

# Electric actuator Slider EBS-08\*E

Straight motor mounting

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



## How to order

**EBS - 08 M E - 05 0300 N A N - C S03**

<b>A</b> Body size <b>08</b> Body width 82 mm	<b>B</b> Applicable controller *1 <b>M</b> ECR <b>G</b> ECG	<b>C</b> Motor mounting direction <b>E</b> Straight mounting	<b>D</b> Screw lead <b>05</b> 5 mm <b>10</b> 10 mm <b>20</b> 20 mm	<b>E</b> Stroke length <b>0050 to 1100</b> 50 mm (In 50 mm increments) 1100 mm	<b>F</b> Brake *2 <b>N</b> None <b>B</b> Yes	<b>G</b> Encoder *1 <b>A</b> Battery-less absolute encoder (for ECR) <b>B</b> Battery-less absolute encoder (for ECG) <b>C</b> Incremental encoder (for ECG)	<b>H</b> Relay cable *3 <b>N00</b> None <b>S01</b> Fixing cable 1 m <b>S03</b> Fixing cable 3 m <b>S05</b> Fixing cable 5 m <b>S10</b> Fixing cable 10 m <b>R01</b> Movable cable 1 m <b>R03</b> Movable cable 3 m <b>R05</b> Movable cable 5 m <b>R10</b> Movable cable 10 m
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\*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

[EBS-08M (applicable controller ECR)]

Motor	<input type="checkbox"/> 56 Stepper motor		
Encoder type	Battery-less absolute encoder		
Drive method	Ball screw $\phi$ 16		
Stroke length mm	50 to 1100		
Thread lead mm	5	10	20
Max. load capacity kg	Horizontal	Vertical	
*1 *2	80 (80)	40 (38.3)	70 (70) 18.3 (18.3) 10 (10)
Operation speed range	6 to 250	12 to 550	25 to 1100
*3 *4	(150)	(300)	(600)
Maximum pressing force N	970	477	250
Press operation speed range mm/s	5 to 25	5 to 30	5 to 30
Repeatability mm	$\pm$ 0.01		
Lost motion mm	0.1 or less		
Static allowable moment N·m	MP: 203, MY: 203, MR: 336		
Motor power supply voltage	24 VDC $\pm$ 10% or 48 VDC $\pm$ 10%		
Motor section max. instantaneous current A	8.6		
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC $\pm$ 10%	
	Power consumption W	8	
	Holding force N	754	377 188

- \*1 The values in ( ) are at 24 VDC.
- \*2 Load capacity varies according to acceleration/deceleration and speed. Refer to page 42 for details.
- \*3 The maximum speed values in ( ) are at 24 VDC.
- \*4 The maximum speed may decrease depending on the conditions.

[Common specifications]

Insulation resistance	10M $\Omega$ , 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

[EBS-08G (applicable controller ECG)]

Motor	<input type="checkbox"/> 56 Stepper motor		
Encoder type	Battery-less absolute encoder Incremental encoder		
Drive method	Ball screw $\phi$ 16		
Stroke length mm	50 to 1100		
Thread lead mm	5	10	20
Max. load capacity kg	Horizontal	Vertical	
*1	80.0	43.3	70.0 28.3 30.0 3.3
Operation speed range	6 to 150	12 to 250	25 to 500
*2			
Maximum pressing force N	965	482	241
Press operation speed range mm/s	5 to 20	5 to 20	5 to 20
Repeatability mm	$\pm$ 0.01		
Lost motion mm	0.1 or less		
Static allowable moment N·m	MP: 203, MY: 203, MR: 336		
Motor power supply voltage	24 VDC $\pm$ 10%		
Motor section max. instantaneous current A	4.0		
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC $\pm$ 10%	
	Power consumption W	7.2	
	Holding force N	768	384 192

- \*1 Load capacity varies according to acceleration/deceleration and speed. Refer to page 44 for details.
- \*2 The maximum speed may decrease depending on the conditions.

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

### Stroke and max. speed

[EBS-08M (applicable controller ECR)]

(mm/s)

Thread lead	Power supply voltage	Stroke length										
		50 to 600	650	700	750	800	850	900	950	1000	1050	1100
5	48 VDC	250	250	250	250	220	200	180	135	120	110	100
	24 VDC	150	150	150	150	150	150	150	135	120	110	100
10	48 VDC	550	550	550	510	450	410	370	270	240	225	200
	24 VDC	300	300	300	300	300	300	300	270	240	225	200
20	48 VDC	1100	1000	1000	1000	910	820	740	540	490	450	410
	24 VDC	600	600	600	600	600	600	600	540	490	450	410

[EBS-08G (applicable controller ECG)]

