EBS-L

Slider Type (Ball Screw Drive)

Electric Actuator
Stepping Motor Compatible
Motorless Specification

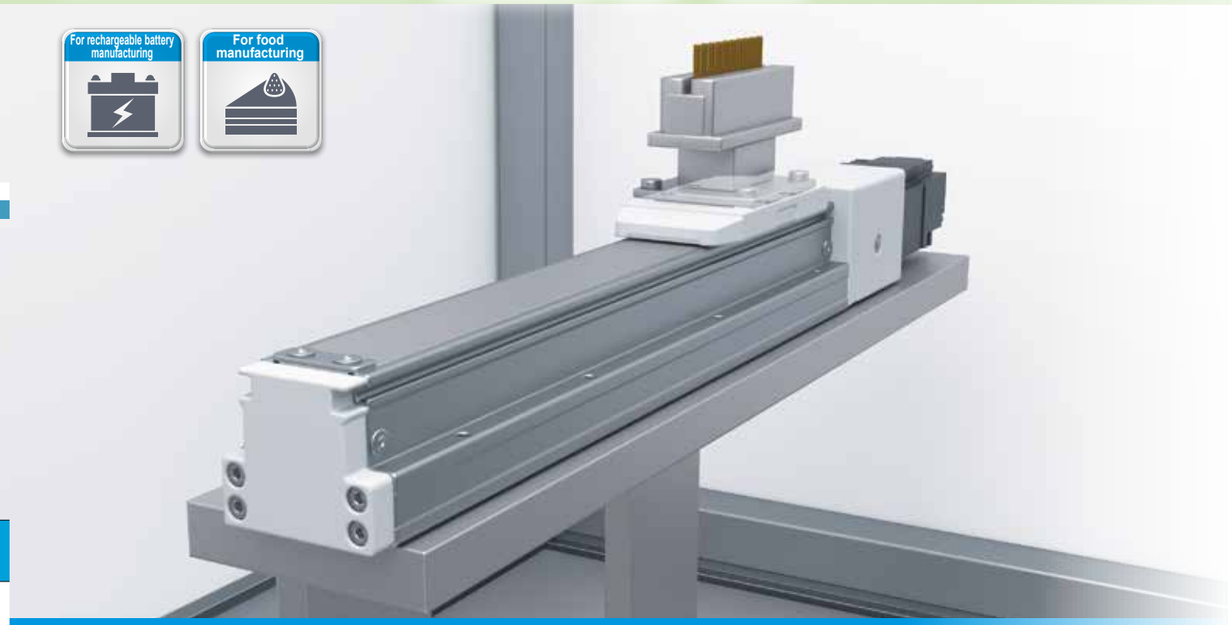
CONTENTS

Servo motor compatible
EBS
EBR
ETS
ECS

Slider type (ball screw drive)
Compatible with stepping motor

EBS-L Series

For rechargeable battery manufacturing | For food manufacturing



Compact & High Rigidity

Line-up	Body Size / Motor size	04 □42	05 □42	08 □56	08 □60	Catalog page
EBS-L		●	●	●	●	458
Metal stopper specifications EBS-L-X		●	●	●	●	458
Compatible with rechargeable battery manufacturing processes EBS-L-P4		●	●	●	●	CC-1226AA
Supports food manufacturing processes EBS-L-FP1		●	●	●	●	CC-1271AA

List of supported motor manufacturers * Refer to each model page compatible model and capacity

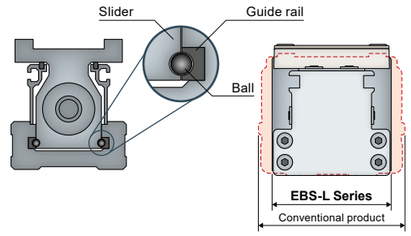
Stepping Motor

Oriental Motor Co., Ltd. MinebeaMitsumi Incorporated Dyadic Systems Co., Ltd.

Compact, high-rigidity body

High rigidity | Space saving | Reduced design hours | Reduced number of parts | Reduced man-hours

The guide that supports the load uses an outer rail system. The wide guide integrated with the body achieves both high rigidity and space-saving.

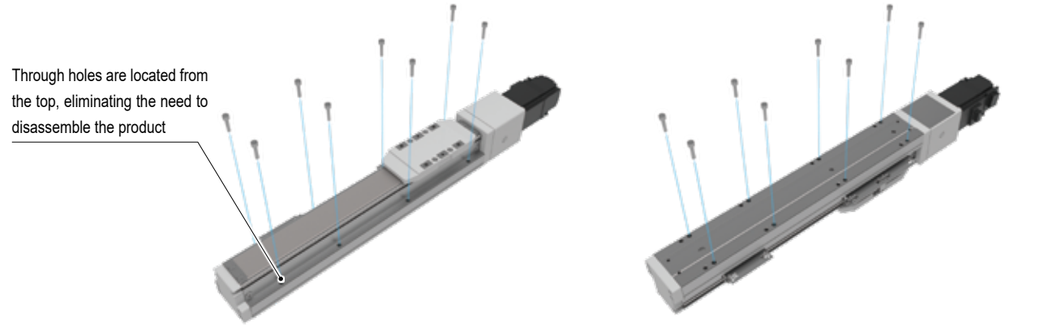


	Body Width	Static Allowable Moment MP	MY	MR
Conventional Product	65 mm	80 N·m	70 N·m	75 N·m
EBS-05 L	54 mm	103 N·m	103 N·m	144 N·m
	11 mm DOWN	28% UP	47% UP	92% UP

Mounting holes provided on top and bottom surfaces

Easy maintenance | Reduced man-hours

It is a structure that can be installed from both the top and bottom surfaces without disassembling the product. Especially when installing from the top surface, work time can be significantly reduced.

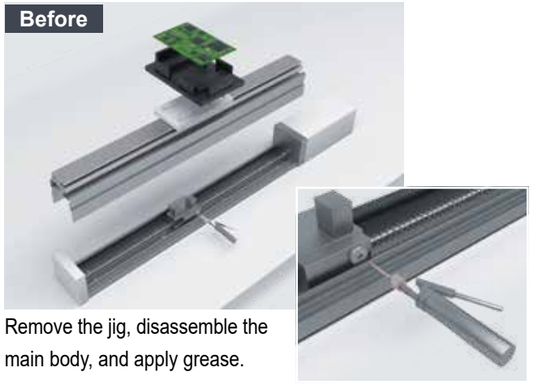


Top mounting without disassembling the body

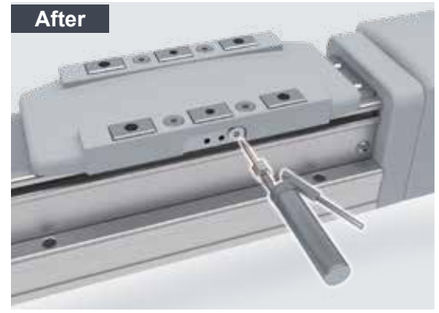
Equipped with external grease fitting port

Easy maintenance | Reduced man-hours

Grease fitting ports that can be directly greased from the outside are equipped on both sides. Maintenance of the guide and ball screw is possible by greasing from one location without disassembling the main body.



Remove the jig, disassemble the main body, and apply grease.



Direct greasing from the outside

Optimal Electric Actuator for More Accurate Homing

EBS-L-X Series (Metal Stopper Specification)

By establishing an accurate zero point based on a mechanical reference, it is possible to perform accurate homing by pushing against the mechanical end.

Optimal electric actuator for food production processes

EBS-L-FP1 Series

For food manufacturing

Food-grade (NSF H1) lubricants can be used safely and securely. Contributes to low dust generation by supporting vacuum treatment from the suction port.

FP Food Process™

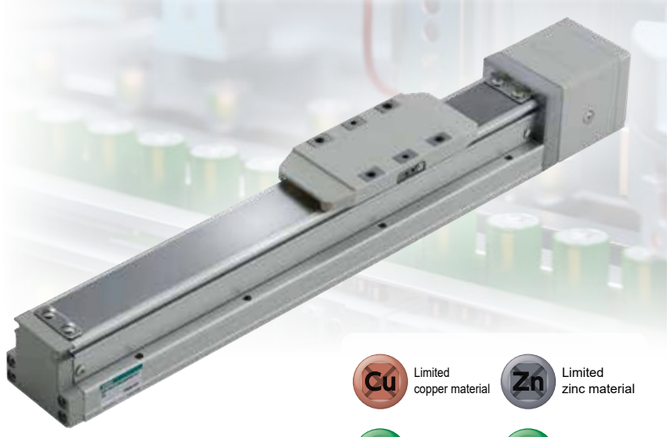
Food Grade (NSF H1) Lubricant Used

Optimal electric actuator for rechargeable battery production processes

EBS-L-P4 Series

For rechargeable battery manufacturing | Material restrictions | Dry environment DEW POINT -80°C

The use of copper, zinc, nickel-based materials and electrolytic nickel plating is restricted. Grease compatible with ultra-low dew point environments is used, and lubrication of the sliding parts is maintained for long periods, even in dry environments.



- Cu: Limited copper material
- Zn: Limited zinc material
- Ni: Limited nickel-based material
- ENi: Limited electrolytic nickel plating

Servo motor compatible
EBS
EBR
ETS
ECS
Ending

System Table

Type	Model No.		Applicable Motor Size	Body Width (mm)	Screw Lead (mm)	Max. Payload (kg) *2 Horizontal *1	Max. Payload (kg) *2 Vertical	Stroke (mm) and Max. Speed (mm/s) *3	Listed Page
Slider Type		EBS-04 L□-06	□42	44	6	20	5	50 mm: 300 mm/s (⏱ 1.03 sec); 500: ⏱ 1.70 sec	460
		EBS-04 L□-12			12	12	2	50 mm: 600 (⏱ 0.56 sec); 500: ⏱ 0.89 sec	
		EBS-05 L□-02	□42	54	2	30	10	50 mm: 100 (⏱ 3.01 sec); 600: ⏱ 6.01 sec; 800: 90 80 70 60 (⏱ 13.34 sec)	466
		EBS-05 L□-05			5	30	10	50 mm: 250 (⏱ 1.23 sec); 600: ⏱ 2.43 sec; 800: 225 200 175 150 (⏱ 5.35 sec)	
		EBS-05 L□-10			10	15	5	50 mm: 500 (⏱ 0.65 sec); 600: ⏱ 1.25 sec; 800: 450 400 350 300 (⏱ 2.70 sec)	
		EBS-05 L□-20			20	10	2.5	50 mm: 1000 (⏱ 0.40 sec); 600: ⏱ 0.70 sec; 800: 900 800 700 600 (⏱ 1.39 sec)	
		EBS-08 L□-05	□56 □60	82	5	50	15	50 mm: 250 (⏱ 1.23 sec); 600: ⏱ 2.43 sec; 1000: 225 200 175 150 (⏱ 6.02 sec); 1100: 75 50 (⏱ 22.01 sec)	472
		EBS-08 L□-10			10	30	8	50 mm: 500 (⏱ 0.65 sec); 600: ⏱ 1.25 sec; 1000: 450 400 350 300 250 200 150 (⏱ 3.03 sec); 1100: 100 (⏱ 11.01 sec)	
		EBS-08 L□-20			20	12	2.5	50 mm: 1000 (⏱ 0.40 sec); 600: ⏱ 0.70 sec; 1000: 900 800 700 600 500 400 300 (⏱ 1.56 sec); 1100: 200 (⏱ 5.52 sec)	

*1 The payload when wall mounted is the same as for horizontal installation.
*2 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer.
*3 The maximum speed is based on the assumption that the customer-mounted motor can output a rotational speed of 3000 rpm. The max. speed is restricted by the stroke. Do not operate at speeds exceeding the limit.
*4 ⏱ shows the Positioning time. This is the case when a specific stroke is operated under horizontal installation, at max. speed, and max. acceleration/deceleration. Please note that this is not the value at max. payload.

Model Number Configuration

Slider Type

EBS - 05 L E - 02 0300 NNN - A A N N - X

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Body Size

04	Body width 44 mm
05	Body width 54 mm
08	Body width 82 mm

❷ Motor

L	None

❸ Motor Mounting Direction

E	Inline Mount
R	Right Side Return Mount
D	Bottom Side Return Mount
L	Left Side Fold-back Mounting

❹ Screw Lead

02	2 mm
05	5 mm
06	6 mm
10	10 mm
12	12 mm
20	20 mm

❺ Stroke

0050 to 1100	50 mm (every 50 mm) 1100 mm

❻ Mounting Motor Specifications

A	Refer to the list on the page at right
B	
C	

❼ Motor Size

A	□42
B	□56
C	□60

❽ Origin sensor

N	None
C	Yes

❾ Limit sensor

N	None
B	Yes

❿ Metal Stopper Specification (EBS-X)

	Standard
X	Adopted

Screw Lead / Stroke Compatibility Table by Body Size

❶ Body Size	❹ Screw Lead	❺ Stroke
04	06	0050 to 0500 (50 mm to 500 mm)
	12	
05	02	50 to 800 (50 mm to 800 mm)
	05	
	10	
	20	
08	05	0050 to 1100 (50 mm to 1100 mm)
	10	
	20	

* This product is available only for the actuator (and motor mounting part) and does not include a motor. The motor and driver should be prepared, mounted, and adjusted by the customer.

