

EBR-L

Rod Type with Built-in Guide

Electric Actuator
Stepping Motor Compatible
Motorless Specification



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Servo motor compatible

EBS

EBR

ETS

ECS

Ending

Servo motor compatible

EBS

EBR

ETS

ECS

Ending

EBR-L

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Servo motor compatible

EBS

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Servo motor compatible

EBS

EBR

ETS

ECS

Ending

Rod-type
stepping motor compatible

EBR-L Series



Servo motor compatible

EBS

EBR

ETS

ECS

Built-in guide makes it ideal for press-fitting and lifting/lowering.

Line-up	Body Size	04	05	08		Catalog page
	Motor size	□42	□42	□56	□60	
EBR-L						498
Metal stopper specifications EBR-L-X						498
Compatible with rechargeable battery manufacturing processes EBR-L-P4						CC-1226AA
Supports food manufacturing processes EBR-L-FP1						CC-1271AA

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

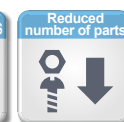
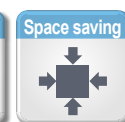
Stepping Motor

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

Ending

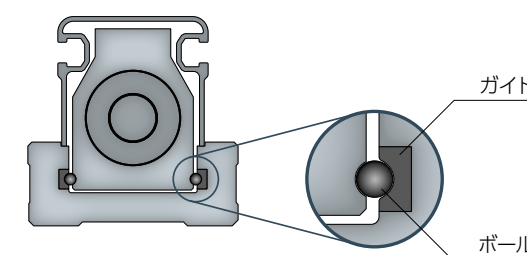
Motorless specifications

ROBODEX Std.

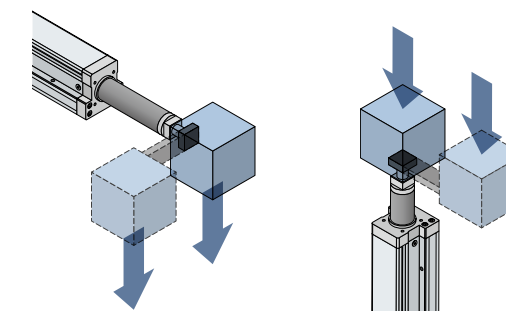


Compact, high-rigidity body

The guide that supports the load uses an outer rail. The wide guide integrated with the body achieves both high rigidity and space-saving. It has a structure that is strong against offset workpieces and achieves a longer stroke than conventional products.

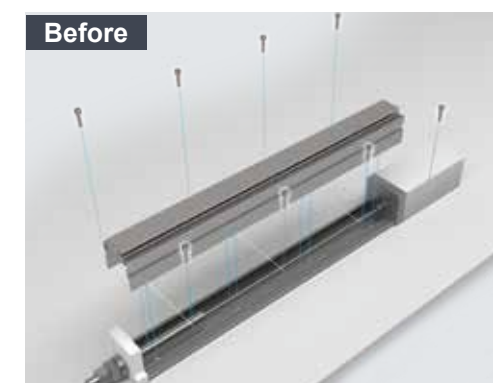
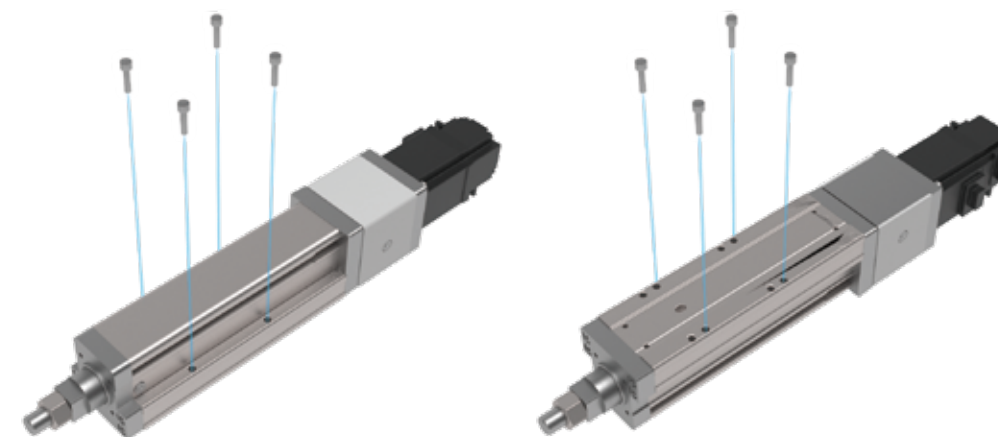


Can handle offset workpieces

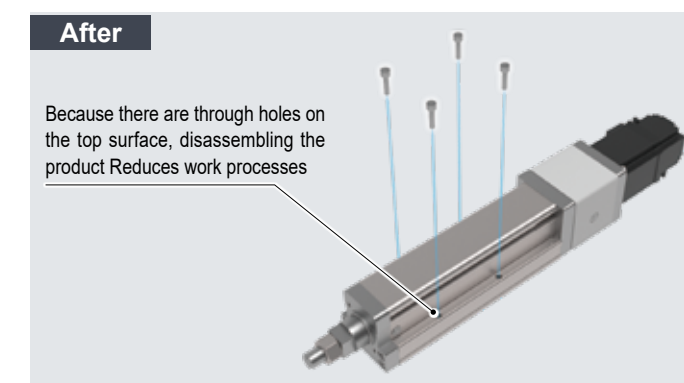


Mounting holes provided on top and bottom surfaces

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



Disassemble main body for top mounting



Top mounting without disassembling the body

Because there are through holes on the top surface, disassembling the product Reduces work processes

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									Stroke (mm) and Max. Speed (mm/s) *3																	Page																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
						<div>Horizontal</div> <div>*1</div>	<div>Vertical</div>	50 mm	100	150							200	*4	300	350	*4	450	*4	550	600	650	*4	750	800	850	900		950	1,000	1050	1100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

Model Number Configuration

Rod Type with Built-in Guide

EBR - 05 L E - 00 - 02 0050 NNN - A A N N - X

1 Body Size

04 Body width 44 mm

05 Body width 54 mm

08 Body width 82 mm

2 Motor

L None

3 Motor Mounting Direction

E Inline Mount

R Right Side Return Mount

D Bottom Side Return Mount

L Left Side Fold-back Mounting

4 Screw Lead

02 2 mm

05 5 mm

06 6 mm

10 10 mm

12 12 mm

5 Stroke

0050 50 mm

to 0700 (every 50 mm)

0700 700 mm

6 Mounting Motor Specifications

A Refer to the list on the page at right

B

C

7 Motor Size

A □42

B □56

C □60

8 Origin sensor

N None

C Yes

9 Limit sensor

N None

B Yes

10 Metal Stopper Specification (EBR-X)

Standard

X Adopted

Screw Lead / Stroke Compatibility Table by Body Size

Body Size	Screw Lead	Stroke
04	06	0050 to 0400 (50 mm to 400 mm)
	12	
05	02	0050 to 0400 (50 mm to 400 mm)
	05	
	10	
	20	
08	05	0050 to 0700 (50 mm to 700 mm)
	10	
	20	

*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.

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.	A17PM/A23 KM	A17PM□□□□CSTBCN	A23KM□□□□CSTBCN	-
B	Dyadic Systems Co., Ltd.	RMJ	RMJ0411	-	-
C		RMJ	-	RMJ0611, RMJ1211	-

* This product is provided as an actuator (and motor mounting parts) only; the motor is not included. The motor and driver should be prepared, mounted, and adjusted by the customer.

498

CKD

CKD

499



Electric Actuator (Motorless Specification) Rod Type with Built-in Guide

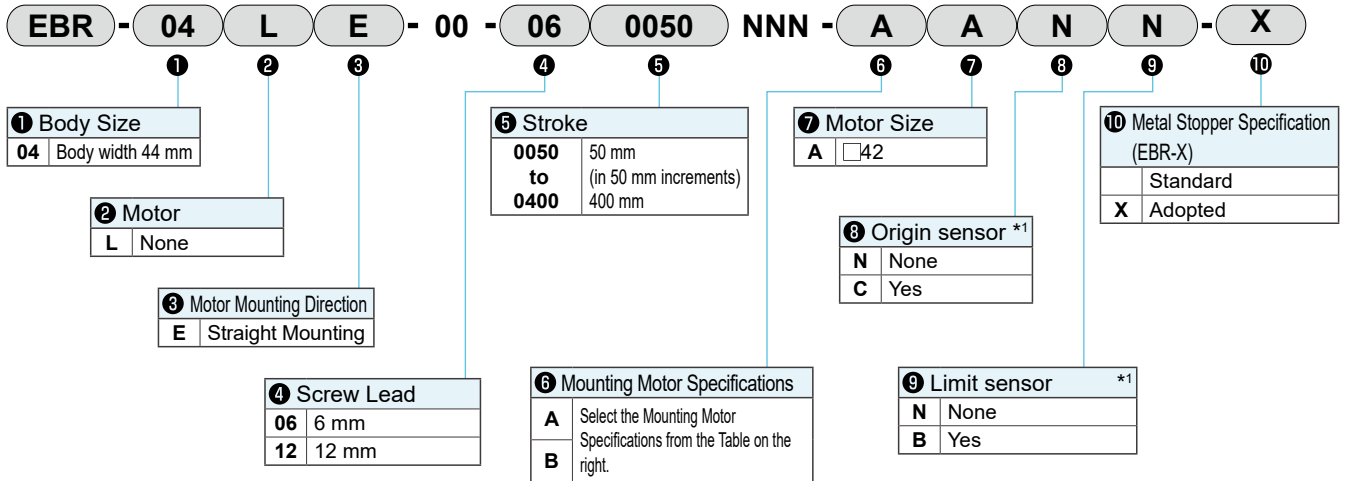
EBR-04LE

Inline Motor Mount Type

● Stepping Motor Size : ☐42



Model No. Notation Method



Manufacturer	<input type="checkbox"/> 42
Oriental Motor Co., Ltd.	A
MinebeaMitsumi Inc.	B
Dyadic Systems Co., Ltd.	B

* For motor model Nos., please refer to P. 499.

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

Specifications

Applicable Motor Size	<input type="checkbox"/> 42 Stepping motor	
Drive Method	Ball screw ø10	
Stroke	mm	50 to 400
Screw lead	mm	6 12
Max. Payload *1	Horizontal	20
	Vertical	5
Max. Speed	mm/s	300 600
Rated thrust *1	N	141 71
Repeatability	mm	±0.01
Lost Motion	mm	0.1 or less
Drive part weight	kg	0.6
Other inertia	kg·cm ²	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	-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.

* For allowable load at overhang, please refer to P. 520.

