
			Width 68mm	ERC2-RGS7C	13
		Double-guide type	Width 58mm	ERC2-RGD6C	15
			Width 68mm	ERC2-RGD7C	17

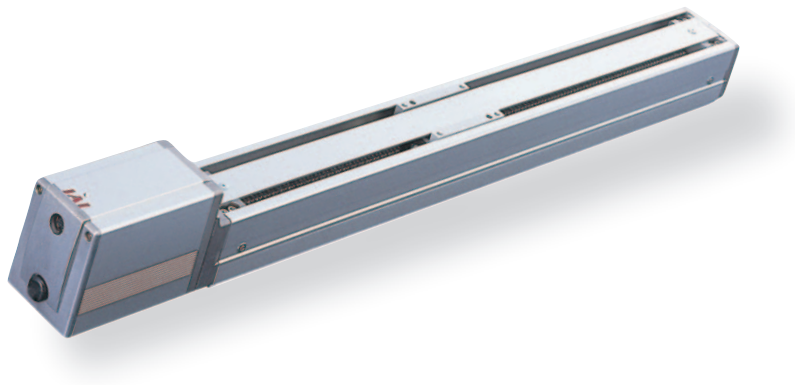
ERC2-SA6C

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

■Model Specification Items **ERC2** — **SA6C** — **I** — **PM** — □ — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Options
—	—	I: Incremental specification	PM: Pulse motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm ~ 600: 600mm (Set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIOtype	N: No cable P: 1m S: 3m M: 5m X□□: Specified length W□□: Cable with connectors on both ends R□□: Robot cable RW□□: Robot cable with connectors on both ends	B: Brake NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

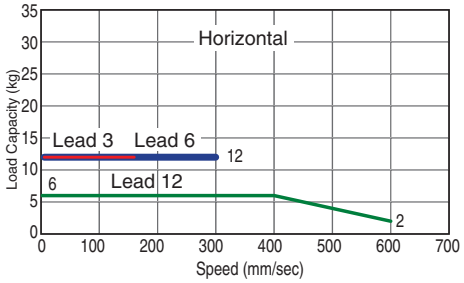


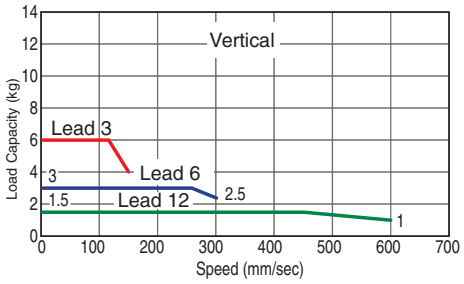
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.

■ Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■ Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Stroke (mm)
ERC2-SA6C-I-PM-12-①-②-③-④	12	~6	~1.5	50 ~ 600 (Set in 50-mm steps)
ERC2-SA6C-I-PM-6-①-②-③-④	6	12	~3	
ERC2-SA6C-I-PM-3-①-②-③-④	3	12	~6	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

■ Stroke and Maximum Speed

Lead \ Stroke	50 ~ 600 (Set in 50-mm steps)	600 (mm)
12	600	515
6	300	255
3	150	125

(Unit: mm/s)

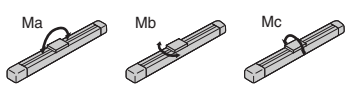
Options

Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385

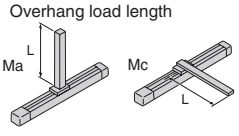
Actuator Specifications

Item	Description
Drive method	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Allowable load moment	Ma: 8.9N • m Mb: 12.7N • m Mc: 18.6N • m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



Overhang load length

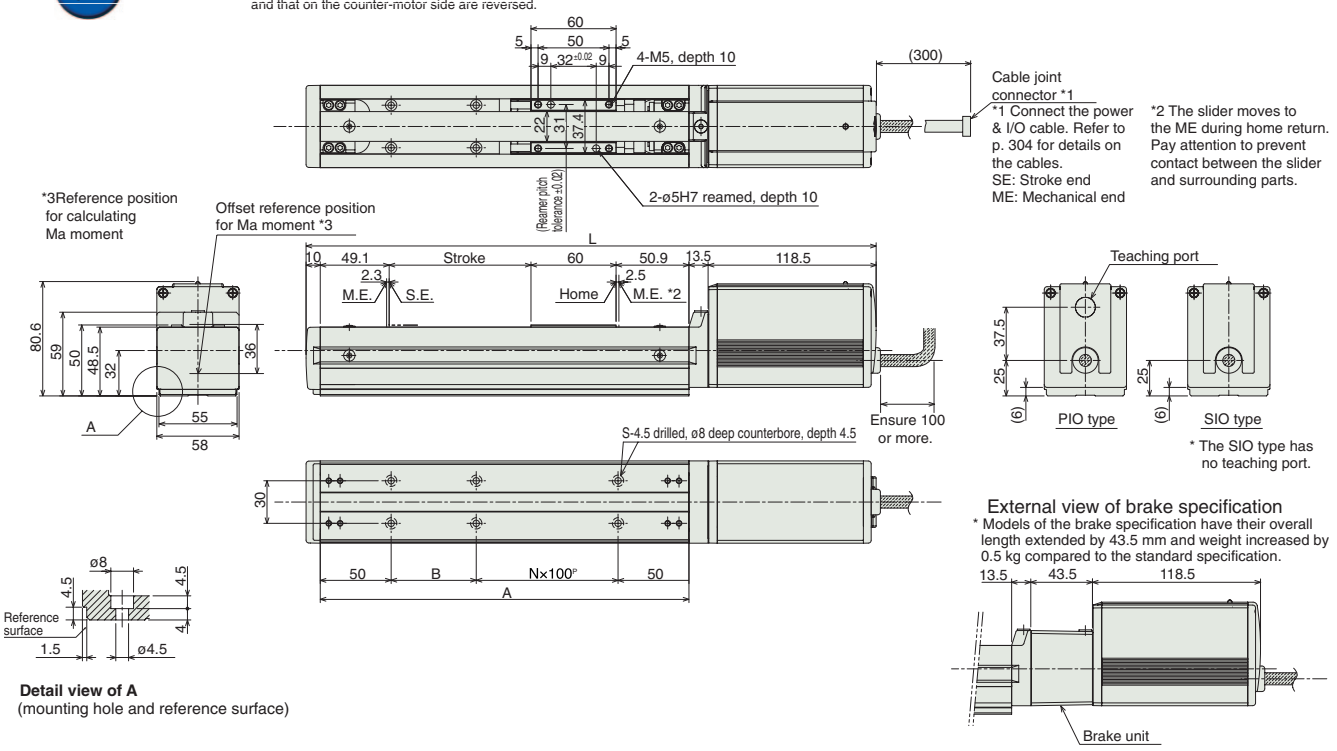


Dimensions

You can download CAD drawings from our website. www.intelligentactuator.com

2D CAD

* With the reversed-home specification, the dimension on the motor side (distance from the ME to the home) and that on the counter-motor side are reversed.



Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	352	402	452	502	552	602	652	702	752	802	852	902
A	210	260	310	360	410	460	510	560	610	660	710	760
B	10	60	10	60	10	60	10	60	10	60	10	60
N	1	1	2	2	3	3	4	4	5	5	6	6
S	6	6	8	8	10	10	12	12	14	14	16	16
Weight (kg)	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.4

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-SA6C-I-PM-☐-☐-NP-☐-☐	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→ P295
PIO type (PNP specification)		ERC2-SA6C-I-PM-☐-☐-PN-☐-☐	PNP I/O type popular overseas	16			
SIO type		ERC2-SA6C-I-PM-☐-☐-SE-☐-☐	Dedicated field network connection type (using a gateway unit)	64			

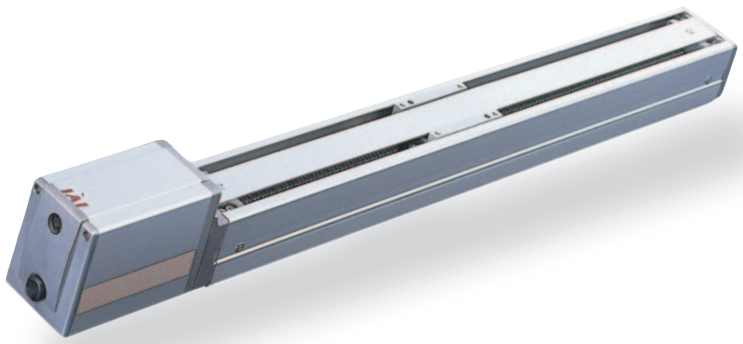
ERC2-SA7C

Controller-Integrated Type, Slider Type, Actuator Width 68mm, Pulse Motor, Straight

■Model Specification Items **ERC2** — **SA7C** — **I** — **PM** — □ — □ — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Options
ERC2	SA7C	I: Incremental specification	PM: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50:50mm ~ 600:600mm (Set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIOtype	N: No cable P: 1m S: 3m M: 5m X□□: Specified length W□□: Cable with connectors on both ends R□□: Robot cable RW□□: Robot cable with connectors on both ends	B: Brake NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

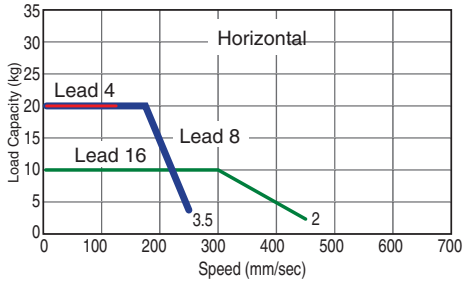


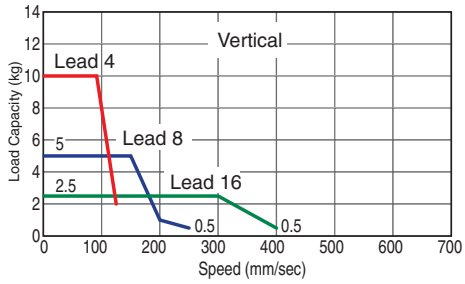
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.

■Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Stroke (mm)
ERC2-SA7C-I-PM-16-①-②-③-④	16	~10	~2.5	50 ~ 600 (Set in 50-mm steps)
ERC2-SA7C-I-PM-8-①-②-③-④	8	~20	~5	
ERC2-SA7C-I-PM-4-①-②-③-④	4	20	~10	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

■Stroke and Maximum Speed

Lead \ Stroke	50 ~ 600 (Set in 50-mm steps)
16	450 <400>
8	250
4	125

* The figure in < > applies when the actuator is used vertically. (Unit: mm/s)

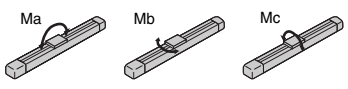
Options

Name	Model	Page
Brake	B	P381
Reversed-home specification	NM	P385

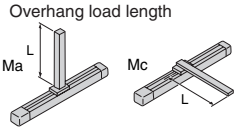
Actuator Specifications

Item	Description
Drive method	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Allowable load moment	Ma: 13.8N•m Mb: 19.7N•m Mc: 29.0N•m
Overhang load length	Ma direction: 150mm or less, Mb/Mc directions: 150mm or less
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



