



Electric actuator Rod with built-in guide

EBR-05*E

Straight motor mounting

- 42 Stepper motor
- Battery-less absolute encoder
- Incremental encoder



How to order

EBR - 05 M E - 00 - 05 0300 N A N - C S03

A Body size

05	Body width 54 mm
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B Applicable controller *1

M	ECR
G	ECG

C Motor mounting direction

E	Straight mounting
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D Mounting

00	Basic
FA	Rod side flange

E Screw lead

02	2 mm
05	5 mm
10	10 mm
20	20 mm

F Stroke

0050 to 0400	50 mm (In 50 mm increments) 400 mm
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H encoder *1

A	Battery-less absolute encoder (for ECR)
B	Battery-less absolute encoder (for ECG)
C	Incremental encoder (for ECG)

G Brake *2

N	None
B	Yes

I Relay cable *3

N00	None
S01	Fixing cable 1 m
S03	Fixing cable 3 m
S05	Fixing cable 5 m
S10	Fixing cable 10 m
R01	Movable cable 1 m
R03	Movable cable 3 m
R05	Movable cable 5 m
R10	Movable cable 10 m

*1 Select the controller from page 93 or page 105.
Select encoder "A" when an ECR controller is selected and "B" or "C" when an ECG controller is selected.
*2 Select "Yes" for vertical use.
*3 Refer to page 103 for ECR and page 116 for ECG relay cable dimensions.

Product subject to the EAR (EAR99)

Specifications

[EBR-05M (applicable controller ECR)]

Motor	<input type="checkbox"/> 42 Stepper motor				
Encoder type	Battery-less absolute encoder				
Drive method	Ball screw ø12				
Stroke length mm	50 to 400				
Screw lead mm	2	5	10	20	
Max. load capacity kg	Horizontal	80 (80)	60 (60)	50 (50)	20 (20)
	Vertical	24 (24)	16.6 (15)	10 (6.6)	4.1 (4.1)
Operation speed range		2 to 130 (80)	6 to 330 (275)	12 to 600 (500)	25 to 800 (700)
Maximum pressing force N		397	193	94	33
Press operation speed range mm/s		5 to 20	5 to 20	5 to 30	5 to 30
Repeatability mm	±0.01				
Lost motion mm	0.1 or less				
Motor power supply voltage	24 VDC ±10% or 48 VDC ±10%				
Motor section max. instantaneous current A	5.2				
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC ±10%			
	Power consumption W	7			
	Holding force N	471	188	94	47

*1 The values in () are at 24 VDC.
*2 Load capacity varies according to acceleration/deceleration and speed. Refer to page 88 for details.
*3 The maximum speed values in () are at 24 VDC.
*4 The maximum speed may decrease depending on the conditions.

[EBR-05G (applicable controller ECG)]

Motor	<input type="checkbox"/> 42 Stepper motor				
Encoder type	Battery-less absolute encoder Incremental encoder				
Drive method	Ball screw ø12				
Stroke length mm	50 to 400				
Screw lead mm	2	5	10	20	
Max. load capacity kg	Horizontal	80.0	60.0	41.7	11.7
	Vertical	23.3	14.0	7.0	2.9
Operation speed range		2 to 90	6 to 300	12 to 500	25 to 700
Maximum pressing force N		550	220	110	55
Press operation speed range mm/s		5 to 20	5 to 20	5 to 20	5 to 20
Repeatability mm	±0.01				
Lost motion mm	0.1 or less				
Motor power supply voltage	24 VDC ±10%				
Motor section max. instantaneous current A	2.7				
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC ±10%			
	Power consumption W	6.1			
	Holding force N	420	168	84	42

*1 Load capacity varies according to acceleration/deceleration and speed. Refer to page 90 for details.
*2 The maximum speed may decrease depending on the conditions.

[Common specifications]

Insulation resistance	10MΩ, 500 VDC
Withstand voltage	500 VAC for 1 minute
Operating ambient temperature, humidity *	0 to 40 °C (no freezing) 35 to 80% RH (no condensation)
Storage ambient temperature, humidity	-10 to 50 °C (no freezing) 35 to 80% RH (no condensation)
Atmosphere	No corrosive gas, explosive gas, or dust
Degree of protection	IP40

*The operating ambient temperature of EBR-**G is 10°C to 40°C.