Recommended Stepping Motor List

Code	Manufacturer name	Series	□42	□56	□60
A	Oriental Motor Co., Ltd.	AZ	AZM46□0□	-	AZM66□0□ AZM69□0□
		AR	ARM46□0□	-	ARM66□0□ ARM69□0□
B	MinebeaMitsumi Inc.	A17 PM/A23 KM	A17 PM□□□□CSTBCN	A23 KM□□□□CSTBCN	-
B	Dyadic Systems Co., Ltd.	RMJ	RMJ0411	-	-
C		RMJ	-	RMJ0611, RMJ1211	-

Electric Actuator with Motor Specification Slider Type

EBS-04LE

Motor Straight Mounting Type

● Stepping Motor Size : □42

RoHS

Model No. Notation Method

EBS - 04 ❶ | L ❷ | E ❸ | - 06 ❹ | 0300 ❺ | NNN - A ❻ | A ❼ | N ❽ | N ❾ | - X ❿

❶ Body Size

04	Body width 44 mm

❷ Motor

L	None

❸ Motor Mounting Direction

E	Straight Mounting

❹ Screw Lead

06	6 mm
12	12 mm

❺ Stroke

0050 to 0500	50 mm (every 50 mm) 500 mm

❻ Mounting Motor Specifications

A	Select the Mounting Motor Specifications from the Table on the right.
B	

❼ Motor Size

A	□42

❽ Origin sensor *1

N	None
C	Yes

❾ Limit sensor *1

N	None
B	Yes

❿ Metal stopper pecifications(EBS-X)

	Standard
X	Adopted

Manufacturer	□42
Oriental Motor Co., Ltd.	A
MinebeaMitsumi Inc.	B
Dyadic Systems Co., Ltd.	B

* For motor model Nos., please refer to P. 459.

*1 Origin sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

Specifications

Applicable Motor Size		□42 Stepping motor	
Drive Method		Ball screw ø10	
Stroke	mm	50 to 500	
Screw lead	mm	6	12
Max. Payload *1	kg Horizontal	20	12
	kg Vertical	5	2
Max. Speed	mm/s	300	600
Rated thrust *1	N	141	71
Repeatability	mm	±0.01	
Lost Motion	mm	0.1 or less	
Static allowable load	N	1030	
Static Allowable Moment	N·m	MP: 62 MY: 62 MR: 92	
Drive part weight	kg	0.3	
Other inertia	kg·cm²	0.045	
Coefficient of friction		0.03	
Mechanical efficiency		0.8	
Sliding resistance	N	6	
Ball screw length		Stroke + 200	
Operating ambient temperature, humidity		0 to 40 °C (no freezing), 35 to 80% RH (no condensation)	
Storage Ambient Temperature, Humidity		0 to 40 °C (no freezing), 35 to 80% RH (no condensation)	
Atmosphere		No corrosive gas, explosive gas, or dust	

*1 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer. Please select the model with your motor.

Stroke and Max. Speed

(mm/s)

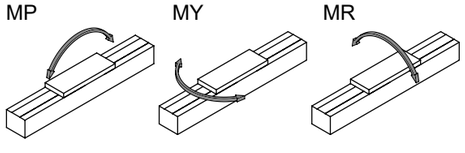
Screw Lead \ Stroke	50 to 500
6	300
12	600

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable Overhang Length

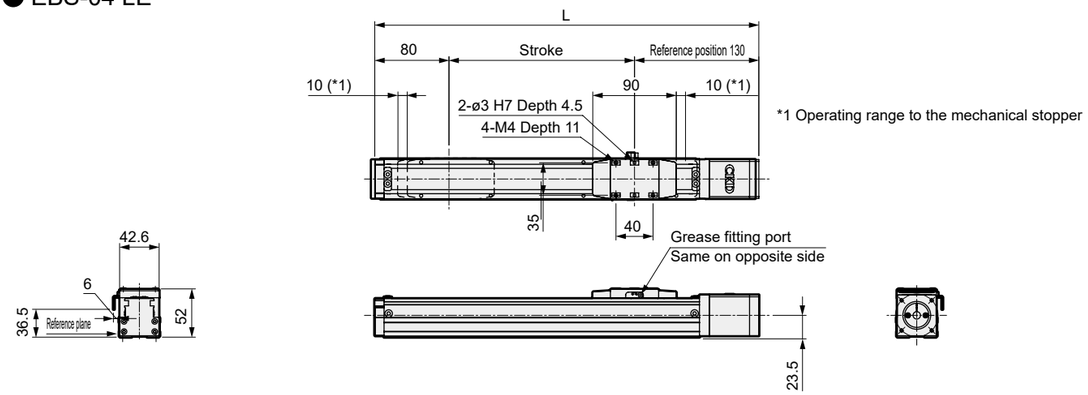
* Refer to P. 480 for details.

Moment Direction



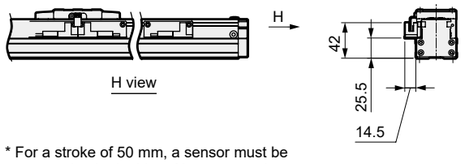
External Dimension Drawing Motor Straight Mounting

● EBS-04 LE



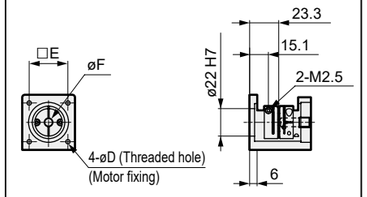
*1 Operating range to the mechanical stopper

■ When origin/limit sensors are mounted



* For a stroke of 50 mm, a sensor must be mounted to both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part



Mounting Motor Specification	D	E	F	Motor mounting bolts
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke (mm)	50	100	150	200	250	300	350	400	450	500
L	260	310	360	410	460	510	560	610	660	710
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
Weight (kg)	1.0	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.4	2.6

List of Accessories

[Motor mounting parts]

Mounting Motor Specification	Coupling	Motor mounting bolt	
		Size	Quantity
A	Shipped attached	M3	4
B		M3	4

[Home Sensor, Limit Sensor]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

Electric Actuator (Motorless Specification) Slider Type

EBS-04L□

Motor Fold-back Mounting Type

● Stepping Motor Size : □42

RoHS

Model No. Notation Method

EBS - 04 L R - 06 0300 NNN - A A N N - X

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Body Size	
04	Body width 44 mm

❷ Motor	
L	None

❸ Motor Mounting Direction	
R	Right Side Return Mount
D	Bottom Side Return Mount
L	Left Side Fold-back Mounting

❹ Screw Lead	
06	6 mm
12	12 mm

❺ Stroke	
0050 to 0500	50 mm (every 50 mm) 500 mm

❻ Mounting Motor Specifications	
A	Select the Mounting Motor Specifications from the Table on the right.
B	

❼ Motor Size	
A	□42

❽ Origin sensor *1	
N	None
C	Yes

❾ Limit sensor *1	
N	None
B	Yes

❿ Metal stopper specifications (EBS-X)	
	Standard
X	Adopted

Manufacturer	□42
Oriental Motor Co., Ltd.	A
MinebeaMitsumi Inc.	B
Dyadic Systems Co., Ltd.	B

* For motor model Nos., please refer to P. 459.

*1 Origin sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

Specifications

Applicable Motor Size		□42 Stepping motor	
Drive Method		Ball screw ø10	
Stroke	mm	50 to 500	
Screw lead	mm	6	12
Max. Payload *1	kg Horizontal	20	12
	kg Vertical	5	2
Max. Speed	mm/s	300	600
Rated thrust *1	N	141	71
Repeatability	mm	±0.01	
Lost Motion	mm	0.1 or less	
Static allowable load	N	1030	
Static Allowable Moment	N·m	MP : 62 MY : 62 MR : 92	
Drive part weight	kg	0.3	
Other inertia	kg·cm²	0.09	
Coefficient of friction		0.03	
Mechanical efficiency		0.8	
Sliding resistance	N	6	
Ball screw length		Stroke + 200	
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	

*1 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer.

Stroke and Max. Speed

(mm/s)

Screw Lead \ Stroke	50 to 500
6	300
12	600

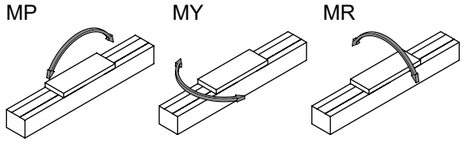
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable Overhang Length

* Refer to P. 480 for details.

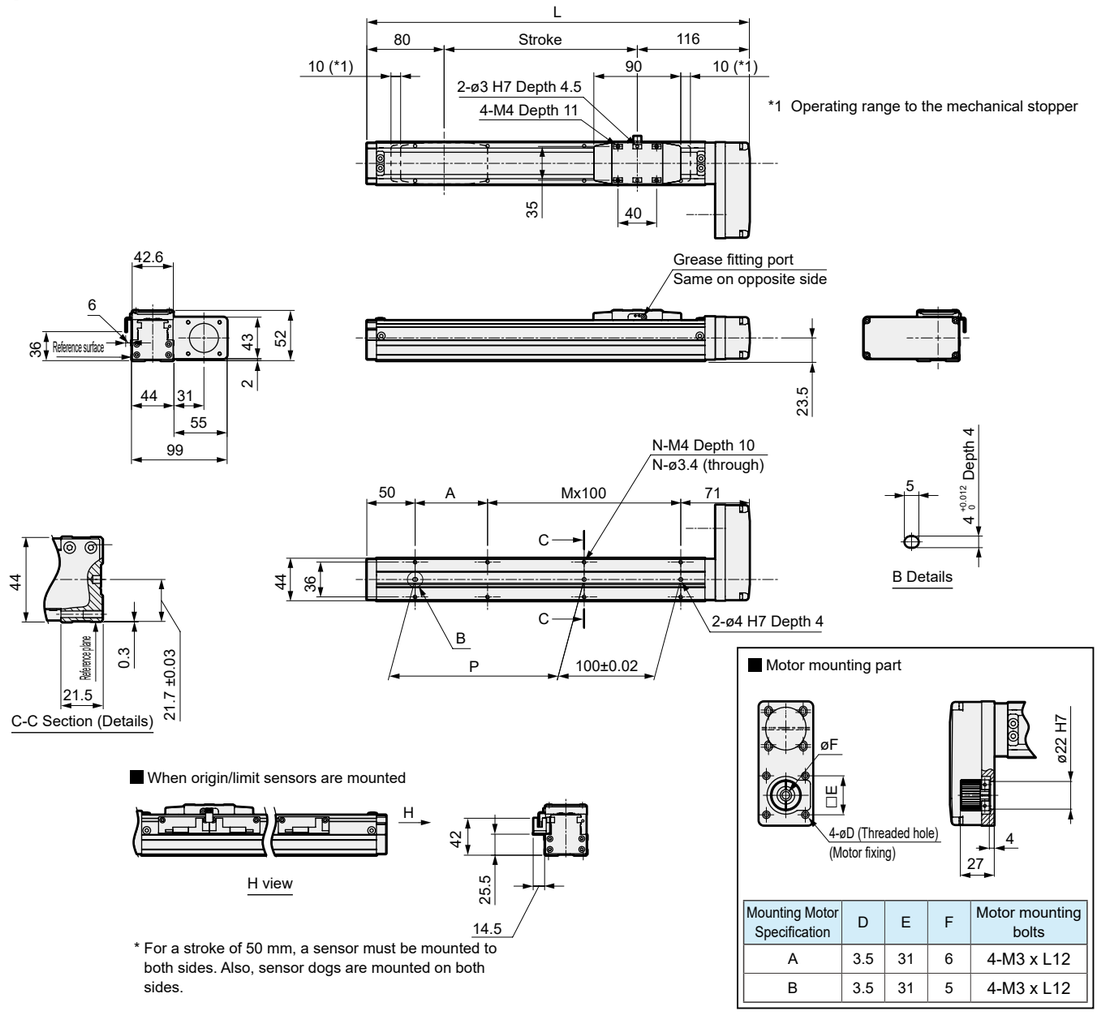
Moment Direction

MP MY MR



External Dimension Drawing Motor Right Side Fold-back Mounting

● EBS-04 LR



■ When origin/limit sensors are mounted

* For a stroke of 50 mm, a sensor must be mounted to both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part

Mounting Motor Specification	D	E	F	Motor mounting bolts
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke (mm)	50	100	150	200	250	300	350	400	450	500
L	246	296	346	396	446	496	546	596	646	696
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
Weight (kg)	1.0	1.2	1.4	1.7	1.8	1.9	2.1	2.3	2.5	2.7

