

EBS-L

Slider (standard model)

Servo motor compatible
electric actuator
Motorless specification



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EBS

EBR

ETS

ETS Multi-Axis

ECS

ETV

ECV

EKS

EBS

EBR

ETS

ECS

Servo motor compatible

Stepper motor compatible

Safety
precautions

Series variation														
	Type	Model No.	Applicable motor size (W)	Body width (mm)	Screw lead (mm)	Max. load capacity (kg)								
						Horizontal	Vertical	50 mm	100	150	200	250		
						*1								
Servo motor compatible	Slider		50	44	6	20	5							
					12	12	2							
			100	54	2	30	10							
					5	30	10							
					10	15	5							
					20	10	2.5							
			200	82	5	50	15							
					10	30	8							
					20	12	2.5							
			400	120	5	110	33							
					10	88	22							
					20	40	10							
					32	30	8							
Stepper motor compatible														
Safety precautions														

	Stroke length (mm) and max. speed (mm/s) *2																							Page		
	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350				
	300 mm/s					*3 🕒 1.7 sec																		8		
	600					🕒 0.89 sec																				
	100							90	80	70	60	🕒 13.34 sec													14	
	250							225	200	175	150	🕒 5.35 sec														
	500							450	400	350	300	🕒 2.7 sec														
	1000							900	800	700	600	🕒 1.39 sec														
	250									225	200	175	150	125	100	75	50	🕒 22.01 sec							20	
	500									450	400	350	300	250	200	150	100	🕒 11.01 sec								
	1000									900	800	700	600	500	400	300	200	🕒 5.52 sec								
	250									225	200	175	150	140	130	120	110	100	90	80	🕒 15.63 sec					26
	500									450	400	350	325	300	275	250	225	200	175	150	🕒 8.35 sec					
	1000									900	800	700	650	600	550	500	450	400	350	300	🕒 4.2 sec					
	1600									1450	1300	1150	1050	950	850	750	650	550	450	350	🕒 3.61 sec					

*1: The load capacity when wall mounted is the same as for horizontal installation.

*2: 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.

*3: 🕒 shows the positioning time. Maximum stroke when installed horizontally and operated at max. speed and max. acceleration/deceleration. Note that this is not the value at maximum load capacity.

How to order

Slider

EBS - 05 L E - 02 0300 N NN - M 1 N N

A

B

C

D

E

F

G

H

I

J

A Body size	
04	Body width 44mm
05	Body width 54mm
08	Body width 82mm
12	Body width 120mm

B Motor	
L	None

C Motor mounting direction	
E	Straight mounting
R	Right mounting
D	Bottom mounting
L	Left mounting

D Screw lead	
02	2 mm
05	5 mm
06	6 mm
10	10 mm
12	12 mm
20	20 mm
32	32 mm

E Stroke length	
0050	50 mm
to	(In 50 mm increments)
1250	1250 mm

F Brake	
N	None

G Mounted motor specification	
M	Refer to the list on the page at right
Y	
P	
F	

H Motor size	
H	50 W
1	100 W
2	200 W
4	400 W

J Limit sensor	
N	None
B	Yes

I Origin sensor	
N	None
C	Yes

*This product is composed of an actuator (and motor mounting parts) only; there is no motor attached.
The user must prepare, mount, and adjust the motor and driver.

List of servo motors recommended for mounting

Code	Manufacturer	Series	50 W	100 W
M	Mitsubishi Electric Corporation	MELSERVO J4	HG-KR053	HG-KR13
		MELSERVO J5	HK-KT053W	HK-KT13W
	Delta Electronics Co., Ltd.	ECMA-C	ECMA-C1040F	ECMA-C10401
	Sanyo Corporation, Ltd.	SANMOTION R	R2□A04005	R2□A04010
Y	YASKAWA Electric Corporation	Σ-V	SGMJV-A5	SGMJV-01
		Σ-7	SGM7J-A5	SGM7J-01
	Keyence Corporation	SV	SV-□005	SV-□010
		SV2	SV2-□005	SV2-□010
P	Panasonic Corporation	MINAS A5	MSMD5A	MSMD01
		MINAS A6	MSMF5A	MSMF01
M	OMRON Corporation	G5	R88M-K05030	R88M-K10030
		1S	R88M-1M05030	R88M-1M10030
	Fuji Electric Co., Ltd.	ALPHA7 GYS	GYS500D7-□B2□	GYS101D7-□B2□
		ALPHA7 GYB	-	-
F	FANUC CORPORATION	βiS-B	A06B-0111-B1	A06B-0112-B1
P	Bosch Rexroth AG	MSM	MSM019A	MSM019B
M	Rockwell Automation, Inc.	TLP	TLP-A046-005-DKA□2	TLP-A046-010-DKA□2
	SIEMENS AG	1FK2 *1	1FK2102-0AG0	1FK2102-1AG0

Code	Manufacturer	Series	200 W	400 W
M	Mitsubishi Electric Corporation	MELSERVO J4	HG-KR23	HG-KR43
		MELSERVO J5	HK-KT23W	HK-KT43W
	Delta Electronics Co., Ltd.	ECMA-C	ECMA-C10602	ECMA-C10604
	Sanyo Corporation, Ltd.	SANMOTION R	R2□A06020	R2□A06040
Y	YASKAWA Electric Corporation	Σ-V	SGMJV-02	SGMJV-04
		Σ-7	SGM7J-02	SGM7J-04
	Keyence Corporation	SV	SV-□020	SV-□040
		SV2	SV2-□020	SV2-□040
P	Panasonic Corporation	MINAS A5	MSMD02	MSMD04
		MINAS A6	MSMF02	MSMF04
	OMRON Corporation	G5	R88M-K20030	R88M-K40030
		1S	R88M-1M20030	R88M-1M40030
M	Fuji Electric Co., Ltd.	ALPHA7 GYS	GYS201D7-□B2□	GYS401D7-□B2□
		ALPHA7 GYB	GYB201D7-□B2□	GYB401D7-□B2□
F	FANUC CORPORATION	βiS-B	A06B-2115-B1	-
P	Bosch Rexroth AG	MSM	MSM031B	MSM031C
M	Rockwell Automation, Inc.	TLP	TLP-A070-020-DKA□2	TLP-A070-040-DKA□2
	SIEMENS AG	1FK2 *1	1FK2203-2AG0	1FK2203-4AG0

*Contact CKD for mounting other than the above motors and products of other motor manufacturers.

*1 The servo motor is subject to the regulations of Export Trade Control Order Appendix Table 1 Item 7 (8), and is applicable with regard to its specifications. (as of January 2021)

Servo motor compatible

Stepper motor compatible

Safety precautions



Electric actuator (motorless) Slider

EBS-04LE

Straight motor mounting

● Servo motor size: 50 W

RoHS

How to order

EBS

-

04

L

E

-

06

0300

N

NN

-

M

H

N

N

A

Body size

04 Body width 44 mm

B

Motor

L None

C

Motor mounting direction

E Straight mounting

D

Screw lead

06 6 mm
12 12 mm

E

Stroke length

0050 50 mm
to 0500 (In 50 mm increments)
500 mm

F

Brake

N None

G

Mounted motor specification

M
Y Select the mounted motor specification from the table at right.
P
F

H

Motor size

H 50 W

I

Origin sensor *1

N None
C Yes

J

Limit sensor *1

N None
B Yes

Manufacturer	50 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	M
Sanyo Denki Co., Ltd.	M
YASKAWA Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	M
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*1 Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*Refer to page 7 for the motor model No.

Specifications

Applicable motor sizes	50 W servo motor	
Drive method	Ball screw ø10	
Stroke length mm	50 to 500	
Screw lead mm	6	12
Max. load capacity kg *1	Horizontal 20	Vertical 12
	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	
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 Rated thrust and max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

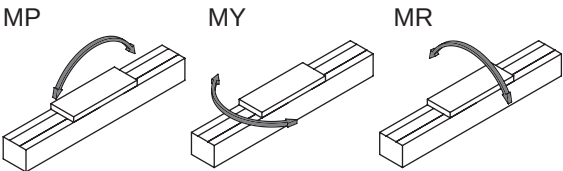
(mm/s)	
Stroke length	50 to 500
Screw lead	
6	300
12	600

*Max. speed is when the motor mounted by the customer can output 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 page 34 for details.

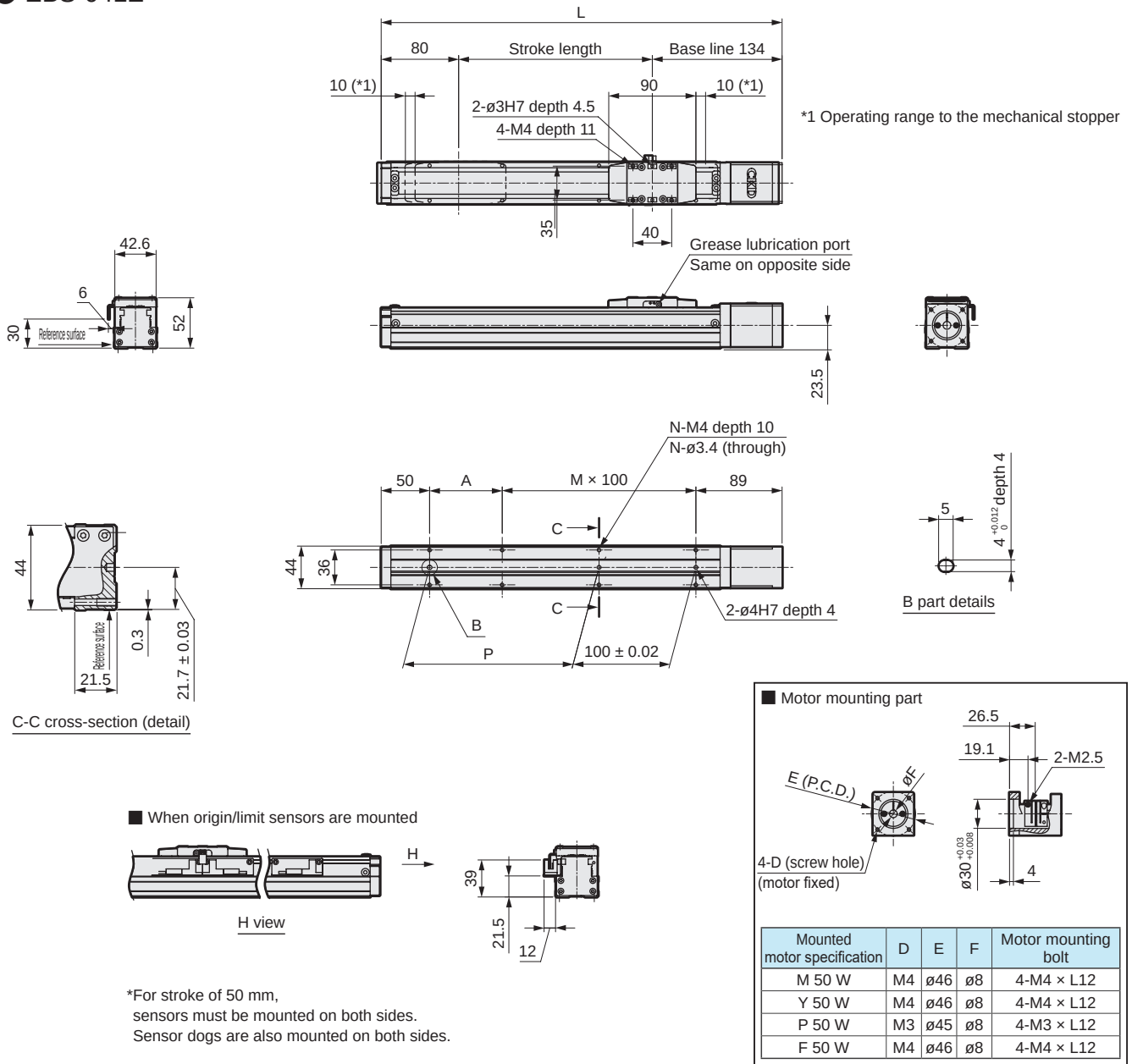
Moment direction



Safety precautions

Dimensions Straight motor mounting

● EBS-04LE



List of attachments

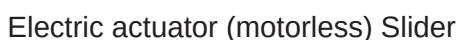
[Motor mounting parts]

Mounted motor specification	Coupling	Motor mounting bolt	
		Size	Quantity
M	Assembled at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

[Origin sensor, limit sensor]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.



EBS-04L*

Motor side mounting (left, right, bottom)

- Servo motor size: 50 W



How to order

Model Code Structure: EBS - 04 L R - 06 0300 N NN - M H N N

Callout Details:

- A Body size**: 04 Body width 44 mm
- B Motor**: L None
- C Motor mounting direction**:

R	Right mounting
D	Bottom mounting
L	Left mounting
- D Screw lead**:

06	6 mm
12	12 mm
- E Stroke length**:

0050	50 mm
(In 50 mm increments)	
0500	500 mm
- F Brake**:

N	None
---	------
- G Mounted motor specification**:

M	Select the mounted motor specification from the table at right.
Y	
P	
F	
- H Motor size**:

H	50 W
---	------
- I Origin sensor *1**:

N	None
C	Yes
- J Limit sensor *1**:

N	None
B	Yes

Manufacturer Table:

Manufacturer	50 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	M
Sanyo Denki Co., Ltd.	M
YASKAWA Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	M
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F

*1 Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*Refer to page 7 for the motor model No.