(mm/s)

Thread lead	Power supply voltage	Stroke length				
		50 to 900	950	1000	1050	1100
5	24 VDC	150	135	120	110	100
10	24 VDC	250	250	240	225	200
20	24 VDC	500	500	490	450	410

EBS  
(With motor)

EBR  
(With motor)

ECR  
(Controller)

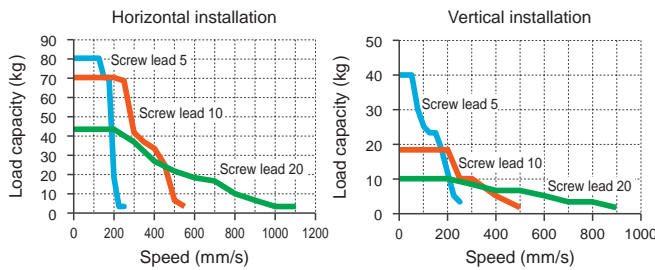
ECG-A  
(Controller)

Safety  
precautions

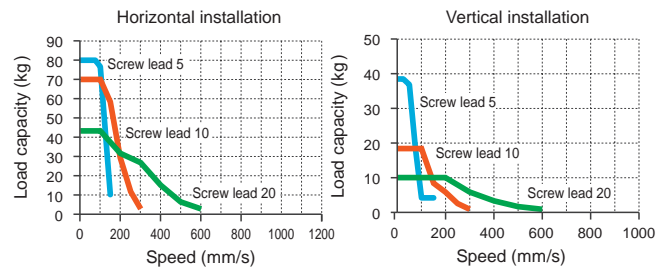
### Speed and load capacity

[EBS-08M (applicable controller ECR)]

· At 48 VDC

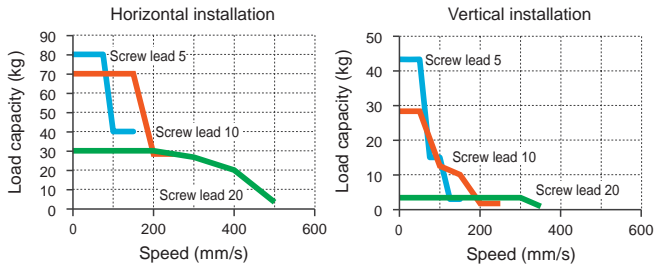


· At 24 VDC



[EBS-08G (applicable controller ECG)]

· At 24 VDC



\* At acceleration of 0.3 G.

\* Confirm each of the pages listed below for details.

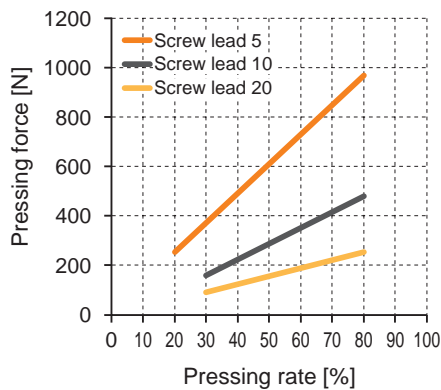
ECR: Page 42

ECG: Page 44

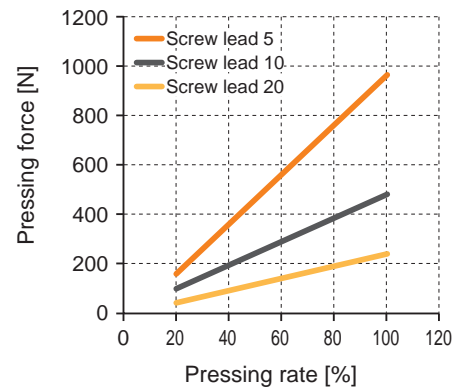
\* Incorrectly applying a 48 VDC power supply could result in damage.

### Pressing force

[EBS-08M (applicable controller ECR)]



[EBS-08G (applicable controller ECG)]