Overhang load length

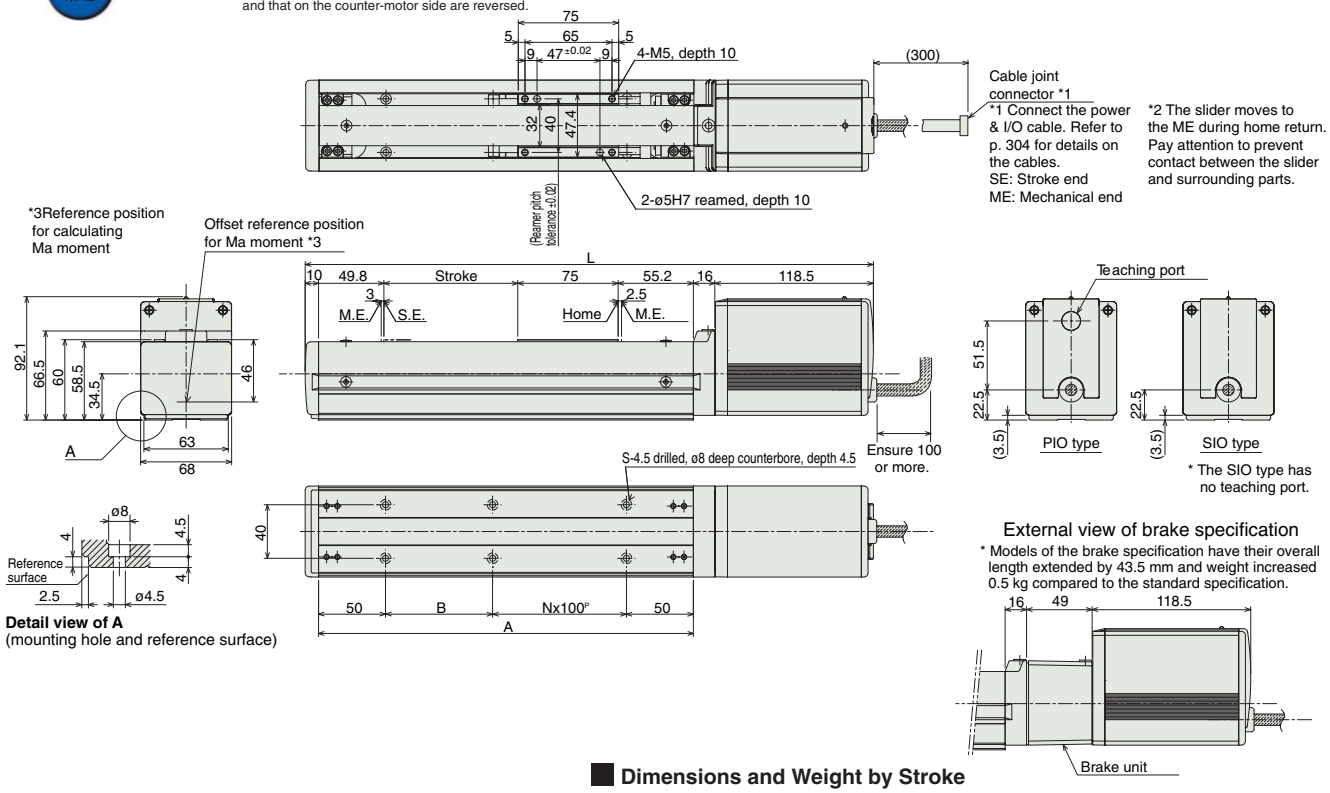


Dimensions

You can download CAD drawings from our website. www.intelligentactuator.com

2D CAD

* With the reversed-home specification, the dimension on the motor side (distance from the ME to the home) and that on the counter-motor side are reversed.



Detail view of A
(mounting hole and reference surface)

External view of brake specification

* Models of the brake specification have their overall length extended by 43.5 mm and weight increased 0.5 kg compared to the standard specification.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
L	374.5	424.5	474.5	524.5	574.5	624.5	674.5	724.5	774.5	824.5	874.5	924.5
A	230	280	330	380	430	480	530	580	630	680	730	780
B	30	80	30	80	30	80	30	80	30	80	30	80
N	1	1	2	2	3	3	4	4	5	5	6	6
S	6	6	8	8	10	10	12	12	14	14	16	16
Weight (kg)	3.1	3.2	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.5	4.6	4.8

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-SA7C-I-PM-☐-☐-NP-☐-☐	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-SA7C-I-PM-☐-☐-PN-☐-☐	PNP I/O type popular overseas	16			
SIO type		ERC2-SA7C-I-PM-☐-☐-SE-☐-☐	Dedicated field network connection type (using a gateway unit)	64			

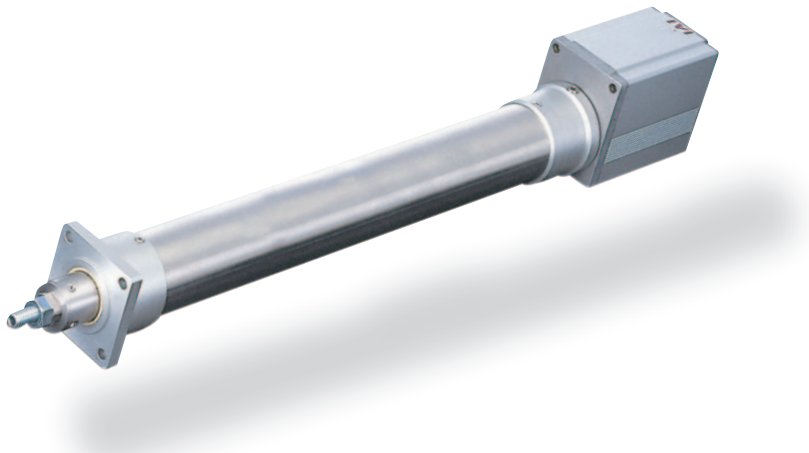
ERC2-RA6C

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

■Model Specification Items **ERC2** — **RA6C** — **I** — **PM** — □ — □ — □ — □ — □ — □ — □

- Series: ERC2
- Type: RA6C
- Encoder type: I: Incremental specification
- Motor type: PM: Pulse motor
- Lead: 12: 12mm, 6: 6mm, 3: 3mm
- Stroke: 50:50mm ~ 300:300mm (Set in 50-mm steps)
- I/O type: NP: PIO (NPN) type, PN: PIO (PNP) type, SE: SIOtype
- Cable length: N: No cable, P: 1m, S: 3m, M: 5m, X□□: Specified length, W□□: Cable with connectors on both ends, R□□: Robot cable, RW□□: Robot cable with connectors on both ends
- Options: B: Brake, FT: Foot bracket, NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

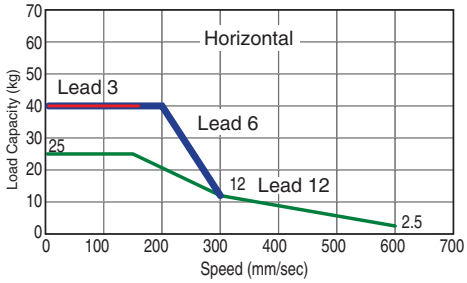


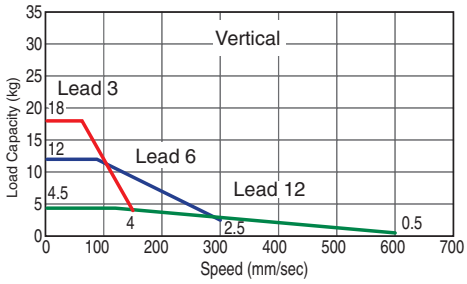
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.
(4) The horizontal load capacity assumes use of an external guide.

■Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Maximum push force (N) (Note 2)	Stroke (mm)
ERC2-RA6C-I-PM-12-①-②-③-④	12	~25	~4.5	78	50 ~ 300 (Set in 50-mm steps)
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	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

(Note 2) Refer to p. 406 for the graph of push force.