Specifications

Applicable motor sizes		50 W servo motor	
Drive method		Ball screw ø10	
Stroke length	mm	50 to 500	
Screw lead	mm	6	12
Max. load capacity kg *1	Horizontal	20	12
	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	
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 Rated thrust and max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

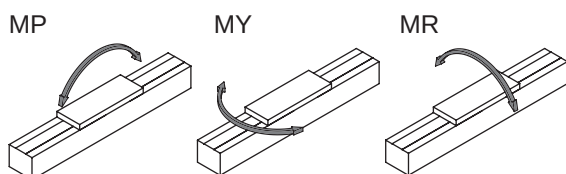
		(mm/s)
Stroke length	Screw lead	50 to 600
6		300
12		600

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

Allowable overhang length

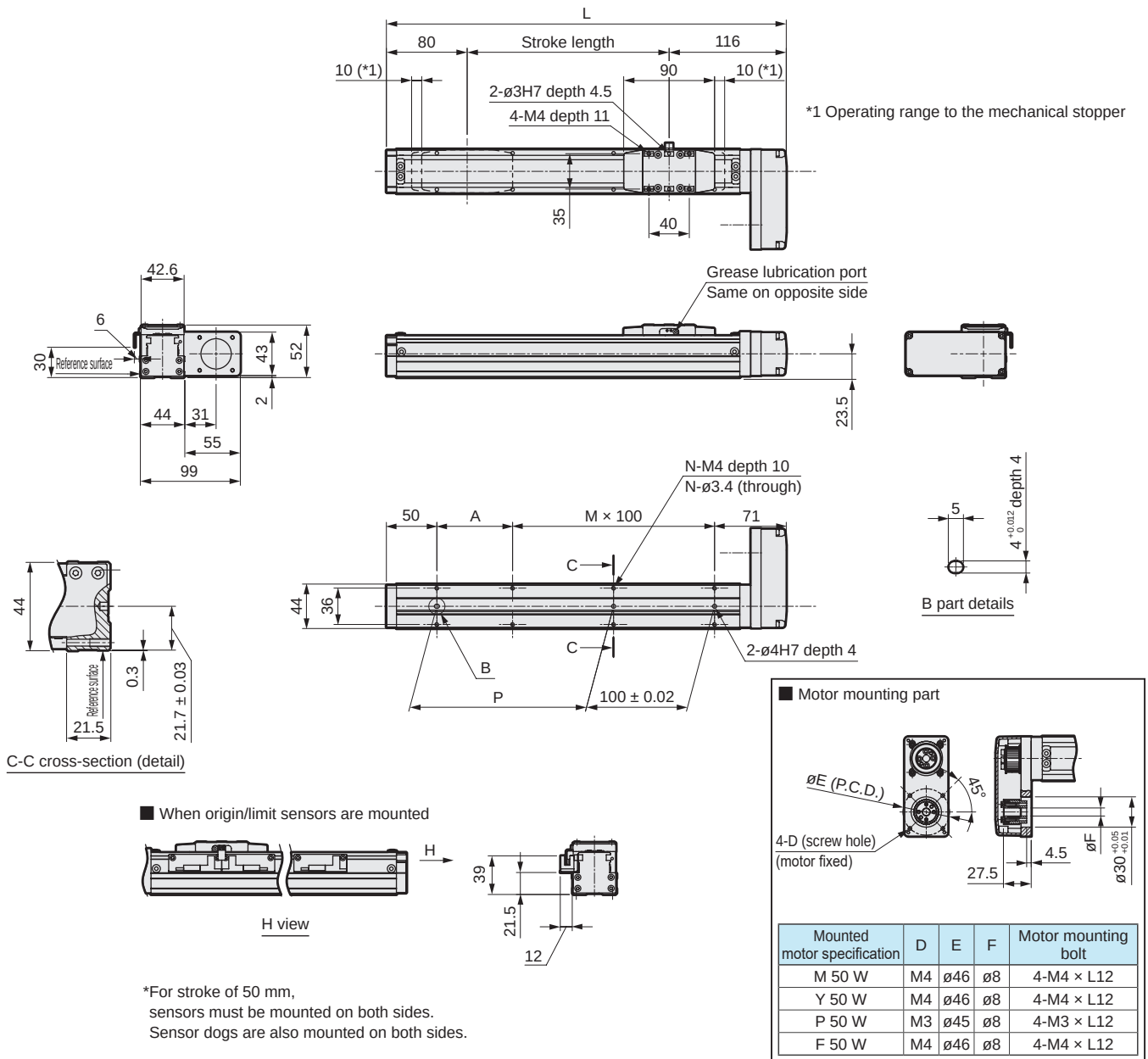
*Refer to page 34 for details.

Moment direction



Dimensions Motor right-side mounting

● EBS-04LR



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke length (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 attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
M	Included at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

[Origin sensor, limit sensor]

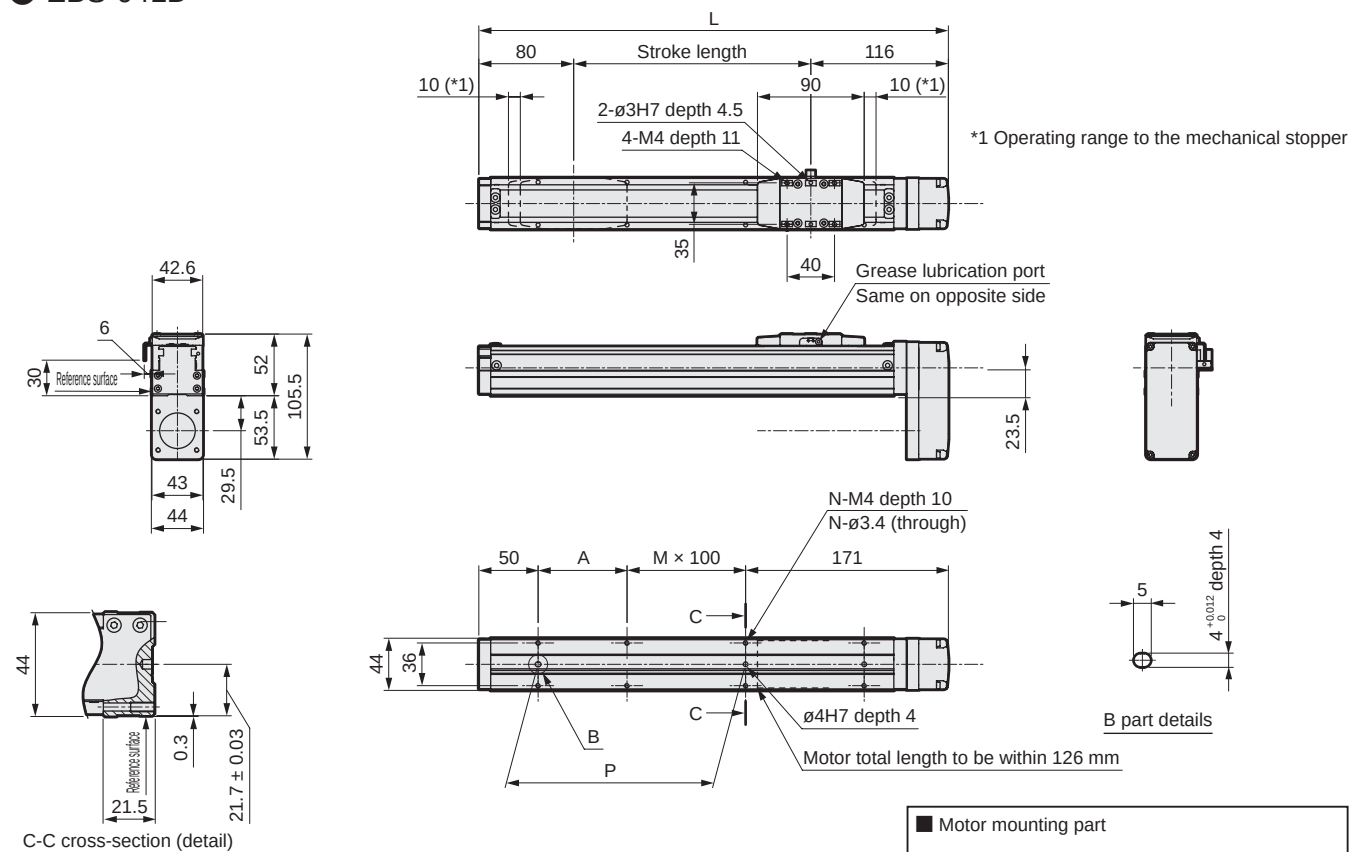
Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

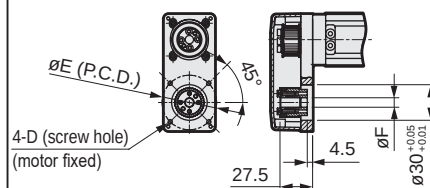
EBS-04L*

Dimensions Motor bottom mounting

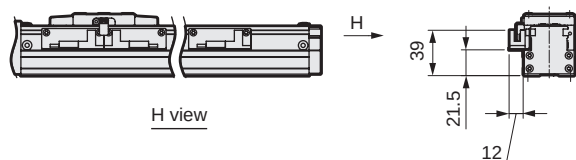
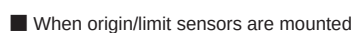
● EBS-04LD



■ Motor mounting part



Mounted motor specification	D	E	F	Motor mounting bolt
M 50 W	M4	ø46	ø8	4-M4 × L12
Y 50 W	M4	ø46	ø8	4-M4 × L12
P 50 W	M3	ø45	ø8	4-M3 × L12
F 50 W	M4	ø46	ø8	4-M4 × L12



*For stroke of 50 mm,
sensors must be mounted on both sides.
Sensor dogs are also mounted on both sides.

Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke length (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 attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
M	Included at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

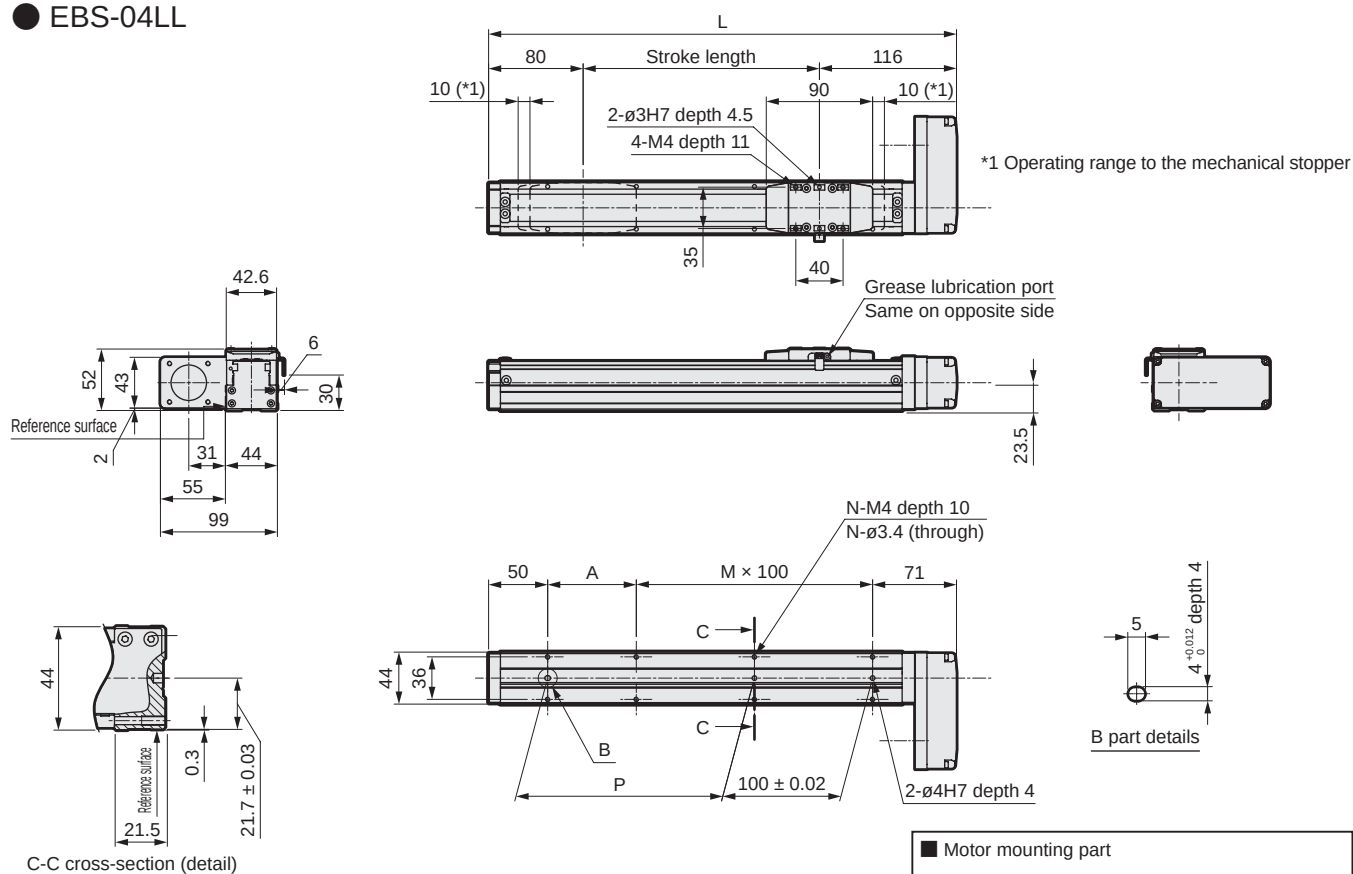
[Origin sensor, limit sensor]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

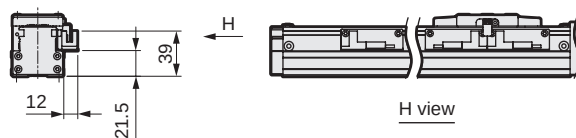
*Refer to page 42 for sensor specifications.

Dimensions Motor left-side mounting

● EBS-04LL

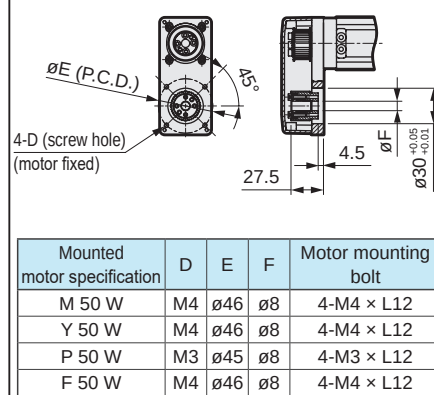


■ When origin/limit sensors are mounted



*For stroke of 50 mm, sensors must be mounted on both sides. Sensor dogs are also mounted on both sides.