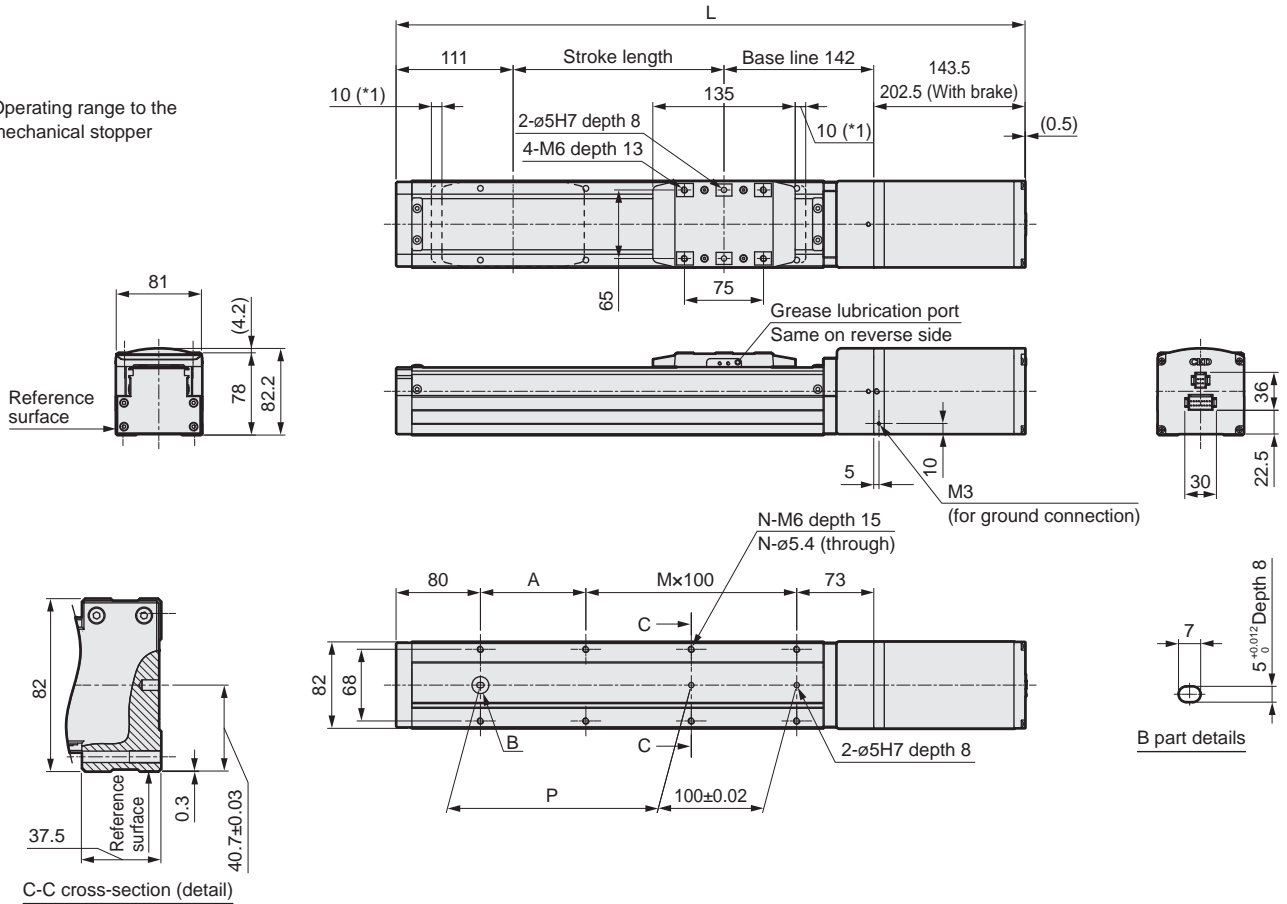
\* The above pressing force is a reference value. Variation may occur according to conditions such as pressing speed.

# EBS-08\*E

Dimensions: Straight motor mounting

## ● EBS-08\*E

\*1 Operating range to the mechanical stopper



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1000	1050	1100	
Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
L	Without brake	446.5	496.5	546.5	596.5	646.5	696.5	746.5	796.5	846.5	896.5	946.5	996.5	1046.5	1096.5	1146.5	1196.5	1246.5	1296.5	1346.5	1396.5	1446.5	1496.5
	With brake	505.5	555.5	605.5	655.5	705.5	755.5	805.5	855.5	905.5	955.5	1005.5	1055.5	1105.5	1155.5	1205.5	1255.5	1305.5	1355.5	1405.5	1455.5	1505.5	1555.5
A	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	100
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	11
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	26
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1100
Weight (kg)	Without brake	6.7	7.0	7.3	7.6	8.0	8.3	8.6	9.0	9.3	9.6	9.9	10.3	10.6	10.9	11.2	11.6	11.9	12.2	12.6	12.9	13.2	13.5
	With brake	8.0	8.3	8.6	8.9	9.3	9.6	9.9	10.3	10.6	10.9	11.2	11.6	11.9	12.2	12.5	12.9	13.2	13.5	13.9	14.2	14.5	14.8

Safety precautions

Notes

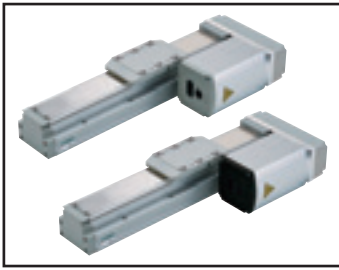
**EBS**  
(With motor)