■Stroke and Maximum Speed

Lead \ Stroke	50 ~ 600 (Set in 50-mm steps)	600 (mm)
12	600	500
6	300	255
3	150	125

(Unit: mm/s)

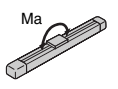
Options

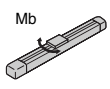
Name	Model	Page
Brake	B	P381
Foot bracket	FT	P383
Reversed-home specification	NM	P385

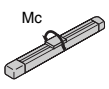
Actuator Specifications

Item	Description
Drive method	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	ø22mm, dedicated SUS pipe
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

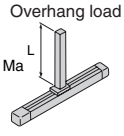
Direction of allowable load moment

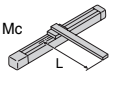






Overhang load length



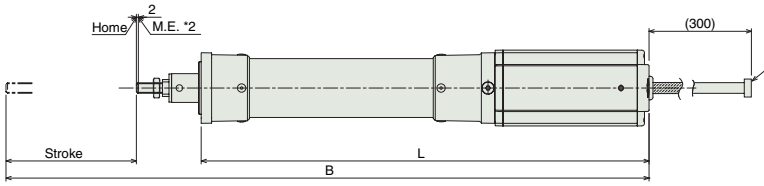


Dimensions

You can download CAD drawings from our website. www.intelligentactuator.com

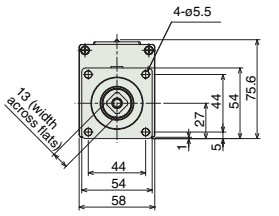
2D CAD

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

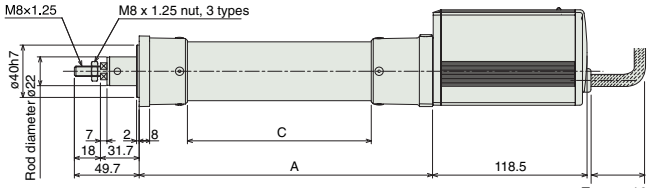


Cable joint connector *1

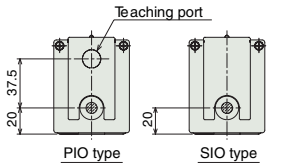
*1 Connect the power & I/O cable. Refer to p. 304 for details on the cables.
*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: Mechanical end



(Note) The actual angle of the across flats surface is slightly different.



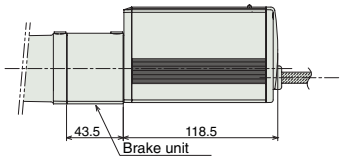
Ensure 100 or more.



* The SIO type has no teaching port.

External view of brake specification

* Models of the brake specification have their overall length extended by 43.5 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	293.5	343.5	393.5	443.5	493.5	543.5
A	175	225	275	325	375	425
B	393.2	493.2	593.2	693.2	793.2	893.2
C	91	141	191	241	291	341
Weight (kg)	1.6	1.7	1.8	2.0	2.1	2.2

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-RA6C-I-PM-☐-☐-NP-☐-☐	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-RA6C-I-PM-☐-☐-PN-☐-☐	PNP I/O type popular overseas	16			
SIO type		ERC2-RA6C-I-PM-☐-☐-SE-☐-☐	Dedicated field network connection type (using a gateway unit)	64			

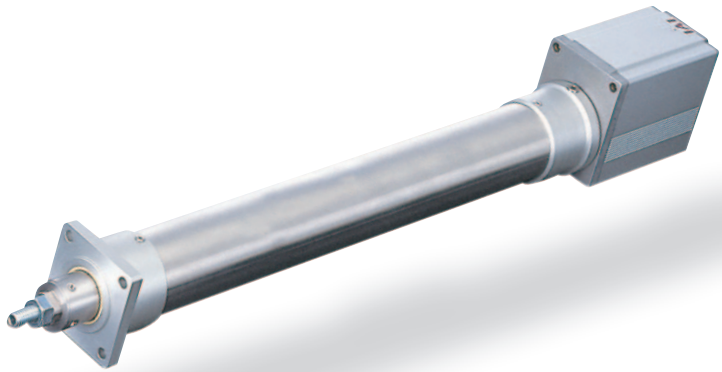
ERC2-RA7C

Controller-Integrated Type, Rod Type, Actuator Width 68mm, Pulse Motor, Straight

■Model Specification Items **ERC2** — **RA7C** — **I** — **PM** — □ — □ — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Options
ERC2	RA7C	I: Incremental specification	PM: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50:50mm ~ 600:600mm (Set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIOtype	N: No cable P: 1m S: 3m M: 5m X□□: Specified length W□□: Cable with connectors on both ends R□□: Robot cable RW□□: Robot cable with connectors on both ends	B: Brake FT: Foot bracket NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

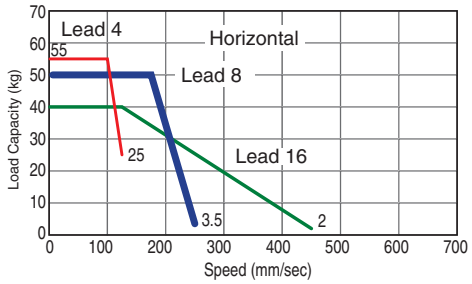


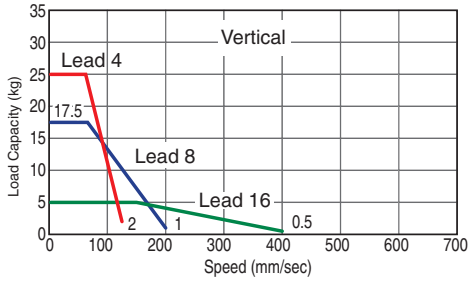
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.
(4) The horizontal load capacity assumes use of an external guide.

■ Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■ Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Maximum push force (N) (Note 2)	Stroke (mm)
ERC2-RA7C-I-PM-16-①-②-③-④	16	~40	~5	220	50 ~ 300 (Set in 50-mm steps)
ERC2-RA7C-I-PM-8-①-②-③-④	8	~50	~17.5	441	
ERC2-RA7C-I-PM-4-①-②-③-④	4	~55	~25	873	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

(Note 2) Refer to p. 406 for the graph of push force.

■ Stroke and Maximum Speed

Lead \ Stroke	50 ~ 600 (Set in 50-mm steps)
12	450 <400>
6	250 <200>
3	125

* The figure in < > applies when the actuator is used vertically.

(Unit: mm/s)

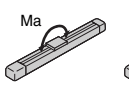
Options

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

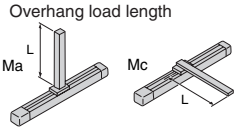
Actuator Specifications

Item	Description
Drive method	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	ø30mm, dedicated SUS pipe
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



Overhang load length

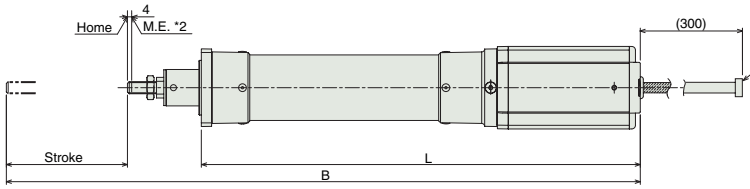


Dimensions

You can download CAD drawings from our website. www.intelligentactuator.com

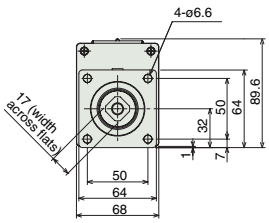
2D CAD

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

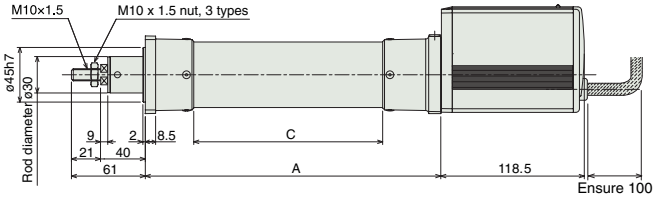


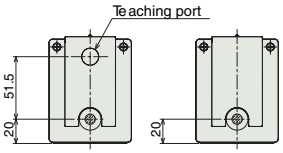
Cable joint connector *1

*1 Connect the power & I/O cable. Refer to p. 304 for details on the cables.
*2 The slider moves to the ME during home return. Pay attention to prevent contact between the slider and surrounding parts.
ME: Mechanical end



(Note) The actual angle of the across flats surface is slightly different.