Stroke and Max. Speed

Stroke Screw Lead	(mm/s)			
	50 to 250	300	350	400
6	300		250	
12	600		510	

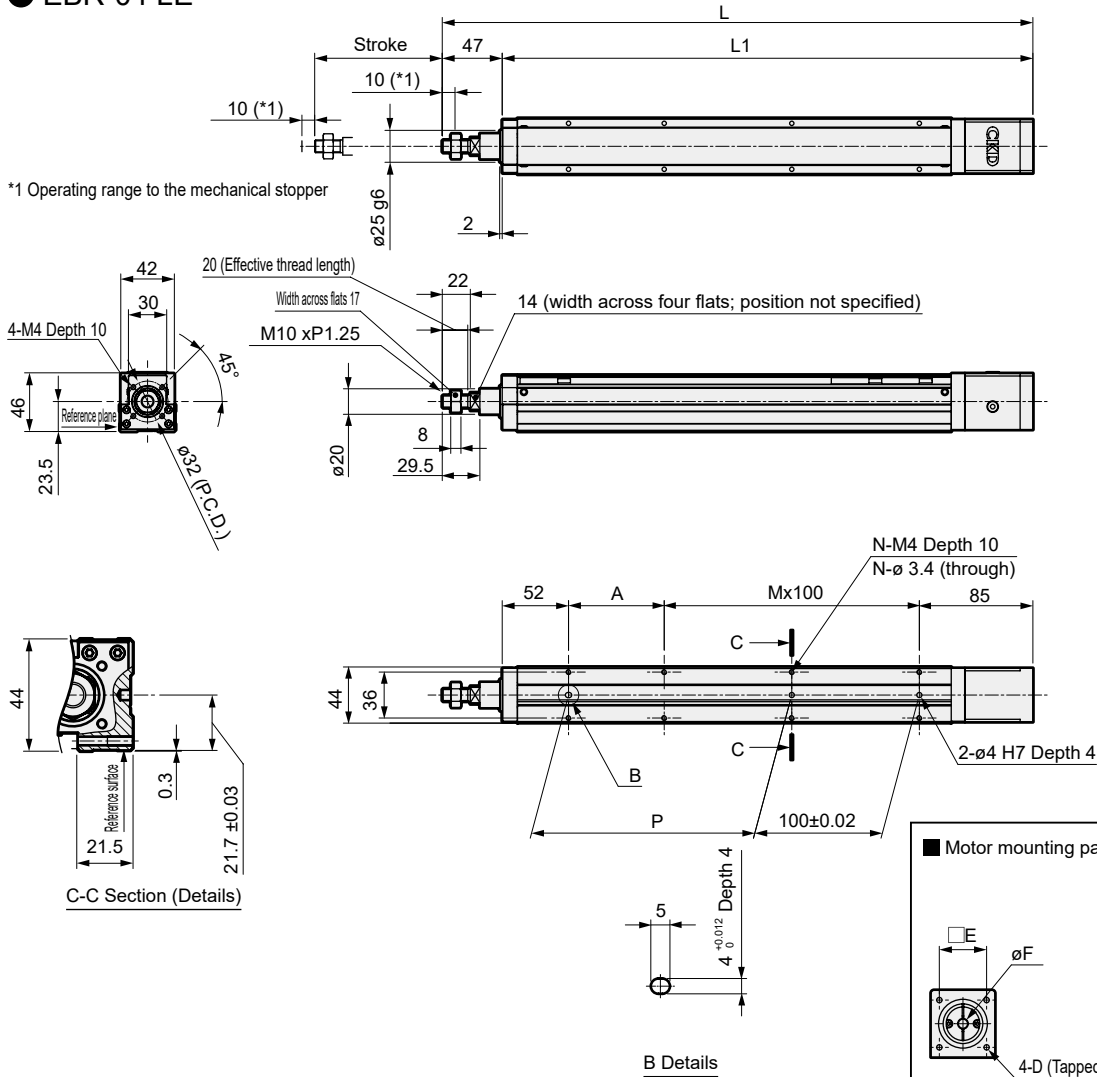
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

EBR-04LE

Dimensions / List of attachments

External Dimension Drawing Motor Straight Mounting

● EBR-04 LE



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

* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	309	359	409	459	509	559	609	659
L1	262	312	362	412	462	512	562	612
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	1.1	1.2	1.4	1.6	1.7	1.9	2.0	2.2

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	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.



Electric actuator (motorless specifications) Rod with Built-in Guide

EBR-04L

Reverse Parallel Motor Mount Type

Stepping Motor Size : 42



Model No. Notation Method

EBR

-

04

L

R

-

00

-

06

0050

NNN

-

A

A

N

N

-

X

1

Body Size

04

Body width 44 mm

2

Motor

L

None

3

Motor Mounting Direction

R

Right Side Fold-back Mounting

D

Bottom Side Fold-back Mounting

L

Left Side Fold-back Mounting

4

Screw Lead

06

6 mm

12

12 mm

5

Stroke

0050 to 0400

50 mm (in 50 mm increments) 400 mm

6

Mounting Motor Specifications

A

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

B

7

Motor Size

A

42

8

Origin sensor *1

N

None

C

Yes

9

Limit sensor *1

N

None

B

Yes

10

Metal Stopper Specification (EBR-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. 499.

*1 The home 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 400
Screw lead	mm	6 12
Max. Payload *1	Horizontal	20
	Vertical	5
Max. Speed	mm/s	300 600
Rated thrust *1	N	141 71
Repeatability	mm	±0.01
Lost Motion	mm	0.1 or less
Drive part weight	kg	0.6
Other inertia	kg·cm ²	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.

* For allowable load at overhang, please refer to P. 520.

Stroke and Max. Speed

		(mm/s)			
Screw Lead	Stroke	50 to 250	300	350	400
		300		250	
	12	600		510	

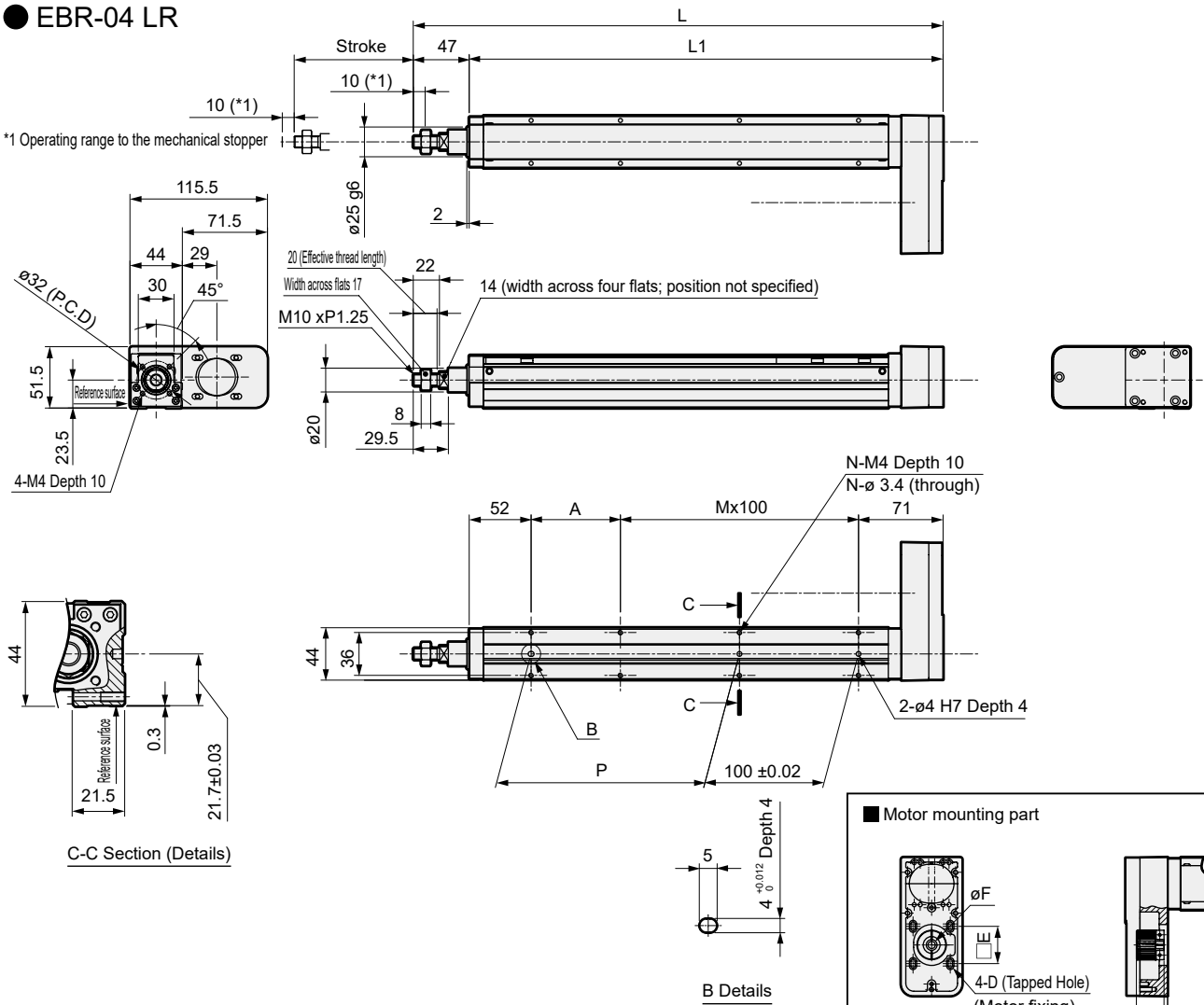
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

EBR-04L

Dimensions / List of attachments

External Dimension Drawing Motor Right Side Fold-back Mounting

EBR-04 LR



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	295	345	395	445	495	545	595	645
L1	248	298	348	398	448	498	548	598
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.4

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

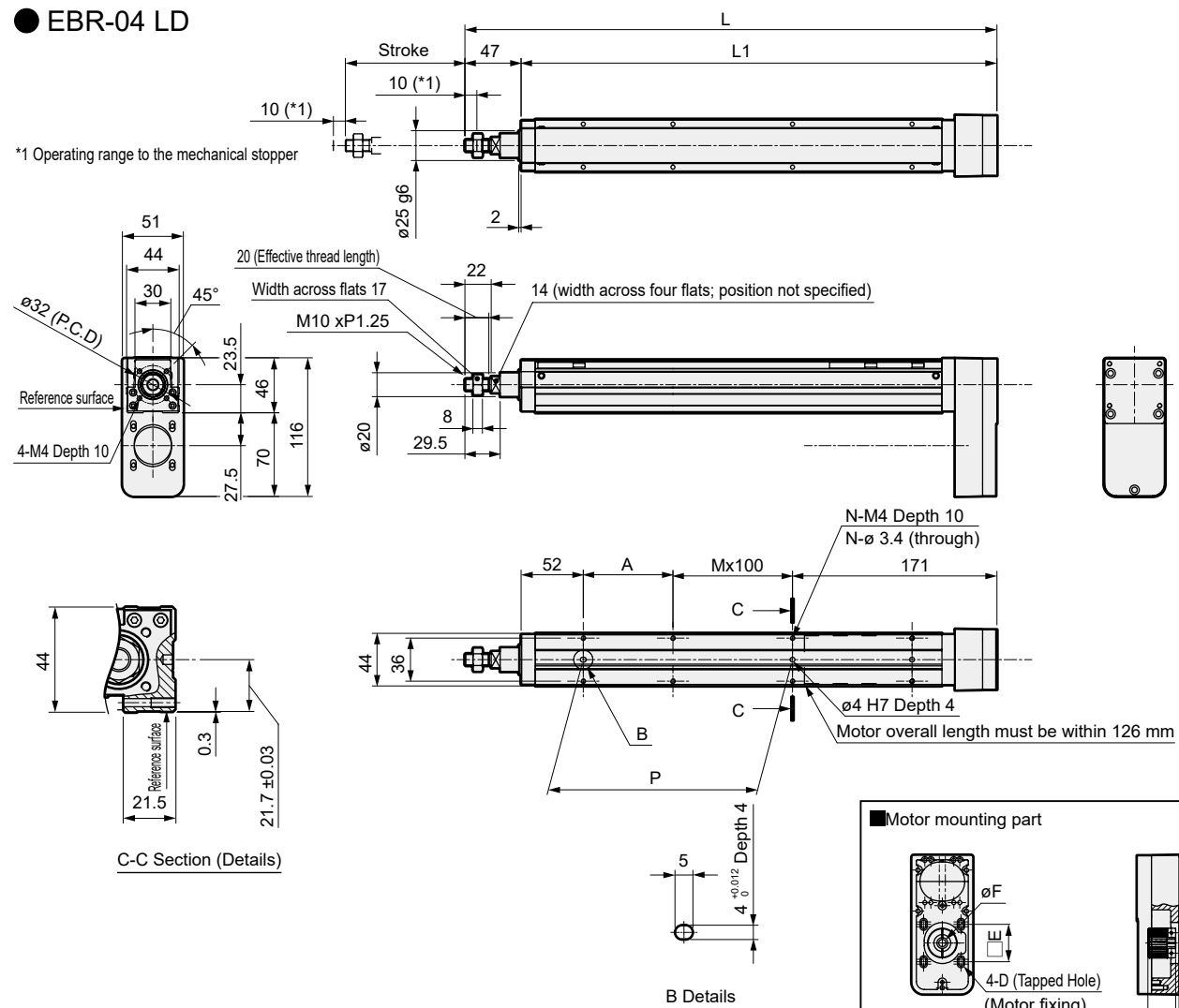
[Home Sensor, Limit Sensor]