List of Accessories

[Motor mounting parts]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M3	4
B		M3	4

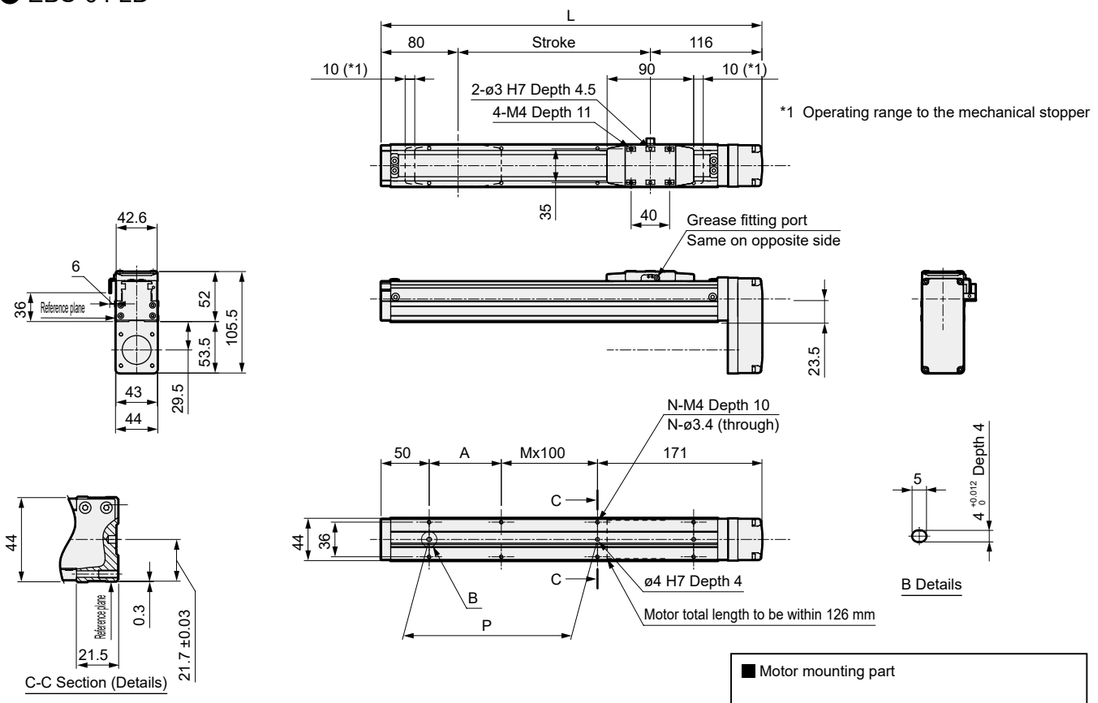
[Home Sensor, Limit Sensor]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

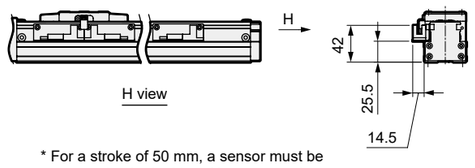
* For sensor specifications, please refer to P. 488.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

● EBS-04 LD

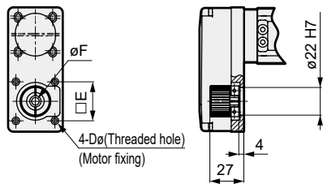


■ When origin/limit sensors are mounted



* For a stroke of 50 mm, a sensor must be mounted to both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part



Mounting Motor Specification	D	E	F	Motor mounting bolts
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke (mm)	50	100	150	200	250	300	350	400	450	500
L	246	296	346	396	446	496	546	596	646	696
A	25	75	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3	4	4
N	4	4	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375	425	475
Weight (kg)	1.0	1.2	1.4	1.7	1.8	1.9	2.1	2.3	2.5	2.7

List of Accessories

[Motor mounting parts]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M3	4
B		M3	4

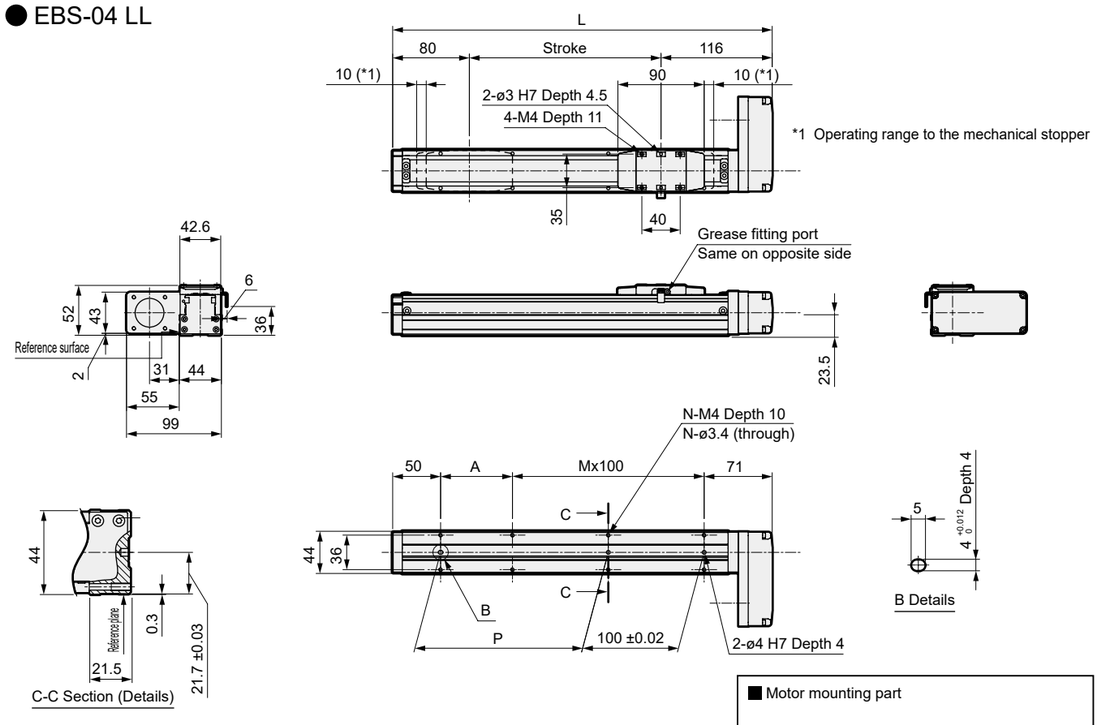
[Home Sensor, Limit Sensor]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

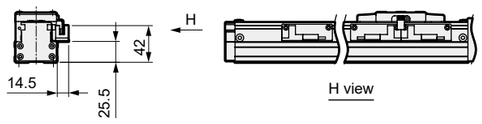
* For sensor specifications, please refer to P. 488.

External Dimension Drawing Motor Left Side Fold-back Mounting

● EBS-04 LL

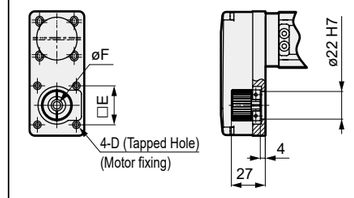


■ When origin/limit sensors are mounted



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part



Mounting Motor Specification	D	E	F	Motor mounting bolts
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke (mm)	50	100	150	200	250	300	350	400	450	500
L	246	296	346	396	446	496	546	596	646	696
A	25	75	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4	5	5
N	6	6	8	8	10	10	12	12	14	14
P	25	75	125	175	225	275	325	375	425	475
Weight (kg)	1.0	1.2	1.4	1.7	1.8	1.9	2.1	2.3	2.5	2.7

List of Accessories

[Motor mounting parts]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M3	4
B		M3	4

[Home Sensor, Limit Sensor]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

Electric Actuator (Motorless Specification) Slider Type

EBS-05LE

Motor Straight Mounting Type

● Stepping Motor Size : □42

RoHS

Model No. Notation Method

EBS - 05 L E - 02 0300 NNN - A A N N - X

❶ Body Size

05	Body width 54 mm

❷ Motor

L	None

❸ Motor Mounting Direction

E	Straight Mounting

❹ Screw Lead

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

❺ Stroke

0050 to 0800	50 mm (every 50 mm) 800 mm

❻ Mounting Motor Specifications

A	Select the Mounting Motor Specifications from the Table on the right.
B	

❼ Motor Size

A	□42

❽ Origin sensor *1

N	None
C	Yes

❾ Limit sensor *1

N	None
B	Yes

❿ Metal stopper specifications (EBS-X)

	Standard
X	Adopted

Manufacturer	□42
Oriental Motor Co., Ltd.	A
MinebeaMitsumi Inc.	B
Dyadic Systems Co., Ltd.	B

* For motor model Nos., please refer to P. 459.

*1 Origin sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

Specifications

Applicable Motor Size		□42 Stepping motor			
Drive Method		Ball screw ø12			
Stroke	mm	50 to 800			
Screw lead	mm	2	5	10	20
Max. Payload *1	kg Horizontal	30	30	15	10
	kg Vertical	10	10	5	2.5
Max. Speed	mm/s	100	250	500	1000
Rated thrust *1	N	854	341	170	85
Repeatability	mm	±0.01			
Lost Motion	mm	0.1 or less			
Static allowable load	N	1168			
Static Allowable Moment	N·m	MP : 103 MY : 103 MR : 144			
Drive part weight	kg	0.7			
Other inertia	kg·cm²	0.09			
Coefficient of friction		0.03			
Mechanical efficiency		0.8			
Sliding resistance	N	6			
Ball screw length		Stroke + 200			
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			

*1 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer.

Stroke and Max. Speed

(mm/s)

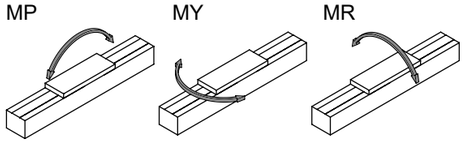
Screw Lead \ Stroke	50 to 600	650	700	750	800
2	100	90	80	70	60
5	250	225	200	175	150
10	500	450	400	350	300
20	1000	900	800	700	600

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable Overhang Length

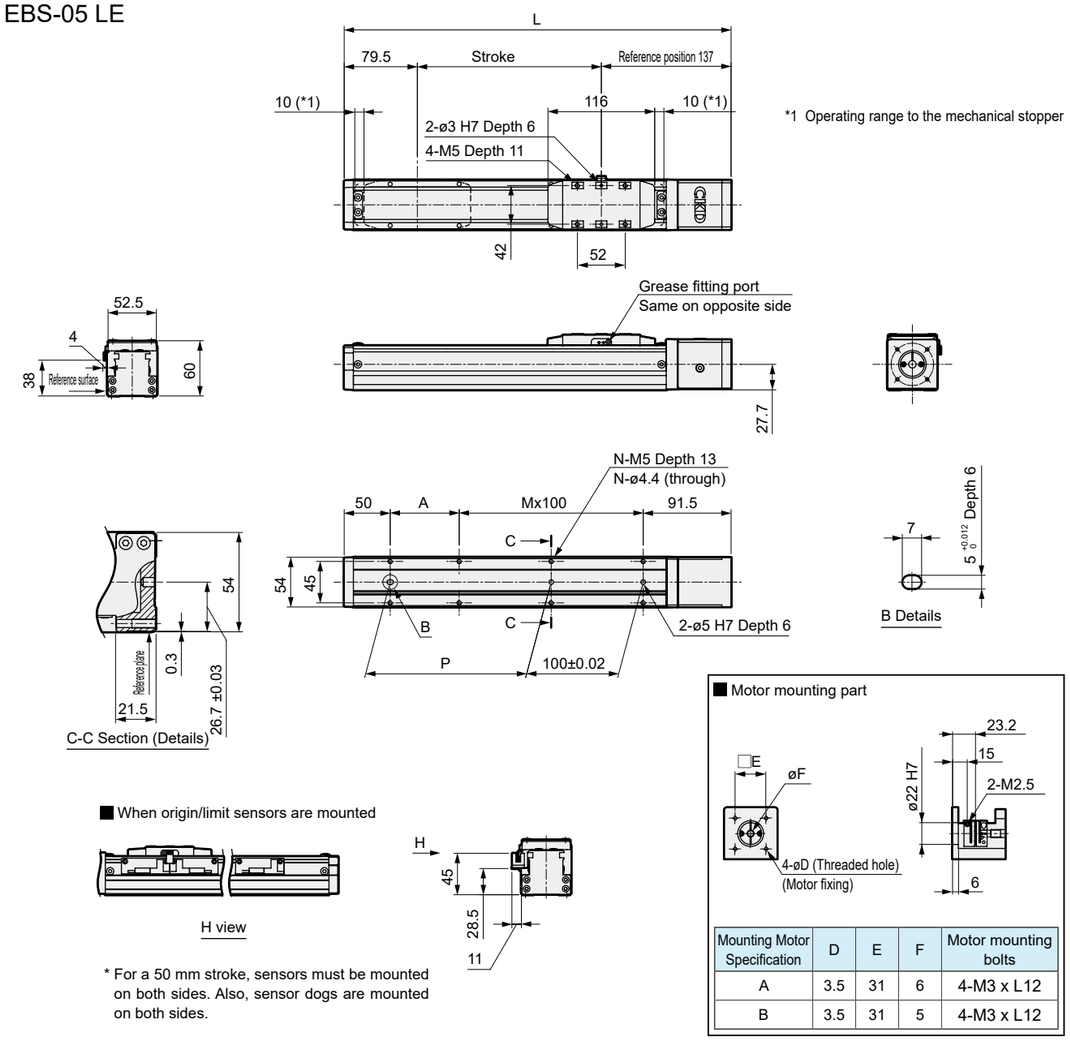
* Refer to P. 480 for details.