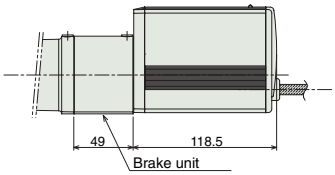




* The SIO type has no teaching port.

External view of brake specification

* Models of the brake specification have their overall length extended by 43.5 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 (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-RA6C-I-PM-☐-☐-NP-☐-☐	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-RA6C-I-PM-☐-☐-PN-☐-☐	PNP I/O type popular overseas	16			
SIO type		ERC2-RA6C-I-PM-☐-☐-SE-☐-☐	Dedicated field network connection type (using a gateway unit)	64			

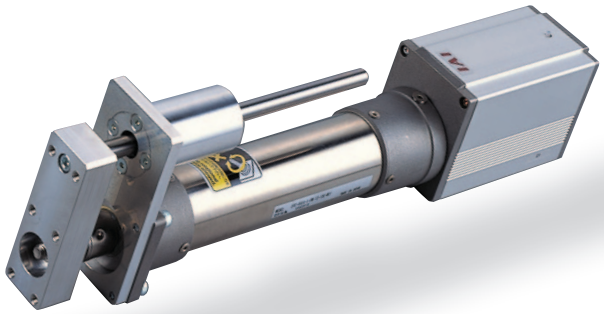
ERC2-RGS6C

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

■Model Specification Items **ERC2 — RGS6C — I — PM — □ — □ — □ — □ — □ — □**

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Options
ERC2	RGS6C	I: Incremental specification	PM: Pulse motor	12: 12mm 6: 6mm 3: 3mm	50:50mm ~ 600:600mm (Set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIOtype	N: No cable P: 1m S: 3m M: 5m X□□: Specified length W□□: Cable with connectors on both ends R□□: Robot cable RW□□: Robot cable with connectors on both ends	B: Brake FT: Foot bracket NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

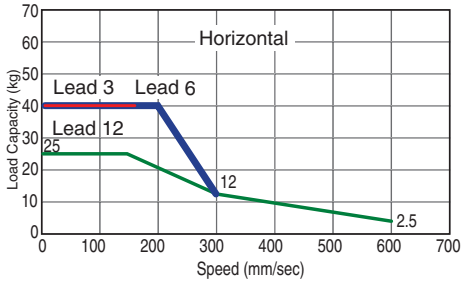


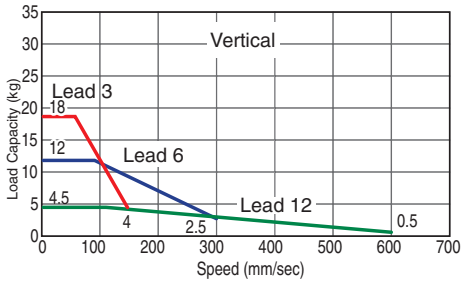
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire. Subtract the guide weight (refer to the facing page) from the load capacity.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.
(4) The horizontal load capacity assumes use of an external guide.

■Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Maximum push force (N) (Note 2)	Stroke (mm)
ERC2-RGS6C-I-PM-12-①-②-③-④	12	~25	~4.5	78	50 ~ 300 (Set in 50-mm steps)
ERC2-RGS6C-I-PM-6-①-②-③-④	6	~40	~12	157	
ERC2-RGS6C-I-PM-3-①-②-③-④	3	40	~18	304	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

(Note 2) Refer to p. 406 for the graph of push force.

■Stroke and Maximum Speed

Lead \ Stroke	50 ~ 250 (Set in 50-mm steps)	300 (mm)
12	600	500
6	300	250
3	150	125

(Unit: mm/s)

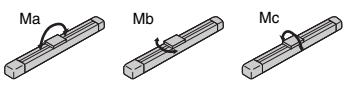
Options

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P383
Reversed-home specification	NM	P385

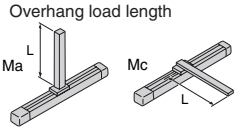
Actuator Specifications

Item	Description
Drive method	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	ø22mm, dedicated SUS pipe
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



Overhang load length



Dimensions

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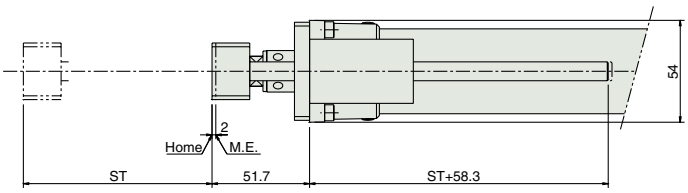
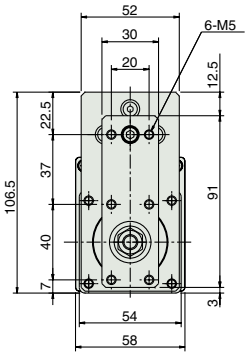
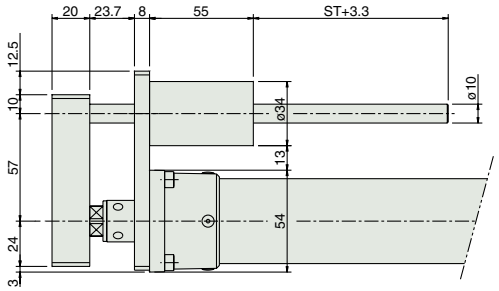
2D CAD





M.E. : Mechanical end



• Refer to p. 8 for the actuator dimentions.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.2	0.2	0.3	0.3	0.3	0.4
Guide + actuator weight (kg)	1.8	1.9	2.1	2.3	2.4	2.6

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-RGS6C-I-PM-□-□-NP-□-□	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-RGS6C-I-PM-□-□-PN-□-□	PNP I/O type popular overseas	16			
SIO type		ERC2-RGS6C-I-PM-□-□-SE-□-□	Dedicated field network connection type (using a gateway unit)	64			

ERC2-RGS7C

Controller-Integrated Type, Rod Type with Single Guide, Actuator Width 68mm
Pulse Motor, Straight

