Electric Actuator
Series LEM

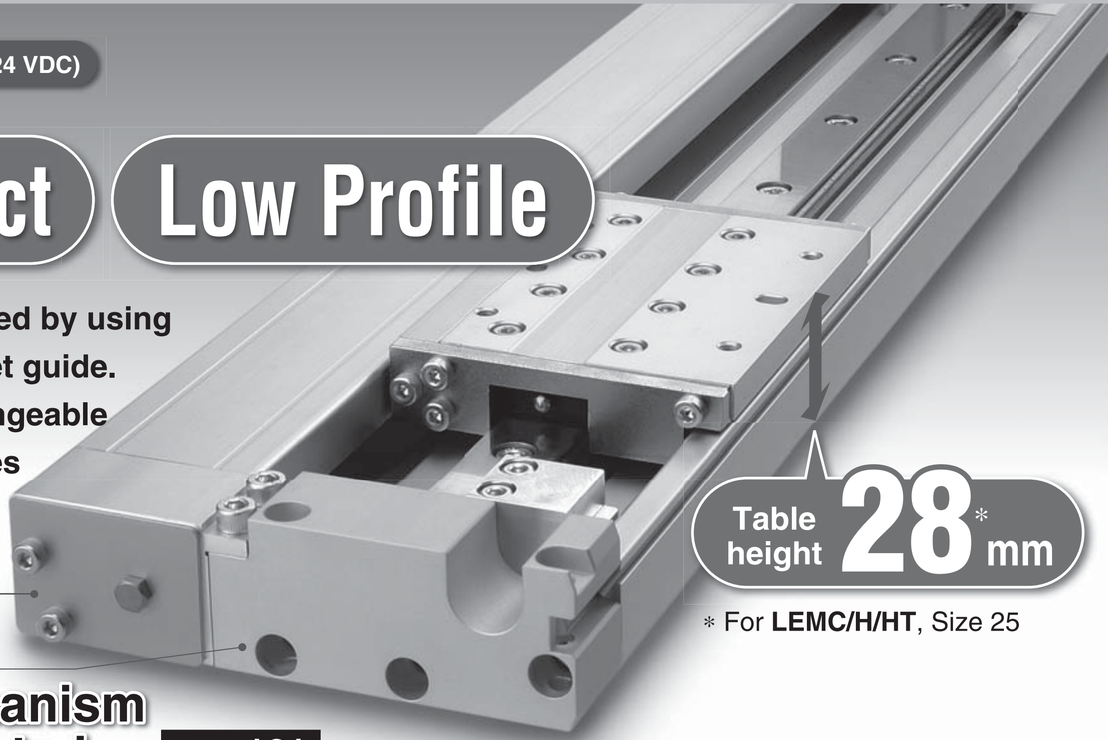
CE cULus RoHS

Low Profile/Slider Type

Step Motor (Servo/24 VDC)

Compact Low Profile

Table height reduced by using belt drive and offset guide. Mounting interchangeable with the E-MY series



* For **LEMC/H/HT**, Size 25

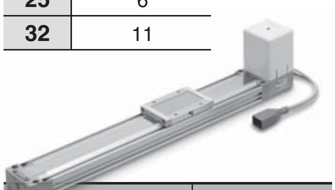
Guide mechanism can be selected.

▸Page 161

Basic type
Series ***LEMB***

· Light load transfer
· Combining with external guide
· Long stroke

Size	Work load [kg]
25	6
32	11

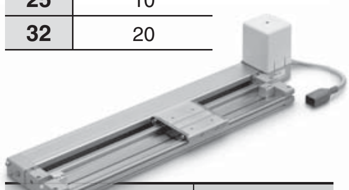


	Size 25	Size 32
Stroke [mm]	**2000**	**2000**
Table height [mm]	40	40
Speed [mm/s]	1000	1000

Cam follower guide type
Series ***LEMC***

· Workpiece direct mounting
· Long stroke

Size	Work load [kg]
25	10
32	20

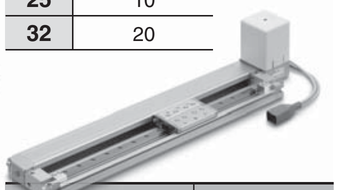


	Size 25	Size 32
Stroke [mm]	**2000**	**2000**
Table height [mm]	**28**	37
Speed [mm/s]	1000	1000