Sensor		
Manufacturer	Model	Attached Quantity
KITA	KT-32N-2 M	3

* For sensor specifications, please refer to P. 524.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

● EBR-04 LD



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	295	345	395	445	495	545	595	645
L1	248	298	348	398	448	498	548	598
A	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3
N	4	4	6	6	8	8	10	10
P	25	75	125	175	225	275	325	375
Weight (kg)	1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.4

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

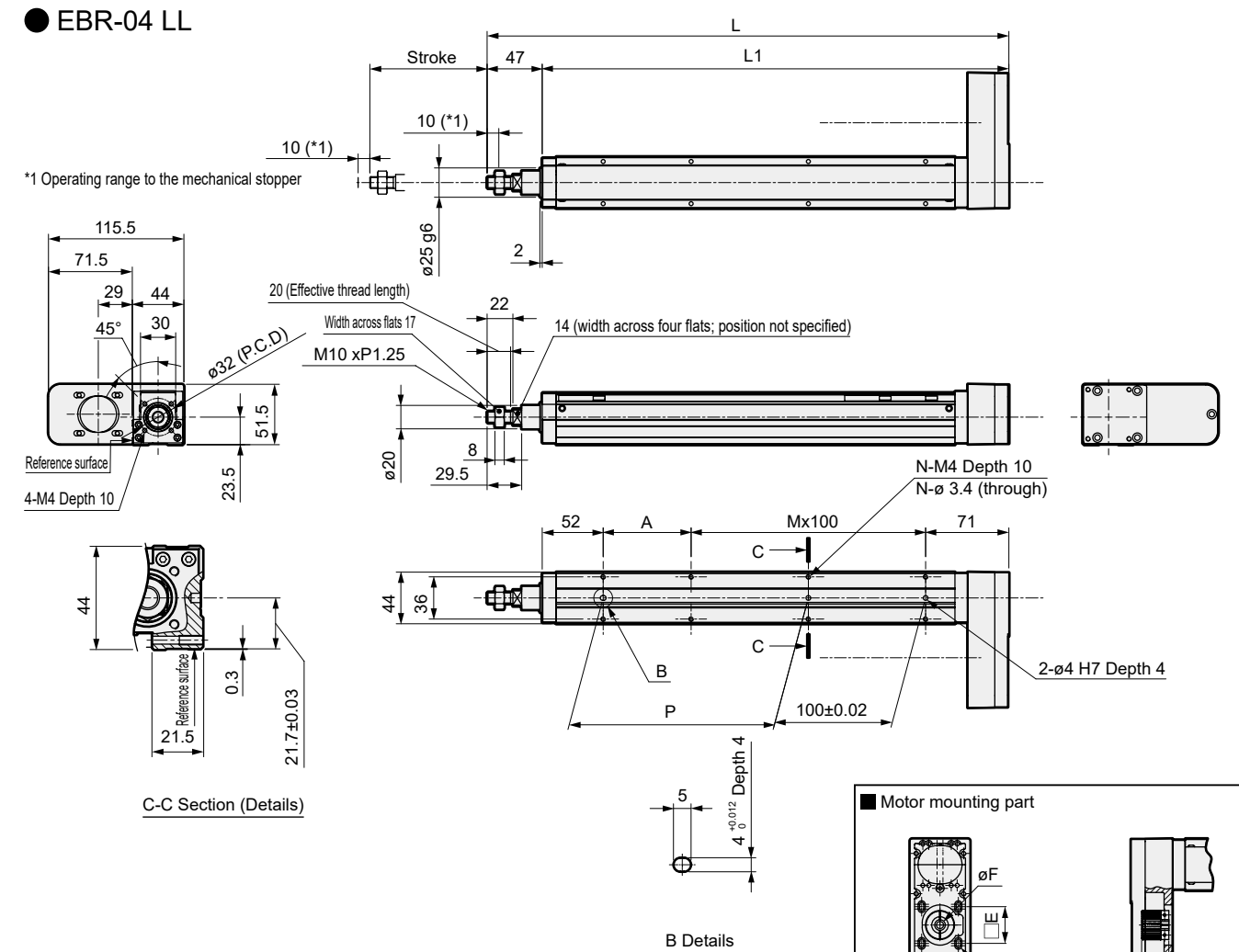
[Home Sensor, Limit Sensor]

Sensor		
Manufacturer	Model	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.

External Dimension Drawing Motor Left Side Fold-back Mounting

● EBR-04 LL



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	295	345	395	445	495	545	595	645
L1	248	298	348	398	448	498	548	598
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.4

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	Attached Quantity
KITA	KT-32N-2 M	3

* For sensor specifications, please refer to P. 524.



Electric Actuator (Motorless Specification) Rod Type with Built-in Guide

EBR-05LE

Inline Motor Mount Type

● Stepping Motor Size : □42



Model No. Notation Method

EBR - 05 L E - 00 - 02 0050 NNN - A A N N - X

1 Body Size

05 Body width 54 mm

2 Motor

L None

3 Motor mounting method

E Inline Mount

4 Screw Lead

02 2 mm

05 5 mm

10 10 mm

20 20 mm

5 Stroke

0050 to 0400 50 mm (in 50 mm increments) 400 mm

6 Mounting Motor Specifications

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

B

7 Motor Size

A □42

8 Origin sensor *1

N None

C Yes

9 Limit sensor *1

N None

B Yes

10 Metal Stopper Specification (EBR-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. 499.

*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 400			
Screw lead	mm	2	5	10	20
Max. Payload *1	kg	Horizontal	30	30	15
	kg	Vertical	10	10	5
Max. Speed	mm/s	100	250	500	1,000
Rated thrust *1	N	854	341	170	85
Repeatability	mm	±0.01			
Lost Motion	mm	0.1 or less			
Drive part weight	kg	0.9			
Other inertia	kg·cm ²	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.

* For allowable load at overhang, please refer to P. 520.

Stroke and Max. Speed

(mm/s)		
Stroke	50 to 250	300 to 400
Screw Lead		
2	100	85
5	250	200
10	500	400
20	1,000	850

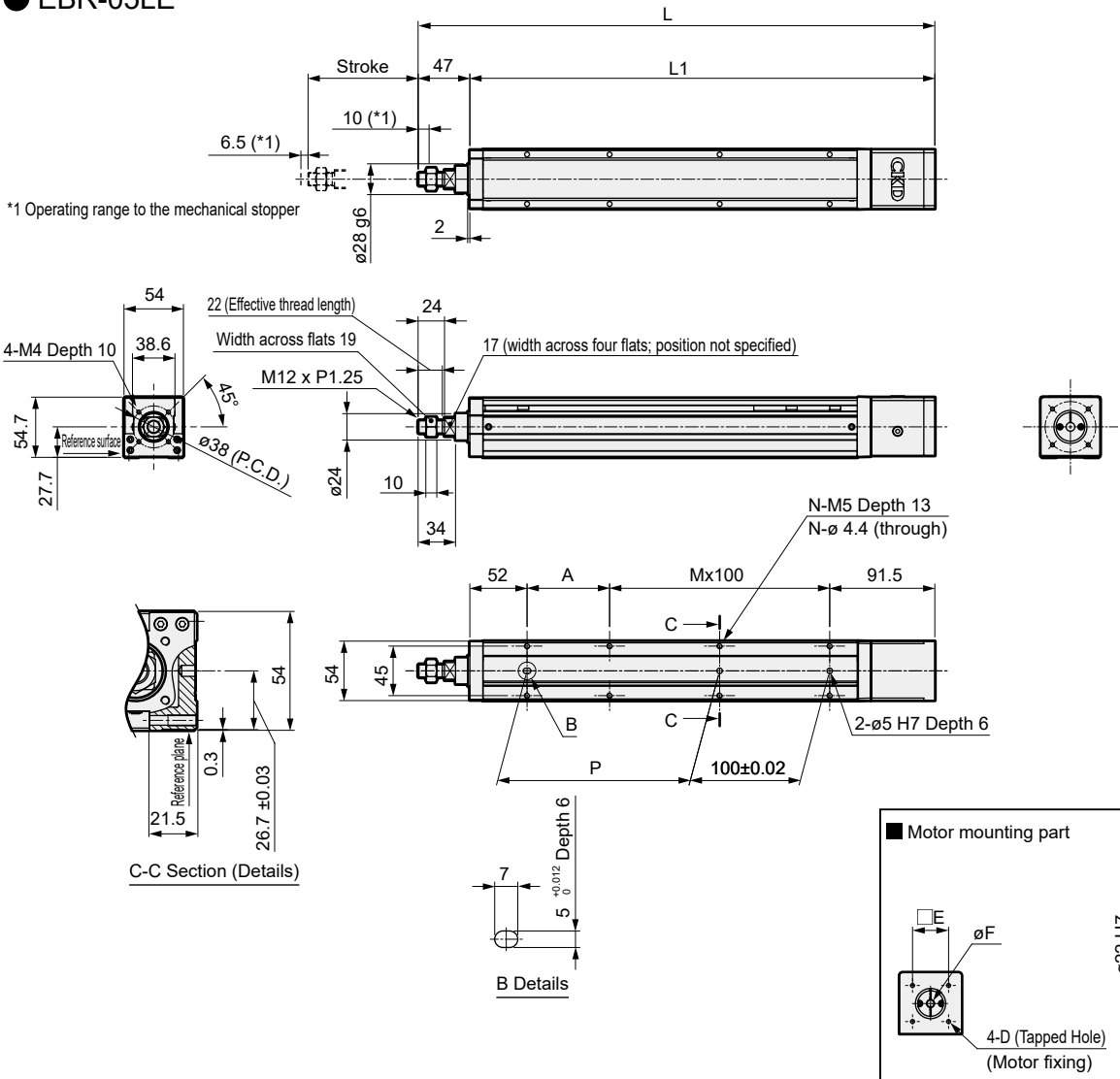
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

EBR-05LE

Dimensions / List of attachments

External Dimension Drawing Motor Straight Mounting

● EBR-05LE



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	315.5	365.5	415.5	495.5	515.5	565.5	616.5	665.5
L1	268.5	318.5	368.5	418.5	468.5	518.5	568.5	618.5
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.0

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	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.