■Model Specification Items **ERC2 — RGS7C — I — PM — □ — □ — □ — □ — □ — □**

Series — Type — Encoder type – Motor type — Lead — Stroke — I/O type — Cable length — Options

Encoder type: I: Incremental specification

Motor type: PM: Pulse motor

Lead: 16: 16mm, 8: 8mm, 4: 4mm

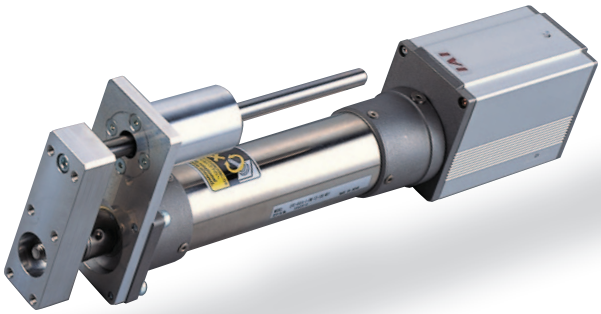
Stroke: 50:50mm ~ 600:600mm (Set in 50-mm steps)

I/O type: NP: PIO (NPN) type, PN: PIO (PNP) type, SE: SIOtype

Cable length: N: No cable, P: 1m, S: 3m, M: 5m, X□□: Specified length, W□□: Cable with connectors on both ends, R□□: Robot cable, RW□□: Robot cable with connectors on both ends

Options: B: Brake, FT: Foot bracket, NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

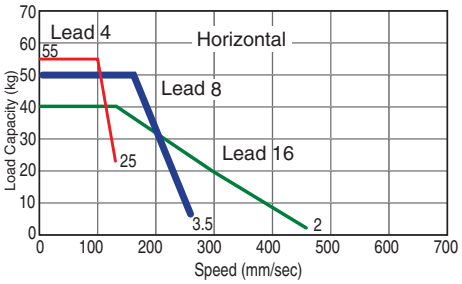


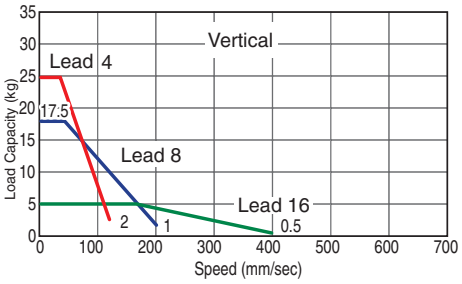
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire. Subtract the guide weight (refer to the facing page) from the load capacity.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.
(4) The horizontal load capacity assumes use of an external guide.

■ Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■ Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Maximum push force (N) (Note 2)	Stroke (mm)
ERC2-RGS7C-I-PM-16-①-②-③-④	16	~40	~5	220	50 ~ 300 (Set in 50-mm steps)
ERC2-RGS7C-I-PM-8-①-②-③-④	8	~50	~17.5	441	
ERC2-RGS7C-I-PM-4-①-②-③-④	4	~55	~25	873	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

(Note 2) Refer to p. 406 for the graph of push force.

■ Stroke and Maximum Speed

Lead \ Stroke	50 ~ 300 (Set in 50-mm steps)
16	450 <400>
8	250 <200>
4	125

* The figure in < > applies when the actuator is used vertically.

(Unit: mm/s)

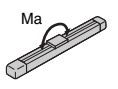
Options

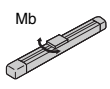
Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

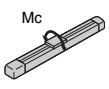
Actuator Specifications

Item	Description
Drive method	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	ø30mm, dedicated SUS pipe
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

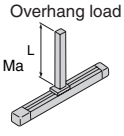
Direction of allowable load moment

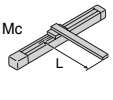






Overhang load length

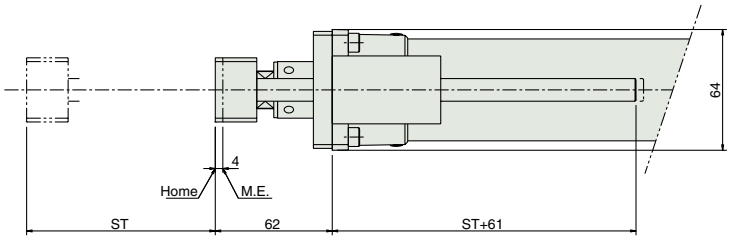




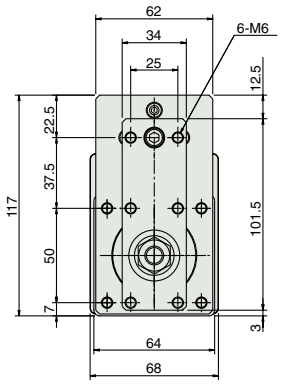
Dimensions

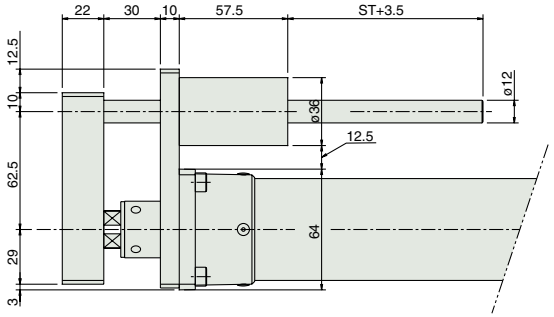
You can download CAD drawings from our website. www.intelligentactuator.com

2D CAD



M.E. : Mechanical end





• Refer to p. 10 for the actuator dimentions.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.3	0.3	0.4	0.4	0.5	0.5
Guide + actuator weight (kg)	3.0	3.2	3.4	3.6	3.8	4.0

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-RGS7C-I-PM-□-□-NP-□-□	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-RGS7C-I-PM-□-□-PN-□-□	PNP I/O type popular overseas	16			
SIO type		ERC2-RGS7C-I-PM-□-□-SE-□-□	Dedicated field network connection type (using a gateway unit)	64			

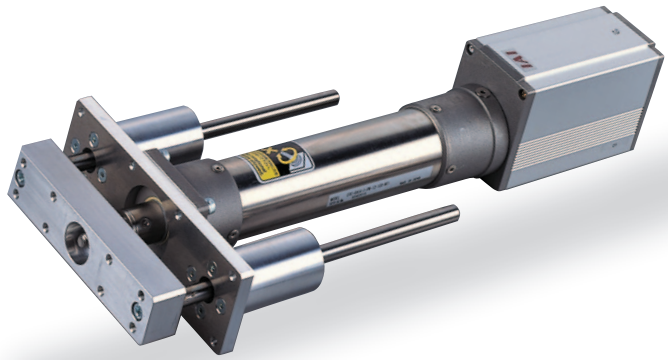
ERC2-RGD6C

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

■Model Specification Items **ERC2 — RGD6C — I — PM — □ — □ — □ — □ — □ — □**

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Options
—	—	I: Incremental specification	PM: Pulse motor	12: 12mm 6: 6mm 3: 3mm	50:50mm ~ 600:600mm (Set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIOtype	N: No cable P: 1m S: 3m M: 5m X□□: Specified length W□□: Cable with connectors on both ends R□□: Robot cable RW□□: Robot cable with connectors on both ends	B: Brake FT: Foot bracket NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