Moment Direction



External Dimension Drawing Motor Straight Mounting

● EBS-05 LE



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

Mounting Motor Specification	D	E	F	Motor mounting bolts
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	266.5	316.5	366.5	416.5	466.5	516.5	566.5	616.5	666.5	716.5	766.5	816.5	866.5	916.5	966.5	1016.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
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	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
Weight (kg)	1.8	1.9	2.1	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.2	3.4	3.5	3.7	3.8	4.0

List of Accessories

[Motor mounting parts]

Mounting Motor Specification	Coupling	Motor mounting bolt	
		Size	Quantity
A	Shipped attached	M3	4
B		M3	4

[Home Sensor, Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

Electric Actuator (Motorless Specification) Slider Type

EBS-05L□

Reverse Parallel Motor Mount Type

● Stepping Motor Size : □42

RoHS

Model No. Notation Method

EBS - 05 L R - 02 0300 NNN - A A N N - X

❶ Body Size

05	Body width 54 mm

❷ Motor

L	None

❸ Motor Mounting Direction

R	Right Side Return Mount
D	Bottom Side Return Mount
L	Left Side Fold-back Mounting

❹ Screw Lead

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

❺ Stroke

0050 to 0800	50 mm (every 50 mm) 800 mm

❻ Mounting Motor Specifications

A	Select the Mounting Motor Specifications from the Table on the right.
B	

❼ Motor Size

A	□42

❽ Origin sensor *1

N	None
C	Yes

❾ Limit sensor *1

N	None
B	Yes

❿ Metal stopper specifications (EBS-X)

	Standard
X	Adopted

Manufacturer	□42
Oriental Motor Co., Ltd.	A
MinebeaMitsumi Inc.	B
Dyadic Systems Co., Ltd.	B

* For motor model Nos., please refer to P. 459.

*1 Origin sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

Specifications

Applicable Motor Size		□42 Stepping motor			
Drive Method		Ball screw ø12			
Stroke	mm	50 to 800			
Screw Lead		2	5	10	20
Max. Payload	kg Horizontal	30	30	15	10
	kg Vertical	10	10	5	2.5
Max. Speed	mm/s	100	250	500	1000
Rated thrust *1	N	854	341	170	85
Repeatability	mm	±0.01			
Lost Motion	mm	0.1 or less			
Static allowable load	N	1168			
Static Allowable Moment	N·m	MP : 103 MY : 103 MR : 144			
Drive part weight	kg	0.7			
Other inertia	kg·cm²	0.09			
Coefficient of friction		0.03			
Mechanical efficiency		0.8			
Sliding resistance	N	6			
Ball screw length		Stroke + 200			
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			

*1 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer. Please select the model with your motor.

Stroke and Max. Speed

(mm/s)

Lead \ Stroke	50 to 600	650	700	750	800
2	100	90	80	70	60
5	250	225	200	175	150
10	500	450	400	350	300
20	1000	900	800	700	600

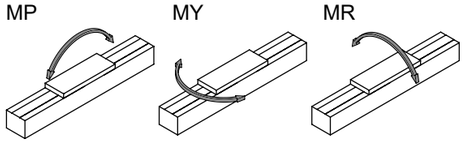
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable Overhang Length

* Refer to P. 480 for details.

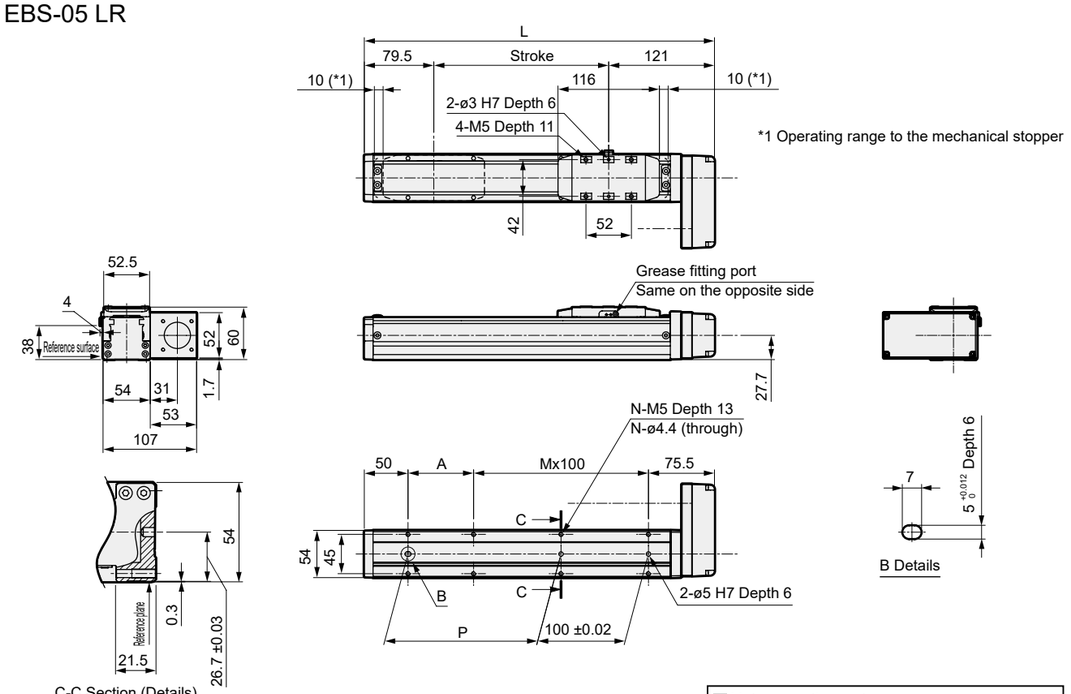
Moment Direction

MP MY MR

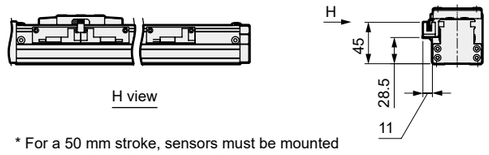


External Dimension Drawing Motor Right Side Fold-back Mounting

● EBS-05 LR

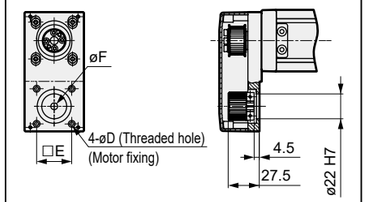


■ When origin/limit sensors are mounted



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part



Mounting Motor Specification	D	E	F	Motor screw
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	250.5	300.5	350.5	400.5	450.5	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
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	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
Weight (kg)	1.8	2.0	2.1	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.5	3.7	3.8	4.0

List of Accessories

[Fold-back Type]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M3	4
B		M3	4

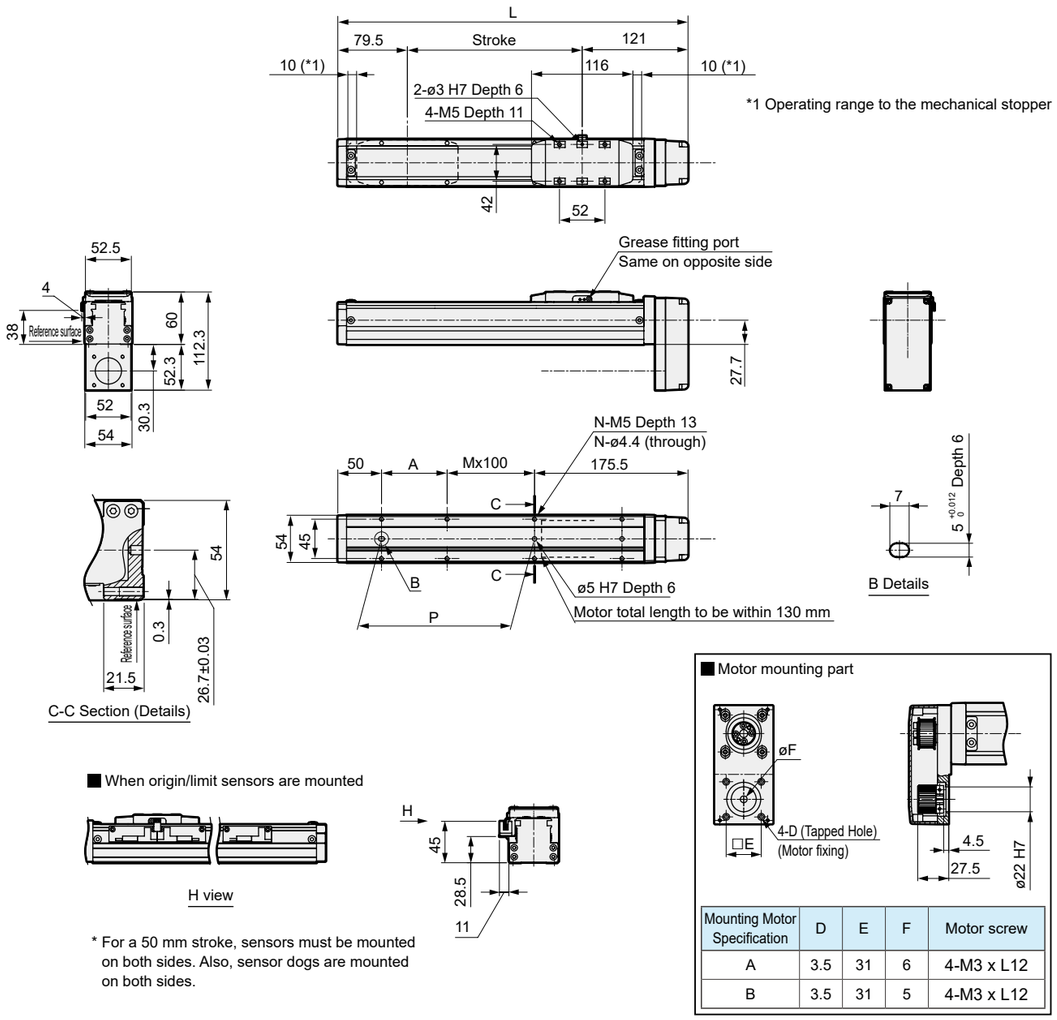
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

● EBS-05 LD



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

Mounting Motor Specification	D	E	F	Motor screw
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	250.5	300.5	350.5	400.5	450.5	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
P	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
Weight (kg)	1.8	2.0	2.1	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.5	3.7	3.8	4.0

List of Accessories

[Fold-back Type]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M3	4
B		M3	4