Stroke and max. speed

[EBR-05M (applicable controller ECR)]

(mm/s)

Thread lead	Power supply voltage	Stroke length			
		50 to 250	300	350	400
2	48 VDC	130	85	85	85
	24 VDC	80	80	80	80
5	48 VDC	330	210	210	210
	24 VDC	275	210	210	210
10	48 VDC	600	420	420	420
	24 VDC	500	420	420	420
20	48 VDC	800	800	800	800
	24 VDC	700	700	700	700

[EBR-05G (applicable controller ECG)]

(mm/s)

Thread lead	Power supply voltage	Stroke length			
		50 to 250	300	350	400
2	24 VDC	90	85	85	85
5	24 VDC	300	210	210	210
10	24 VDC	500	420	420	420
20	24 VDC	700	700	700	700

EBS
(With motor)

EBR
(With motor)

ECR
(Controller)

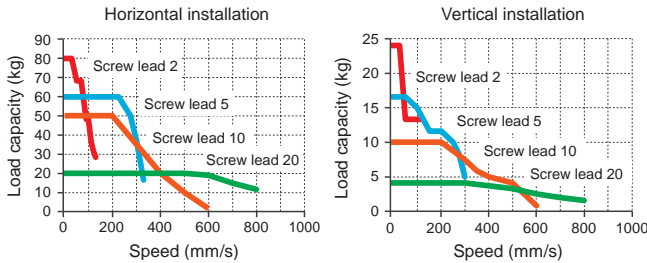
ECG-A
(Controller)

Safety
precautions

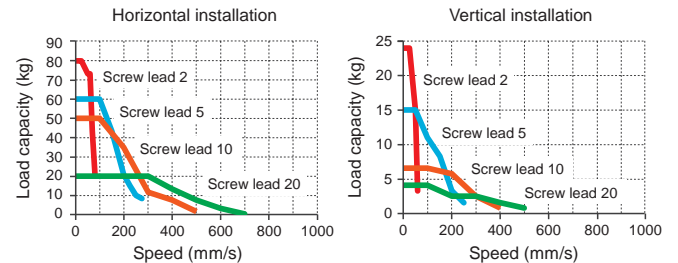
Speed and load capacity

[EBR-05M (applicable controller ECR)]

· At 48 VDC

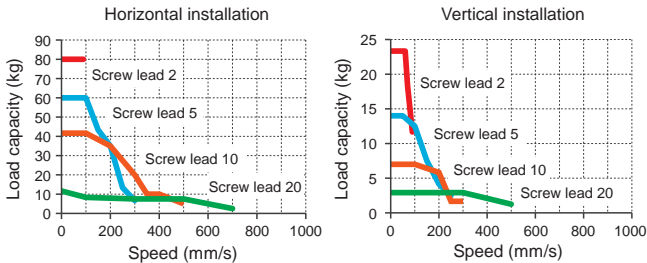


· At 24 VDC



[EBR-05G (applicable controller ECG)]

· At 24 VDC



* At acceleration of 0.3 G.

* Confirm each of the pages listed below for details.

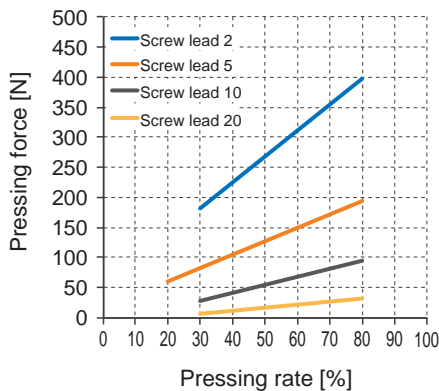
ECR: Page 88

ECG: Page 90

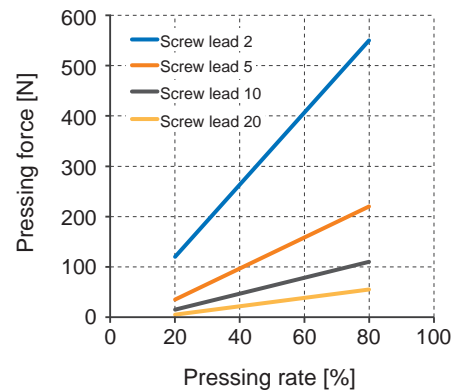
* Incorrectly applying a 48 VDC power supply could result in damage.