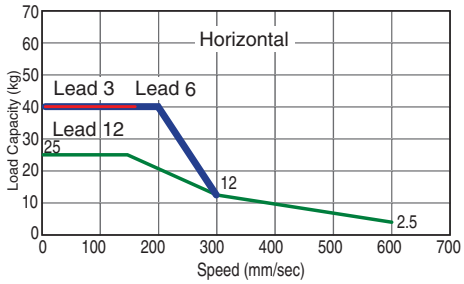


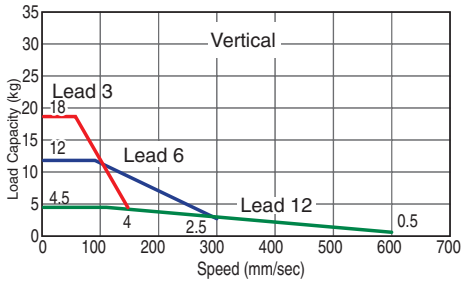
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire. Subtract the guide weight (refer to the facing page) from the load capacity.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 3 or the actuator is operated vertically). This is the maximum acceleration.
(4) The horizontal load capacity assumes use of an external guide.

■Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Maximum push force (N) (Note 2)	Stroke (mm)
ERC2-RGD6C-I-PM-12-①-②-③-④	12	~25	~4.5	78	50 ~ 300 (Set in 50-mm steps)
ERC2-RGD6C-I-PM-6-①-②-③-④	6	~40	~12	157	
ERC2-RGD6C-I-PM-3-①-②-③-④	3	40	~18	304	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

(Note 2) Refer to p. 406 for the graph of push force.

■Stroke and Maximum Speed

Lead \ Stroke	50 ~ 250 (Set in 50-mm steps)	300 (mm)
12	600	500
6	300	250
3	150	125

(Unit: mm/s)

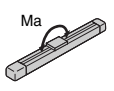
Options

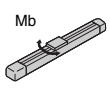
Name	Model	Page
Brake	B	P381
Foot bracket	FT	P383
Reversed-home specification	NM	P385

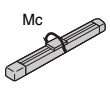
Actuator Specifications

Item	Description
Drive method	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	ø22mm, dedicated SUS pipe
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

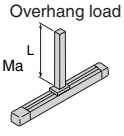
Direction of allowable load moment

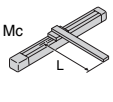






Overhang load length





Dimensions

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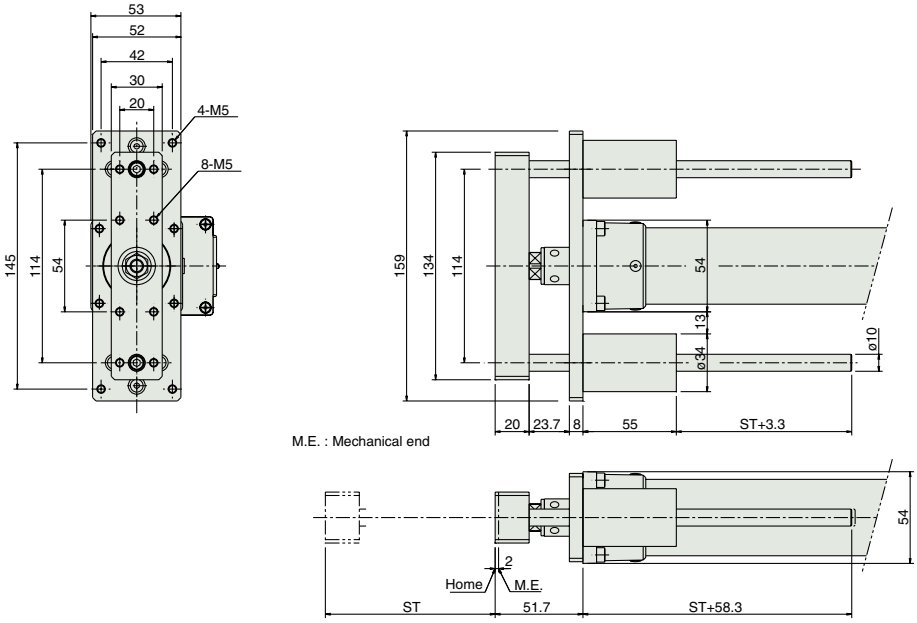
2D CAD



• Refer to p. 8 for the actuator dimentions.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.4	0.4	0.5	0.6	0.6	0.7
Guide + actuator weight (kg)	2.0	2.1	2.3	2.6	2.7	2.9

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-RGD6C-I-PM-□-□-NP-□-□	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-RGD6C-I-PM-□-□-PN-□-□	PNP I/O type popular overseas	16			
SIO type		ERC2-RGD6C-I-PM-□-□-SE-□-□	Dedicated field network connection type (using a gateway unit)	64			

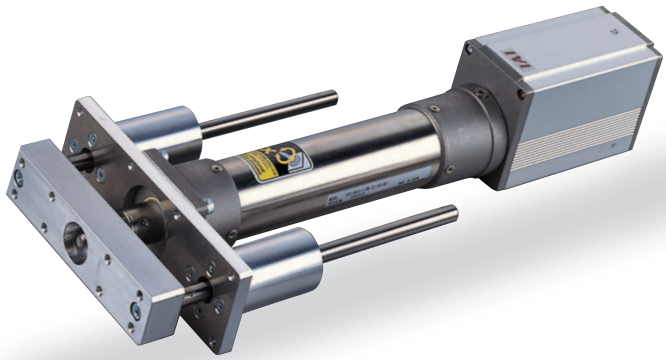
ERC2-RGD7C

Controller-Integrated Type, Rod Type, Actuator Width 68mm, Pulse Motor, Straight

■Model Specification Items **ERC2 — RGD7C — I — PM — □ — □ — □ — □ — □ — □**

Series	Type	Encoder type	Motor type	Lead	Stroke	I/O type	Cable length	Options
—	—	I: Incremental specification	PM: Pulse motor	16: 16mm 8: 8mm 4: 4mm	50:50mm ~ 600:600mm (Set in 50-mm steps)	NP: PIO (NPN) type PN: PIO (PNP) type SE: SIOtype	N: No cable P: 1m S: 3m M: 5m X□□: Specified length W□□: Cable with connectors on both ends R□□: Robot cable RW□□: Robot cable with connectors on both ends	B: Brake FT: Foot bracket NM: Reversed-home specification

* Refer to p. 31 of the front matter for details on the model specification items.