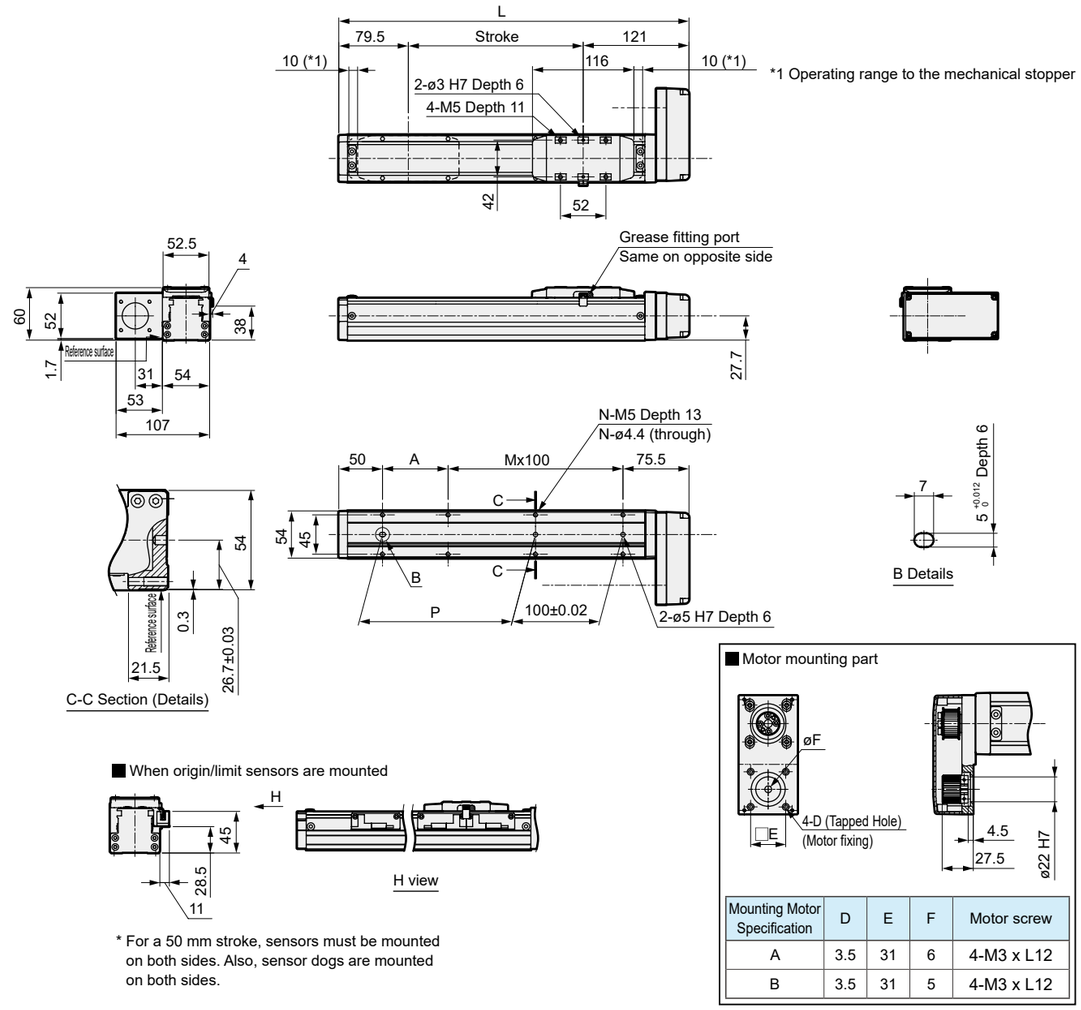
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

External Dimension Drawing Motor Left Side Fold-back Mounting

● EBS-05 LL



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

Mounting Motor Specification	D	E	F	Motor screw
A	3.5	31	6	4-M3 x L12
B	3.5	31	5	4-M3 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	250.5	300.5	350.5	400.5	450.5	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
A	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
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	25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
Weight (kg)	1.8	2.0	2.1	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.5	3.7	3.8	4.0

List of Accessories

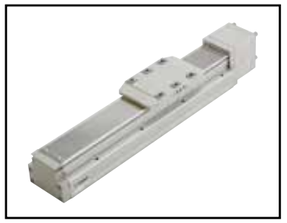
[Fold-back Type]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M3	4
B		M3	4

[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.



Electric Actuator (Motorless Specification) Slider Type

EBS-08LE

Inline Motor Mount Type

● Stepping Motor Size : □56, □60

RoHS

Model No. Notation Method

EBS - 08 L E - 05 0300 NNN - A B N N - X

❶ Body Size

08	Body width 82 mm

❷ Motor

L	None

❸ Motor Mounting Direction

E	Inline Mount

❹ Screw Lead

05	5 mm
10	10 mm
20	20 mm

❺ Stroke

0050 to 1100	50 mm (every 50 mm) 1100 mm

❻ Mounting Motor Specifications

A	Select the Mounting
B	Motor Specifications from
C	the Table on the right.

❼ Motor Size

B	□56
C	□60

❽ Origin sensor *1

N	None
C	Yes

❾ Limit sensor *1

N	None
B	Yes

❿ Metal stopper specifications (EBS-X)

	Standard
X	Adopted

Manufacturer	□56	□60
Oriental Motor Co., Ltd.	-	A
MinebeaMitsumi Inc.	B	-
Dyadic Systems Co., Ltd.	C	-

* Refer to P. 459 for motor model No.

*1 Origin sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

Specifications

Applicable Motor Size		□56, □60 Stepping Motor		
Drive Method		Ball screw ø16		
Stroke	mm	50 to 1100		
Screw lead	mm	5	10	20
Max. Payload *1	kg Horizontal	50	30	12
	kg Vertical	15	8	2.5
Max. Speed	mm/s	250	500	1000
Rated thrust *1	N	683	341	174
Repeatability	mm	±0.01		
Lost Motion	mm	0.1 or less		
Static allowable load	N	2781		
Static Allowable Moment	N·m	MP : 203 MY : 203 MR : 336		
Drive part weight	kg	1.6		
Other inertia	kg·cm²	0.24		
Coefficient of friction		0.03		
Mechanical efficiency		0.8		
Sliding resistance	N	20		
Ball screw length		Stroke + 200		
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		

*1 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer. Please select the model with your motor.

Stroke and Max. Speed

(mm/s)

Screw Lead \ Stroke	50 to 700	750	800	850	900	950	1,000	1050	1100
5	250	225	200	175	150	125	100	75	50
10	500	450	400	350	300	250	200	150	100
20	1000	900	800	700	600	500	400	300	200

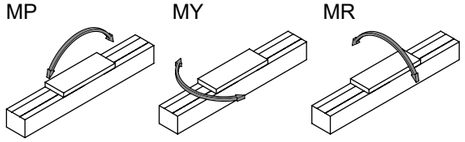
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable Overhang Length

* Refer to P. 480 for details.

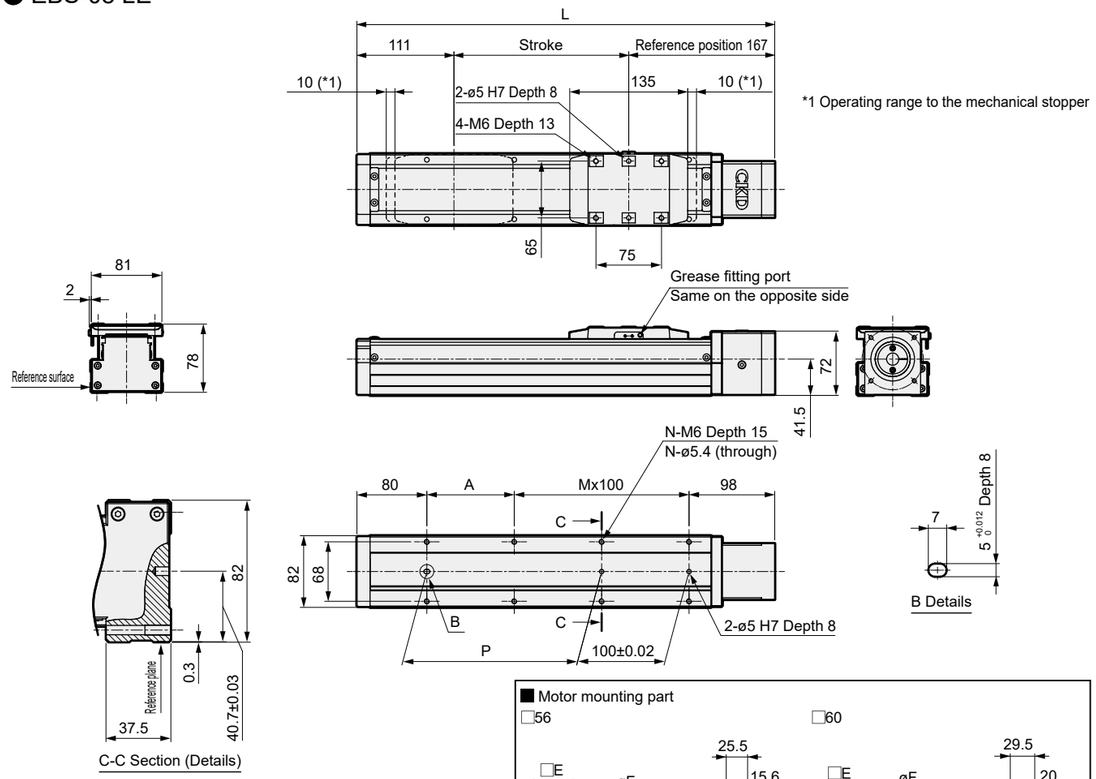
Moment Direction

MP MY MR

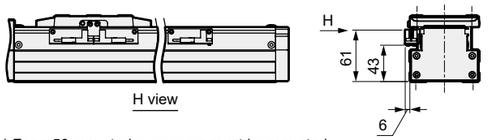


External Dimension Drawing Motor Straight Mounting

● EBS-08 LE

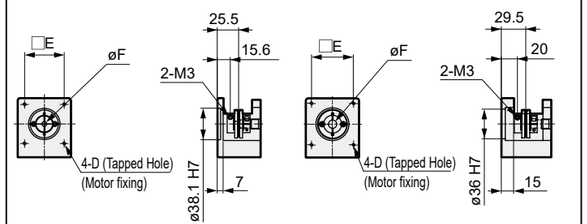


■ When origin/limit sensors are mounted



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part



Mounting Motor Specification		D	E	F	Motor screw
A	□60	M4 Depth 10	50	10	4-M4 x L16
B	□56	M4 Depth 8	47.14	6.35	4-M4 x L12
C	□56	M4 Depth 8	47.14	8	4-M4 x L12

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1,000	1050	1100
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
L	328	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178	1228	1278	1328	1378
A	50	100	50	100	50	100	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	9	9	10	10	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
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
Weight (kg)	4.3	4.6	4.9	5.2	5.6	5.9	6.2	6.6	6.9	7.2	7.5	7.9	8.2	8.5	8.8	9.2	9.5	9.8	10.2	10.5	10.8	11.1

List of Accessories

[Motor mounting parts]

Mounting Motor Specification	Coupling	Motor mounting bolt	
		Size	Quantity
A	Shipped attached	M4	4
B		M4	4
C		M4	4

[Home Sensor, Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

Electric Actuator (Motorless Specification) Slider Type

EBS-08L□

Reverse Parallel Motor Mount Type

● Stepping Motor Size : □56, □60

RoHS

Model No. Notation Method

EBS - 08 L E - 05 0300 NNN - A B N N - X

❶ Body Size

08	Body width 82 mm

❷ Motor

L	None

❸ Motor Mounting Direction

R	Right Side Return Mount
D	Bottom Side Return Mount
L	Left Side Fold-back Mounting

❹ Screw Lead

05	5 mm
10	10 mm
20	20 mm

❺ Stroke

0050 to 1100	50 mm (every 50 mm) 1100 mm

❻ Mounting Motor Specifications

A	Select the Mounting Motor Specifications from the Table on the right.
B	
C	

❼ Motor Size

B	□56
C	□60

❽ Origin sensor *1

N	None
C	Yes

❾ Limit sensor *1

N	None
B	Yes

❿ Metal stopper specifications (EBS-X)

	Standard
X	Adopted

Manufacturer	□56	□60
Oriental Motor Co., Ltd.	-	A
MinebeaMitsumi Inc.	B	-
Dyadic Systems Co., Ltd.	C	-

* Refer to P. 459 for motor model No.

*1 Origin sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

Specifications

Applicable Motor Size		□56, □60 Stepping Motor		
Drive Method		Ball screw ø16		
Stroke	mm	50 to 1100		
Screw Lead		5	10	20
Max. Payload	kg Horizontal	50	30	12
	kg Vertical	15	8	2.5
Max. Speed	mm/s	250	500	1000
Rated thrust	N	683	341	174
Repeatability	mm	±0.01		
Lost Motion	mm	0.1 or less		
Static allowable load	N	2781		
Static Allowable Moment	N·m	MP : 203 MY : 203 MR : 336		
Drive part weight	kg	1.6		
Other inertia	kg·cm²	0.52		
Coefficient of friction		0.03		
Mechanical efficiency		0.8		
Sliding resistance	N	20		
Ball screw length		Stroke + 200		
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		

*1 The rated thrust and maximum payload values are the allowable values for the actuator body. The actual thrust and payload may be limited by the motor used by the customer.

Stroke and Max. Speed

(mm/s)

Lead \ Stroke	50 to 700	750	800	850	900	950	1,000	1050	1100
5	250	225	200	175	150	125	100	75	50
10	500	450	400	350	300	250	200	150	100
20	1000	900	800	700	600	500	400	300	200

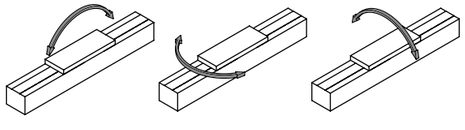
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable Overhang Length

* Refer to P. 480 for details.