Pressing force

[EBR-05M (applicable controller ECR)]



[EBR-05G (applicable controller ECG)]



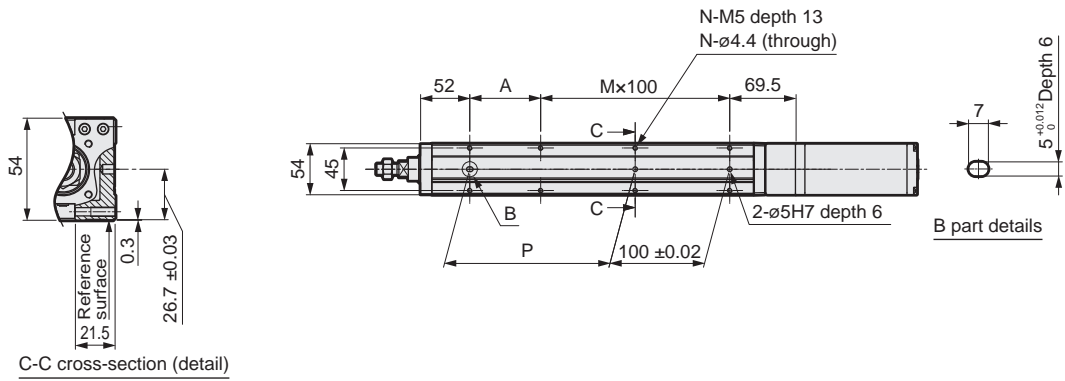
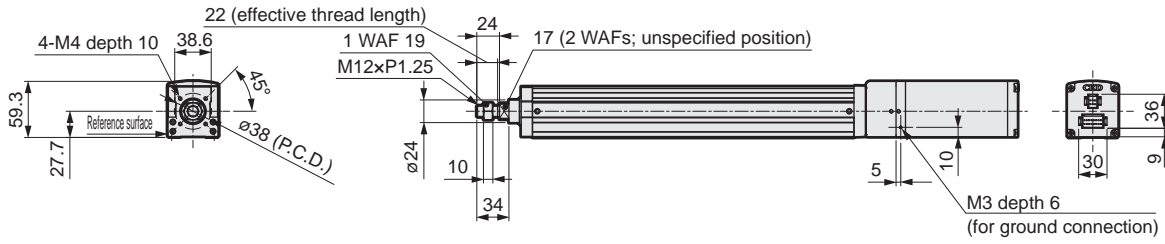
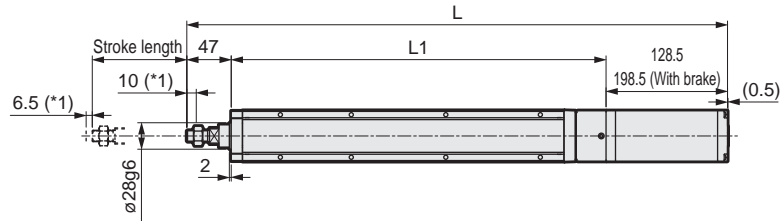
* The above pressing force is a reference value. Variation may occur according to conditions such as pressing speed.

EBR-05*E

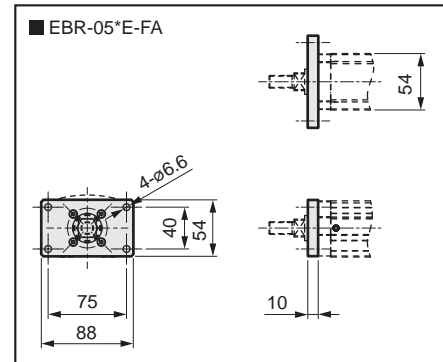
Dimensions

● EBR-05*E

*1 Operating range to the mechanical stopper



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke length (mm)	50	100	150	200	250	300	350	400
L	Without brake	422	472	522	572	622	672	722
	With brake	492	542	592	642	692	742	792
L1	246.5	296.5	346.5	396.5	446.5	496.5	546.5	596.5
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	Without brake	2.5	2.7	2.9	3.1	3.3	3.5	3.7
	With brake	3.3	3.5	3.7	3.9	4.1	4.3	4.5



EBS
(With motor)

EBR
(With motor)

ECR
(Controller)

ECG-A
(Controller)

Safety
precautions

Notes

EBS
(With motor)

EBR
(With motor)

ECR
(Controller)

ECG-A
(Controller)

Safety
precautions



Electric actuator Rod with built-in guide

EBR-05**

Motor side mounting (left, right, bottom)

- 42 Stepper motor
- Battery-less absolute encoder
- Incremental encoder



How to order

EBR - 05 M R - 00 - 05 0300 N A N - C S03

A Body size

05	Body width 54 mm
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B Applicable controller *1

M	ECR
G	ECG

C Motor mounting direction *2

R	Right mounting
D	Bottom mounting
L	Left mounting

D Mounting

00	Basic
FA	Rod side flange

E Screw lead

02	2 mm
05	5 mm
10	10 mm
20	20 mm

F Stroke *2

0050 to 0400	50 mm (In 50 mm increments) 400 mm
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H encoder *1