**EBR**  
(With motor)

**ECR**  
(Controller)

**ECG-A**  
(Controller)

Safety  
precautions



# Electric actuator Slider EBS-08\*\*

Motor side mounting (left, right, bottom)

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



## How to order

**EBS - 08 M R - 05 0300 N A N - C S03**

<b>A</b> Body size 08 Body width 82 mm	<b>B</b> Applicable controller *1 M ECR G ECG	<b>C</b> Motor mounting direction *2 R Right mounting D Bottom mounting L Left mounting	<b>D</b> Screw lead 05 5 mm 10 10 mm 20 20 mm	<b>E</b> Stroke length *2 0050 to 1100 50 mm (In 50 mm increments) 1100 mm	<b>F</b> Brake *3 N None B Yes	<b>G</b> Encoder *1 A Battery-less absolute encoder (for ECR) B Battery-less absolute encoder (for ECG) C Incremental encoder (for ECG)	<b>H</b> 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
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\*1 Select the controller from page 93 or page 105.  
 \*2 If "D" is selected for the motor mounting direction, select a stroke length from "0250 (250 mm)" to "1100 (1100 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

[EBS-08M (applicable controller ECR)]

Motor	<input type="checkbox"/> 56 Stepper motor		
Encoder type	Battery-less absolute encoder		
Drive method	Ball screw $\varnothing$ 16		
Stroke length mm	50 to 1100		
Thread lead mm	5	10	20
Max. load capacity kg	Horizontal	Vertical	
*1 *2	80 (80)	40 (36.6)	70 (70) 18.3 (16.6) 8.3 (8.3)
Operation speed range mm/s	6 to 225 (100)	12 to 550 (300)	25 to 1000 (500)
*3 *4			
Maximum pressing force N	970	477	250
Press operation speed range mm/s	5 to 25	5 to 30	5 to 30
Repeatability mm	$\pm$ 0.01		
Lost motion mm	0.1 or less		
Static allowable moment N-m	MP: 203, MY: 203, MR: 336		
Motor power supply voltage	24 VDC $\pm$ 10% or 48 VDC $\pm$ 10%		
Motor section max. instantaneous current A	8.6		
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC $\pm$ 10%	
	Power consumption W	8	
	Holding force N	754	377 188

\*1 The values in ( ) are at 24 VDC.  
 \*2 Load capacity varies according to acceleration/deceleration and speed. Refer to page 42 for details.  
 \*3 The maximum speed values in ( ) are at 24 VDC.  
 \*4 The maximum speed may decrease depending on the conditions.

[Common specifications]

Insulation resistance	10M $\Omega$ , 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

[EBS-08G (applicable controller ECG)]

Motor	<input type="checkbox"/> 56 Stepper motor		
Encoder type	Battery-less absolute encoder Incremental encoder		
Drive method	Ball screw $\varnothing$ 16		
Stroke length mm	50 to 1100		
Thread lead mm	5	10	20
Max. load capacity kg	Horizontal	Vertical	
*1	80.0	33.3	70.0 18.3 30.0 3.3
Operation speed range mm/s	6 to 125	12 to 250	25 to 400
*2			
Maximum pressing force N	965	482	241
Press operation speed range mm/s	5 to 20	5 to 20	5 to 20
Repeatability mm	$\pm$ 0.01		
Lost motion mm	0.1 or less		
Static allowable moment N-m	MP: 203, MY: 203, MR: 336		
Motor power supply voltage	24 VDC $\pm$ 10%		
Motor section max. instantaneous current A	4.0		
Brake	Model, power supply voltage	Non-excitation operation, 24 VDC $\pm$ 10%	
	Power consumption W	7.2	
	Holding force N	768	384 192

\*1 Load capacity varies according to acceleration/deceleration and speed. Refer to page 44 for details.  
 \*2 The maximum speed may decrease depending on the conditions.