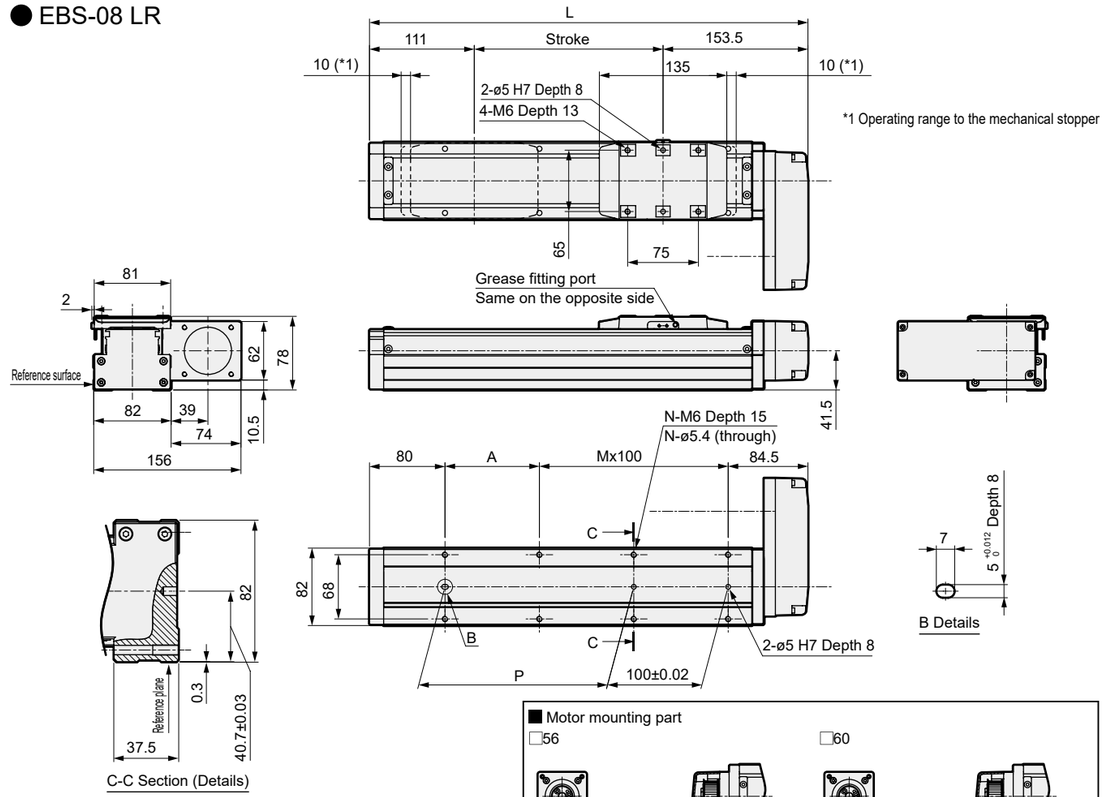
Moment Direction

MP MY MR

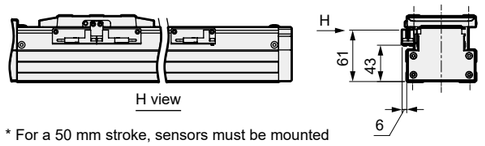


External Dimension Drawing Motor Right Side Fold-back Mounting

● EBS-08 LR

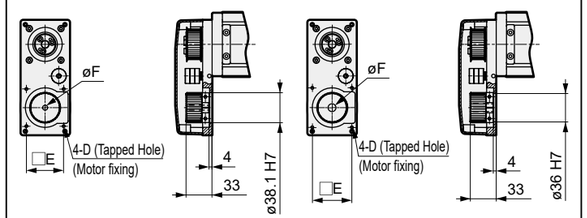


■ When origin/limit sensors are mounted



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

■ Motor mounting part



Mounting Motor Specification		D	E	F	Motor screw
A	□60	M4 Depth 12	50	10	4-M4 x L16
B	□56	M4 Depth 12	47.14	6.35	4-M4 x L16
C	□56	M4 Depth 12	47.14	8	4-M4 x L16

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1,000	1050	1100
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
L	314.5	364.5	414.5	464.5	514.5	564.5	614.5	664.5	714.5	764.5	814.5	864.5	914.5	964.5	1014.5	1064.5	1114.5	1164.5	1214.5	1264.5	1314.5	1364.5
A	50	100	50	100	50	100	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	9	9	10	10	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
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
Weight (kg)	4.5	4.8	5.1	5.4	5.8	6.1	6.4	6.8	7.1	7.4	7.7	8.1	8.4	8.7	9.0	9.4	9.7	10.0	10.4	10.7	11.0	11.3

List of Accessories

[Fold-back Type]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M4	4
B		M4	4
C		M4	4

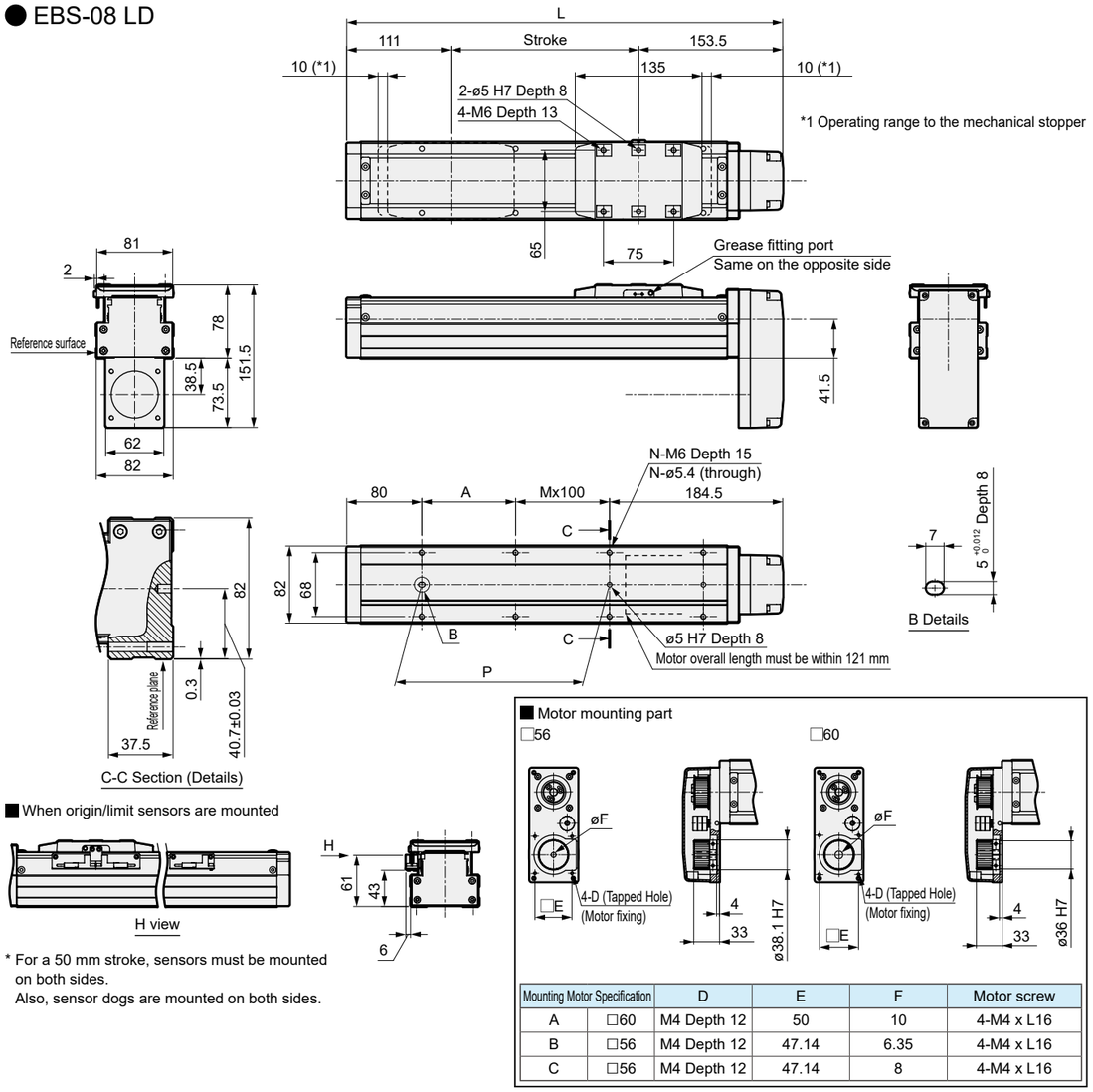
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

● EBS-08 LD



* For a 50 mm stroke, sensors must be mounted on both sides.
Also, sensor dogs are mounted on both sides.

Mounting Motor Specification		D	E	F	Motor screw
A	□60	M4 Depth 12	50	10	4-M4 x L16
B	□56	M4 Depth 12	47.14	6.35	4-M4 x L16
C	□56	M4 Depth 12	47.14	8	4-M4 x L16

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1,000	1050	1100
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
L	314.5	364.5	414.5	464.5	514.5	564.5	614.5	664.5	714.5	764.5	814.5	864.5	914.5	964.5	1014.5	1064.5	1114.5	1164.5	1214.5	1264.5	1314.5	1364.5
A	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
Weight (kg)	4.5	4.8	5.1	5.4	5.8	6.1	6.4	6.8	7.1	7.4	7.7	8.1	8.4	8.7	9.0	9.4	9.7	10.0	10.4	10.7	11.0	11.3

List of Accessories

[Fold-back Type]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M4	4
B		M4	4
C		M4	4

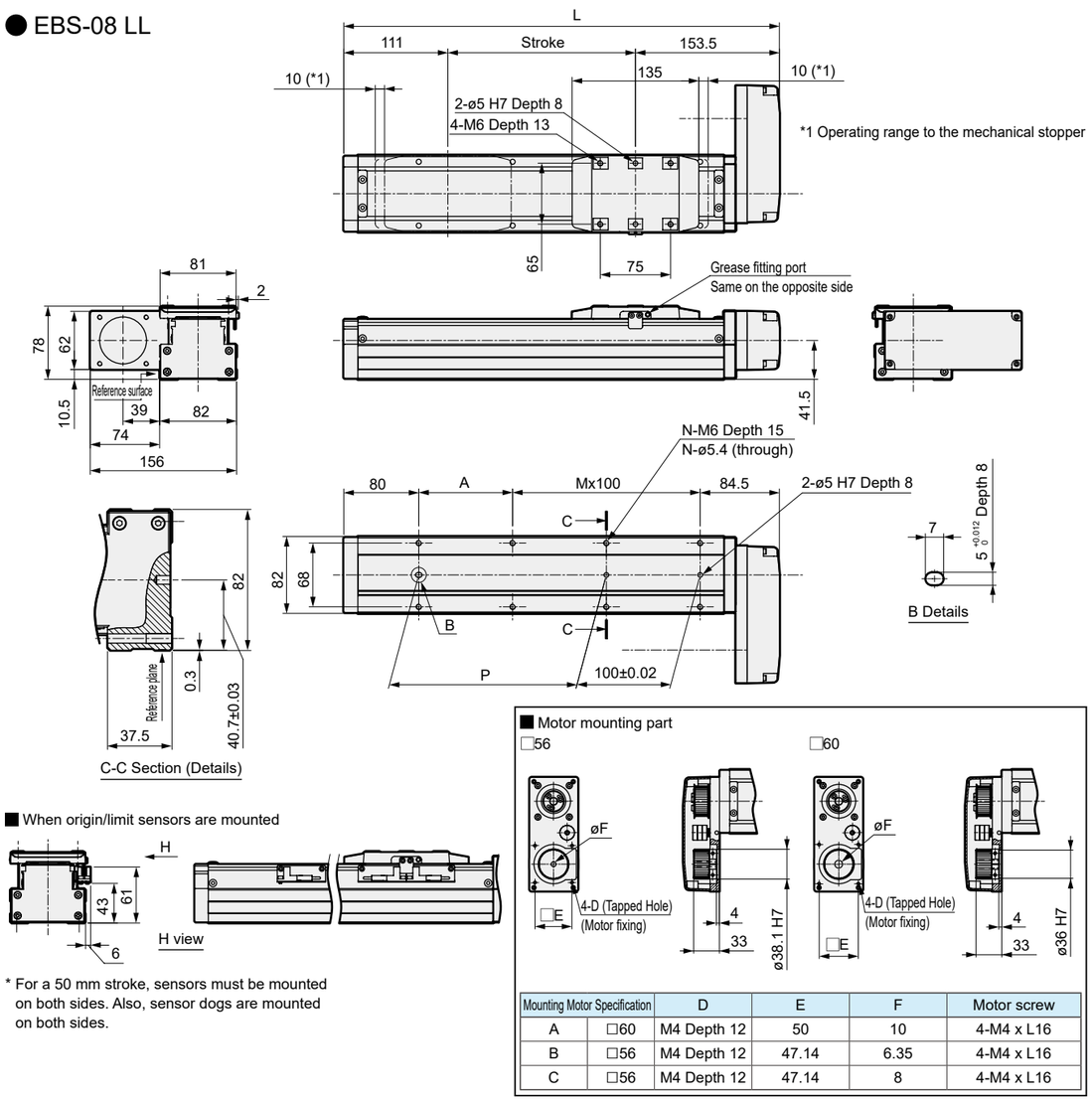
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

External Dimension Drawing Motor Left Side Fold-back Mounting

● EBS-08 LL



* For a 50 mm stroke, sensors must be mounted on both sides. Also, sensor dogs are mounted on both sides.