A	Battery-less absolute encoder (for ECR)
B	Battery-less absolute encoder (for ECG)
C	Incremental encoder (for ECG)

G Brake *3

N	None
B	Yes

I Relay cable *4

N00	None
S01	Fixing cable 1 m
S03	Fixing cable 3 m
S05	Fixing cable 5 m
S10	Fixing cable 10 m
R01	Movable cable 1 m
R03	Movable cable 3 m
R05	Movable cable 5 m
R10	Movable cable 10 m

*1 Select the controller from page 93 or page 105.
 Select encoder "A" when an ECR controller is selected and "B" or "C" when an ECG controller is selected.
 *2 If "D" is selected for the motor mounting direction, select a stroke length from "0250 (250 mm)" to "0400 (400 mm)".
 *3 Select "Yes" for vertical use.
 *4 Refer to page 103 for ECR and page 116 for ECG relay cable dimensions.

Product subject to the EAR (EAR99)

Specifications

[EBR-05M (applicable controller ECR)]

Motor	<input type="checkbox"/> 42 Stepper motor				
Encoder type	Battery-less absolute encoder				
Drive method	Ball screw ø12				
Stroke length mm	50 to 400				
Screw lead mm	2	5	10	20	
Max. load capacity kg *1 *2	Horizontal	80 (80)	60 (60)	36.6 (36.6)	18.3 (18.3)
	Vertical	24 (24)	16.6 (15)	8.3 (6.6)	4.1 (4.1)
Operation speed range *3 *4 mm/s	2 to 120	6 to 330	12 to 500	25 to 800	
	(80)	(250)	(400)	(700)	
Maximum pressing force N	397	193	94	33	
Press operation speed range mm/s	5 to 20	5 to 20	5 to 30	5 to 30	
Repeatability mm	±0.01				
Lost motion mm	0.1 or less				
Motor power supply voltage	24 VDC ±10% or 48 VDC ±10%				
Motor section max. instantaneous current A	5.2				
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC ±10%			
	Power consumption W	7			
	Holding force N	471	188	94	47

*1 The values in () are at 24 VDC.
 *2 Load capacity varies according to acceleration/deceleration and speed. Refer to page 88 for details.
 *3 The maximum speed values in () are at 24 VDC.
 *4 The maximum speed may decrease depending on the conditions.

[EBR-05G (applicable controller ECG)]

Motor	<input type="checkbox"/> 42 Stepper motor				
Encoder type	Battery-less absolute encoder Incremental encoder				
Drive method	Ball screw ø12				
Stroke length mm	50 to 400				
Screw lead mm	2	5	10	20	
Max. load capacity kg *1	Horizontal	80.0	60.0	38.3	11.7
	Vertical	23.3	14.0	6.7	1.7
Operation speed range *2 mm/s	2 to 90	6 to 250	12 to 400	25 to 600	
Maximum pressing force N	550	220	110	55	
Press operation speed range mm/s	5 to 20	5 to 20	5 to 20	5 to 20	
Repeatability mm	±0.01				
Lost motion mm	0.1 or less				
Motor power supply voltage	24 VDC ±10%				
Motor section max. instantaneous current A	2.7				
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC ±10%			
	Power consumption W	6.1			
	Holding force N	420	168	84	42

*1 Load capacity varies according to acceleration/deceleration and speed. Refer to page 90 for details.
 *2 The maximum speed may decrease depending on the conditions.

[Common specifications]

Insulation resistance	10MΩ, 500 VDC
Withstand voltage	500 VAC for 1 minute
Operating ambient temperature, humidity *	0 to 40 °C (no freezing) 35 to 80% RH (no condensation)
Storage ambient temperature, humidity	-10 to 50 °C (no freezing) 35 to 80% RH (no condensation)
Atmosphere	No corrosive gas, explosive gas, or dust
Degree of protection	IP40

*The operating ambient temperature of EBR-**G is 10°C to 40°C.