■ Motor mounting part



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500
Stroke length (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 attachments

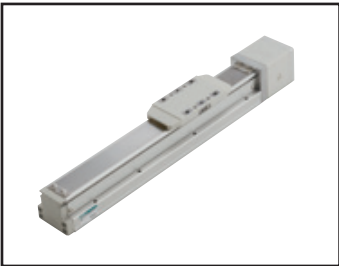
[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
M	Included at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

[Origin sensor, limit sensor]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.



Electric actuator (motorless) Slider

EBS-05LE

Straight motor mounting

● Servo motor size: 100 W



How to order

EBS

-

05

L

E

-

02

0300

N

NN

-

M

1

N

N

A

B

C

D

E

F

G

H

I

J

A

Body size

05

Body width 54 mm

B

Motor

L

None

C

Motor mounting direction

E

Straight mounting

D

Screw lead

02

2 mm

05

5 mm

10

10 mm

20

20 mm

E

Stroke length

0050

50 mm

to

0800

800 mm

(In 50 mm increments)

F

Brake

N

None

G

Mounted motor specification

M

Select the mounted motor specification from the table at right.

Y

P

F

H

Motor size

1

100 W

I

Origin sensor *1

N

None

C

Yes

J

Limit sensor *1

N

None

B

Yes

Manufacturer	100 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	M
Sanyo Denki Co., Ltd.	M
YASKAWA Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	M
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*1 Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*Refer to page 7 for the motor model No.

Specifications

Applicable motor sizes		100 W servo motor			
Drive method		Ball screw ø12			
Stroke length mm		50 to 800			
Screw lead mm		2	5	10	20
Max. load capacity kg *1	Horizontal	30	30	15	10
	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			
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 Rated thrust and max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

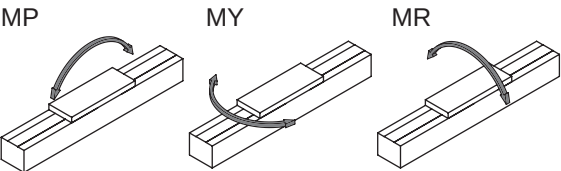
		(mm/s)				
Stroke length	Screw lead	50 to 600	650	700	750	800
		100	90	80	70	60
	5	250	225	200	175	150
	10	500	450	400	350	300
	20	1000	900	800	700	600

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

Allowable overhang length

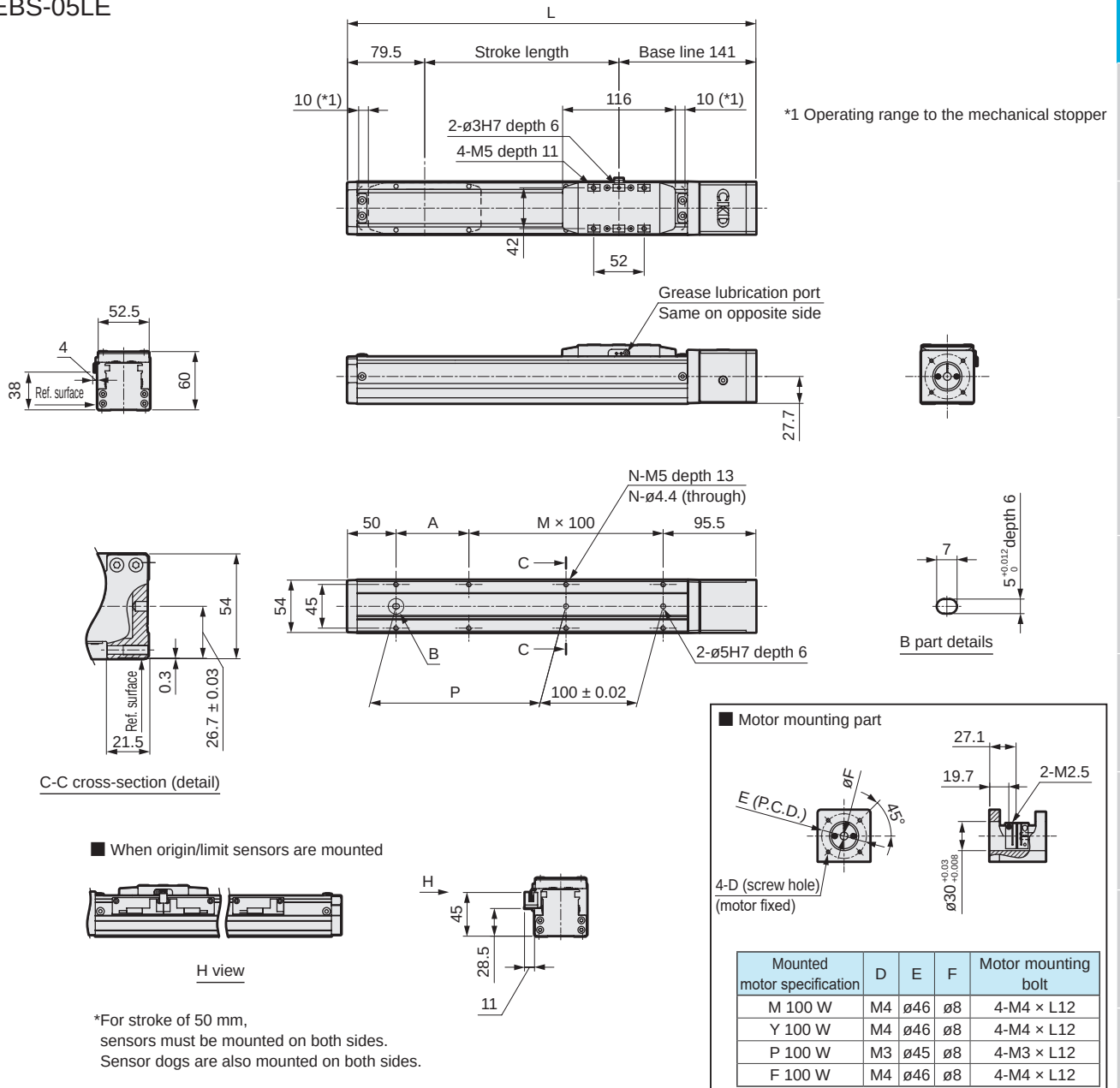
*Refer to page 34 for details.

Moment direction



Dimensions Straight motor mounting

● EBS-05LE



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	270.5	320.5	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5	770.5	820.5	870.5	920.5	970.5	1020.5
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 attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Motor mounting bolt	
		Size	Quantity
M	Assembled at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

[Origin sensor, limit sensor]

Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.



Electric actuator (motorless) Slider

EBS-05L*

Motor side mounting (left, right, bottom)

● Servo motor size: 100 W



How to order

EBS - 05 L R - 02 0300 N NN - M 1 N N

A Body size
05 Body width 54 mm

B Motor
L None

C Motor mounting direction
R Right mounting
D Bottom mounting
L Left mounting

D Screw lead
02 2 mm
05 5 mm
10 10 mm
20 20 mm

E Stroke length
0050 50 mm
to 0800 (In 50 mm increments) 800 mm

F Brake
N None

G Mounted motor specification
M Select the mounted motor specification from the table at right.
Y
P
F

H Motor size
1 100 W

I Origin sensor *1
N None
C Yes

J Limit sensor *1
N None
B Yes

Manufacturer	100 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	M
Sanyo Denki Co., Ltd.	M
YASKAWA Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	M
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*1 Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*Refer to page 7 for the motor model No.

Specifications

Applicable motor sizes		100 W servo motor			
Drive method		Ball screw ø12			
Stroke length mm		50 to 800			
Screw lead		2	5	10	20
Max. load capacity kg	Horizontal	30	30	15	10
	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			
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 Rated thrust and max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

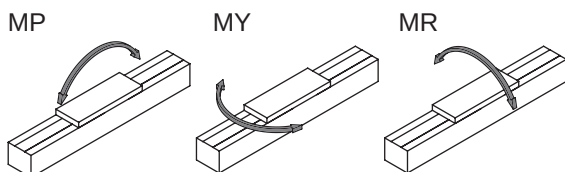
		(mm/s)				
Stroke length	Lead	50 to 600	650	700	750	800
		100	90	80	70	60
	5	250	225	200	175	150
	10	500	450	400	350	300
	20	1000	900	800	700	600

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

Allowable overhang length

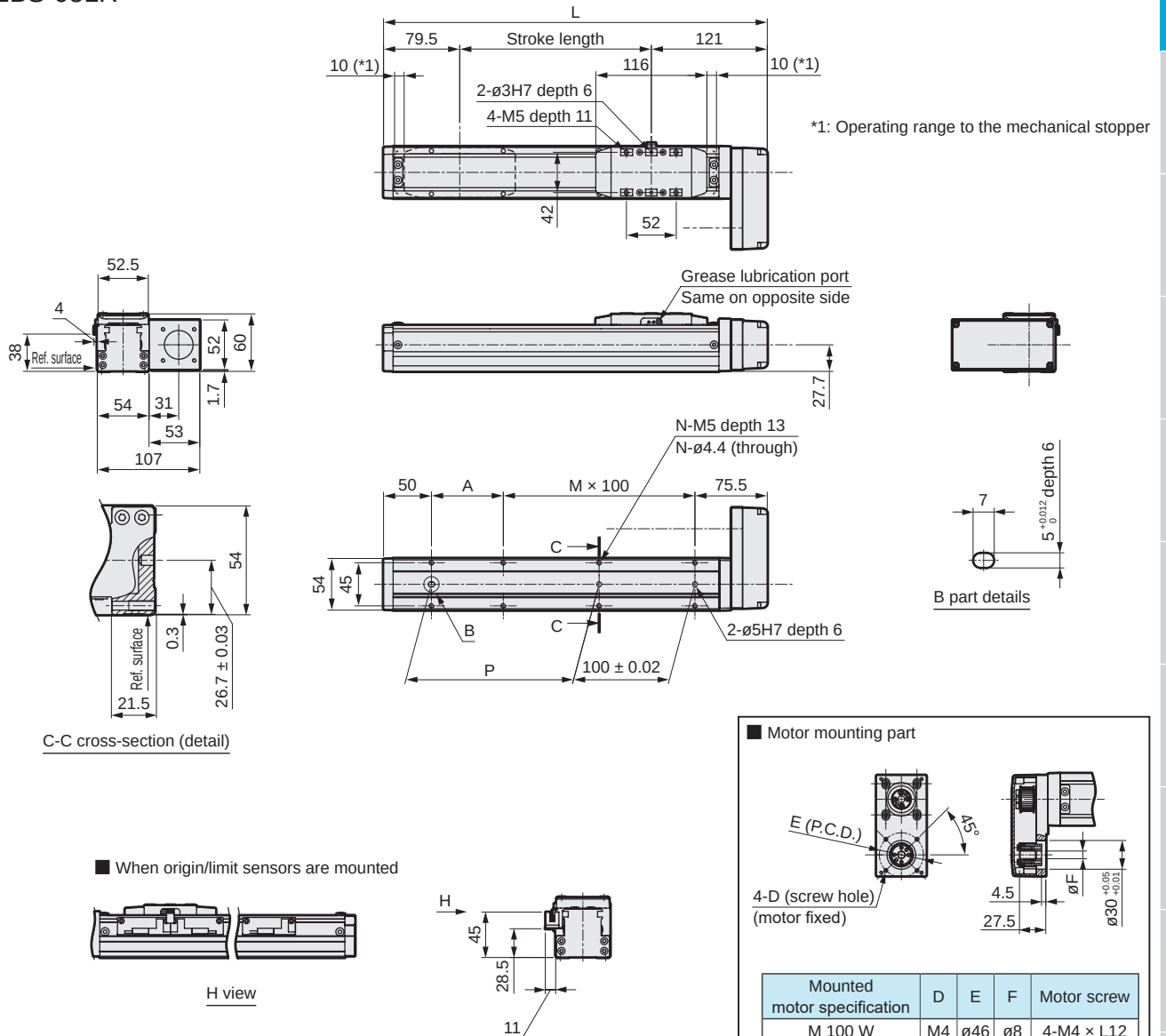
*Refer to page 34 for details.