Linear guide single axis type
Series ***LEMH***

· Workpiece direct mounting
· Provides more moment resistance than the cam follower guide type.
· High speed transfer

Size	Work load [kg]
25	10
32	20

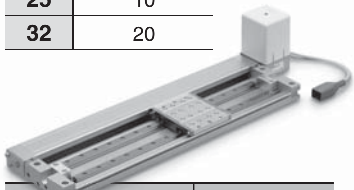


	Size 25	Size 32
Stroke [mm]	1000	1500
Table height [mm]	**28**	37
Speed [mm/s]	**2000**	**2000**

Linear guide double axis type
Series ***LEMHT***

· Workpiece direct mounting
· Provides more moment resistance than the linear guide single axis type.
· High speed transfer

Size	Work load [kg]
25	10
32	20



	Size 25	Size 32
Stroke [mm]	1000	1500
Table height [mm]	**28**	37
Speed [mm/s]	**2000**	**2000**

Selectable controllability
(Controller)

● End to end operation similar to an air cylinder (12 intermediate stop positions)
● Easy position setting using numerical inputs

Step Motor (Servo/24 VDC)

▶Programless type
(With stroke study)
Series ***LECP2***

· **End to end operation similar to an air cylinder**
· 2 stroke end points + 12 intermediate points positioning
· Control panel setting
· Wire-saving design

Specialized for Series LEM

▶Programless type
Series ***LECP1***

· 14 points positioning
· Control panel setting

▸Page 538

▶Step data input type
Series ***LECP6***

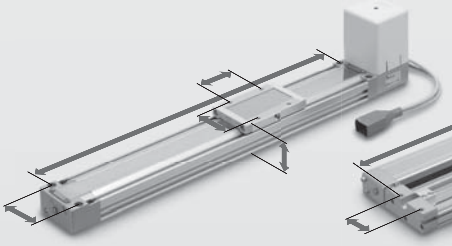
· 64 points positioning

▶CC-Link direct input type
Series ***LECPMJ****

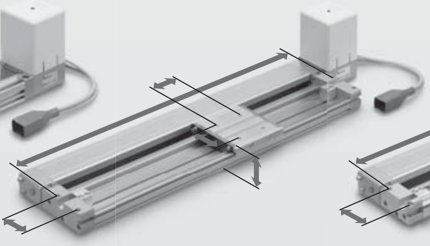
* Not applicable to CE.

- **Mounting interchangeable with the former E-MY series**

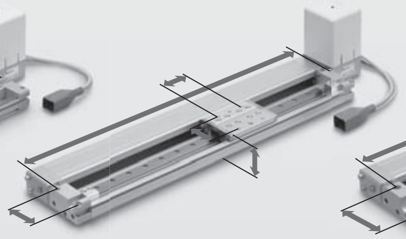
New Series LEM		←	Series E-MY	
	LEM□25			E-MY□16
	LEM□32			E-MY□25