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

### Stroke and max. speed

[EBS-08M (applicable controller ECR)]

Thread lead	Power supply voltage	Stroke length (mm/s)								
		50 to 700	750	800	850	900	950	1000	1050	1100
5	48 VDC	225	225	220	200	180	135	120	110	100
	24 VDC	100	100	100	100	100	100	100	100	100
10	48 VDC	550	510	450	410	370	270	240	225	200
	24 VDC	300	300	300	300	300	270	240	225	200
20	48 VDC	1000	1000	910	820	740	540	490	450	410
	24 VDC	500	500	500	500	500	500	490	450	410

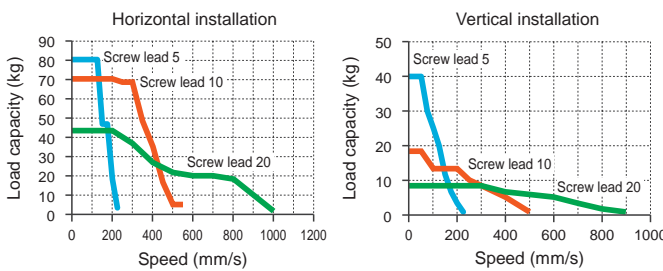
[EBS-08G (applicable controller ECG)]

Thread lead	Power supply voltage	Stroke length (mm/s)			
		50 to 600	1000	1050	1100
5	24 VDC	125	120	110	100
10	24 VDC	250	240	225	200
20	24 VDC	400	400	400	400

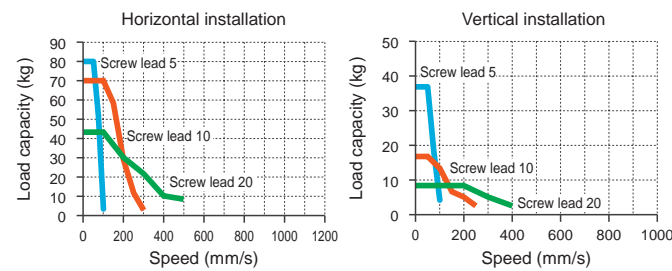
### Speed and load capacity

[EBS-08M (applicable controller ECR)]

· At 48 VDC

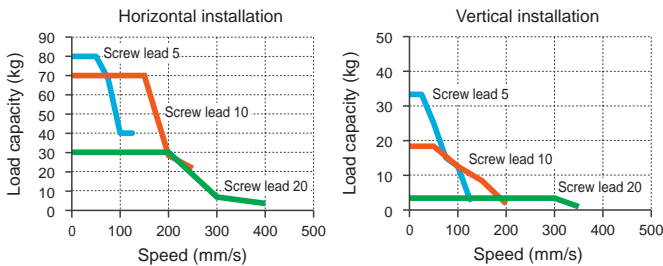


· At 24 VDC



[EBS-08G (applicable controller ECG)]

· At 24 VDC



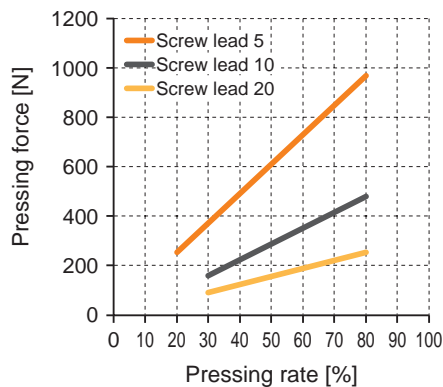
\* Incorrectly applying a 48 VDC power supply could result in damage.

\* At acceleration of 0.3 G.

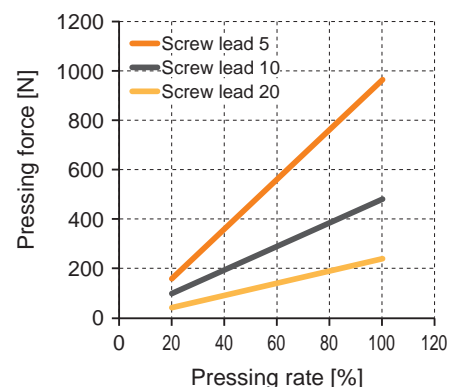
\* Confirm each of the pages listed below for details.  
 ECR: Page 42  
 ECG: Page 44

### Pressing force

[EBS-08M (applicable controller ECR)]



[EBS-08G (applicable controller ECG)]