Stroke and max. speed

[EBR-05M (applicable controller ECR)]

(mm/s)

Thread lead	Power supply voltage	Stroke length			
		50 to 250	300	350	400
2	48 VDC	120	85	85	85
	24 VDC	80	80	80	80
5	48 VDC	330	210	210	210
	24 VDC	250	210	210	210
10	48 VDC	500	420	420	420
	24 VDC	400	400	400	400
20	48 VDC	800	800	800	800
	24 VDC	700	700	700	700

[EBR-05G (applicable controller ECG)]

(mm/s)

Thread lead	Power supply voltage	Stroke length			
		50 to 250	300	350	400
2	24 VDC	90	85	85	85
5	24 VDC	250	210	210	210
10	24 VDC	400	400	400	400
20	24 VDC	600	600	600	600

EBS
(With motor)

EBR
(With motor)

ECR
(Controller)

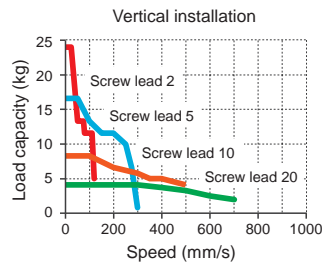
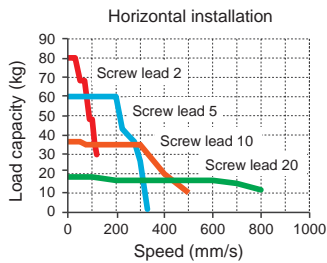
ECG-A
(Controller)

Safety
precautions

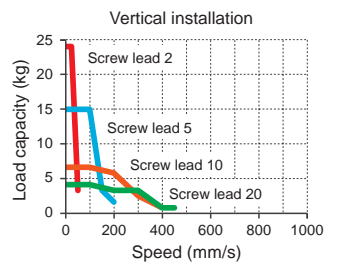
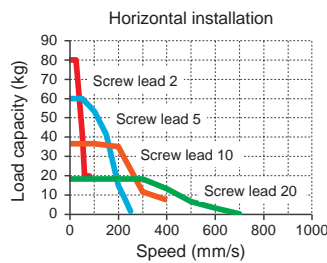
Speed and load capacity

[EBR-05M (applicable controller ECR)]

· At 48 VDC

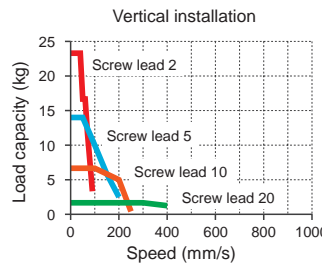
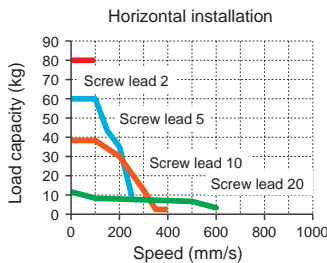


· At 24 VDC



[EBR-05G (applicable controller ECG)]

· At 24 VDC



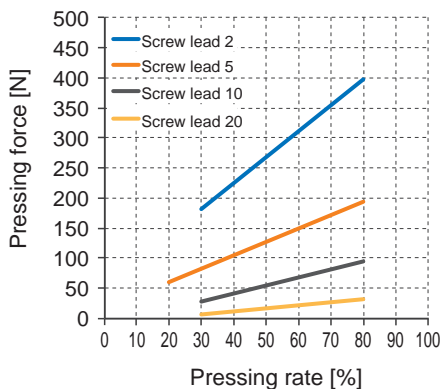
* At acceleration of 0.3 G.

* Confirm each of the pages listed below for details.
ECR: Page 88
ECG: Page 90

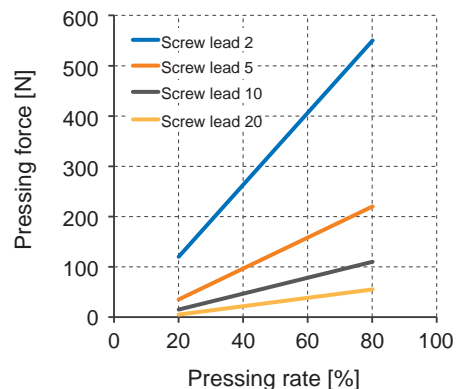
* Incorrectly applying a 48 VDC power supply could result in damage.