Moment direction



Dimensions Motor right-side mounting

● EBS-05LR



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	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 attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

[When origin/limit sensors are selected]

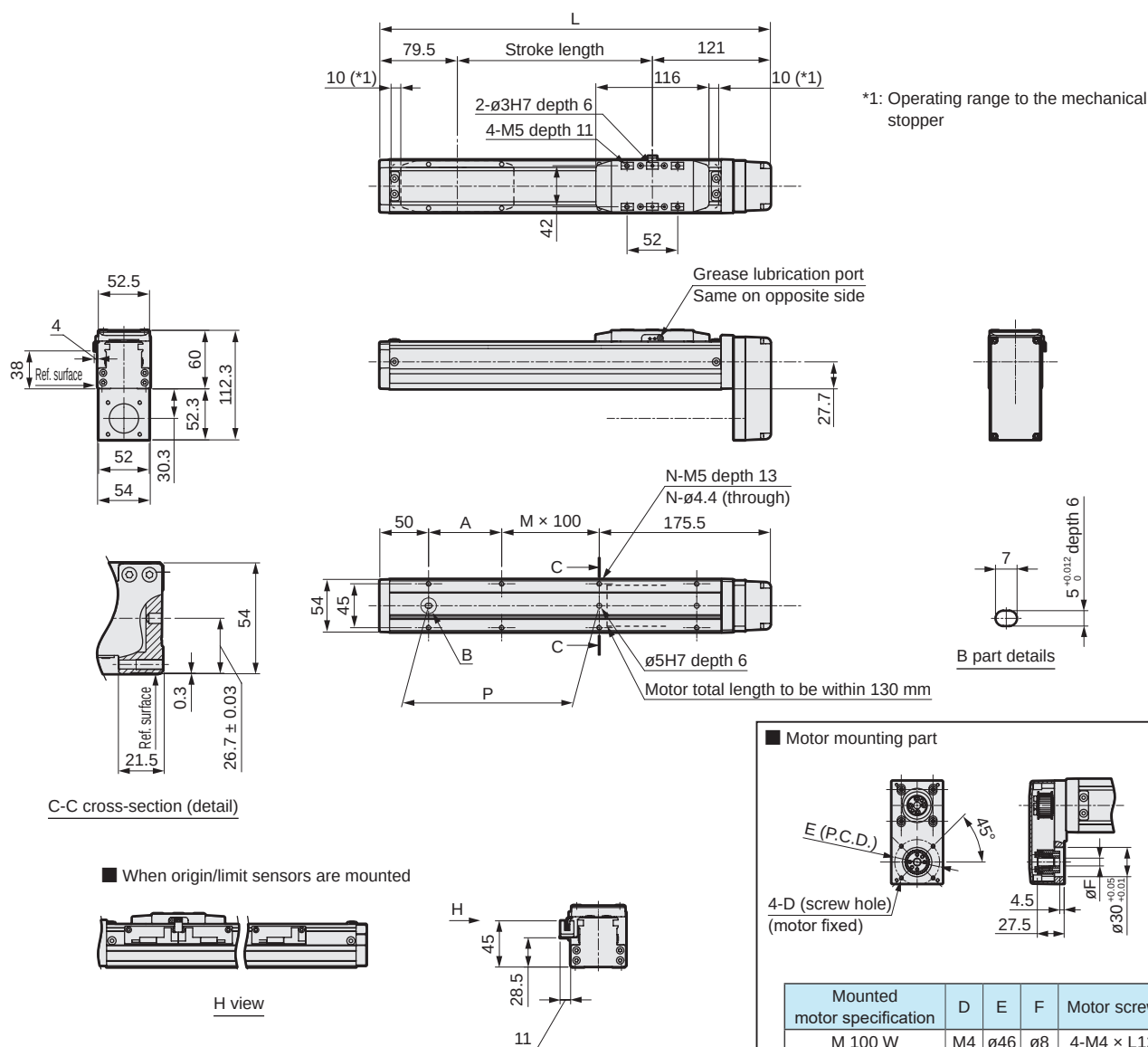
Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

EBS-05L*

Dimensions Motor bottom mounting

● EBS-05LD



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	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 attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

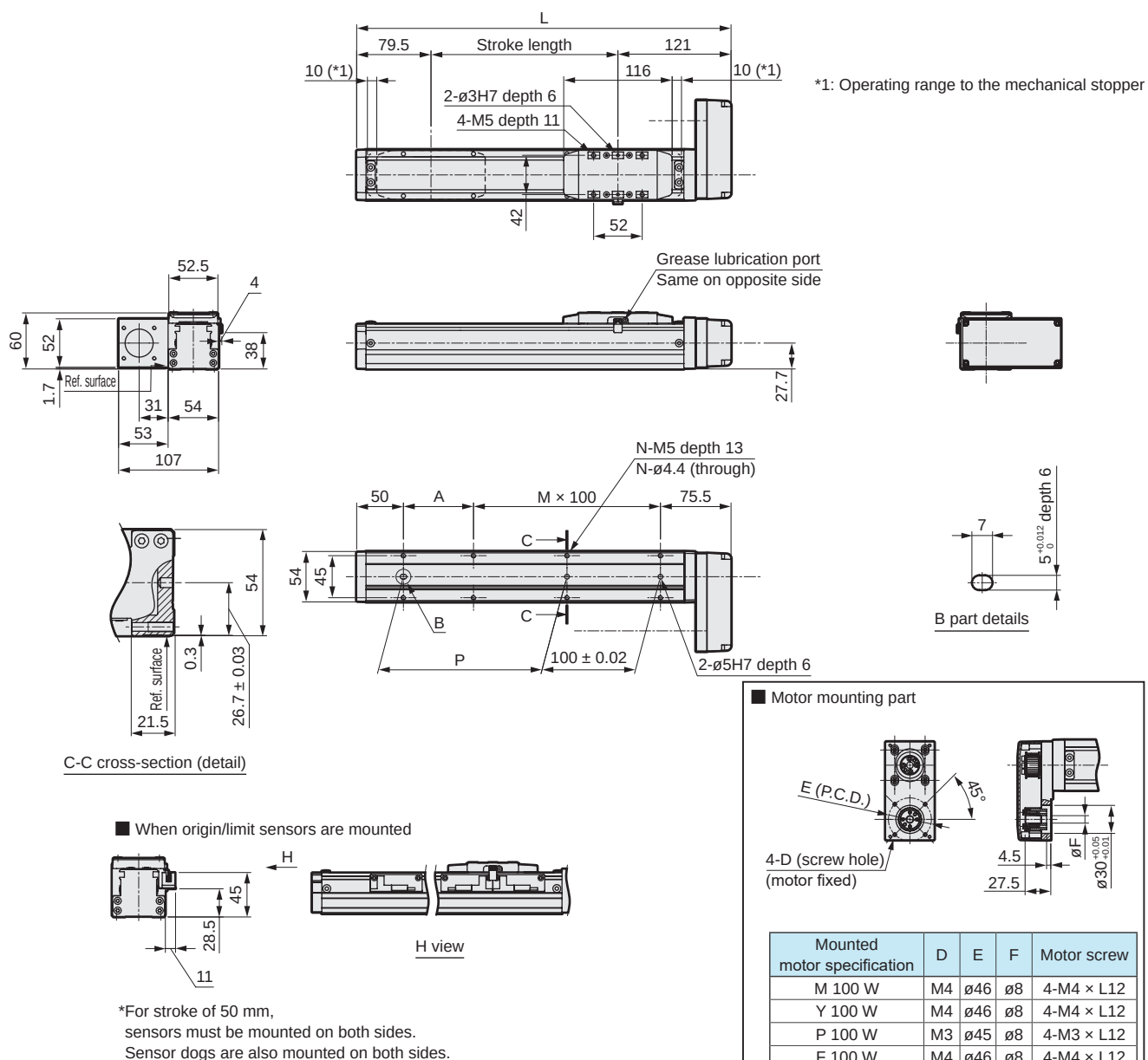
[When origin/limit sensors are selected]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

Dimensions Motor left-side mounting

● EBS-05LL



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	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 attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M4	4
Y		M4	4
P		M3	4
F		M4	4

[When origin/limit sensors are selected]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

Electric actuator (motorless) Slider

EBS-08LE

Straight motor mounting

● Servo motor size: 200 W

RoHS

How to order

EBS - 08 L E - 05 0300 N NN - M 2 N N

A Body size
08 Body width 82 mm

B Motor
L None

C Motor mounting direction
E Straight mounting

D Screw lead
05 5 mm
10 10 mm
20 20 mm

E Stroke length
0050 50 mm
to 1100 (In 50 mm increments) 1100 mm

F Brake
N None

G Mounted motor specification
M Select the mounted motor specification from the table at right.
Y
P
F

H Motor size
2 200 W

I Origin sensor *1
N None
C Yes

J Limit sensor *1
N None
B Yes

Manufacturer	200 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	M
Sanyo Denki Co., Ltd.	M
YASKAWA Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	P
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*1 Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*Refer to page 7 for the motor model No.

Specifications

Applicable motor sizes	200 W servo motor		
Drive method	Ball screw ø16		
Stroke length mm	50 to 1100		
Screw lead mm	5	10	20
Max. load capacity kg *1	Horizontal 50	30	12
	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		
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 Rated thrust and max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

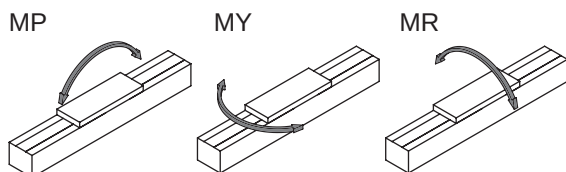
		(mm/s)							
Screw lead	Stroke length	50 to 700	750	800	850	900	950	1000	1050 1100
5		250	225	200	175	150	125	100	75 50
10		500	450	400	350	300	250	200	150 100
20		1000	900	800	700	600	500	400	300 200

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

Allowable overhang length

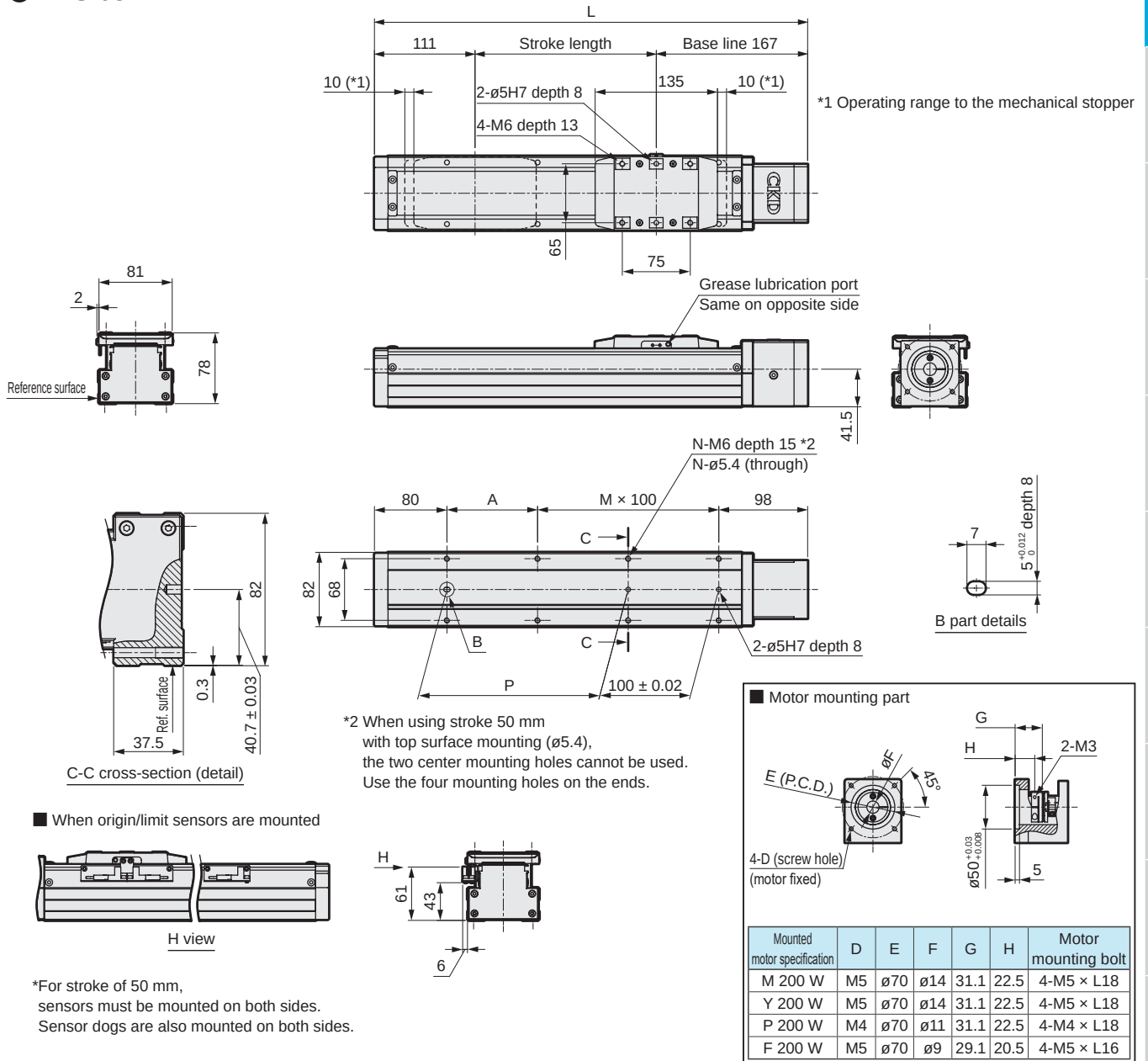
*Refer to page 34 for details.

Moment direction



Dimensions Straight motor mounting

● EBS-08LE



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	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	1000	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 attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Motor mounting bolt	
		Size	Quantity
M	Assembled at shipment	M5	4
Y		M5	4
P		M4	4
F		M5	4

[Origin sensor, limit sensor]

Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.



Electric actuator (motorless) Slider

EBS-08L*

Motor side mounting (left, right, bottom)

● Servo motor size: 200 W

RoHS

How to order

EBS - 08 L E - 05 0300 N NN - M 2 N N

A Body size
08 Body width 82 mm

B Motor
L None

C Motor mounting direction
R Right mounting
D Bottom mounting
L Left mounting

D Screw lead
05 5 mm
10 10 mm
20 20 mm

E Stroke length
0050 50 mm
to 1100 (In 50 mm increments) 1100 mm

F Brake
N None

G Mounted motor specification
M Select the mounted motor specification from the table at right.
Y
P
F

H Motor size
2 200 W

I Origin sensor *1
N None
C Yes

J Limit sensor *1
N None
B Yes

Manufacturer	200 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	M
Sanyo Denki Co., Ltd.	M
YASKAWA Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	P
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*1 Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*Refer to page 7 for the motor model No.