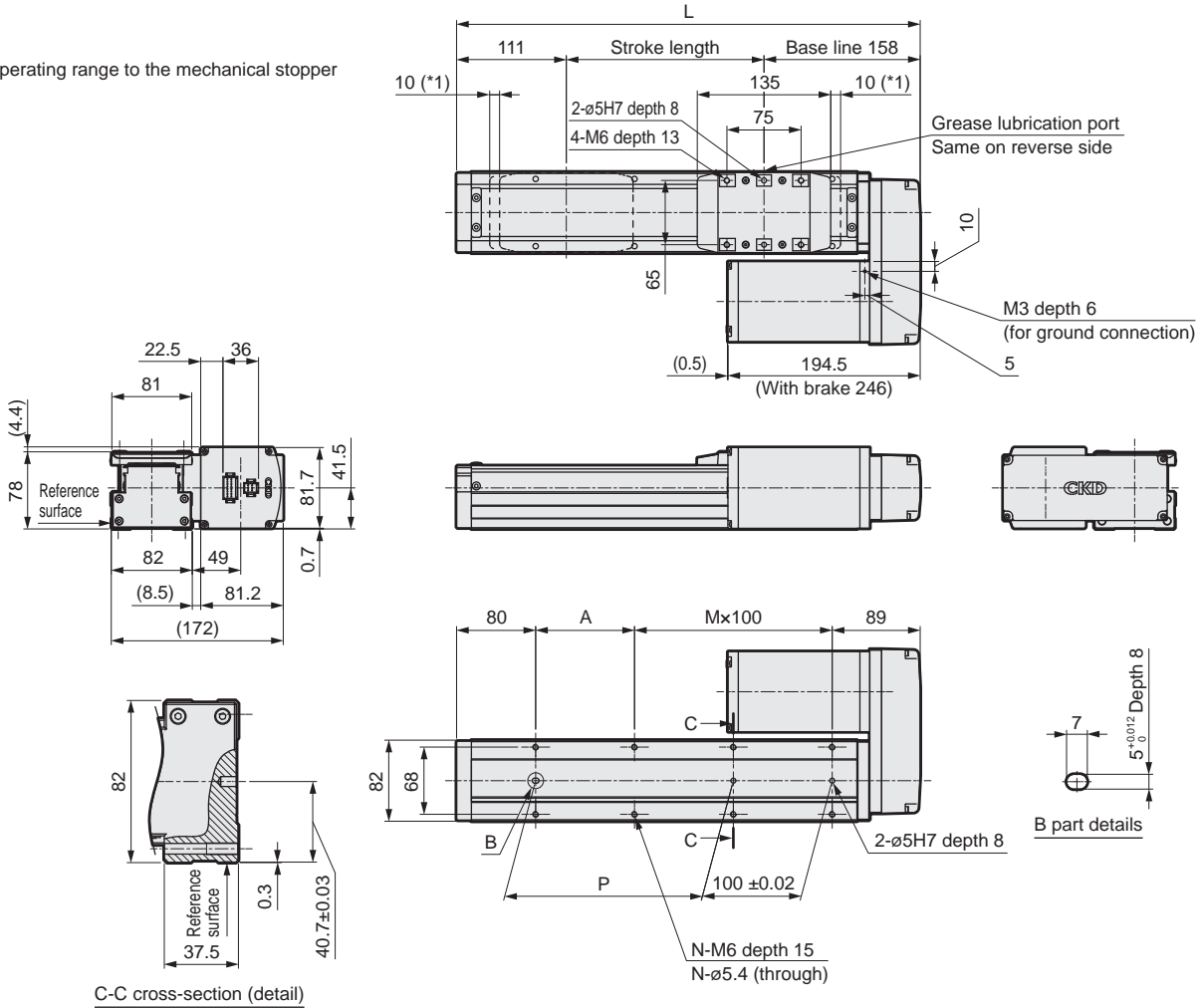
\* The above pressing force is a reference value. Variation may occur according to conditions such as pressing speed.

# EBS-08\*\*

Dimensions: Motor right-side mounting

## ● EBS-08\*R

\*1 Operating range to the mechanical stopper



C-C cross-section (detail)