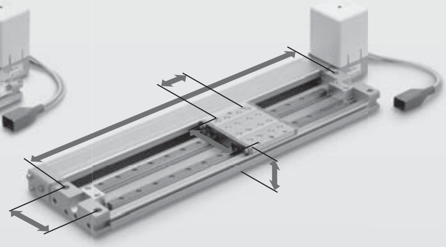
Basic type/
LEMB



Cam follower guide type/
LEMC

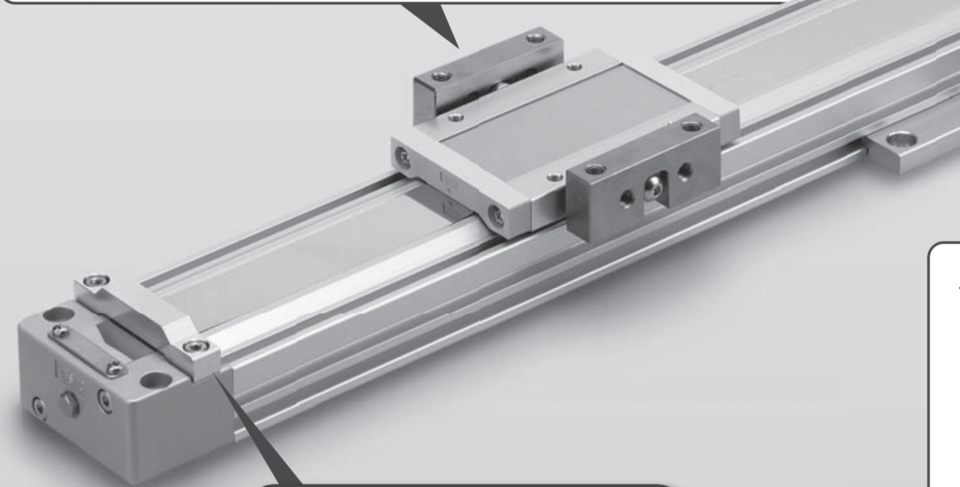


Linear guide single axis type/
LEMH



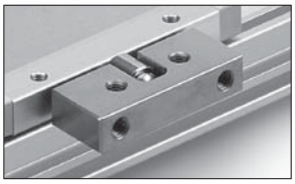
Linear guide double axis type/
LEMHT

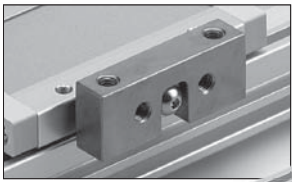
- **Can be connected to various types of guide.** (*Series LEMB*)



Floating bracket (Option)

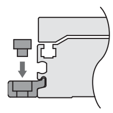
Easy connection to an external guide. Two mounting directions are available.

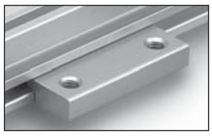


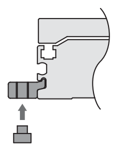


Side support (Option)

The body can be fixed from upward or downward.

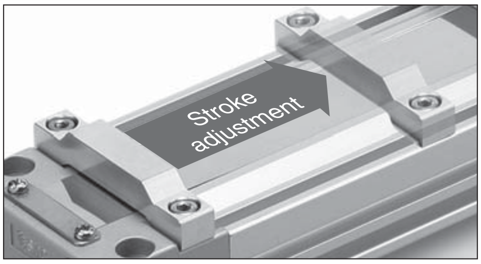






Stroke adjustment unit (Option)

To adjust the stroke end like an air cylinder, use the LECP2 controller and the stroke adjustment unit.

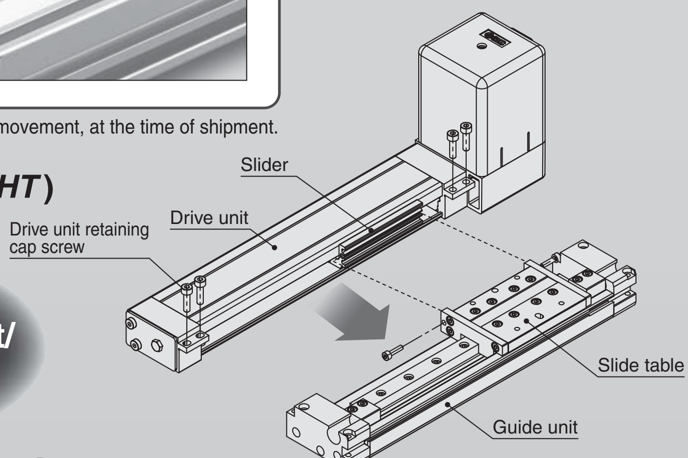


∗ The movable length of the LEM is the stroke + 6 mm of table movement, at the time of shipment.

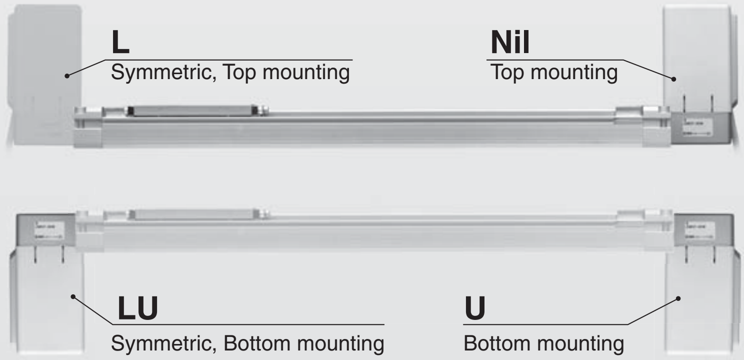
- **Easy maintenance** (*Series LEMC/H/HT*)

The drive unit and the guide unit are separable.