Pressing force

[EBR-05M (applicable controller ECR)]



[EBR-05G (applicable controller ECG)]



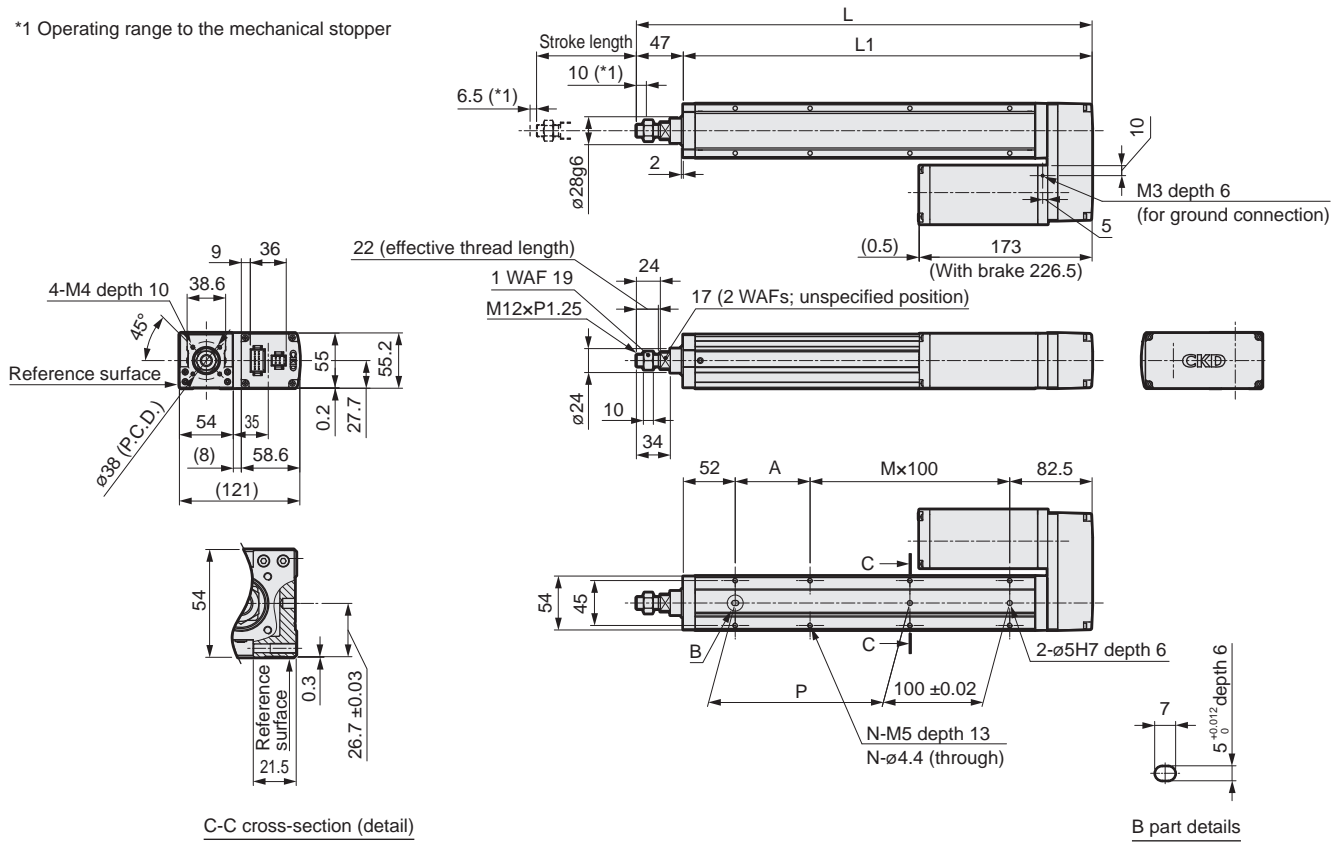
* The above pressing force is a reference value. Variation may occur according to conditions such as pressing speed.

EBR-05**

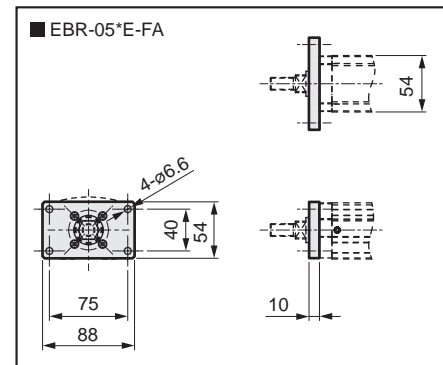
Dimensions: Motor right-side mounting

● EBR-05*R

*1 Operating range to the mechanical stopper



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke length (mm)	50	100	150	200	250	300	350	400
L	306.5	356.5	406.5	456.5	506.5	556.5	606.5	656.5
L1	259.5	309.5	359.5	409.5	459.5	509.5	559.5	609.5
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	Without brake	2.4	2.5	2.6	2.8	3.1	3.2	3.5
	With brake	3.5	3.6	3.7	3.9	4.2	4.3	4.6



EBS
(With motor)

EBR
(With motor)

ECR
(Controller)