Specifications

Applicable motor sizes	200 W servo motor		
Drive method	Ball screw ø16		
Stroke length mm	50 to 1100		
Screw lead	5	10	20
Max. load capacity kg	Horizontal 50	30	12
	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		
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 Rated thrust and max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

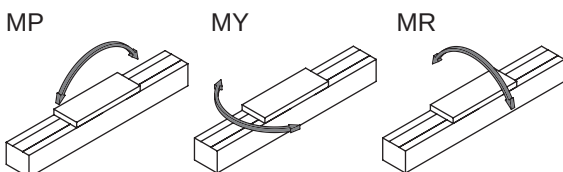
		(mm/s)								
Lead	Stroke length	50 to 700	750	800	850	900	950	1000	1050	1100
		250	225	200	175	150	125	100	75	50
	5	250	225	200	175	150	125	100	75	50
	10	500	450	400	350	300	250	200	150	100
	20	1000	900	800	700	600	500	400	300	200

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

Allowable overhang length

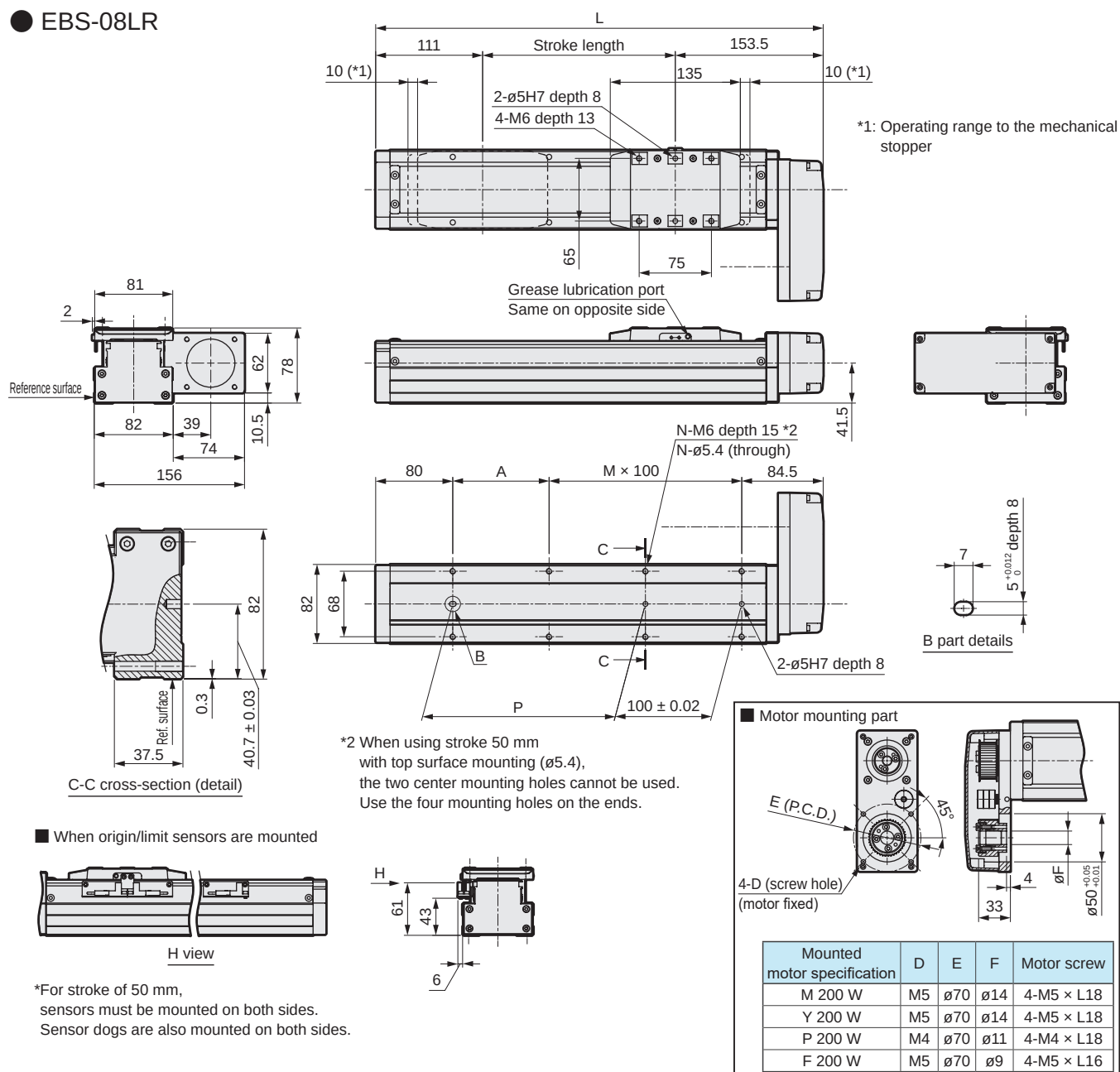
*Refer to page 34 for details.

Moment direction



Dimensions Motor right-side mounting

● EBS-08LR



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	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	1000	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 attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M5	4
Y		M5	4
P		M4	4
F		M5	4

[When origin/limit sensors are selected]

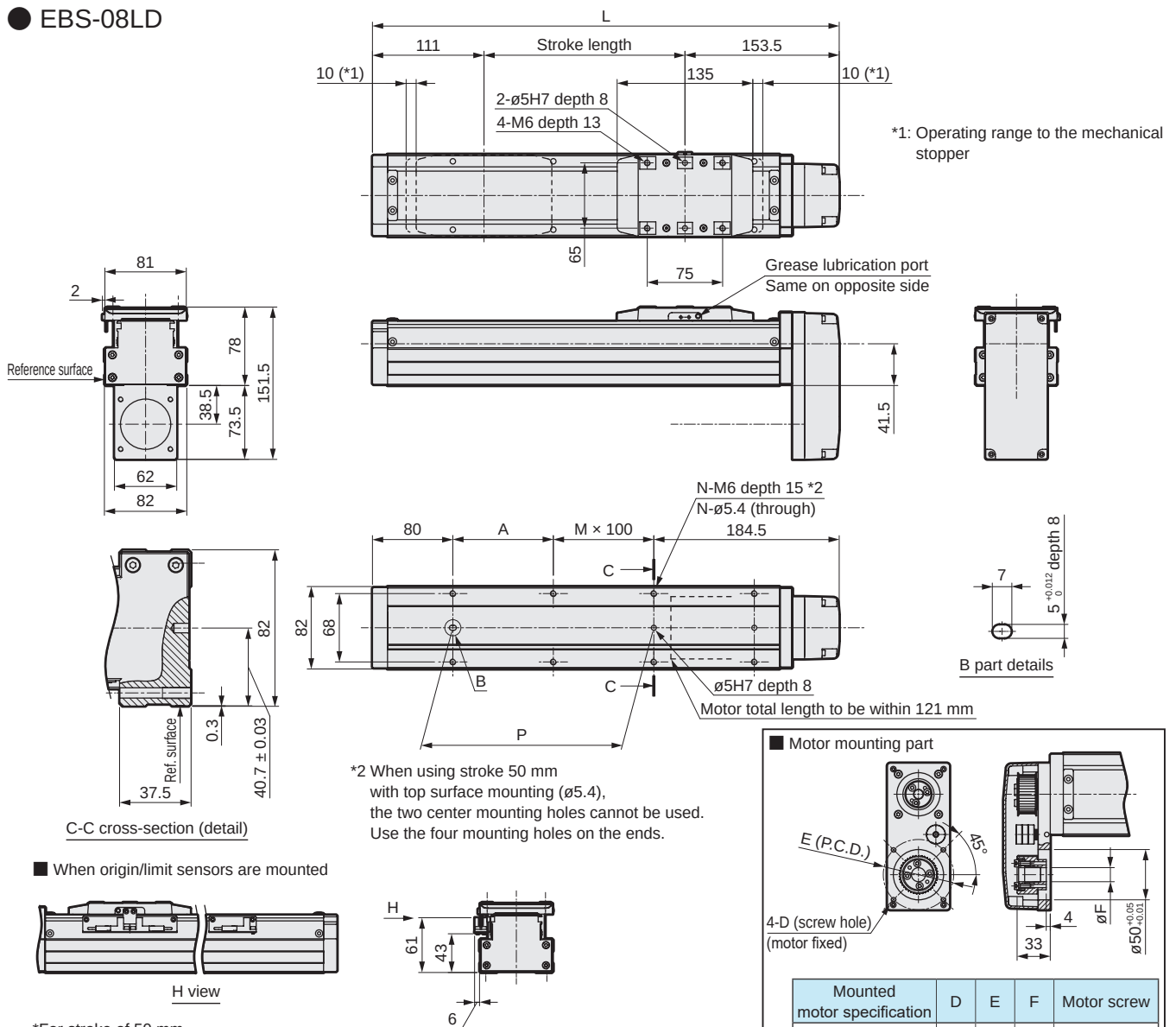
Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

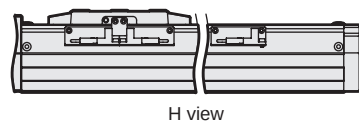
EBS-08L*

Dimensions Motor bottom mounting

● EBS-08LD



■ When origin/limit sensors are mounted



*For stroke of 50 mm, sensors must be mounted on both sides. Sensor dogs are also mounted on both sides.

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	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	1000	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 attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M5	4
Y		M5	4
P		M4	4
F		M5	4

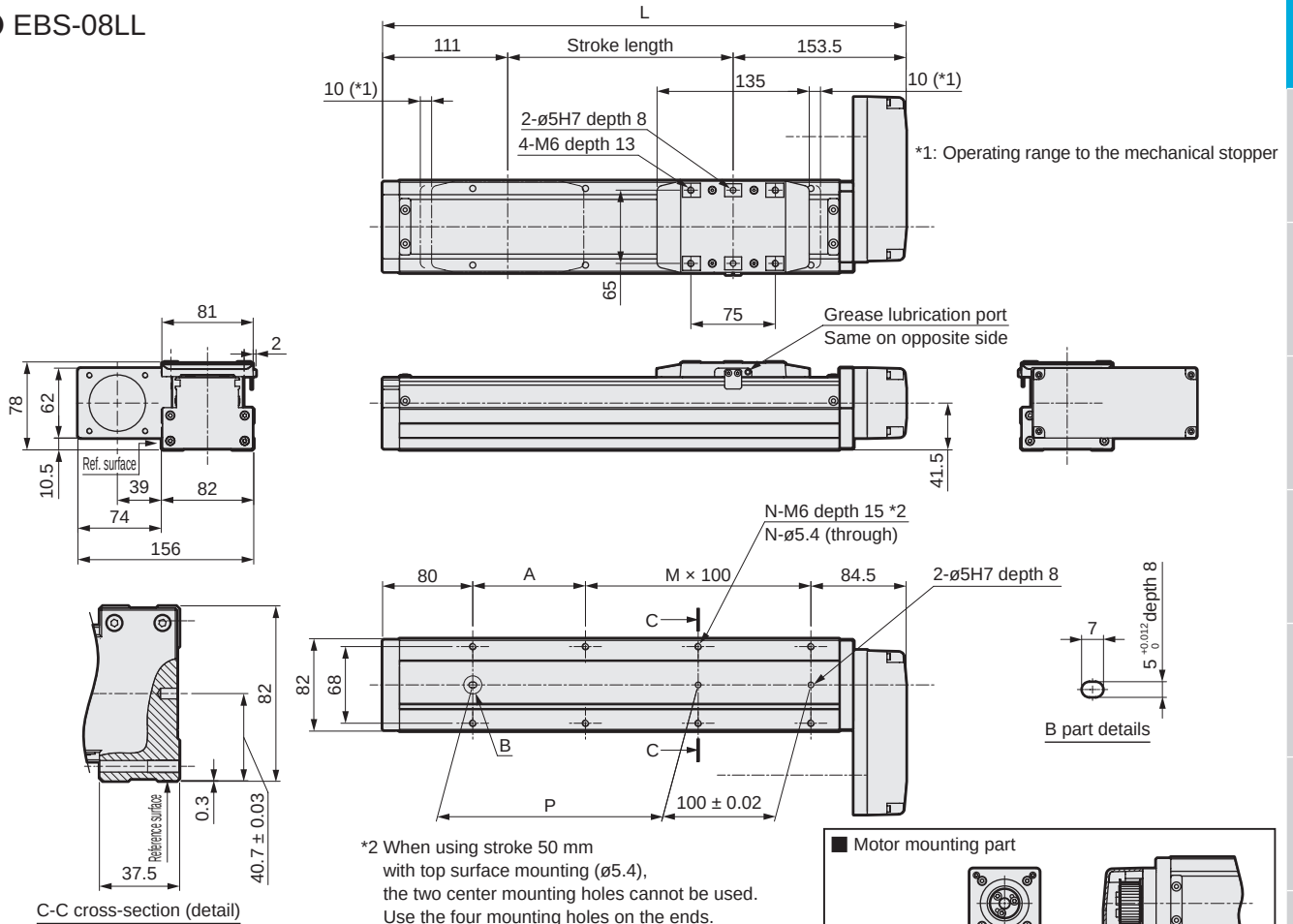
[When origin/limit sensors are selected]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

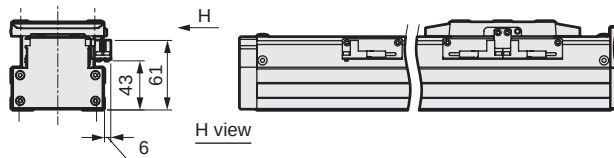
*Refer to page 42 for sensor specifications.

Dimensions Motor left-side mounting

● EBS-08LL

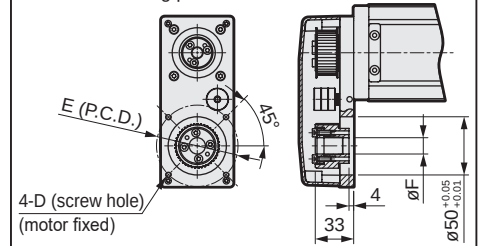


■ When origin/limit sensors are mounted



*For stroke of 50 mm, sensors must be mounted on both sides. Sensor dogs are also mounted on both sides.