Easy attachment/ detachment



- **Motor placement: Mounting position of the motor is user selectable and can either be on the top, bottom, left, or right of the actuator.**

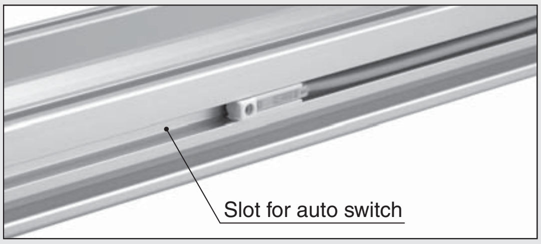


Motor mounting position

Nil	Top mounting
U	Bottom mounting
L*	Symmetric, Top mounting
LU*	Symmetric, Bottom mounting

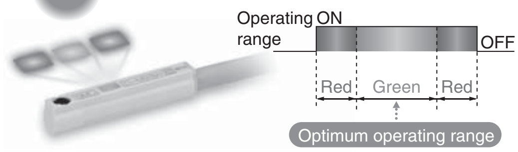
* Can be selected only for the LEMC, LEMH, LEMHT.

- **Solid state auto switch can be mounted for checking the limit and intermediate signal.**

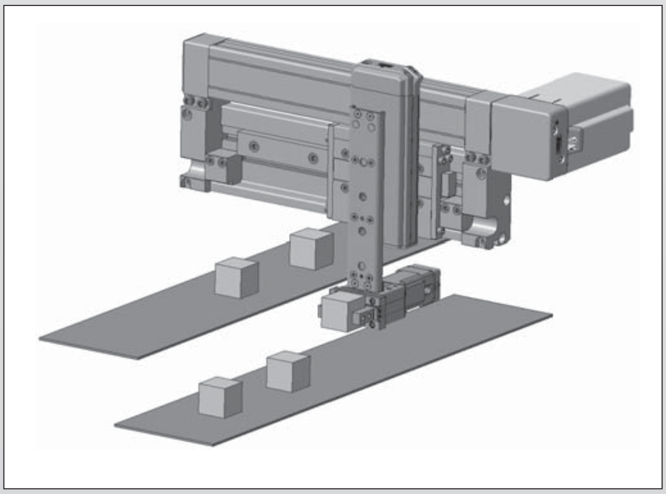


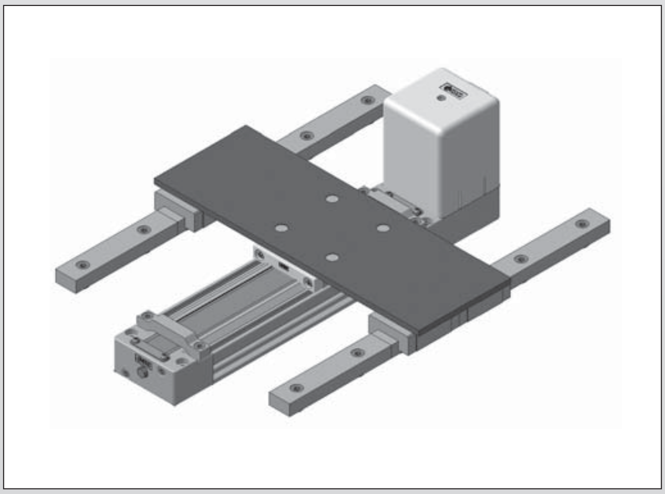
2-color indication solid state auto switch
Appropriate setting of the mounting position can be performed without mistakes.

A green light lights up at the optimum operating range.



Application Examples





Variations

Belt Drive

Note) Cannot be used for vertical transfer.

Series	Size	Equivalent lead [mm]	Stroke [mm]*	Work load: Horizontal [kg]	Speed [mm/s]	Page
LEMB Basic type	25	48	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 700, 800, 900, 1000, (1100), 1200, (1300), (1400), 1500, (1600), (1700), (1800), (1900), 2000	6 (10)**	1000	Page 161
	32			11 (20)**	1000	Page 161
LEMC Cam follower guide type	25	48	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 700, 800, 900, 1000, (1100), 1200, (1300), (1400), 1500, (1600), (1700), (1800), (1900), 2000	10	1000	Page 161
	32			20	1000	Page 161
LEMH Linear guide single axis type	25	48	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, (700), (800), (900), (1000)	10	2000	Page 161
	32		50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, (700), (800), (900), (1000), (1100), (1200), (1300), (1400), (1500)	20	2000	Page 161
LEMHT Linear guide double axis type	25	48	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, (700), (800), (900), (1000)	10	2000	Page 161
	32		50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, (700), (800), (900), (1000), (1100), (1200), (1300), (1400), (1500)	20	2000	Page 161

* Strokes shown in ( ) are produced upon receipt of order. Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
** ( ): Using an external guide (Provided by customer).