Electric Actuator (Motorless Specification) Rod Type with Built-in Guide

EBR-05L

Reverse Parallel Motor Mount Type

Stepping Motor Size : 42



Model No. Notation Method

EBR

-

05

L

R

-

00

-

02

0050

NNN

-

A

A

N

N

-

X

1

Body Size

05

Body width 54 mm

2

Motor

L

None

3

Motor Mounting Direction

R

Right Side Return Mount

D

Bottom Side Return Mount

L

Left Side Fold-back Mounting

4

Screw Lead

02

2 mm

05

5 mm

10

10 mm

20

20 mm

5

Stroke

0050 to 0400

50 mm (in 50 mm increments)

400 mm

6

Mounting Motor Specifications

A

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

B

7

Motor Size

A

42

8

Origin sensor *1

N

None

C

Yes

9

Limit sensor *1

N

None

B

Yes

10

Metal Stopper Specification (EBR-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. 499.

*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 400				
Screw Lead		2	5	10	20	
Max. Payload *1	kg	Horizontal	30	30	15	10
			Vertical	10	10	5
Max. Speed mm/s		100		250	500	1,000
Rated thrust *1		N	854	341	170	85
Repeatability mm		±0.01				
Lost Motion mm		0.1 or less				
Drive part weight kg		0.9				
Other inertia kg·cm ²		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.

* For allowable load at overhang, please refer to P. 520.

Stroke and Max. Speed

Stroke Lead	(mm/s)			
	50 to 250	300	350	400
2	100	85		
5	250	200		
10	500	400		
20	1,000	850		

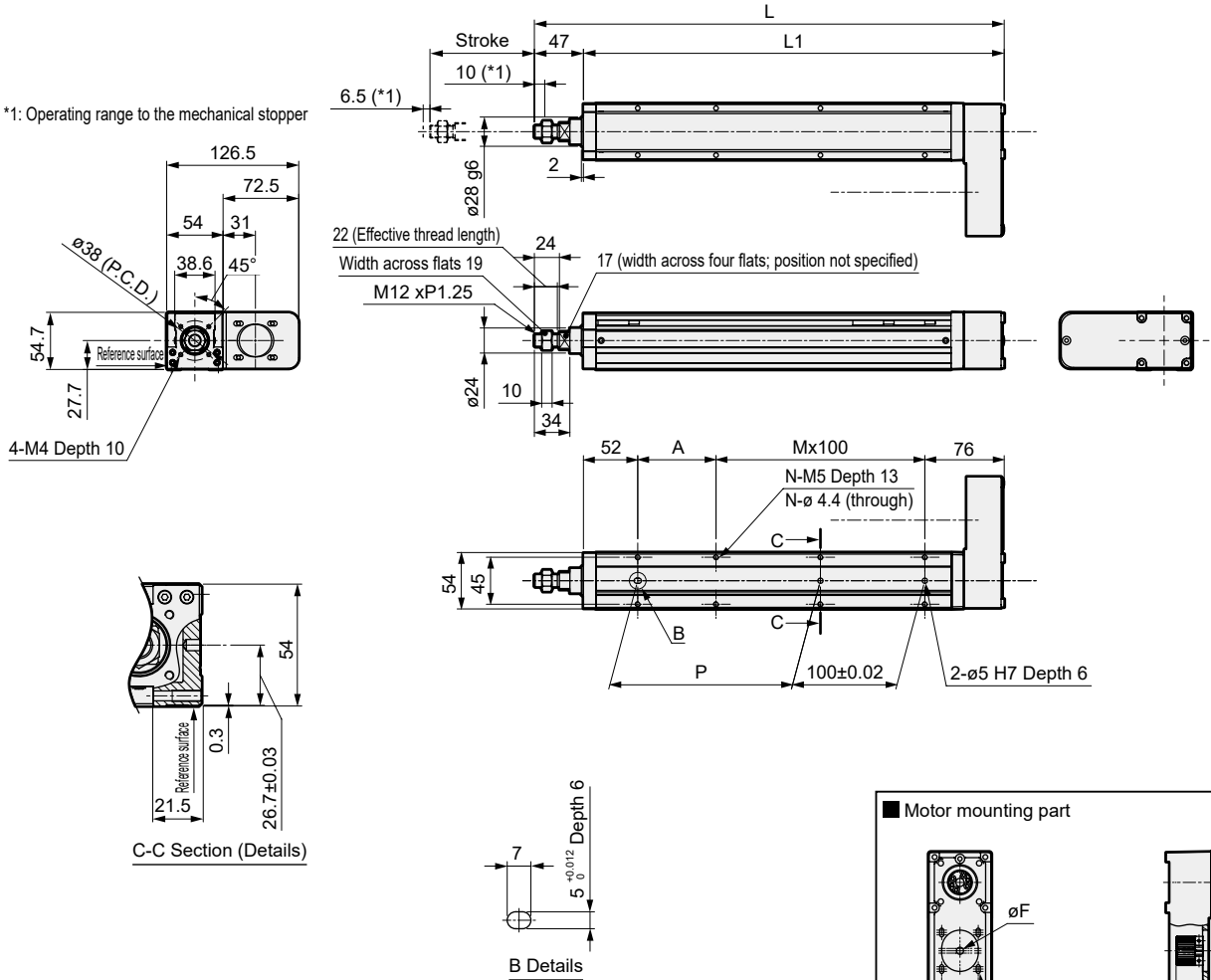
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not operate at speeds exceeding the limit. Please use lead 2 at 0.5 G or less.

EBR-05L

Dimensions / List of attachments

External Dimension Drawing Motor Right Side Fold-back Mounting

EBR-05LR



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	300	350	400	450	500	550	600	650
L1	253	303	353	403	453	503	553	603
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.2

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

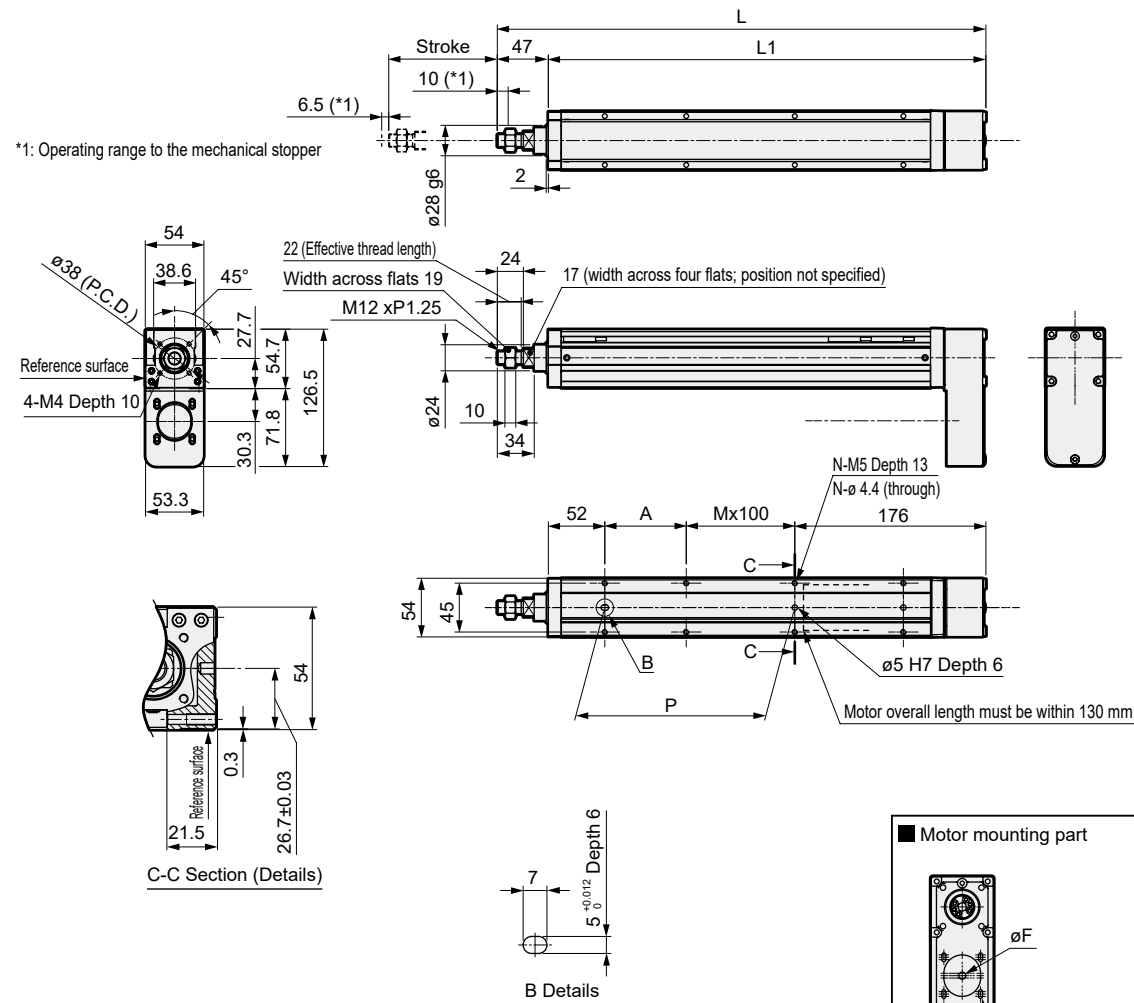
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

● EBR-05LD



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	300	350	400	450	500	550	600	650
L1	253	303	353	403	453	503	553	603
A	25	75	25	75	25	75	25	75
M	0	0	1	1	2	2	3	3
N	4	4	6	6	8	8	10	10
P	25	75	125	175	225	275	325	375
Weight (kg)	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.2