B part details

Safety precautions

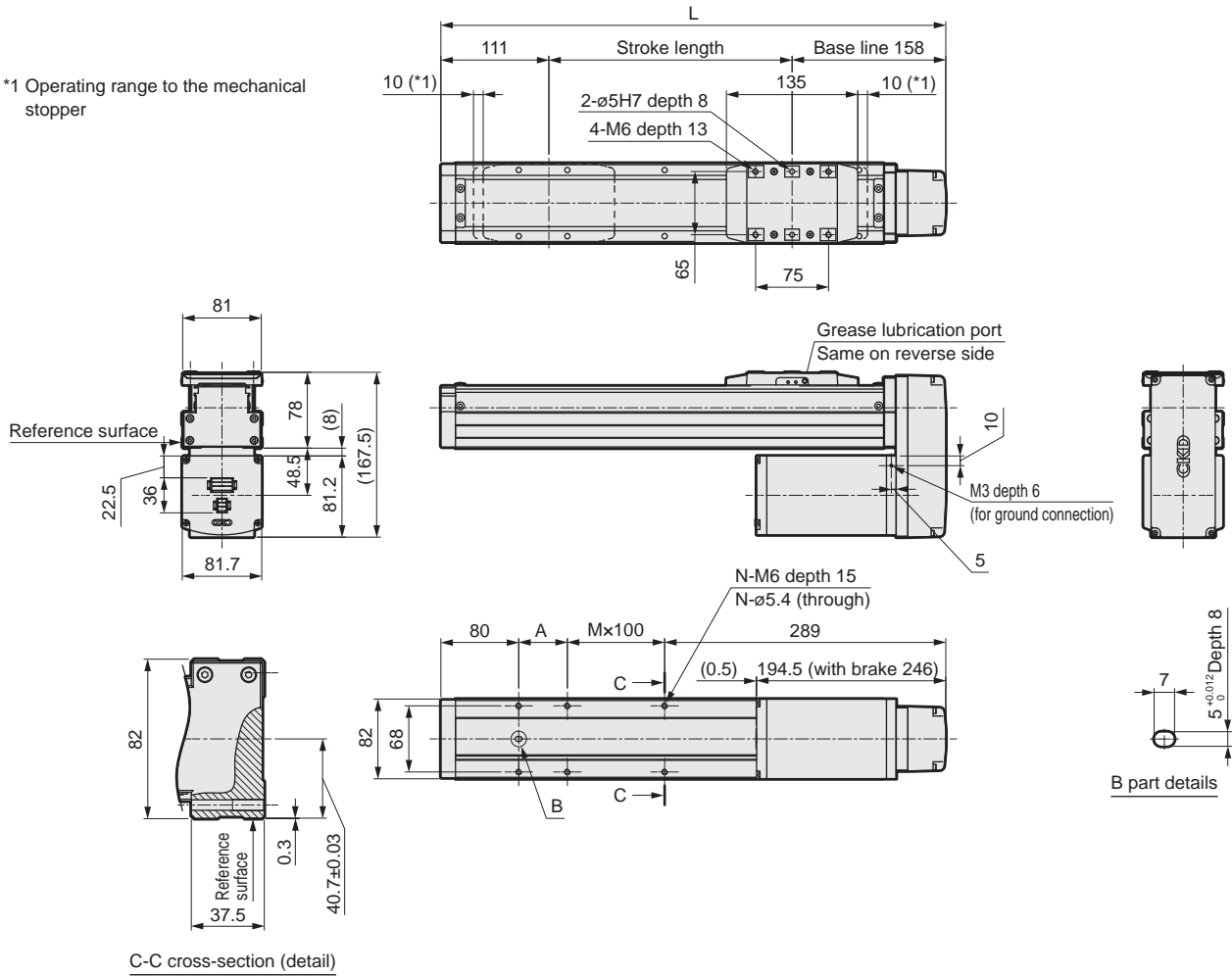
Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	
Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	
A	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
Weight (kg)	Without brake	5.7	6.1	6.5	6.8	7.2	7.5	7.8	8.2	8.5	8.8	9.2	9.5	9.9	10.2	10.5	10.8
	With brake	7.0	7.4	7.8	8.1	8.5	8.8	9.1	9.5	9.8	10.1	10.5	10.8	11.2	11.5	11.8	12.1

Stroke code	0850	0900	0950	1000	1050	1100	
Stroke length (mm)	850	900	950	1000	1050	1100	
L	1119	1169	1219	1269	1319	1369	
A	50	100	50	100	50	100	
M	9	9	10	10	11	11	
N	22	22	24	24	26	26	
P	850	900	950	1000	1050	1100	
Weight (kg)	Without brake	11.2	11.4	11.8	12.1	12.5	12.9
	With brake	12.5	12.7	13.1	13.4	13.8	14.2

Dimensions: Motor bottom mounting

● EBS-08\*D

\*1 Operating range to the mechanical stopper



Stroke code	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1000	
Stroke length (mm)	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
L	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219	1269	
A	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	
Weight (kg)	Without brake	7.2	7.5	7.8	8.2	8.5	8.8	9.2	9.5	9.9	10.2	10.5	10.8	11.2	11.4	11.8	12.1
	With brake	8.5	8.8	9.1	9.5	9.8	10.1	10.5	10.8	11.2	11.5	11.8	12.1	12.5	12.7	13.1	13.4

Stroke code	1050	1100	
Stroke length (mm)	1050	1100	
L	1319	1369	
A	50	100	
M	9	9	
N	22	22	
Weight (kg)	Without brake	12.5	12.9
	With brake	13.8	14.2

EBS  
(With motor)

EBR  
(With motor)

ECR  
(Controller)

ECG-A  
(Controller)