Step Motor (Servo/24 VDC)

Electric Actuator/Low Profile Slider Type: Basic Type *Series* ***LEMB***

Step Motor (Servo/24 VDC)

Electric Actuator/Low Profile Slider Type: Cam Follower Guide Type *Series* ***LEMC***

Step Motor (Servo/24 VDC)

Electric Actuator/Low Profile Slider Type: Linear Guide Type *Series* ***LEMH/HT***

Step Motor (Servo/24 VDC) Controller

Low Profile Slider Type

Basic Type *Series LEMB*

Step Motor (Servo/24 VDC)

Cam Follower Guide Type *Series LEMC*

Step Motor (Servo/24 VDC)

Linear Guide Single Axis Type *Series LEMH*

Step Motor (Servo/24 VDC)

Linear Guide Double Axis Type *Series LEMHT*

Step Motor (Servo/24 VDC)

Electric Actuator/Low Profile Slider Type
Series LEM

Model Selection

Series LEMB ▶ Page 169 | Series LEMC ▶ Page 177 | Series LEMH/HT ▶ Page 187

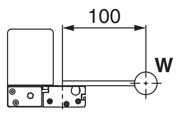
Selection Procedure

Step 1 Tentative Selection of Guide Mechanism. Check the speed–work load, work load–acceleration/deceleration. → **Step 2** Check the dynamic allowable moment. → **Step 3** Check the cycle time.

Selection Example

Operating conditions

- Work load: 10 [kg]
- Speed: 1000 [mm/s]
- Acceleration/Deceleration: 2500 [mm/s²]
- Stroke: 600 [mm]
- Mounting orientation: Horizontal upward
- Workpiece mounting condition



Step 1

Tentative Selection of Guide Mechanism

Series	Type	Guideline for tentative model selection: Use of external guide	Direct loaded (Horizontal)	Table accuracy Note)	Direct mount (Wall mounting)	Moment resistance	Max. stroke [mm]	Max. speed [mm/s]	Note
LEMB	Basic type	◎	○	△	△	△	2000	1000	• Light load transfer • Combining with external guide • Long stroke
LEMC	Cam follower guide type	×	◎	◎	○	○	2000	1000	• Workpiece direct mounting • Long stroke
LEMH	Linear guide single axis type	×	◎	◎	◎	◎	Size 25: 1000 Size 32: 1500	2000	• Workpiece direct mounting • Provides more moment resistance than the cam follower guide type. • High speed transfer
LEMHT	Linear guide double axis type	×	◎	◎	◎	◎	Size 25: 1000 Size 32: 1500	2000	• Workpiece direct mounting • Provides more moment resistance than the linear guide single axis type. • High speed transfer

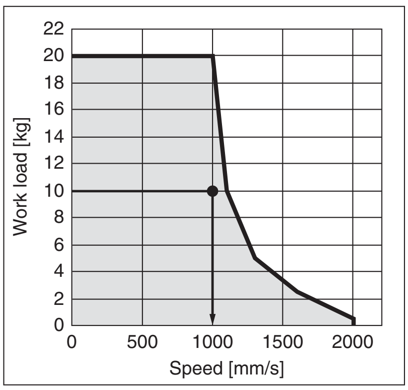
◎: Most suitable ○: Suitable △: Usable ×: Not recommended
Note) The table accuracy means the amount of table deflection when a moment is applied.

In conditions where a moment is generated, tentatively select the LEMH series.

<Speed–Work Load Graph>

Select the target model based on the workpiece mass and speed with reference to the <Speed–Work Load Graph>.