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

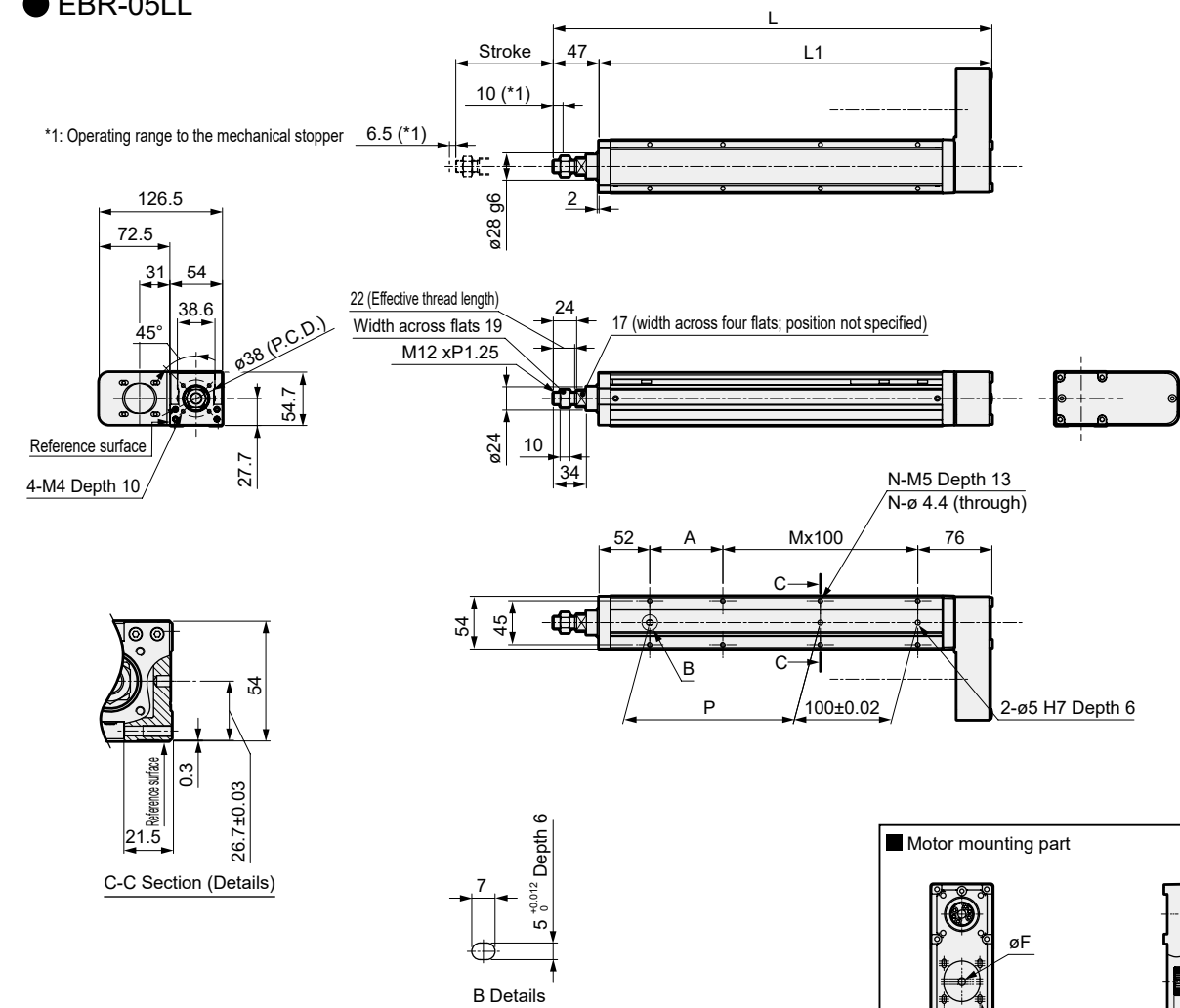
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.

External Dimension Drawing Motor Left Side Fold-back Mounting

● EBR-05LL



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400
Stroke (mm)	50	100	150	200	250	300	350	400
L	300	350	400	450	500	550	600	650
L1	253	303	353	403	453	503	553	603
A	25	75	25	75	25	75	25	75
M	1	1	2	2	3	3	4	4
N	6	6	8	8	10	10	12	12
P	25	75	125	175	225	275	325	375
Weight (kg)	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.2

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	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.



Electric Actuator (Motorless Specification) Rod Type with Built-in Guide

EBR-08LE

Inline Motor Mount Type

● Stepping Motor Size : □56, □60



Model No. Notation Method

EBR - 08 L E - 00 - 05 0050 NNN - A B N N - X

1 Body Size

08 Body width 82 mm

2 Motor

L None

3 Motor Mounting Direction

E Straight Mounting

4 Screw Lead

05 5 mm

10 10 mm

20 20 mm

5 Stroke

0050 to 0700

50 mm (in 50 mm increments)

700 mm

6 Mounting Motor Specifications

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

B

C

7 Motor Size

B □56

C □60

8 Origin sensor *1

N None

C Yes

9 Limit sensor *1

N None

B Yes

10 Metal Stopper Specification (EBR-X)

Standard

X Adopted

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

* For motor model Nos., please refer to P. 499.

*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 700		
Screw lead	mm	5	10	20
Max. Payload *1	kg	Horizontal	50	12
			30	
		Vertical	15	2.5
Max. Speed	mm/s	250	500	1,000
Rated thrust *1	N	683	341	174
Repeatability	mm	±0.01		
Lost Motion	mm	0.1 or less		
Drive part weight	kg	1.7		
Other inertia	kg·cm ²	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.
* For allowable load at overhang, please refer to P. 520.

Stroke and Max. Speed			
(mm/s)			
Stroke	50 to 300	350 to 700	
5	250	200	
10	500	400	
20	1,000	850	

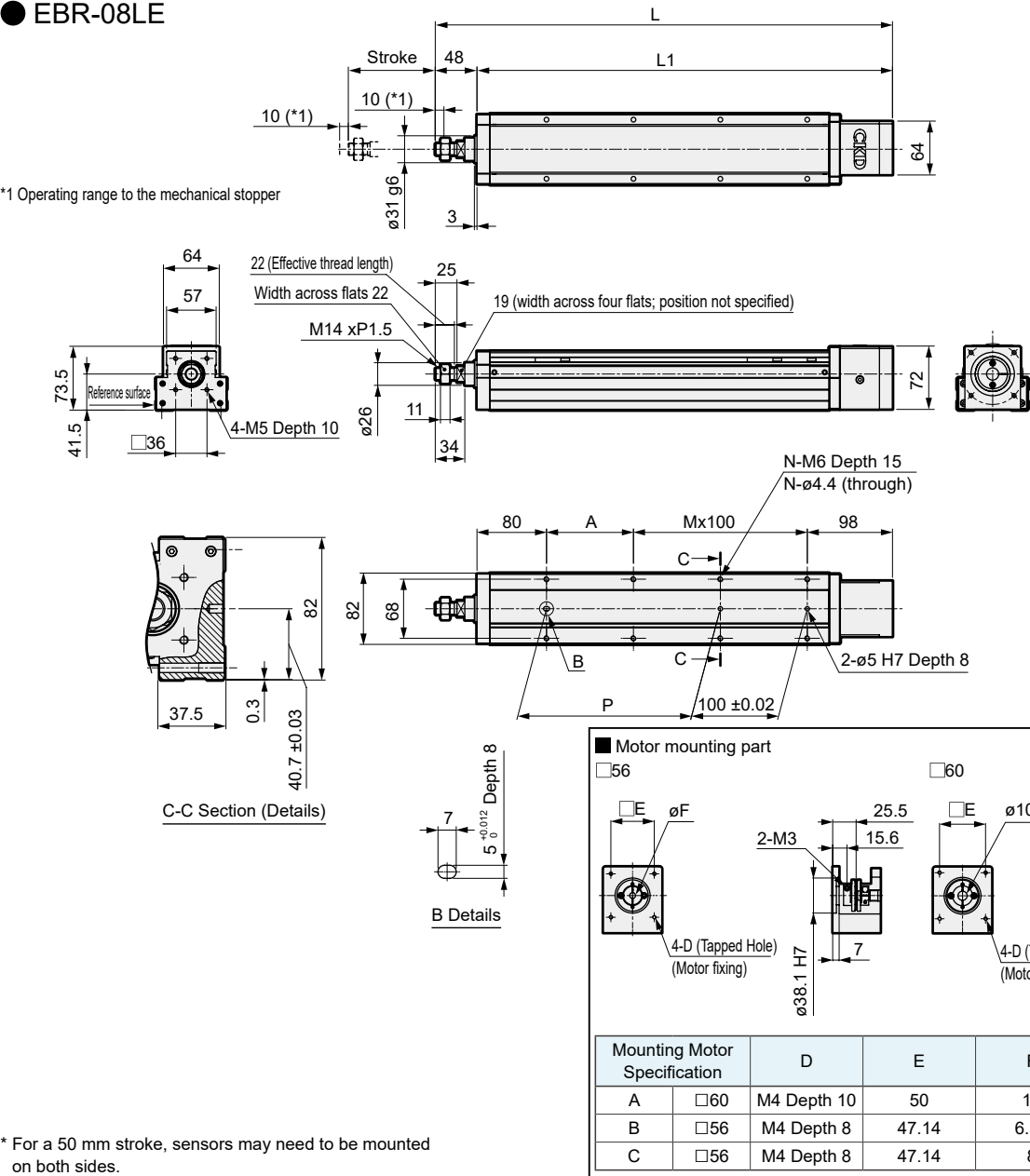
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.
The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

EBR-08LE

Dimensions / List of attachments

External Dimension Drawing Motor Straight Mounting

● EBR-08LE



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700
L	376	426	476	526	576	626	676	726	776	826	876	926	976	1026
L1	328	378	428	478	528	578	628	678	728	778	828	878	928	978
A	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
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700
Weight (kg)	4.0	4.4	4.8	5.1	5.5	5.9	6.3	6.6	7.0	7.4	7.7	8.1	8.5	8.8

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	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.



Electric actuator (motorless specifications) Rod with built-in guide

EBR-08L

Reverse Parallel Motor Mount Type

● Stepping Motor Size : 56, 60



Model No. Notation Method

EBR - 08 L R - 00 - 05 0050 NNN - A B N N - X

1 Body Size

08 Body width 82 mm

2 Motor

L None

3 Motor Mounting Direction

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

4 Screw Lead

05 5 mm
10 10 mm
20 20 mm

5 Stroke

0050 to 0700 50 mm (in 50 mm increments) to 700 mm

6 Mounting Motor Specifications

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

7 Motor Size

B 56
C 60

8 Origin sensor *1

N None
C Yes

9 Limit sensor *1

N None
B Yes

10 Metal Stopper Specification (EBR-X)

Standard
X Adopted

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

* For motor model Nos., please refer to P. 499.

*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 700		
Screw Lead		5	10	20
Max. Payload	kg	Horizontal	50	12
		Vertical	15	2.5
Max. Speed	mm/s	250	500	1,000
Rated thrust	N	683	341	174
Repeatability	mm	±0.01		
Lost Motion	mm	0.1 or less		
Drive part weight	kg	1.7		
Other inertia	kg·cm ²	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. Please select the model with your motor.
* For allowable load at overhang, please refer to P. 520.