Safety  
precautions

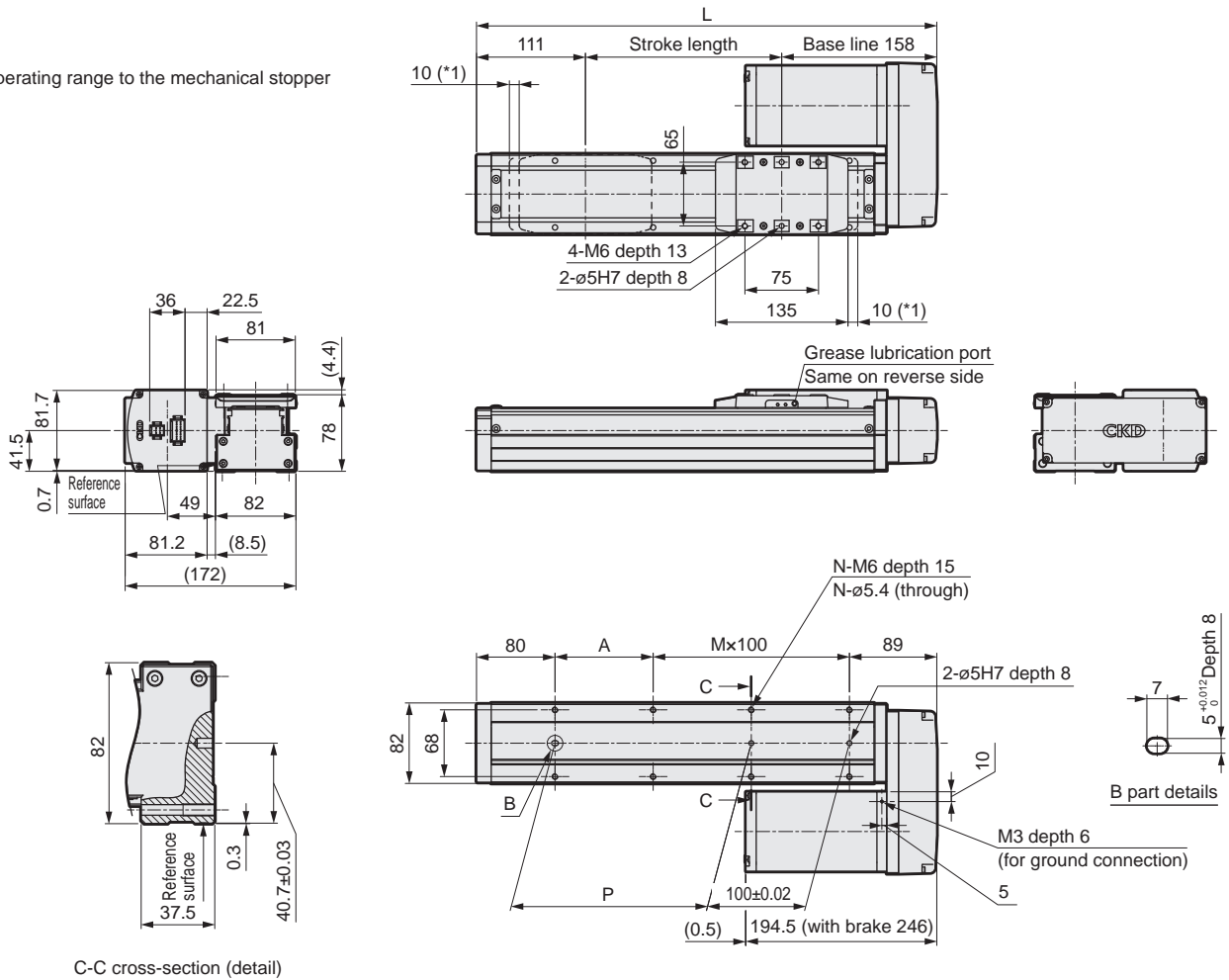


# EBS-08\*\*

## Dimensions: Motor left-side mounting

### ● EBS-08\*L

\*1 Operating range to the mechanical stopper



C-C cross-section (detail)

Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	
Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	
A	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
Weight (kg)	Without brake	5.7	6.1	6.5	6.8	7.2	7.5	7.8	8.2	8.5	8.8	9.2	9.5	9.9	10.2	10.5	10.8
	With brake	7.0	7.4	7.8	8.1	8.5	8.8	9.1	9.5	9.8	10.1	10.5	10.8	11.2	11.5	11.8	12.1

Stroke code	0850	0900	0950	1000	1050	1100	
Stroke length (mm)	850	900	950	1000	1050	1100	
L	1119	1169	1219	1269	1319	1369	
A	50	100	50	100	50	100	
M	9	9	10	10	11	11	
N	22	22	24	24	26	26	
P	850	900	950	1000	1050	1100	
Weight (kg)	Without brake	11.2	11.4	11.8	12.1	12.5	12.9
	With brake	12.5	12.7	13.1	13.4	13.8	14.2