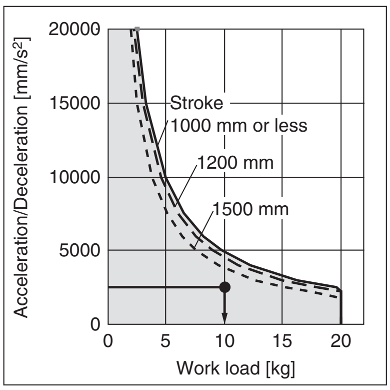
LEMH32



<Work Load–Acceleration/Deceleration Graph>

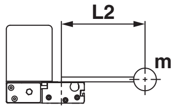
Check that the set acceleration/deceleration of the work load is within the allowable range, with reference to the <Work Load–Acceleration/Deceleration Graph>.

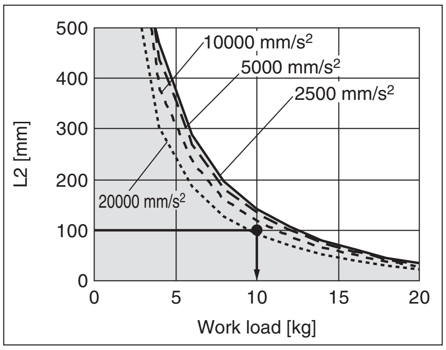
LEMH32



Selection Procedure

Step 2 **Check the dynamic allowable moment.**





Based on the above calculation result, the LEMH32T-500 is selected.

Step 3 **Check the cycle time.**

Refer to method 1 for a rough estimate, and method 2 for a more precise value.
Method 1: Check the cycle time graph. (Page 163)
Method 2: Calculation

Calculate the **cycle time** using the following calculation method.

Cycle time:
T can be found from the following equation.

$T = T1 + T2 + T3 + T4$ [s]

- T1: Acceleration time and T3: Deceleration time can be obtained by the following equation.

  $T1 = V/a1$ [s] $T3 = V/a2$ [s]

- T2: Constant speed time can be found from the following equation.

  $$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} \text{ [s]}$$

- T4: Settling time varies depending on the conditions such as motor types, load and in position of the step data. Therefore, calculate the settling time with reference to the following value.

  $T4 = 0.3$ [s]

Calculation example)
T1 to T4 can be calculated as follows.

$T1 = V/a1 = 1000/2500 = 0.4$ [s],

$T3 = V/a2 = 1000/2500 = 0.4$ [s]

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V}$$

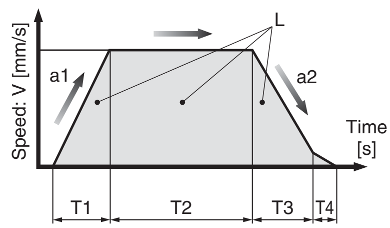
$$= \frac{600 - 0.5 \cdot 1000 \cdot (0.4 + 0.4)}{1000}$$

$= 0.2$ [s]

$T4 = 0.3$ [s]

Therefore, the **cycle time** can be obtained as follows.

$T = T1 + T2 + T3 + T4$
$= 0.4 + 0.2 + 0.4 + 0.3$
= 1.3 [s]



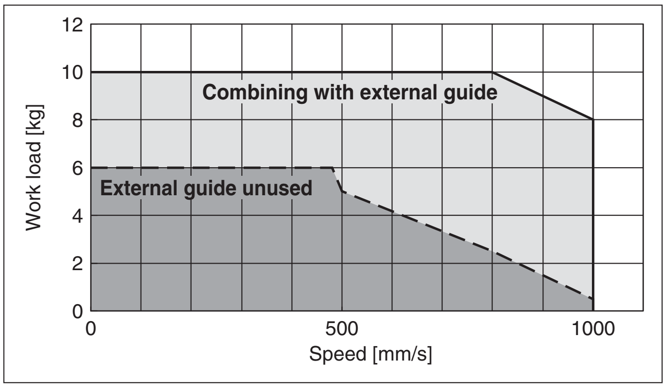
L: Stroke [mm]···(Operating condition)
V: Speed [mm/s]···(Operating condition)
a1: Acceleration [mm/s²]···(Operating condition)
a2: Deceleration [mm/s²]···(Operating condition)

T1: Acceleration time [s]
Time until reaching the set speed
T2: Constant speed time [s]
Time while the actuator is operating at a constant speed
T3: Deceleration time [s]
Time from the beginning of the constant speed operation to stop
T4: Settling time [s]
Time until positioning is completed