Stroke and Max. Speed			
(mm/s)			
Stroke	50 to 300	350 to 700	
5	250	200	
10	500	400	
20	1,000	850	

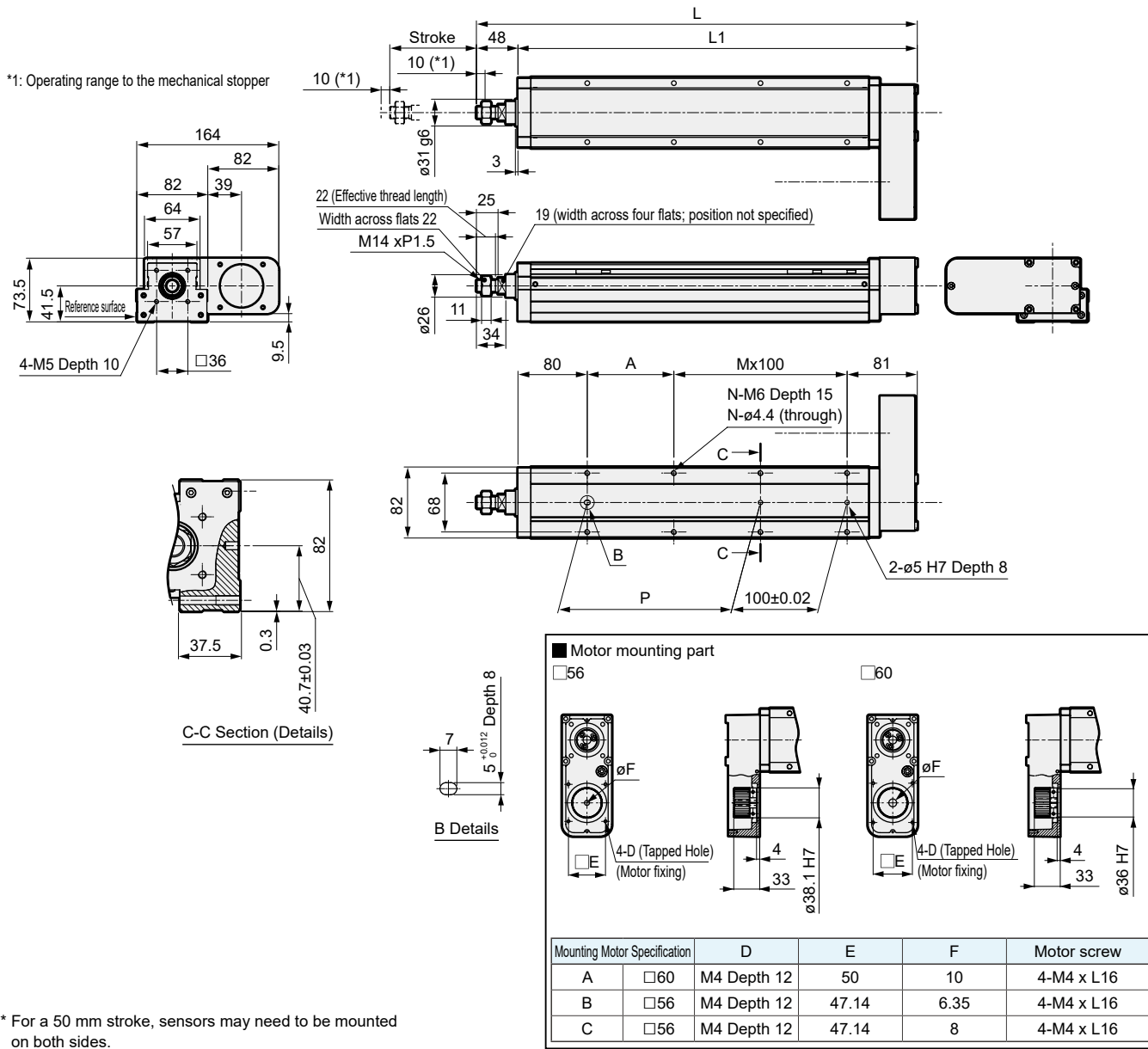
* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

EBR-08L

Dimensions / List of attachments

External Dimension Drawing Motor Right Side Fold-back Mounting

● EBR-08LR



* For a 50 mm stroke, sensors may need to be mounted on both sides.

Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700
L	359	409	459	509	559	609	659	709	759	809	859	909	959	1009
L1	311	361	411	461	511	561	611	661	711	761	811	861	911	961
A	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
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700
Weight (kg)	4.4	4.8	5.1	5.5	5.9	6.2	6.6	7.0	7.3	7.7	8.1	8.4	8.8	9.1

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

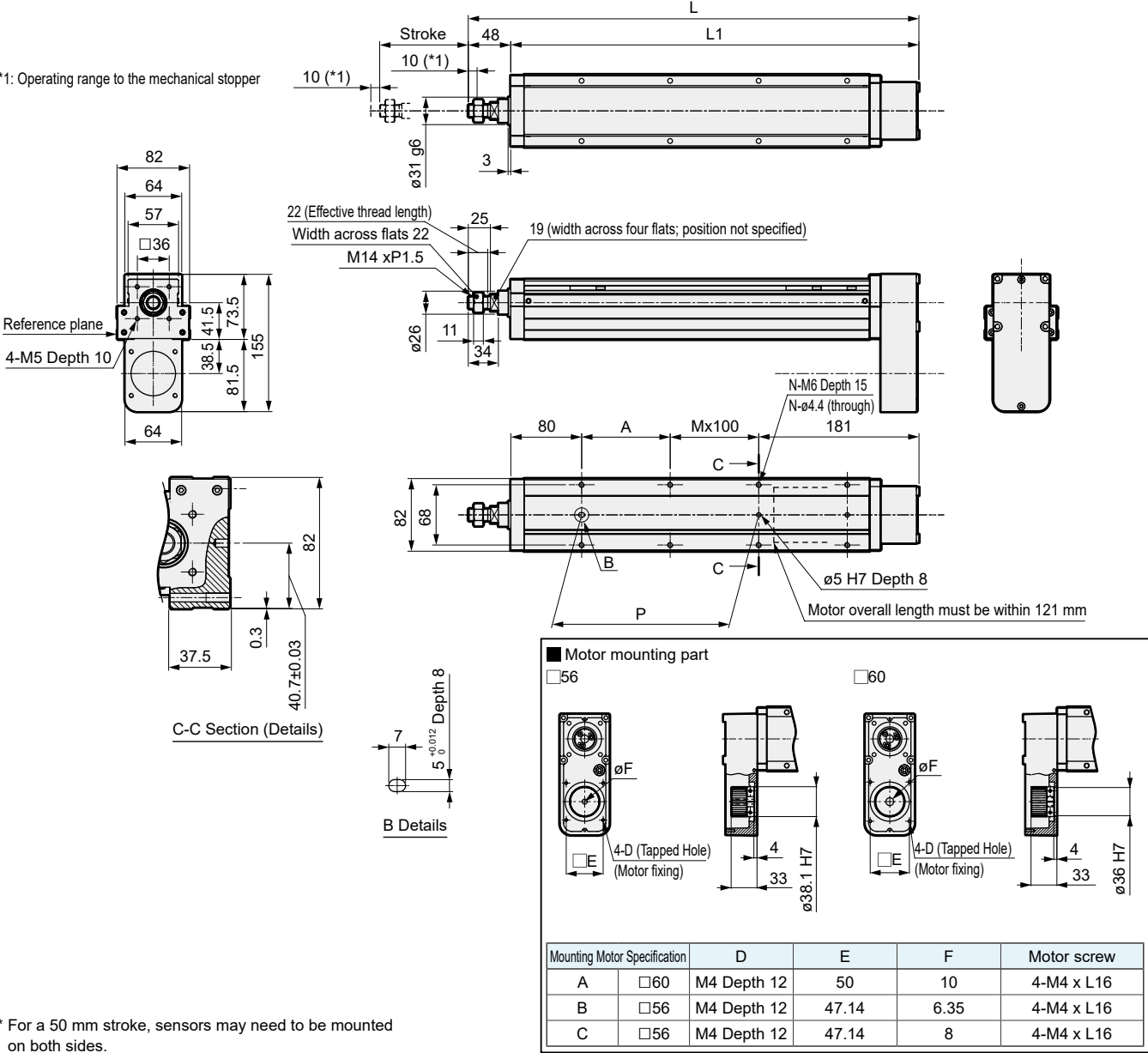
[When home sensor and limit sensor are selected]

Sensor		
Manufacturer	Model	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

EBR-08LD



Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700
L	359	409	459	509	559	609	659	709	759	809	859	909	959	1009
L1	311	361	411	461	511	561	611	661	711	761	811	861	911	961
A	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
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700
Weight (kg)	4.4	4.8	5.1	5.5	5.9	6.2	6.6	7.0	7.3	7.7	8.1	8.4	8.8	9.1

List of Accessories

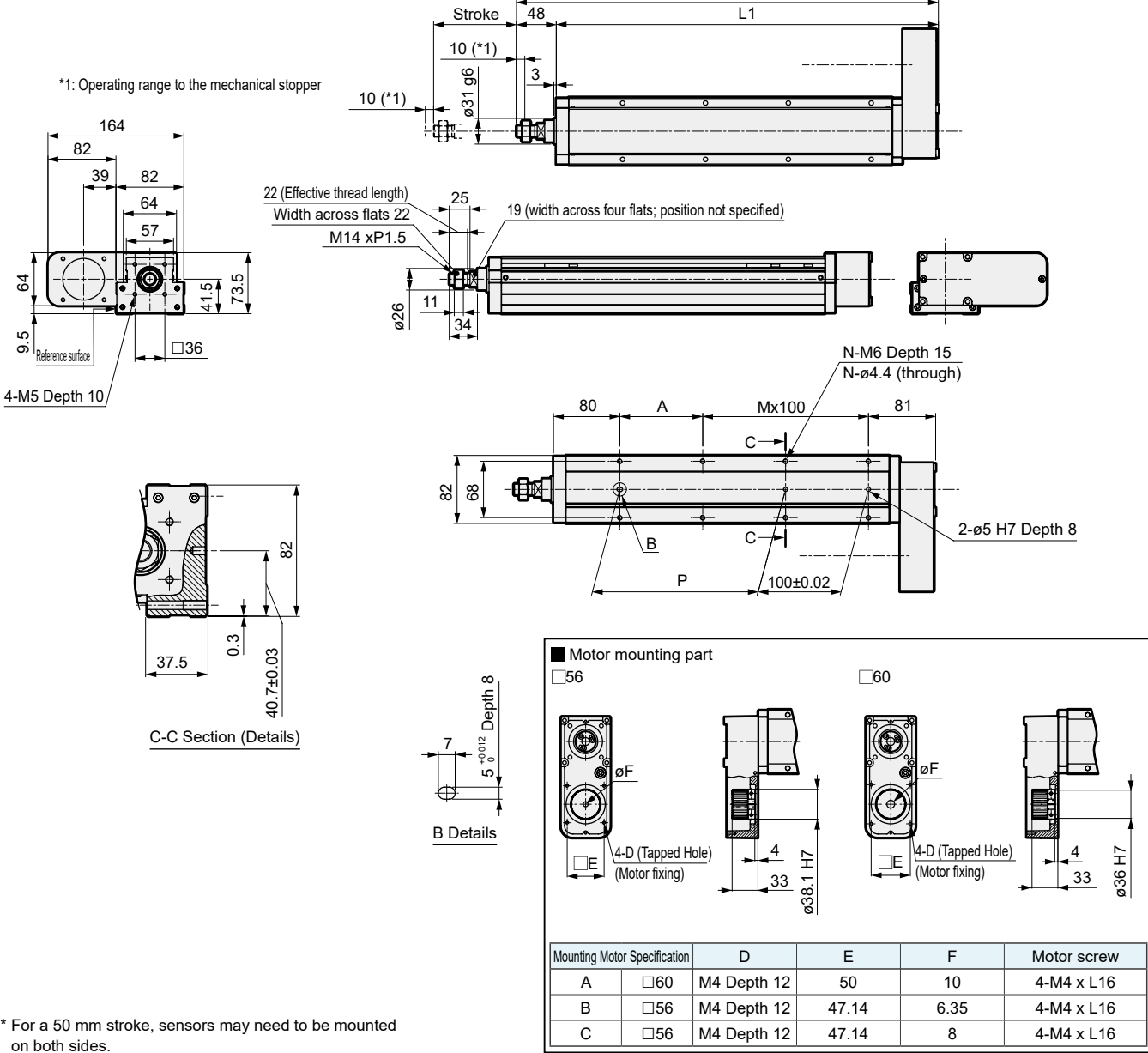
[Fold-back Type]			
Mounting Motor Specification	Timing belt, pulley	Motor mounting bolt	
		Size	Quantity
A	Shipped included	M4	4
B		M4	4
C		M4	4

[When home sensor and limit sensor are selected]		
Sensor		
Manufacturer	Model	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.