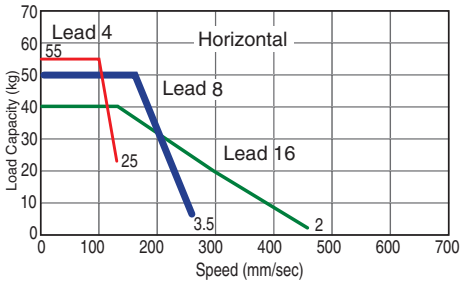


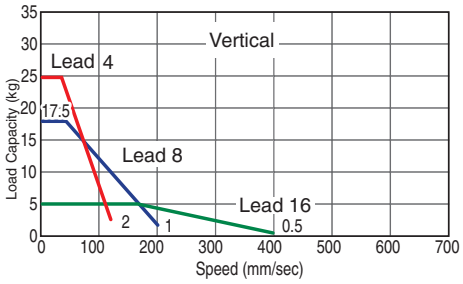
POINT Selection Points

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a critical speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The ERC2 series uses a pulse motor, so the load capacity will decrease as the speed increases. Use the correlation diagram of speed and load capacity on the right to check the load capacity corresponding to the speed you desire. Subtract the guide weight (refer to the facing page) from the load capacity.
(3) The load capacity is based on operation at an acceleration of 0.3 G (or 0.2 G if the lead is 4 or the actuator is operated vertically). This is the maximum acceleration.
(4) The horizontal load capacity assumes use of an external guide.

■Correlation Diagram of Speed and Load Capacity

With the RCP2 series, the load capacity will decrease as the speed increases due to the characteristics of the pulse motor used in the actuator. Use the table below to check if the desired speed and load capacity are satisfied.





Actuator Specifications

■Lead and Load Capacity

(Note 1) Take note that the maximum load capacity will decrease as the speed increases.

Model	Lead (mm)	Maximum load capacity (Note 1) Horizontal (kg)	Maximum load capacity (Note 1) Vertical (kg)	Maximum push force (N) (Note 2)	Stroke (mm)
ERC2-RGD7C-I-PM-16-①-②-③-④	16	~40	~5	220	50 ~ 300 (Set in 50-mm steps)
ERC2-RGD7C-I-PM-8-①-②-③-④	8	~50	~17.5	441	
ERC2-RGD7C-I-PM-4-①-②-③-④	4	~55	~25	873	

Explanation of numbers ① Stroke ② I/O type ③ Cable length ④ Options

(Note 2) Refer to p. 406 for the graph of push force.

■Stroke and Maximum Speed

Lead \ Stroke	50 ~ 300 (Set in 50-mm steps)
16	450 <400>
8	250 <200>
4	125

* The figure in < > applies when the actuator is used vertically.

(Unit: mm/s)

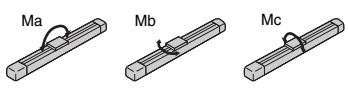
Options

Name	Model	Page
Brake	B	P381
Foot bracket	FT	P384
Reversed-home specification	NM	P385

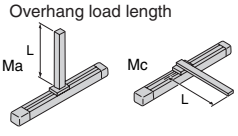
Actuator Specifications

Item	Description
Drive method	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	ø30mm, dedicated SUS pipe
Rod non-rotation accuracy	±1.5°
Ambient operating temperature, humidity	0~40°C, 85% RH or below (non-condensing)

Direction of allowable load moment



Overhang load length



Dimensions

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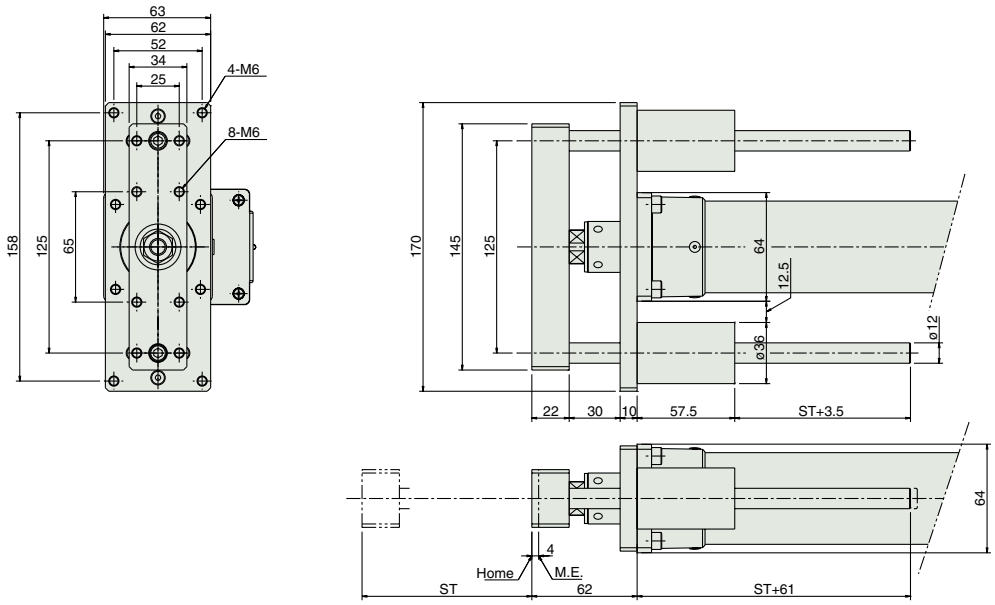
2D CAD



M.E. : Mechanical end

• Refer to p. 10 for the actuator dimentions.

Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300
Guide weight (kg)	0.5	0.6	0.7	0.8	0.9	1.0
Guide + actuator weight (kg)	3.2	3.5	3.7	4.0	4.2	4.5

I/O Type (Actuator with Built-In Controller)

I/O Type

You can select a desired built-in controller of the ERC2 series from among the following three types, each adopting different external input/output (I/O) specifications. Choose the type that best suits your specific purpose.

Name	External view	Model	Features	Maximum number of positioning points	Input power supply	Power-supply capacity	Reference page
PIO type (NPN specification)		ERC2-RGD7C-I-PM-☐-☐-NP-☐-☐	Simple control type capable of positioning to a maximum of 16 points	16	DC24V	2A max.	→P295
PIO type (PNP specification)		ERC2-RGD7C-I-PM-☐-☐-PN-☐-☐	PNP I/O type popular overseas	16			
SIO type		ERC2-RGD7C-I-PM-☐-☐-SE-☐-☐	Dedicated field network connection type (using a gateway unit)	64			