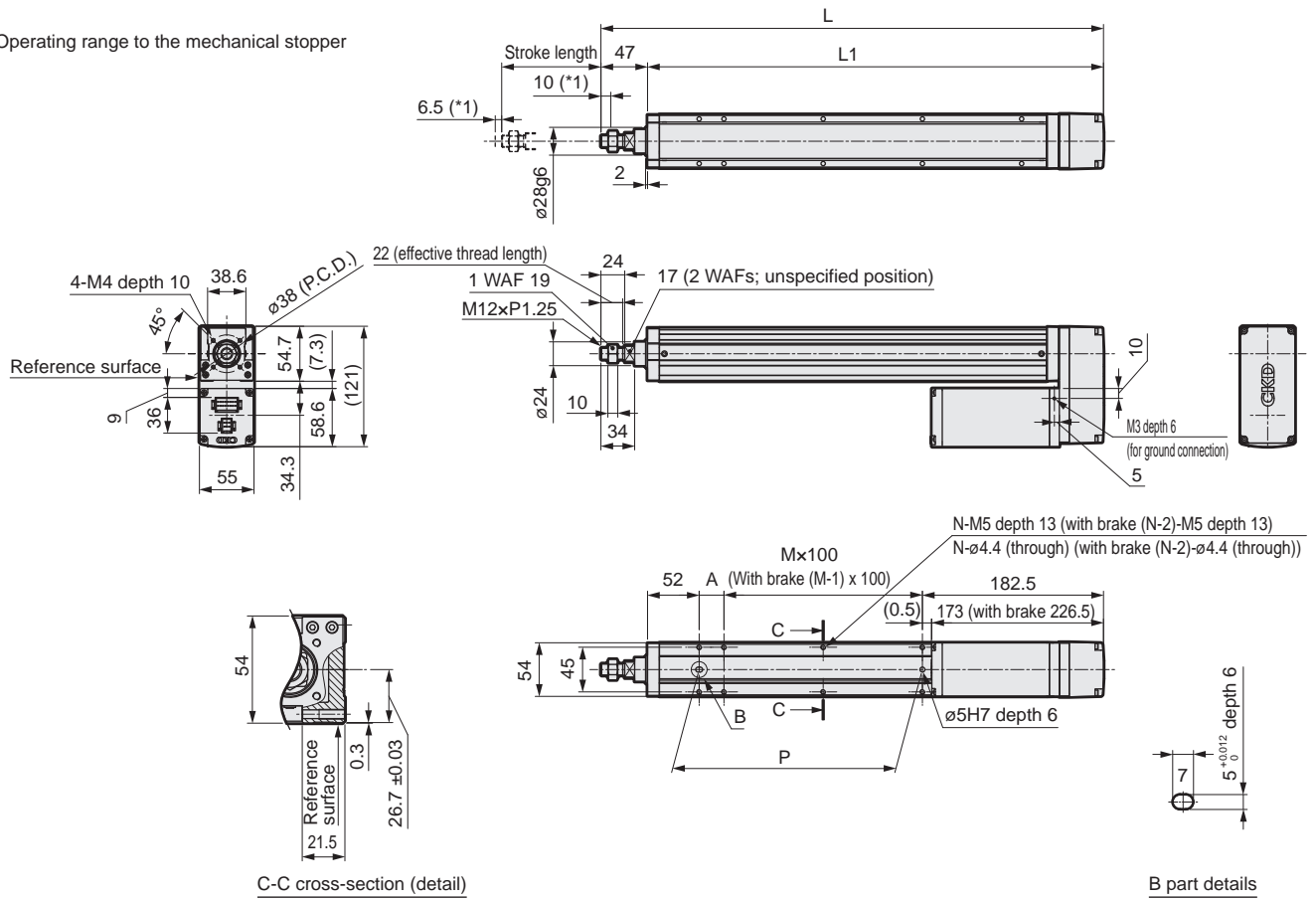
ECG-A
(Controller)

Safety
precautions

Dimensions: Motor bottom mounting

● EBR-05*D

*1 Operating range to the mechanical stopper



Stroke code	0250	0300	0350	0400	
Stroke length (mm)	250	300	350	400	
L	506.5	556.5	606.5	656.5	
L1	459.5	509.5	559.5	609.5	
A	25	75	25	75	
M	2	2	3	3	
N	8	8	10	10	
P	225	275	325	375	
Weight (kg)	Without brake	3.1	3.2	3.2	3.5
	With brake	4.2	4.3	4.3	4.6

EBS
(With motor)

EBR
(With motor)

ECR
(Controller)