External Dimension Drawing Motor Left Side Fold-back Mounting

EBR-08LL



Stroke Code	0050	0100	0150	0200	0250	0300	0350	0400	0450	0500	0550	0600	0650	0700
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700
L	359	409	459	509	559	609	659	709	759	809	859	909	959	1009
L1	311	361	411	461	511	561	611	661	711	761	811	861	911	961
A	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
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700
Weight (kg)	4.4	4.8	5.1	5.5	5.9	6.2	6.6	7.0	7.3	7.7	8.1	8.4	8.8	9.1

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	Attached Quantity
KITA	KT-32 N-2 M	3

* For sensor specifications, please refer to P. 524.

Model Selection

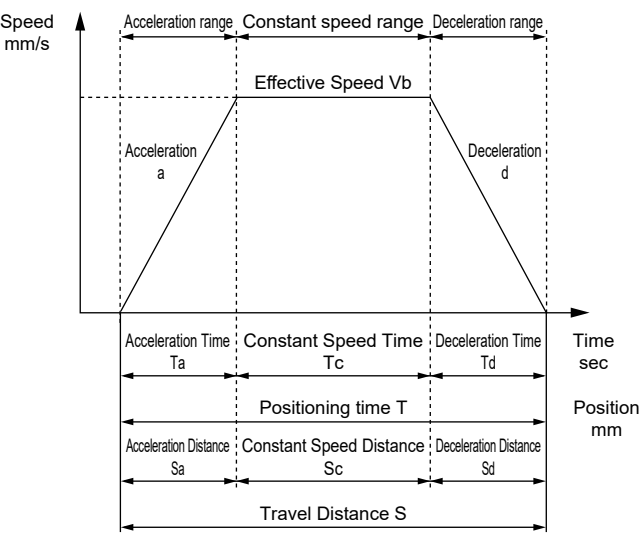
MEMO

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. 498) 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 tact 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/s ²	
	Set Deceleration	d	mm/s ²	
	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.
* The settling time varies depending on the operating conditions, but it may take about 0.2 s.
* 1 G ≈ 9.8 m/s².
* The speed and acceleration are set from the motor selected by the customer. For motor selection and calculation of speed and acceleration, please use the actuator information (mechanical efficiency, etc.) provided in the specifications column.

STEP3 Confirmation of Allowable Load Weight

Confirm that the load mass during operation is within the allowable load mass range (P. 520, P. 521). If the allowable load weight is exceeded, please increase the size or use an external guide in combination.

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]

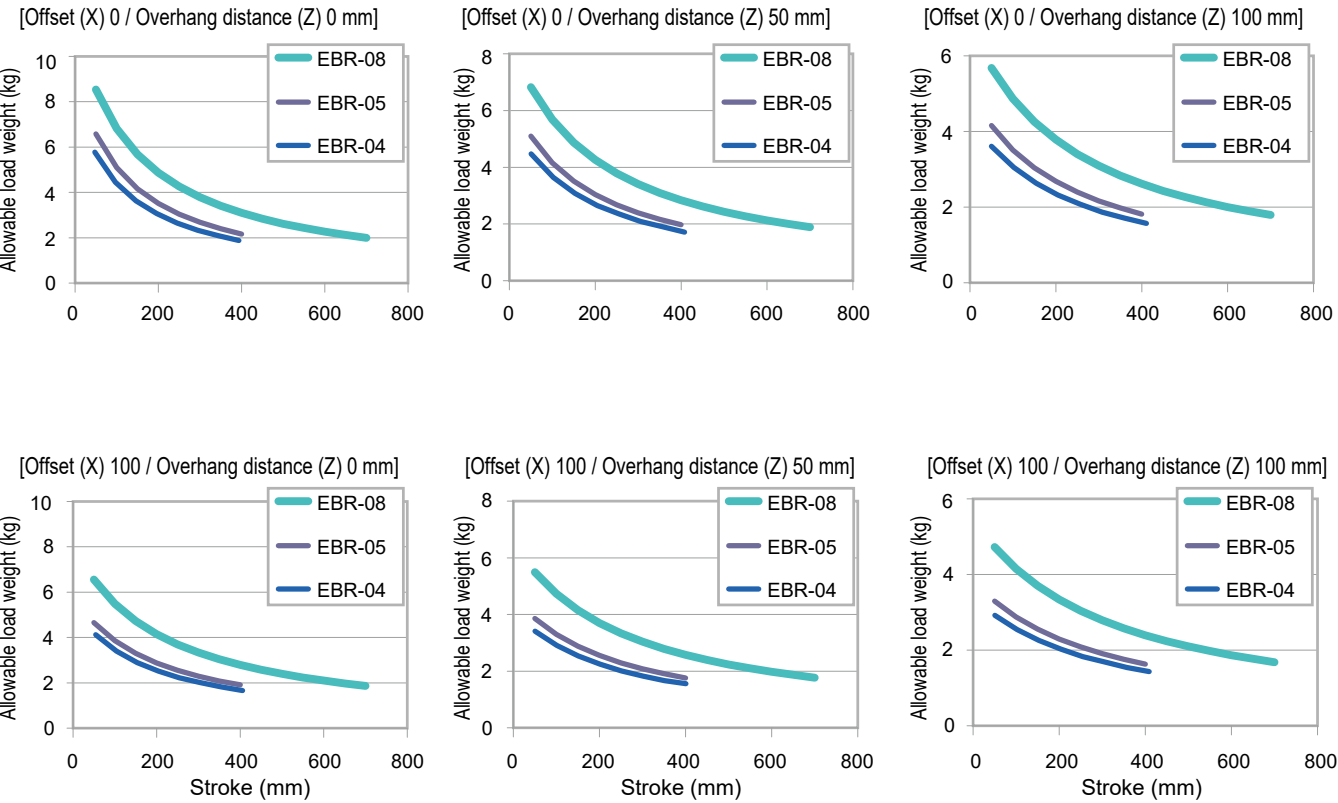
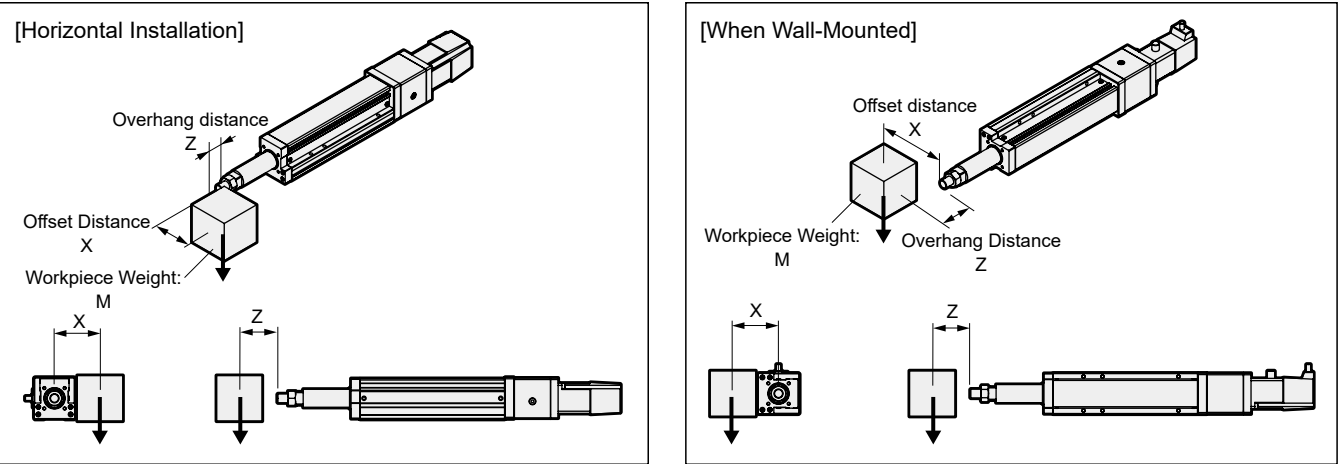
(https://www.ckd.co.jp/kiki/en/selection_system/)

[For confirmation via iPad or smartphone]

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

Allowable Load Weight

[When mounted horizontally/wall-mounted]