■ Motor mounting part



Mounted motor specification	D	E	F	Motor screw
M 200 W	M5	ø70	ø14	4-M5 × L18
Y 200 W	M5	ø70	ø14	4-M5 × L18
P 200 W	M4	ø70	ø11	4-M4 × L18
F 200 W	M5	ø70	ø9	4-M5 × L16

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	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	1000	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 attachments

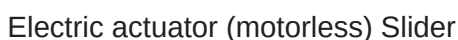
[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M5	4
Y		M5	4
P		M4	4
F		M5	4

[When origin/limit sensors are selected]

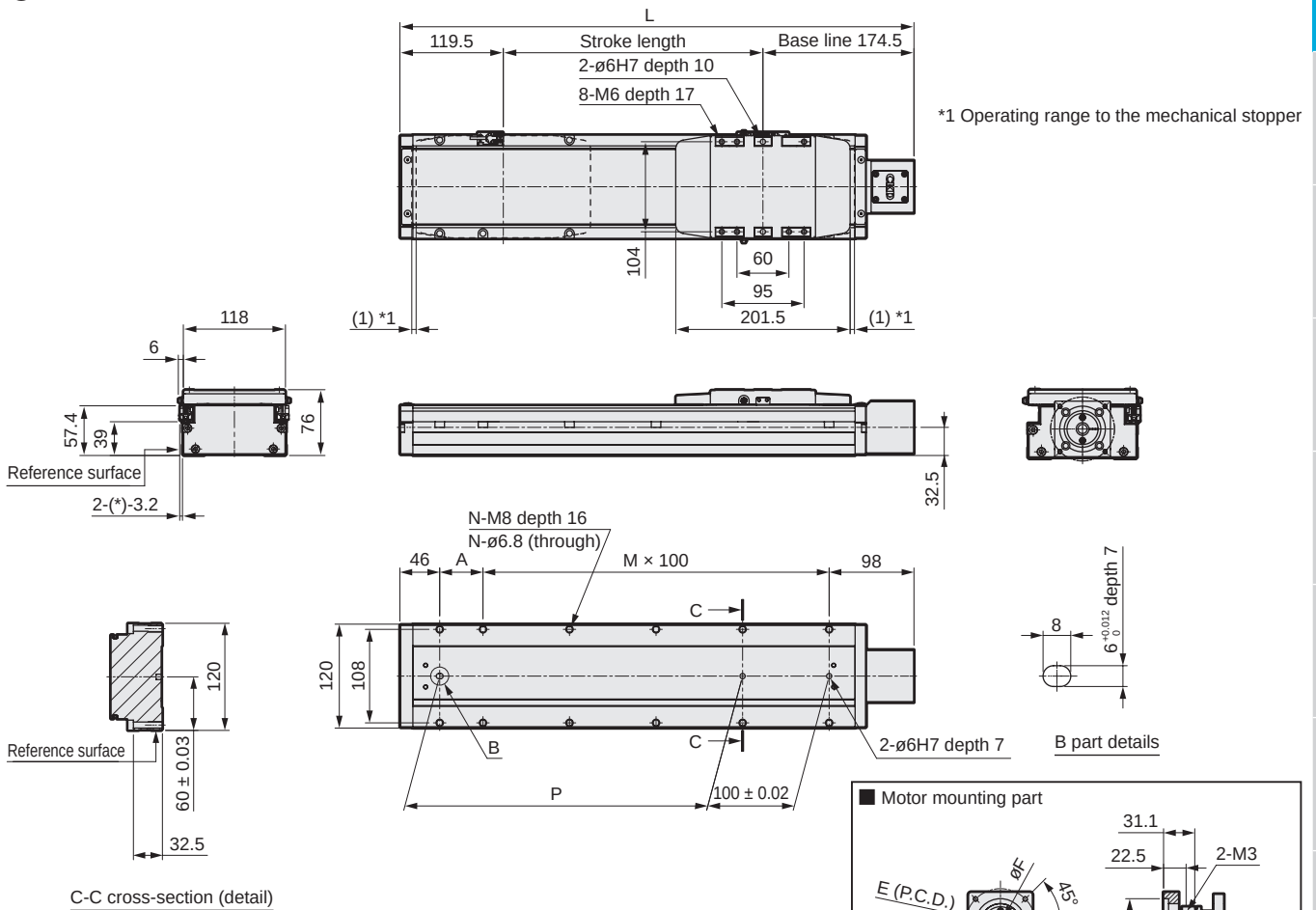
Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

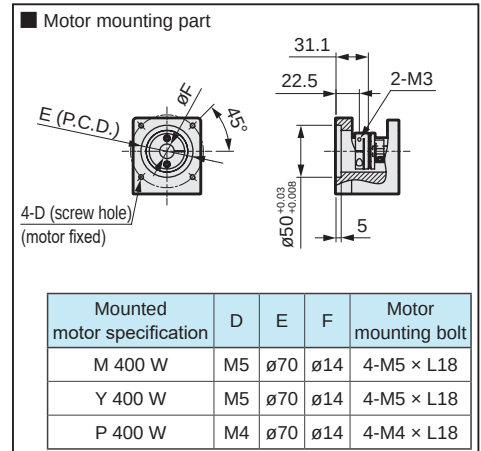


Dimensions Straight motor mounting

● EBS-12LE



*For stroke of 50 mm,
sensors must be mounted on both sides.
Sensor dogs are also mounted on both sides.



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1000	1050	1100	1150	1200	1250
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	1150	1200	1250
L	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194	1244	1294	1344	1394	1444	1494	1544
A	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
N	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
P	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
Weight (kg)	5.1	5.4	5.8	6.1	6.5	6.8	7.2	7.5	7.9	8.2	8.6	8.9	9.3	9.6	10.0	10.3	10.7	11.0	11.4	11.7	12.1	12.4	12.8	13.1	13.5

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Motor mounting bolt	
		Size	Quantity
M	Assembled at shipment	M5	4
Y		M5	4
P		M4	4

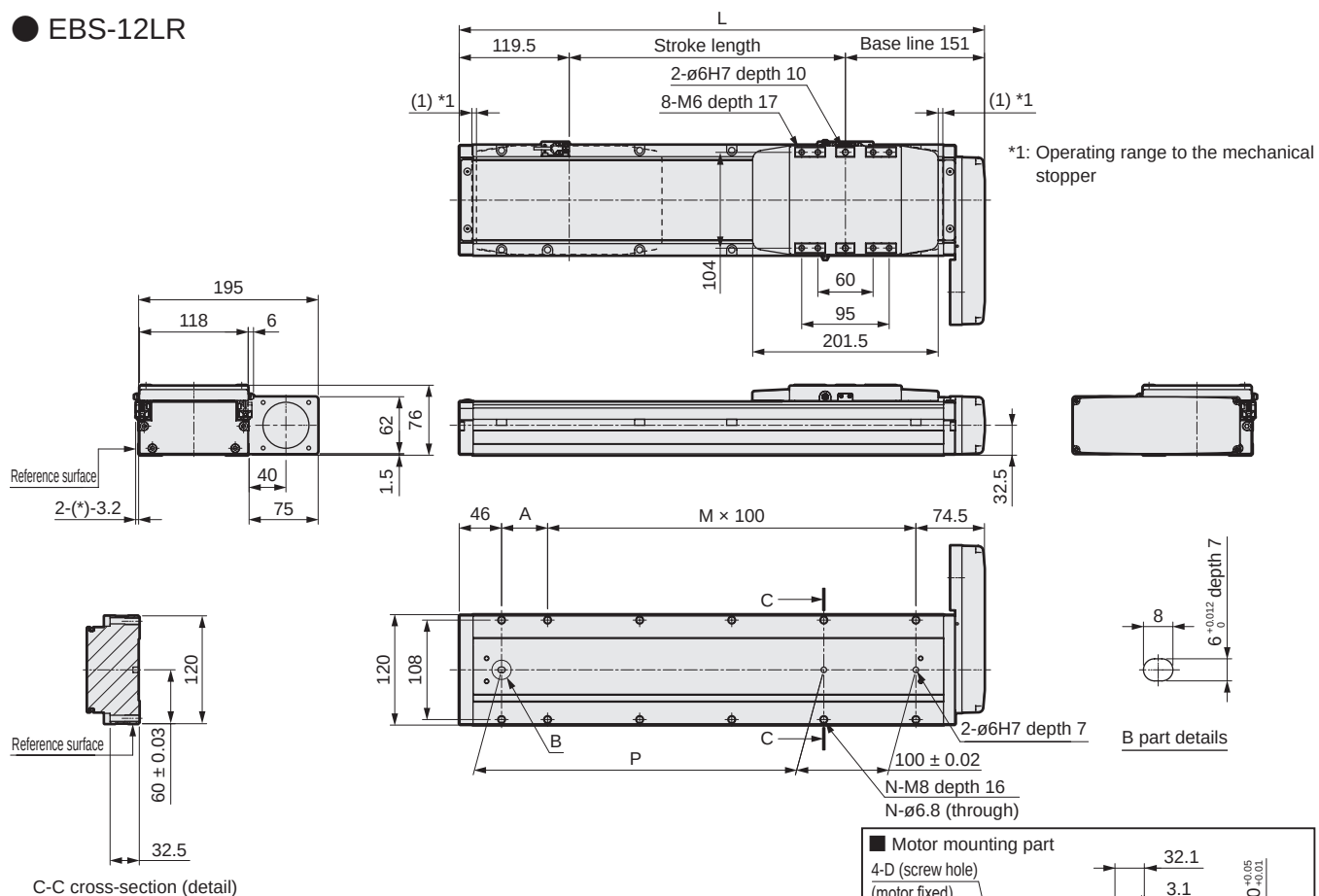
[Origin sensor, limit sensor]

Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

Dimensions Motor right-side mounting

● EBS-12LR



*For stroke of 50 mm, sensors must be mounted on both sides. Sensor dogs are also mounted on both sides.

Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1000	1050	1100	1150	1200	1250
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	1150	1200	1250
L	320.5	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5	770.5	820.5	870.5	920.5	970.5	1020.5	1070.5	1120.5	1170.5	1220.5	1270.5	1320.5	1370.5	1420.5	1470.5	1520.5
A	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
N	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
P	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
Weight (kg)	5.3	5.6	6.0	6.3	6.7	7.0	7.4	7.7	8.1	8.4	8.8	9.1	9.5	9.8	10.2	10.9	11.2	11.6	11.9	12.3	12.6	12.6	13.0	13.3	13.7

List of attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M5	4
Y		M5	4
P		M4	4

[When origin/limit sensors are selected]

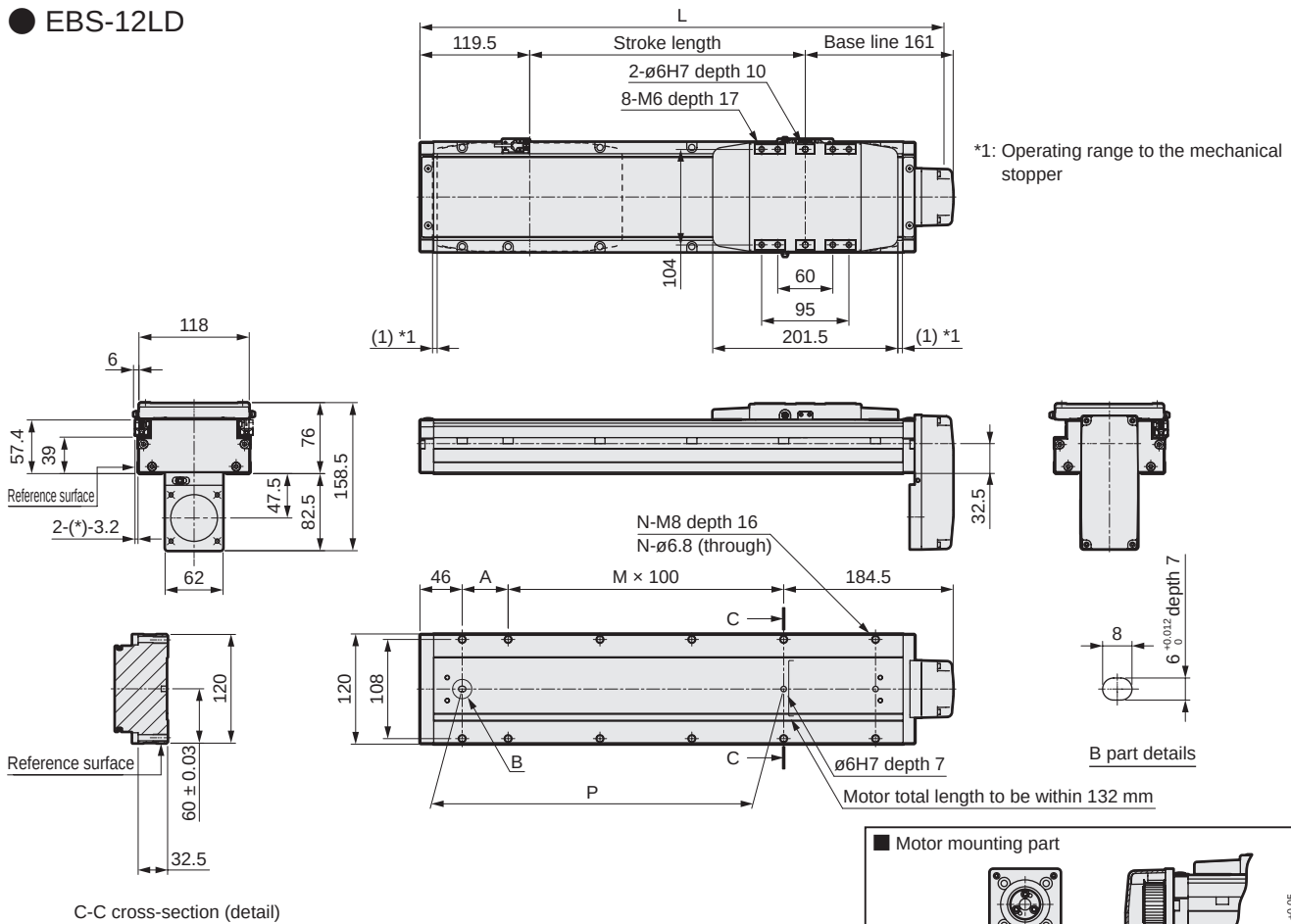
Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

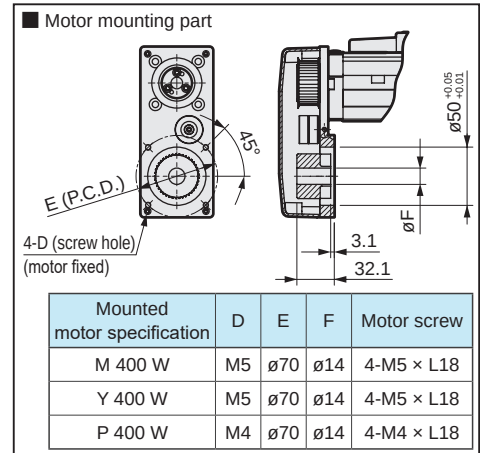
EBS-12L*

Dimensions Motor bottom mounting

● EBS-12LD



*For stroke of 50 mm, sensors must be mounted on both sides. Sensor dogs are also mounted on both sides.