Mounting Motor Specification		D	E	F	Motor screw
A	□60	M4 Depth 12	50	10	4-M4 x L16
B	□56	M4 Depth 12	47.14	6.35	4-M4 x L16
C	□56	M4 Depth 12	47.14	8	4-M4 x L16

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1,000	1050	1100
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
L	314.5	364.5	414.5	464.5	514.5	564.5	614.5	664.5	714.5	764.5	814.5	864.5	914.5	964.5	1014.5	1064.5	1114.5	1164.5	1214.5	1264.5	1314.5	1364.5
A	50	100	50	100	50	100	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	9	9	10	10	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
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	1050	1100
Weight (kg)	4.5	4.8	5.1	5.4	5.8	6.1	6.4	6.8	7.1	7.4	7.7	8.1	8.4	8.7	9.0	9.4	9.7	10.0	10.4	10.7	11.0	11.3

List of Accessories

[Fold-back Type]

Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M4	4
B		M4	4
C		M4	4

[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Quantity
OMRON	EE-SX674	3

* For sensor specifications, please refer to P. 488.

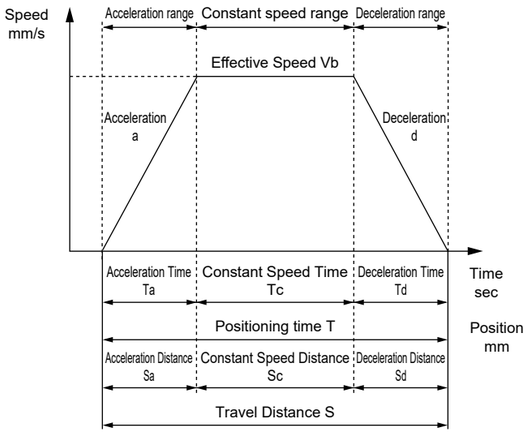
Model Selection

STEP1 Confirmation of Payload

Payload varies depending on mounting orientation, screw lead, and motor performance. Select the size and screw lead by referring to the System Table (P. 458) and the specification table for each model. For motor performance, please contact each motor manufacturer. For motor selection, please use the actuator information (mechanical efficiency, etc.) provided in the specifications column.

STEP2 Confirmation of Positioning Time

Calculate the positioning time for the selected product according to the example below and check if it meets the required cycle time. Select the speed and acceleration/deceleration from the specification table for each model and the motor selected by the customer.



	Content	Code	Unit	Remarks
Setting Value	Set Speed	V	mm/s	
	Set Acceleration	a	mm/s²	
	Set Deceleration	d	mm/s²	
	Travel Distance	S	mm	
Calculated Value	Reached Speed	Vmax	mm/s	$=\{2 \times a \times d \times S/(a+d)\}^{1/2}$
	Effective Speed	Vb	mm/s	The smaller of V and Vmax
	Acceleration Time	Ta	s	= Vb / a
	Deceleration Time	Td	s	= Vb / d
	Constant Speed Time	Tc	s	= Sc / Vb
	Acceleration Distance	Sa	mm	$=(a \times Ta^2)/2$
	Deceleration Distance	Sd	mm	$=(d \times Td^2)/2$
	Constant Speed Distance	Sc	mm	= S - (Sa+Sd)
	Positioning Time	T	s	= Ta+Tc+Td

* Do not use at speeds exceeding the specifications.
* Depending on the acceleration/deceleration and stroke, a trapezoidal velocity waveform may not be formed (the set speed may not be reached). In that case, select the smaller of the set speed (V) and the reached speed (Vmax) as the effective speed (Vb).
* Use at acceleration and deceleration of 1 G or less for horizontal use and 0.5 G or less for vertical use.
* Settling time varies depending on the usage conditions, but it may take about 0.2 s.
* 1 G ≈ 9.8 m/s².
* The customer sets the speed and acceleration/deceleration from the selected motor. For selecting a motor and calculating speed and acceleration/deceleration, please use the actuator information (mechanical efficiency, etc.) provided in the specifications section.

STEP3 Confirmation of Allowable Overhang Length

Confirm that the overhang length of the load during operation is within the allowable overhang length (P. 480 to 485).

For details on selection, please check the "Model Selection System" on the CKD website or contact our sales representative.

Introduction to the Model Selection System on our website

[For confirmation via PC]

(https://www.ckd.co.jp/kiki/en/selection_system/)

[For confirmation via iPad or smartphone]

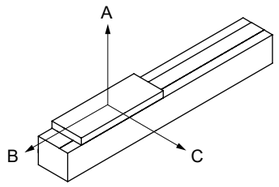
* May not display correctly depending on the smartphone's usage environment.

MEMO

Servo motor compatible
EBS
EBR
ETS
ECS
Ending

Allowable Overhang Length (EBS Series)

[Horizontal Installation]



[Allowable Overhang Length]

● EBS-04

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	6	5	800	160	225
			10	570	70	100
			20	250	30	40
		12	4	800	180	210
			8	380	80	100
			12	230	50	60
	0.5	6	5	800	160	220
			10	400	70	100
			15	240	40	60
		12	4	580	180	200
			8	260	80	90
			12	150	50	50
	1	6	5	520	160	210
			10	240	70	90
			15	140	40	50
		12	4	350	180	180
			8	150	80	80
			12	80	50	40

* The above values are the allowable values for the actuator body, and the actual payload may be limited by the motor used by the customer.
* The value when the actuator's running life is 5,000 km.
(Screw Lead: 2 mm is the value for a travel life of 1,000 km.)
* The overhang direction is a load in a single direction only.
* Dimensions A, B, and C are from the center of the table top surface.
* Stroke: 350 mm, Motor rotation speed: The value at 3,000 rpm.

● EBS-05

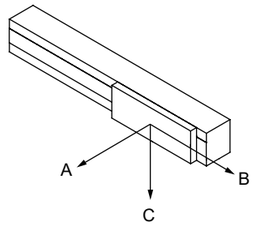
Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	2	10	1,000	160	225
			20	1,000	75	105
			30	815	45	65
		5	10	1,000	125	170
			20	500	55	75
			30	305	35	45
		10	5	1,000	235	285
			10	580	110	135
			15	360	70	80
		20	2.5	1,000	400	385
			5	615	195	180
			10	265	90	75
	0.5	2	10	1,000	160	225
			20	890	75	105
			30	570	45	65
		5	10	765	125	165
			20	345	55	75
			30	205	35	45
		10	5	875	235	280
			10	405	110	125
			15	245	70	75
		20	2.5	925	400	365
			5	425	195	165
			10	180	90	70
	1	2	10	1,000	160	220
			20	545	75	100
			30	340	45	60
		5	10	465	125	160
			20	200	55	70
			30	115	35	40
		10	5	535	235	255
			10	240	110	115
			15	140	70	65
		20	2.5	565	400	315
			5	250	190	140
			10	95	85	55

● EBS-08

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	5	10	1,000	400	620
			25	1,000	150	235
			50	560	65	105
		10	10	1,000	360	480
			20	840	170	230
			30	530	110	140
		20	2.5	1,000	1,000	1,000
			5	1,000	610	670
			10	950	295	315
	0.5	5	10	1,000	400	620
			25	920	150	235
			50	420	65	105
		10	10	1,000	360	480
			20	625	170	225
			30	390	110	140
		20	2.5	1,000	1,000	1,000
			5	1,000	610	620
			10	670	295	290
	1	5	10	1,000	400	600
			25	565	150	220
			50	250	65	95
		10	10	820	360	435
			20	380	170	200
			30	230	110	120
		20	2.5	1,000	1,000	1,000
			5	870	610	520
			10	400	295	240

Allowable Overhang Length (EBS Series)

[When Wall-Mounted]



[Allowable Overhang Length]

● EBS-04

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	6	5	180	130	800
			10	65	40	470
			15	25	20	240
		12	4	180	150	730
			8	60	50	280
			12	25	20	130
	0.5	6	5	180	130	800
			10	60	40	330
			15	25	20	170
		12	4	170	140	520
			8	60	50	200
			12	25	20	90
	1	6	5	170	130	490
			10	60	40	200
			15	25	20	100
		12	4	150	140	320
			8	50	50	120
			12	20	20	50

* The above values are the allowable values for the actuator body, and the actual payload may be limited by the motor used by the customer.
* The value when the actuator's running life is 5,000 km.
(Screw Lead: 2 mm is the value for a travel life of 1,000 km.)
* The overhang direction is a load in a single direction only.
* Dimensions A, B, and C are from the center of the table top surface.
* Stroke: 350 mm, Motor rotation speed: The value at 3,000 rpm.

● EBS-05

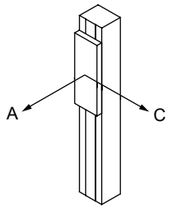
Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	2	10	175	125	1,000
			20	55	40	1,000
			30	15	10	540
		5	5	310	230	1,000
			10	125	90	965
			20	30	20	335
		10	5	245	200	1,000
			10	90	75	460
			15	40	30	230
		20	2.5	350	355	1,000
			5	145	145	500
			10	45	45	150
	0.5	2	10	175	125	1,000
			20	55	40	775
			30	15	10	385
		5	5	310	230	1,000
			10	120	90	685
			20	30	20	240
		10	5	240	200	805
			10	90	75	330
			15	40	30	160
		20	2.5	330	355	855
			5	135	145	355
			10	40	40	105
	1	2	10	175	125	1,000
			20	55	40	480
			30	15	10	235
		5	5	300	230	955
			10	120	90	425
			20	30	20	145
		10	5	220	200	500
			10	80	75	200
			15	35	30	95
		20	2.5	290	355	530
			5	115	145	220
			10	30	40	60

● EBS-08

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	5	10	580	370	1,000
			25	185	120	1,000
			50	55	35	465
		10	10	450	325	1,000
			20	190	135	795
			30	100	75	455
		20	2.5	1,000	1,000	1,000
			5	630	565	1,000
			10	280	250	850
	0.5	5	10	580	370	1,000
			25	185	120	855
			50	55	35	330
		10	10	445	325	1,000
			20	185	135	565
			30	100	75	325
		20	2.5	1,000	1,000	1,000
			5	585	565	1,000
			10	260	250	605
	1	5	10	555	370	1,000
			25	180	120	530
			50	50	35	200
		10	10	405	325	800
			20	165	135	350
			30	90	70	195
		20	2.5	1,000	1,000	1,000
			5	500	560	845
			10	220	250	370

Allowable Overhang Length (EBS Series)

[Vertical Installation]



[Allowable Overhang Length]

● EBS-04

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	B	C
Straight · Fold-back	0.3	6	1	800	-	780
			3	240	-	230
			5	120	-	120
		12	1	690	-	630
			1.5	440	-	410
			2	320	-	300
	0.5	6	1	800	-	780
			3	240	-	230
			5	120	-	120
		12	1	680	-	620
			1.5	400	-	440
			2	320	-	290

* The above values are the allowable values for the actuator body, and the actual payload may be limited by the motor used by the customer.
* The value when the actuator's running life is 5,000 km.
(Screw Lead: 2 mm is the value for a travel life of 1,000 km.)
* The overhang direction is a load in a single direction only.
* Dimensions A, B, and C are from the center of the table top surface.
* Stroke: 350 mm, Motor rotation speed: The value at 3,000 rpm.

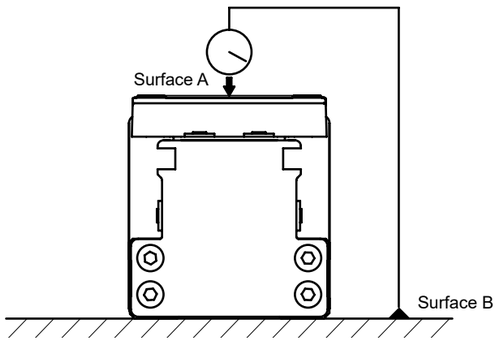
● EBS-05

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	C
Straight · Fold-back	0.3	2	2.5	640	640
			5	295	295
			10	120	120
		5	2.5	500	490
			5	225	225
			10	85	85
		10	1	1,000	1,000
			2.5	435	410
			5	195	180
		20	0.5	1,000	1,000
			1	910	760
			2.5	335	280
	0.5	2	2.5	640	640
			5	295	295
			10	120	120
		5	2.5	500	500
			5	225	225
			10	85	85
		10	1	1,000	1,000
			2.5	430	410
			5	190	180
		20	0.5	1,000	1,000
			1	870	740
			2.5	315	275

● EBS-08

Motor Mounting	Acceleration / Deceleration G	Screw Lead	Payload kg	Overhang mm A	C
Straight · Fold-back	0.3	5	5	775	760
			10	360	350
			15	220	220
		10	3	1,000	1,000
			5	680	630
			8	405	375
		20	0.5	1,000	1,000
			1	1,000	1,000
			2.5	1,000	930
	0.5	5	5	775	760
			10	360	350
			15	220	220
		10	3	1,000	1,000
			5	670	630
			8	400	375
		20	0.5	1,000	1,000
			1	1,000	1,000
			2.5	1,000	890

Slider Parallelism (EBS Series) *Reference Value

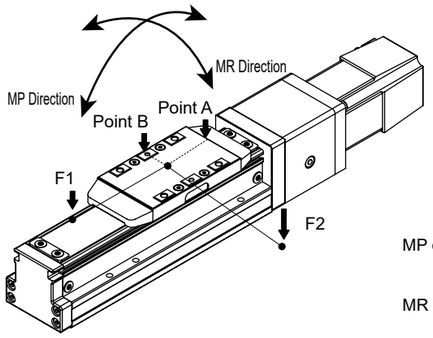


(mm)

	Parallelism
	Surface A with respect to Surface B
EBS-04 Series	0.03
EBS-05 Series	
EBS-08 Series	

* This is the parallelism when the product is fixed to a surface plate.