ECG-A
(Controller)

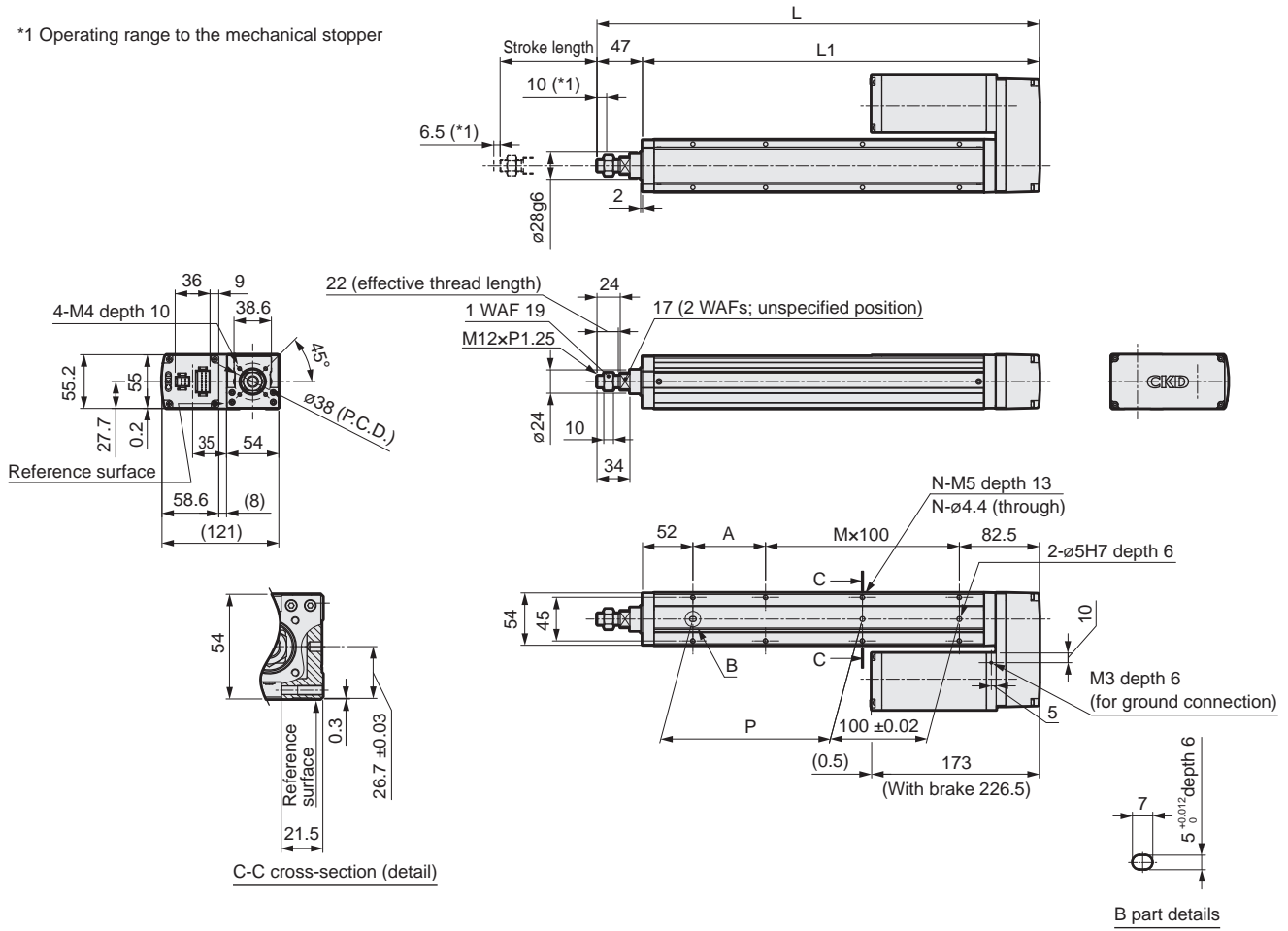
Safety
precautions

EBR-05**

Dimensions: Motor left-side mounting

● EBR-05*L

*1 Operating range to the mechanical stopper



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke length (mm)	50	100	150	200	250	300	350	400
L	306.5	356.5	406.5	456.5	506.5	556.5	606.5	656.5
L1	259.5	309.5	359.5	409.5	459.5	509.5	559.5	609.5
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	Without brake	2.4	2.5	2.6	2.8	3.1	3.2	3.5
	With brake	3.5	3.6	3.7	3.9	4.2	4.3	4.6

Safety precautions