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1000	1050	1100	1150	1200	1250
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	1150	1200	1250
L	330.5	380.5	430.5	480.5	530.5	580.5	630.5	680.5	730.5	780.5	830.5	880.5	930.5	980.5	1030.5	1080.5	1130.5	1180.5	1230.5	1280.5	1330.5	1380.5	1430.5	1480.5	1530.5
A	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
M	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28
P	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
Weight (kg)	5.3	5.6	6.0	6.3	6.7	7.0	7.4	7.7	8.1	8.4	8.8	9.1	9.5	9.8	10.2	10.5	10.9	11.2	11.6	11.9	12.3	12.6	13.0	13.3	13.7

List of attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M5	4
Y		M5	4
P		M4	4

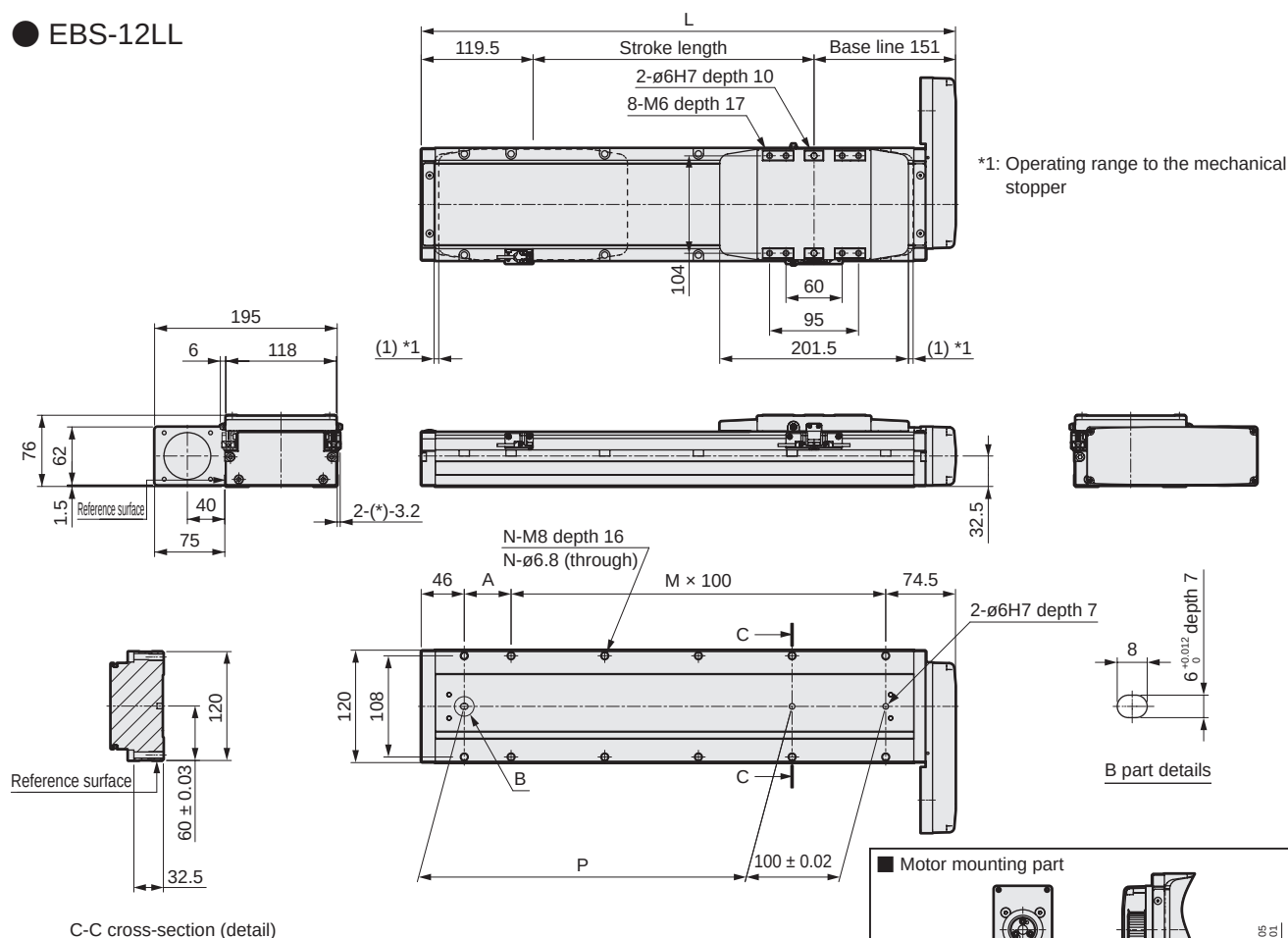
[When origin/limit sensors are selected]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

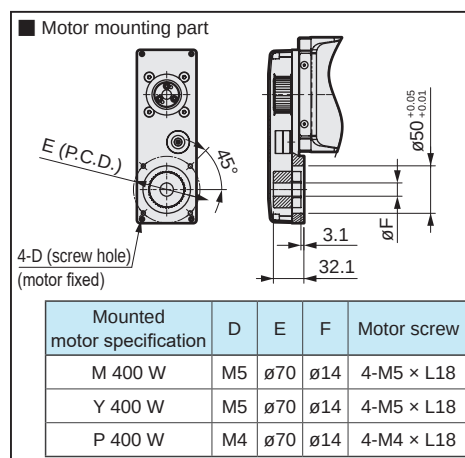
*Refer to page 42 for sensor specifications.

Dimensions Motor left-side mounting

● EBS-12LL



*For stroke of 50 mm,
sensors must be mounted on both sides.
Sensor dogs are also mounted on both sides.



Stroke code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700	0750	0800	0850	0900	0950	1000	1050	1100	1150	1200	1250
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	1150	1200	1250
L	320.5	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5	770.5	820.5	870.5	920.5	970.5	1020.5	1070.5	1120.5	1170.5	1220.5	1270.5	1320.5	1370.5	1420.5	1470.5	1520.5
A	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
N	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
P	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
Weight (kg)	5.3	5.6	6.0	6.3	6.7	7.0	7.4	7.7	8.1	8.4	8.8	9.1	9.5	9.8	10.2	10.9	11.2	11.6	11.9	12.3	12.6	12.6	13.0	13.3	13.7

List of attachments

[Motor mounting]

Mounted motor specification	Timing belt, pulley	Motor mounting bolt	
		Size	Included quantity
M	Included at shipment	M5	4
Y		M5	4
P		M4	4

[When origin/limit sensors are selected]

Sensor		
Manufacturer	Model	Included quantity
OMRON Corporation	EE-SX674	3

*Refer to page 42 for sensor specifications.

Model selection

STEP 1 Confirming load capacity

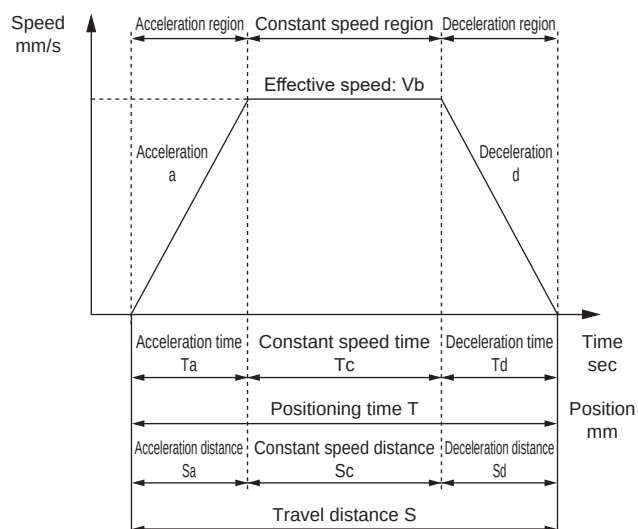
Load capacity varies with mounting orientation and screw lead.

Refer to the Series Variation (page 4) and the specification table for each model to select the size and screw lead.

STEP 2 Confirming positioning time

Calculate the positioning time of the selected product according to the following example and confirm that the required tact is achievable.

Select the speed and acceleration/deceleration from the specification table for each model and the motor selected by the customer.



	Description	Code	Unit	Remarks
Set value	Set speed	V	mm/s	
	Set acceleration	a	mm/s ²	
	Set deceleration	d	mm/s ²	
	Travel distance	S	mm	
Calculated value	Achieved speed	Vmax	mm/s	$= \{2 \times a \times d \times S / (a + d)\}^{1/2}$
	Effective speed	Vb	mm/s	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 that exceed the specifications.

*Depending on acceleration/deceleration and stroke length, the trapezoid speed waveform may not be formed (the set speed may not be achieved). In this case, select the effective speed (Vb) from the set speed (V) and the achieved speed (Vmax), whichever is smaller.

*Use at acceleration and deceleration of 1 G or less for horizontal use and 0.5 G or less for vertical use.

*While settling time depends on working conditions, it may take 0.2 seconds or so.

*1 G $\approx$ 9.8 m/s².

STEP 3 Confirming allowable overhang length

Make sure that the load overhang length during operation is within the allowable range (pages 34 to 39).

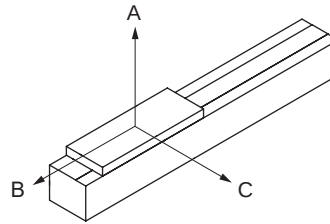
Contact CKD for selection details.

MEMO

Servo motor compatible								Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS	

Allowable overhang length (EBS Series)

[When installed horizontally]



[Allowable overhang length]

● EBS-04

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	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

*Values are when the actuator operating life is 5,000 km. (Screw lead: 2 mm is the value when the operating life is 1,000 km.)

*The overhang direction is for a single-direction load.

*Dimensions A, B, and C are measured from the center of the table top.

*Values are at stroke: 350 mm and motor rotation speed: 3,000 rpm. However, for EBS-12, acceleration/deceleration 0.3G is the values at 1,800 rpm and 0.5G is the values at 2,400 rpm.

● EBS-05

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	0.3	2	10	1000	160	225
			20	1000	75	105
			30	815	45	65
		5	10	1000	125	170
			20	500	55	75
			30	305	35	45
		10	5	1000	235	285
			10	580	110	135
			15	360	70	80
		20	2.5	1000	400	385
			5	615	195	180
			10	265	90	75
	0.5	2	10	1000	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	1000	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

Allowable overhang length (EBS Series)

● EBS-08

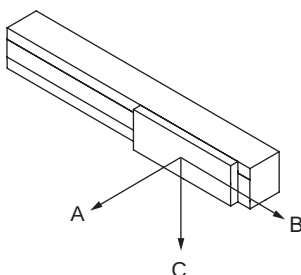
Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	0.3	5	10	1000	400	620
			25	1000	150	235
			50	560	65	105
		10	10	1000	360	480
			20	840	170	230
			30	530	110	140
		20	2.5	1000	1000	1000
			5	1000	610	670
			10	950	295	315
	0.5	5	10	1000	400	620
			25	920	150	235
			50	420	65	105
		10	10	1000	360	480
			20	625	170	225
			30	390	110	140
		20	2.5	1000	1000	1000
			5	1000	610	620
			10	670	295	290
	1	5	10	1000	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	1000	1000	1000
			5	870	610	520
			10	400	295	240

● EBS-12

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	0.3	5	30	1800	445	730
			60	1800	215	350
			100	1050	120	200
		10	30	1800	400	580
			50	1200	230	335
			80	730	140	195
		20	10	1800	1000	1150
			20	1600	505	560
			40	775	240	260
		32	10	1800	950	1100
			20	1600	480	540
			30	1000	315	355
	0.5	5	30	1800	445	720
			60	1300	215	345
			100	755	120	195
		10	30	1450	400	555
			50	865	230	320
			80	510	140	185
		20	10	1800	1000	1050
			20	1150	505	520
			40	540	240	240
		32	10	1550	800	750
			20	760	400	355
			30	480	260	220
	1	5	30	1650	445	690
			60	800	215	330
			100	460	120	185
		10	30	930	400	500
			50	530	230	285
			80	305	140	160
		20	10	1500	1000	915
			20	715	500	435
			40	325	240	195
		32	10	725	700	455
			20	325	335	205
			30	195	215	120

Allowable overhang length (EBS Series)

[When wall-mounted]



[Allowable overhang length]

● EBS-04

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	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

*Values are when the actuator operating life is 5,000 km. (Screw lead: 2 mm is the value when the operating life is 1,000 km.)

*The overhang direction is for a single-direction load.

*Dimensions A, B, and C are measured from the center of the table top.

*Values are at stroke: 350 mm and motor rotation speed: 3,000 rpm. However, for EBS-12, acceleration/deceleration 0.3G is the values at 1,800 rpm and 0.5G is the values at 2,400 rpm.