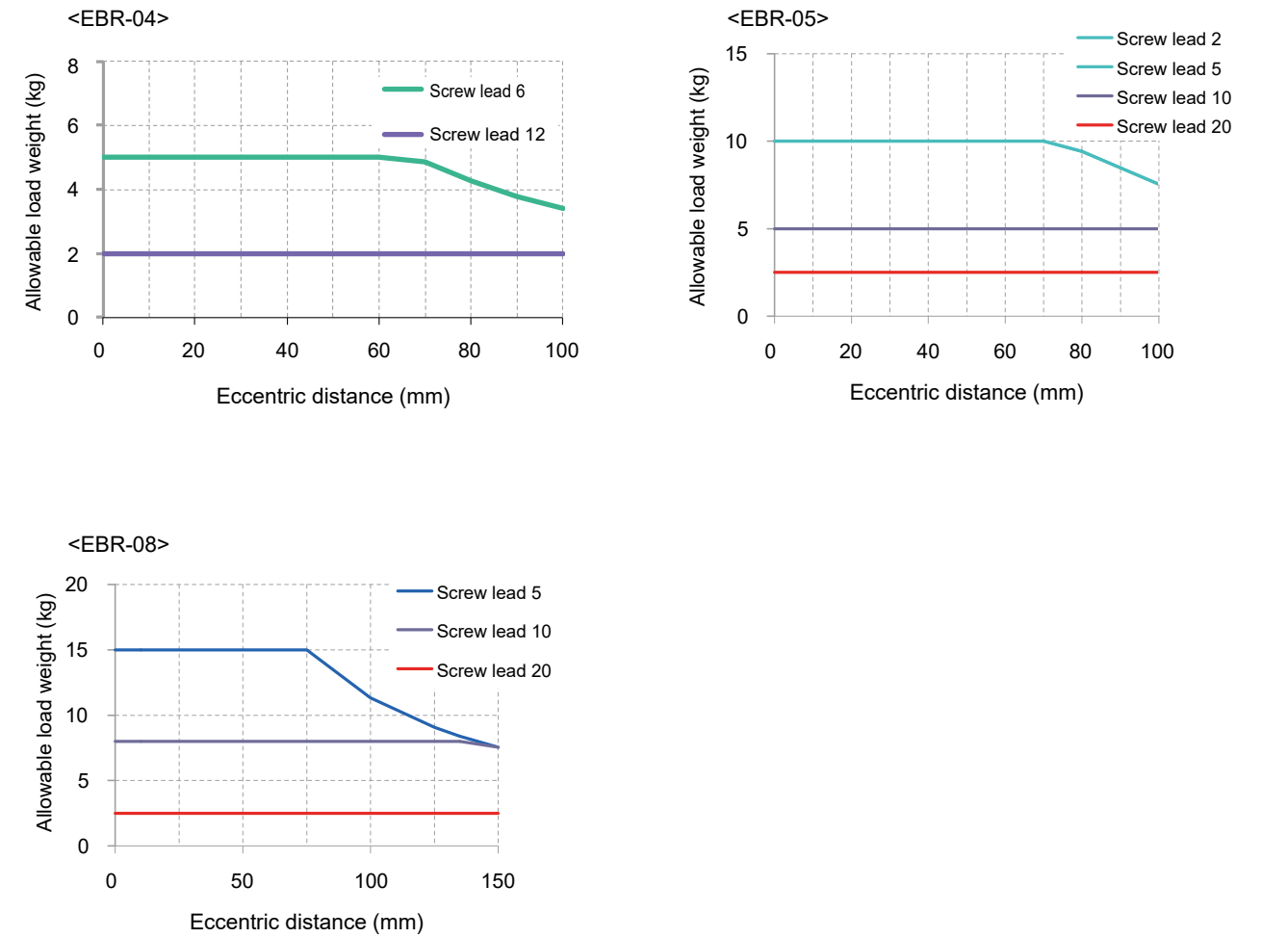
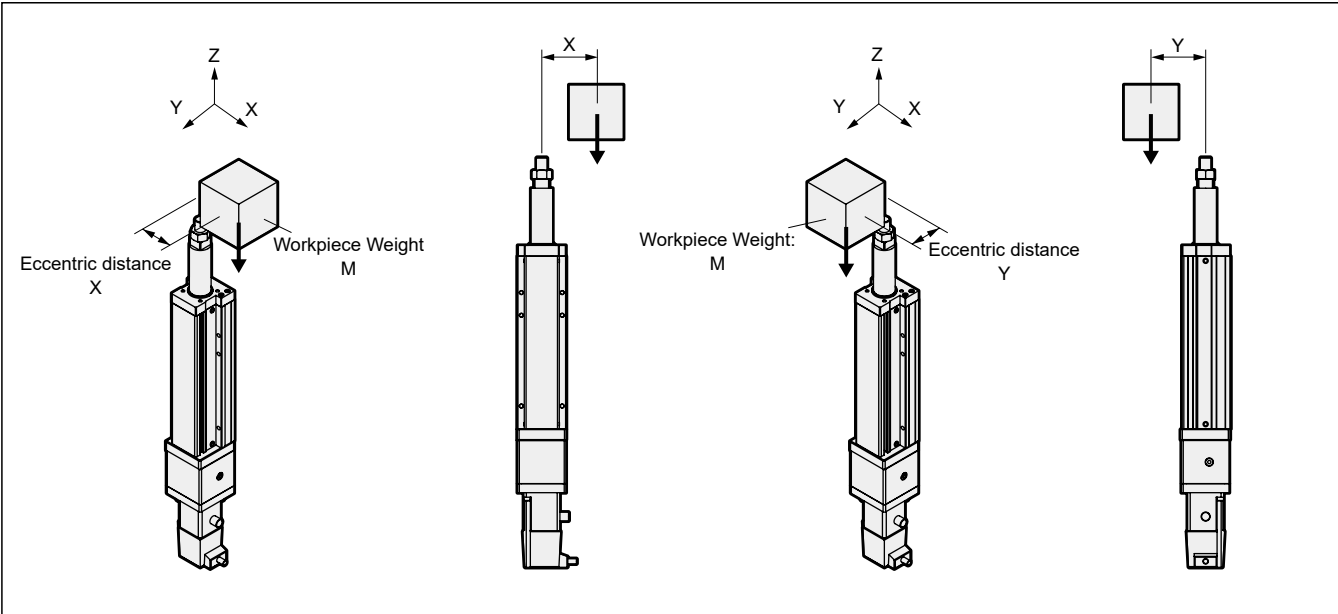


* The value when the actuator's running life is 5,000 km. (Acceleration/deceleration 0.5 G, speed 300 mm/s). Screw lead: 2 mm is the value when the running life is 1,000 km.
* The allowable load mass is the allowable value for the actuator body and may be limited by the motor used by the customer.

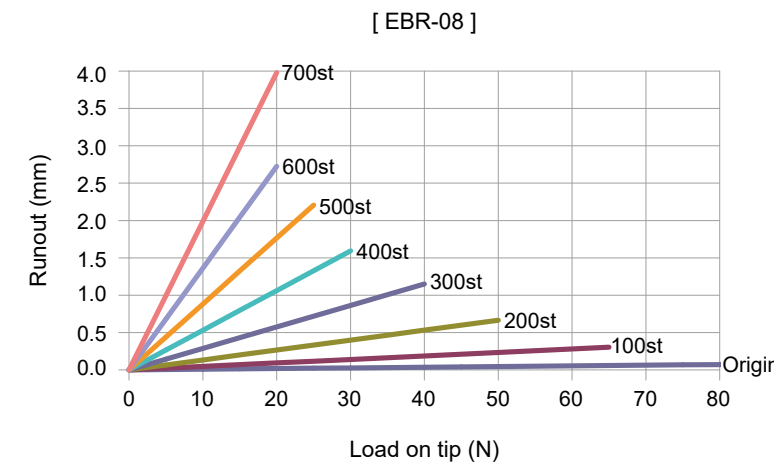
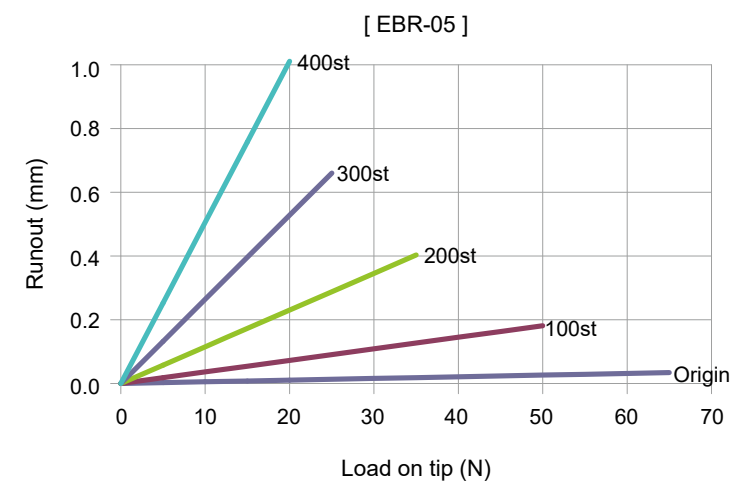
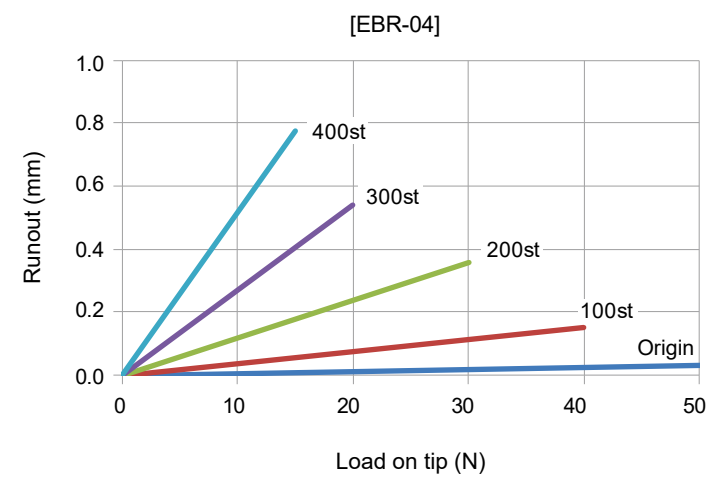
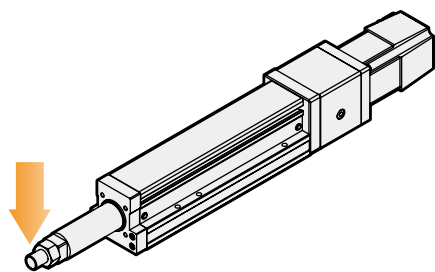
Allowable Load Weight

Allowable Load Weight

[Vertical Installation]



* The value when the actuator's running life is 5,000 km. (Acceleration/deceleration 0.5 G, speed 300 mm/s). Screw lead: 2 mm is the value when the running life is 1,000 km.
* The allowable load mass is the allowable value for the actuator body and may be limited by the motor used by the customer.

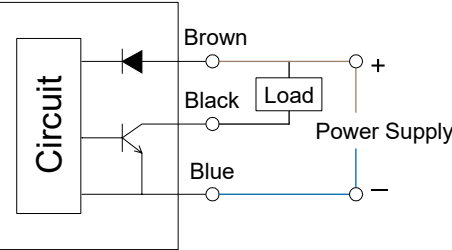


Home Sensor, Limit Sensor

[Specifications]

Item		Specifications
Manufacturer	Manufacturer name	KITA
	Model	KT-32 N-2 M
Output Method		NPN Output
Load Voltage		10 to 30 VDC
Load Current		100 mA or less
Current Consumption		17 mA at DC24
Internal Voltage Drop		Max 1.5 V
Leakage Current		Max 0.01 mA
Indicator Light		Red
Shock Resistance		50 G
Ambient Temperature		-10 to 70°C
Enclosure		IP67 IEC60529 standard
Cord length		2 m

Output circuit



List of Accessories

Motor Mounting Bolts (Common for all motor mounting directions)

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

Coupling

model No.	Attached 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.

Home Sensor, Limit Sensor

model No.	Shipment Form	Quantity
When sensor "Yes" is selected	Shipped included	3 pcs. *1


*1 If "None" is selected for either the home sensor or the limit sensor, the other will also be "None."

Maintenance Parts

■ Maintenance parts (origin sensor, limit sensor)

Model Number	Applicable Models	Part
		
EBR-SENSOR-N	All EBR models	Body

■ Maintenance parts (grease nozzle)

Model Number	Applicable Models
	
EBS-NOZZLE	All models

MEMO

Servo motor compatible

EBS

EBR

ETS

ECS

Ending

Servo motor compatible

EBS

EBR

ETS

ECS

Ending



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 EBR-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 Equipment Product Site(<https://www.ckd.co.jp/kiki/en/>) → 'model No.' →

Instruction Manual

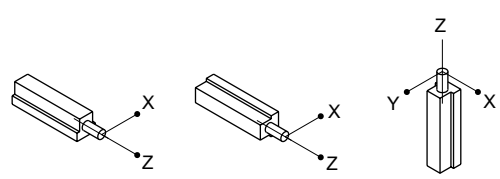
EBR Model Selection Checklist → CKD (Contact)

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	(EBR)-
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/s ² (set acceleration/deceleration time : s)
	Repeatability : ± mm
Load Conditions	Rod Type
	Load weight : kg
	Mounting Orientation: Horizontal / Wall-mounted / Vertical / Ceiling-mounted / Other
	
	Distance from rod center to load's center of gravity
	X direction : mm
	Y direction : mm
	Z direction : mm
Operating Environment	Pressing load : None / Yes (N) During operation / When stopped Direction of force on slider center ()
	Ambient Temperature : °C, Ambient Humidity : %
Motor Used	Atmosphere :
	Manufacturer : , Model No. : Motor capacity, size:
Special Notes	

MEMO

Servo motor compatible

EBS

EBR

ETS

ECS

Ending

Servo motor compatible

BS

BR

TS

CS

nding