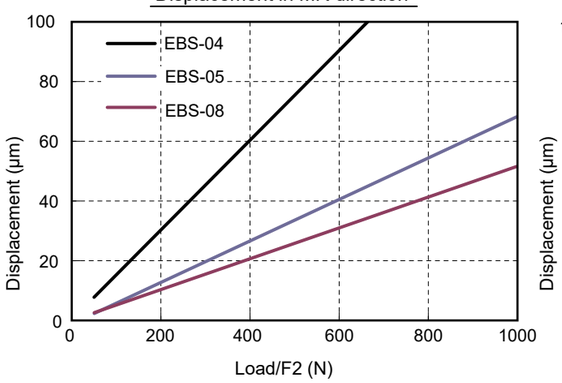
Table Displacement (EBS Series) *Reference Value



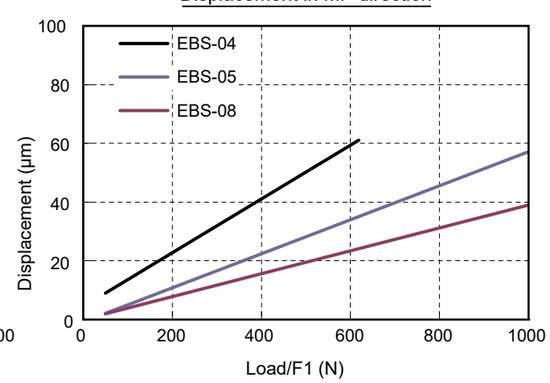
MP direction : Displacement at the table end (point A) when a load (F1) is applied at a position 100 mm away from the table center

MR direction : Displacement at the table end (point B) when a load (F2) is applied at a position 100 mm away from the table center

Displacement in MR direction



Displacement in MP direction



List of Accessories

Motor Mounting Bolts (Common for all motor mounting directions)

Model Number	Mounting Motor Specification	Motor Size	Size	Quantity
EBS-04	A	□42	M3	4
	B		M3	4
EBS-05	A	□42	M3	4
	B		M3	4
EBS-08	A	□56 □60	M4	4
	B		M4	4
	C		M4	4

Coupling

Model Number	Part Name	Quantity
LE (Motor mounting direction: straight)	Coupling (Shipped attached)	1 pc

Timing belt, pulley (motor side)

Model Number	Shipment Form	Quantity
L□ (Motor fold-back mounting)	Shipped included *1	1 pc each

*1 The pulley on the main body side is pre-assembled.

Sensor mounting plate

Model Number	Shipment Form	Quantity
When sensor "Yes" is selected	Shipped included *1	3 pcs

*1 Screws for the mounting plate are also attached. The sensor dog is assembled on all products.

Home Sensor, Limit Sensor

Model Number	Shipment Form	Quantity
When sensor "Yes" is selected	Shipped included *2	3 pcs. *3

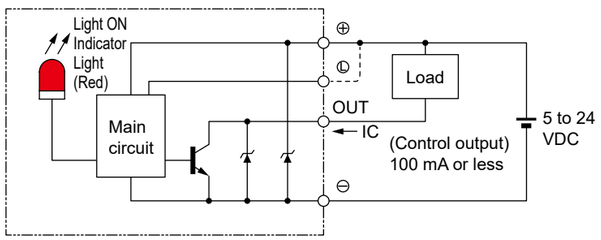
*2 Screws for sensor mounting are also attached.
*3 If "None" is selected for either the home sensor or the limit sensor, the other will also be "None."

Home Sensor, Limit Sensor

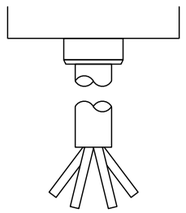
[Specifications]

Item		Specifications
Manufacturer	Manufacturer name	OMRON
	Model	EE-SX674
Hysteresis		0.025 mm or less
Light source (peak emission wavelength)		GaAs infrared emitting diode (940 nm)
Indicator Light		Lights up when light is received (red)
Power Supply Voltage		5 to 24 VDC ±10 % Ripple (p-p) 10 % or less
Current Consumption		12 mA or less (when L terminal is open)
Control output	Type	NPN type (NPN open collector)
	Output	5 to 24 VDC 100 mA or less
	Off-state current	0.5 mA or less
	Residual voltage	0.8 V or less (at 100 mA load current)
		0.4 V or less (at 40 mA load current)
Ambient illuminance		Illuminance at Light-Receiving Surface: Fluorescent Lamp: 1,000 lx or less
Ambient Temperature Range	Operating	-25 to + 55°C, however, no freezing or condensation
	Storage	-30 to + 80°C, however, no freezing or condensation
Ambient humidity range	Operating	5 to 85 % RH, however, no freezing or condensation
	Storage	5 to 95 % RH, however, no freezing or condensation
Enclosure		IP50 IEC60529 standard
Cord length		2 m (Connector with cord (EE-1006 2 M))

Output circuit



Wiring Diagram



Terminal arrangement

Brown	5 to 24 VDC
Pink	L
Blue	0 V
Black	OUTPUT

Maintenance Parts

■ Maintenance parts (origin sensor, limit sensor)

Model Number	Applicable Models	Part
		
EBS-04-SENSOR-N-KIT	EBS-04	Body, cable, mounting plate (1 piece each) *1
EBS-08-SENSOR-N-KIT	EBS-05, EBS-08	Body, cable, mounting plate (1 piece each) *1

*1 Screws for mounting plate and sensor are also attached.

■ Maintenance parts (grease nozzle)

Model Number	Applicable Models
	
EBS-NOZZLE	All models

■ Maintenance parts (steel belt)

Model Number	Applicable Models
	
EBS-04-STEELBELT (4-digit stroke code)	EBS-04 (corresponding stroke product)
EBS-05-STEELBELT (4-digit stroke code)	EBS-05 (corresponding stroke product)
EBS-08-STEELBELT (4-digit stroke code)	EBS-08 (corresponding stroke product)

To Use This Product Safely

Be sure to read this before use.
For general information on Electric Actuators, please refer to Intro 15.

Common Precautions: Electric Actuator EBS-LE Series

During Design and Selection

Danger

■ Do not use in places where dangerous goods such as ignitable substances, inflammable substances or explosives are present.
There is a possibility of ignition, fire, or explosion.

■ Do not allow water droplets, oil droplets, etc. to come into contact with the product.
This can cause fire or failure.

■ When mounting the product, be sure to securely hold and fix (including the workpiece) it.
There is a risk of injury due to the product tipping over, falling, or malfunctioning. As a general rule, please fix the product using all mounting holes.

Warning

■ Use within the product's specified operating range.

■ If there is a risk of danger to the human body, install a protective cover.
If the moving parts of the electric actuator pose a particular danger to the human body, design the structure so that people cannot enter the drive range of the electric actuator or directly touch that area.

■ Design a safety circuit or equipment so that damage to equipment, injury to persons, etc., does not occur when the machine stops in the event of a system failure such as emergency stop or power outage.

■ Install indoors with low humidity.
In places exposed to rain or high humidity (80 % humidity or more, with condensation), there is a risk of electric leakage or fire. Oil drops and oil mist are also strictly prohibited.
Use in such environments can cause damage and malfunction.

■ Make sure that the product is D type grounded (ground resistance of 100 Ω or less).
In case of electric leakage, there is a risk of electric shock or malfunction.

■ When installing the actuator in a direction other than horizontal, use a motor with brake.
Without a brake, when the servo is OFF (including emergency stop and alarms) or when the power is OFF, there is a risk of injury or workpiece damage due to the falling of the moving part.

■ When vertically installing the actuator, do everything possible to keep the motor on top.
If the motor is on the lower side, there is no problem in normal operation, but if stopped for a long period, grease may separate and flow into the motor, which may rarely cause a malfunction.

■ Do not use this product in a location where the ambient temperature could suddenly change and cause dew to condense.

■ Install in a location free from direct sunlight, dust, and corrosive gas/explosive gas/inflammable gas/combustibles, and away from heat sources. In addition, this product has not been considered for chemical resistance.
This can cause failure, explosion, or fire.

■ Use and store in locations free from strong electromagnetic waves, ultraviolet rays, or radiation.
This can cause malfunction or failure.

■ Take possibility of power source breakdown into consideration.
Take measures to prevent injury to people or damage to equipment even if the power source fails.

■ Take the operational status into consideration if the machine is reactivated after emergency or abnormal stops.
Design so that restarting does not cause harm to people or damage to the equipment. Also, if it is necessary to reset the electric actuator to the starting position, design a safe control device. Consider the possibility of failure of the installed motor. Take measures to prevent injury to personnel or damage to equipment in the event of a power source failure.

■ Avoid using this product where vibration and impact are present.

■ Do not apply a load to the product that is greater than or equal to the allowable load listed in the materials for selection.

■ Use and store in accordance with the working/storage temperatures and where there is no condensation.
(Storage temperature: -10 °C to 50 °C, storage humidity: 35 % to 80 %, Operating temperature: 0 °C to 40 °C, Operating humidity: 35 % to 80 %)
This can cause abnormal product stoppage or reduced service life. If heat accumulates, ventilate.

Caution

■ Do not use in a range where the moving table could collide with the stroke end and break.

■ Indicate the maintenance conditions in the device's instruction manual.
The functionality of this product may be significantly reduced and safety may not be ensured depending on the usage conditions, environment, and maintenance. If maintenance is performed correctly, the product's functions can be fully utilized.

■ The product is manufactured in conformity with the related standards. Never disassemble or modify.

■ Refer to the instruction manual of the motor mounted to the product and control for your safety before wiring and designing.

■ The customer is responsible for confirming the compatibility of CKD products and motors with their systems, machines and equipment.

■ Set up the wiring so as not to apply inductive noise.
Avoid places where large currents or strong magnetic fields are generated. Do not use the same conduit or wiring (with multi-core cables) as the power lines of large motors other than this product.
Do not use the same conduit/wiring as the inverter power supply or wiring section used for robots, etc., apply a frame ground to the power supply, and insert a filter at the output section.

■ Do not use this product in an environment where strong magnetic fields are generated.
This can cause malfunction.

■ Be sure to separate the power supply of the output of this product and the power supply of inductive loads that generate surges, such as solenoid valves and relays.
If the power supply is shared, surge current may enter the output section and cause damage.
If a separate power supply cannot be used, connect a surge-absorbing element in parallel directly to all inductive loads.

■ When installing an external stopper or retention mechanism (brake, etc.), place it so as not to affect origin position detection.
The home position is detected when the power is turned on. If the detection operation is obstructed by an external stopper or holding mechanism, there is a risk that an unintended position may be recognized as the home position.

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Component Product Site(https://www.ckd.co.jp/kiki/en/) → 'model No.' → Instruction Manual.

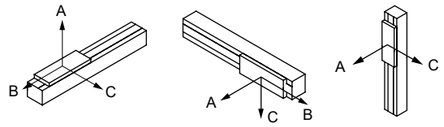
EBSModel Selection Checklist → **CKD** (Contact)

Please fill out this form and send it to your nearest sales office. We will respond with the model selection results.

Customer :

Company		Department	
Name		E-mail	
TEL		FAX	

Selection Conditions :

Desired Model	EBS-	
Basic Specifications	Max. Stroke :	mm, Ball screw lead : mm
Operating Conditions	Moving stroke :	mm, travel time : s
	Set Speed :	mm/s
	Set acceleration/deceleration :	mm/s² (set acceleration/deceleration time : s)
	Repeatability : ±	mm
Load Conditions	Slider Type	
	Load weight : kg	
	Mounting Orientation: Horizontal / Wall-mounted / Vertical / Ceiling-mounted / Other 	
	Distance from slider center to load's center of gravity	
	Direction A : mm Direction B : mm Direction C : mm	
	Pressing load : None / Yes (N) During operation / When stopped Direction of force on slider center ( )	
Operating Environment	Ambient Temperature : °C, Ambient Humidity : %	
	Atmosphere :	
Motor Used	Manufacturer : , Model No. :	
	Motor capacity, size :	
Special Notes		

MEMO

Servo motor compatible
EBS
EBR
ETS
ECS
Ending