● EBS-05

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	0.3	2	10	175	125	1000
			20	55	40	1000
			30	15	10	540
		5	5	310	230	1000
			10	125	90	965
			20	30	20	335
		10	5	245	200	1000
			10	90	75	460
			15	40	30	230
		20	2.5	350	355	1000
			5	145	145	500
			10	45	45	150
	0.5	2	10	175	125	1000
			20	55	40	775
			30	15	10	385
		5	5	310	230	1000
			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	1000
			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

Allowable overhang length (EBS Series)

● EBS-08

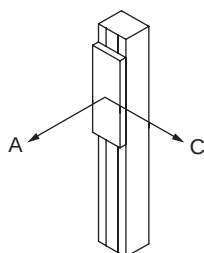
Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	0.3	5	10	580	370	1000
			25	185	120	1000
			50	55	35	465
		10	10	450	325	1000
			20	190	135	795
			30	100	75	455
		20	2.5	1000	1000	1000
			5	630	565	1000
			10	280	250	850
	0.5	5	10	580	370	1000
			25	185	120	855
			50	55	35	330
		10	10	445	325	1000
			20	185	135	565
			30	100	75	325
		20	2.5	1000	1000	1000
			5	585	565	1000
			10	260	250	605
	1	5	10	555	370	1000
			25	180	120	530
			50	50	35	200
		10	10	405	325	800
			20	165	135	350
			30	90	70	195
		20	2.5	1000	1000	1000
			5	500	560	845
			10	220	250	370

● EBS-12

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight/ side/bottom	0.3	5	30	685	415	1800
			60	300	185	1750
			100	150	90	960
		10	30	540	365	1800
			50	290	200	1100
			80	155	105	625
		20	10	1100	980	1800
			20	525	460	1500
			40	225	200	670
		32	10	1085	925	1800
			20	530	425	1455
			30	325	275	950
	0.5	5	30	675	415	1800
			60	300	185	1250
			100	145	90	685
		10	30	515	365	1400
			50	280	200	805
			80	145	105	445
		20	10	1000	980	1800
			20	490	460	1100
			40	210	195	480
		32	10	700	740	1520
			20	325	350	690
			30	190	210	415
	1	5	30	645	415	1600
			60	285	185	780
			100	140	90	425
		10	30	465	365	900
			50	250	200	500
			80	130	105	270
		20	10	895	980	1450
			20	415	460	685
			40	175	195	295
		32	10	435	630	695
			20	185	270	295
			30	100	150	165

Allowable overhang length (EBS Series)

[When installed vertically]



[Allowable overhang length]

● EBS-04

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm	
				A	C
Straight/ side/bottom	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

*Values are when the actuator operating life is 5,000 km. (Screw lead: 2 mm is the value when the operating life is 1,000 km.)

*The overhang direction is for a single-direction load.

*Dimensions A, B, and C are measured from the center of the table top.

*Values are at stroke: 350 mm and motor rotation speed: 3,000 rpm. However, for E B S-12, acceleration/deceleration 0.3G is the values at 1,800 rpm and 0.5G is the values at 2,400 rpm.

● EBS-05

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm	
				A	C
Straight/ side/bottom	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	1000	1000
			2.5	435	410
			5	195	180
		20	0.5	1000	1000
			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	1000	1000
			2.5	430	410
			5	190	180
		20	0.5	1000	1000
			1	870	740
			2.5	315	275

Servo motor compatible

Stepper motor compatible

Safety precautions

Allowable overhang length (EBS Series)

● EBS-08

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm	
				A	C
Straight/ side/bottom	0.3	5	5	775	760
			10	360	350
			15	220	220
		10	3	1000	1000
			5	680	630
			8	405	375
		20	0.5	1000	1000
			1	1000	1000
			2.5	1000	930
	0.5	5	5	775	760
			10	360	350
			15	220	220
		10	3	1000	1000
			5	670	630
			8	400	375
		20	0.5	1000	1000
			1	1000	1000
			2.5	1000	890

● EBS-12

Motor mounted	Acceleration/deceleration G	Screw lead	Weight kg	Overhang mm	
				A	C
Straight/ side/bottom	0.3	5	10	1300	1300
			20	635	625
			30	405	400
		10	10	1150	1100
			15	765	715
			20	560	525
		20	5	1800	1500
			7	1300	1100
			10	910	765
		32	3	1800	1750
			5	1750	1515
			8	1115	950
	0.5	5	10	1300	1250
			20	635	625
			30	405	400
		10	10	1150	1050
			15	750	710
			20	550	520
		20	5	1750	1500
			7	1200	1050
			10	870	740
		32	3	1800	1775
			5	1350	1075
			8	805	680
	1	5	10	1300	1250
			20	630	615
			30	400	395
		10	10	1100	1000
			15	725	685
			20	530	500
		20	5	1600	1352
			7	1100	995
			10	790	685
		32	3	1550	1250
			5	920	750
			8	555	460

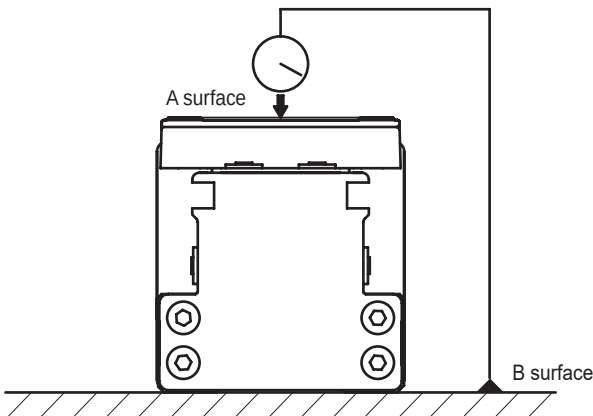
Servo motor compatible

Stepper motor compatible

Safety precautions

- EBS
- EBR
- ETS
- ETSMulti-Axis
- ECS
- ETV
- ECV
- EKS
- EBS
- EBR
- ETS
- ECS

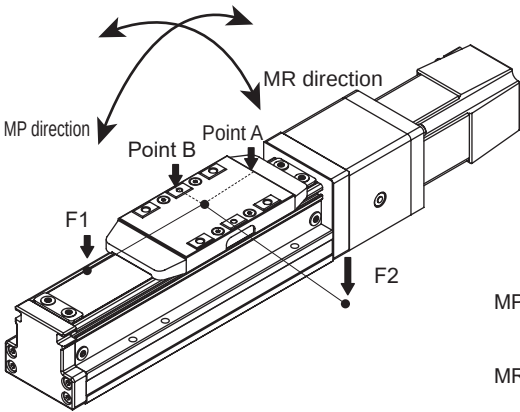
Slider parallelism (EBS Series) *Reference value



	Parallelism
	A surface against B surface
EBS-04 Series	0.03
EBS-05 Series	
EBS-08 Series	
EBS-12 Series	

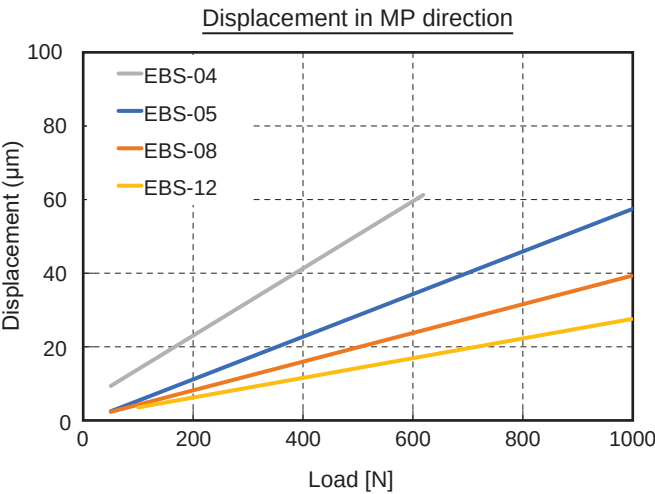
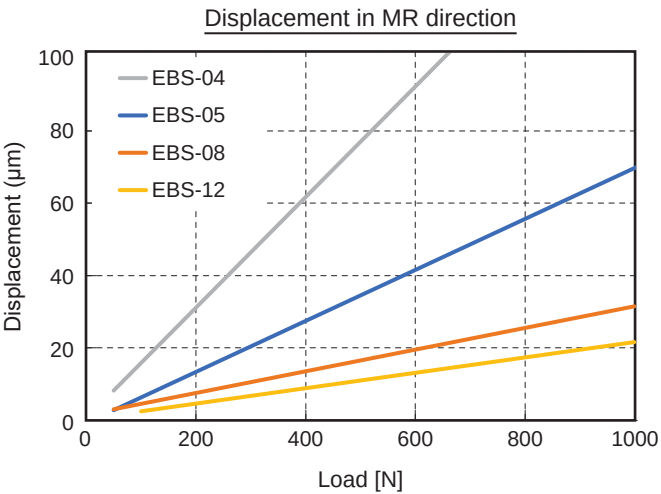
*Parallelism with the product fixed to a surface plate.

Table deflection (EBS Series) *Reference value



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

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



List of attachments

Motor mounting bolt (common motor mounting direction)

Model No.	Mounted motor specification	Motor size	Size	Quantity
EBS-04	M	50 W	M4	4
	Y		M4	4
	P		M3	4
	F		M4	4
EBS-05	M	100 W	M4	4
	Y		M4	4
	P		M3	4
	F		M4	4
EBS-08	M	200 W	M5	4
	Y		M5	4
	P		M4	4
	F		M5	4
EBS-12	M	400 W	M5	4
	Y		M5	4
	P		M4	4

Coupling

Model No.	Part name	Quantity
LE (Motor mounting direction: Straight)	Coupling (Assembled at shipment)	1

Timing belt, pulley (motor side)

Model No.	Shipping format	Quantity
L * (Motor mounting on side/bottom)	Included at shipment *1	1 each

*1 The body side pulley is assembled.

Sensor mounting plate

Model No.	Shipping format	Quantity
For both with and without sensor	Included at shipment *1	3

*1 Screws for mounting plate are also included.
Sensor dogs are assembled onto all products.

Origin sensor, limit sensor

Model No.	Shipping format	Quantity
When "with" sensor is selected	Included at shipment *2	3 *3

*2 Sensor mounting screws are also included.

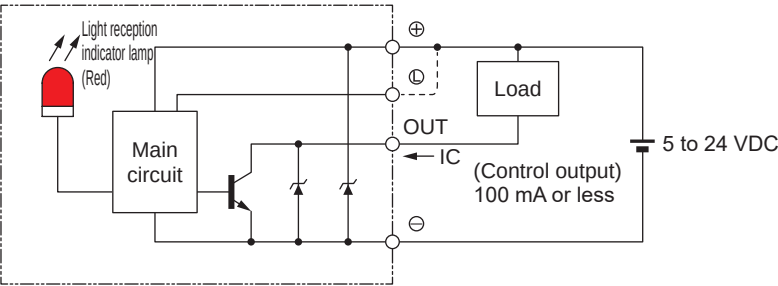
*3 When "None" is selected for origin sensor or limit sensor, the other sensor is also "None".

Origin sensor, limit sensor

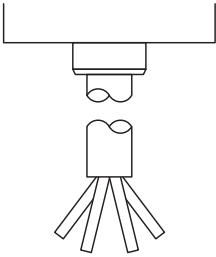
[Specifications]

Item		Specifications
Manufacturer	Manufacturer	OMRON Corporation
	Model	EE-SX674
Hysteresis		0.025 mm or less
Light source (peak emission wavelength)		GaAs infrared LED (940 nm)
Indicator lamp		ON when receiving light (red)
Power supply voltage		5 to 24 VDC $\pm$ 10% ripple (P-P) 10% or less
Current consumption		12 mA or less (with L terminal open)
Control output	Type	NPN (NPN open collector)
	Output	5 to 24 VDC 100 mA or less
	Current when OFF	0.5 mA or less
	Residual voltage	0.8 V or less (with 100 mA load current) 0.4 V or less (with 40 mA load current)
Operating ambient illumination		Light-receiving surface luminance Fluorescent light: 1,000 lx or less
Ambient temperature range	Operating	-25 to + 55°C, no condensation or freezing
	In storage	-30 to + 80°C, no condensation or freezing
Ambient humidity range	Operating	5 to 85% RH, no condensation or freezing
	In storage	5 to 95% RH, no condensation or freezing
Degree of protection		IP50 IEC 60529 Standards
Cord length		2 m (Connector with cord [EE-1006 2M])

Output circuit



Wiring diagram



Terminal layout

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

Maintenance parts

■ Maintenance parts (coupling)

Model No.	Compatibility	Hole diameter
		
EBS-05-COUPLING	EBS-04, EBS-05	ø8
EBS-08-COUPLING-M	EBS-08 (Mounted motor specification: M/Y/F)	ø14
EBS-08-COUPLING-P	EBS-08 (Mounted motor specification: P)	ø11
EBS-12-COUPLING-M	EBS-12 (Mounted motor specification: M/Y)	ø14
EBS-12-COUPLING-P	EBS-12 (Mounted motor specification: P)	ø14

■ Maintenance parts (timing belt, pulley)

Model No.	Compatibility	Part
		
EBS-04-BELT-KIT	EBS-04LR/LD/LL	Timing belt, pulley (motor side) (1 each)
EBS-05-BELT-KIT	EBS-05LR/LD/LL	
EBS-08-BELT-KIT-M	EBS-08LR/LD/LL (Mounted motor specification: M/Y/F)	
EBS-08-BELT-KIT-P	EBS-08LR/LD/LL (Mounted motor specification: P)	
EBS-12-BELT-KIT-M	EBS-12LR/LD/LL (Mounted motor specification: M/Y)	
EBS-12-BELT-KIT-P	EBS-12LR/LD/LL (Mounted motor specification: P)	

■ Maintenance parts (origin sensor, limit sensor)

Model No.	Compatibility	Part
		
EBS-04-SENSOR-N-KIT	EBS-04	Body, cable, mounting plate (1 each) *1
EBS-08-SENSOR-N-KIT	EBS-05, EBS-08	Body, cable, mounting plate (1 each) *1
EBS-12-SENSOR-N-KIT	EBS-12	Body, cable, mounting plate (1 each) *1

*1 Mounting plate screws and sensor mounting screws are also included.

■ Maintenance parts (grease nozzle)

Model No.	Compatibility
	
EBS-NOZZLE	EBS-04, EBS-05, EBS-08

■ Maintenance parts (steel belt)

Model No.	Compatibility
	
EBS-04-STEELBELT (stroke code 4-digit)	EBS-04 (applicable stroke product)
EBS-05-STEELBELT (stroke code 4-digit)	EBS-05 (applicable stroke product)
EBS-08-STEELBELT (stroke code 4-digit)	EBS-08 (applicable stroke product)
EBS-12-STEELBELT (stroke code 4-digit)	EBS-12 (applicable stroke product)