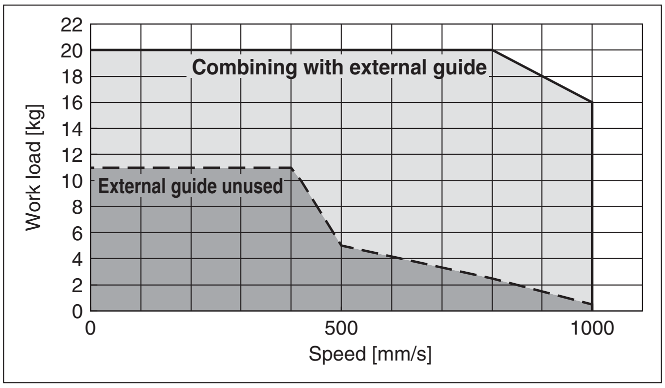
Speed–Work Load Graph (Guide)
Step Motor (Servo/24 VDC)

∗ The following graph shows the values when moving force is 100%.

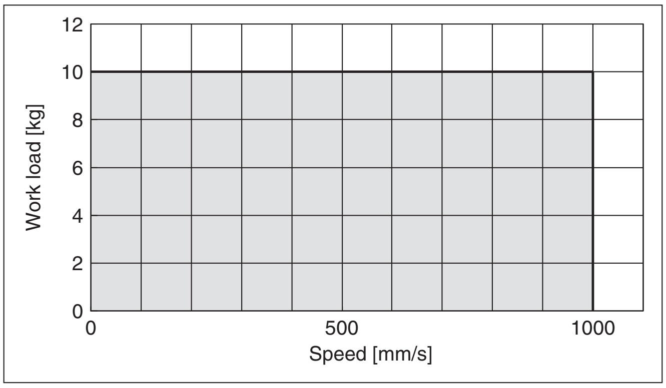
LEMB25



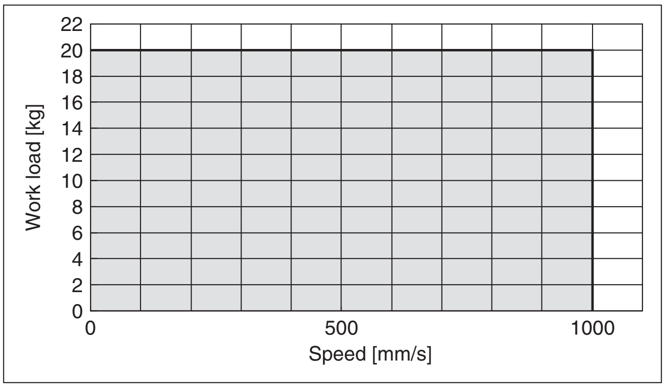
LEMB32



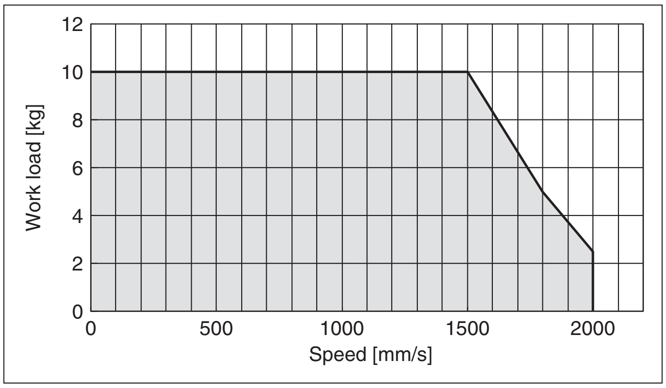
LEMC25



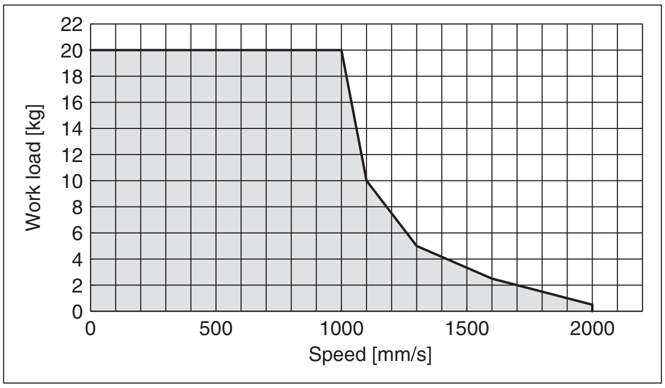
LEMC32



LEMH/HT25

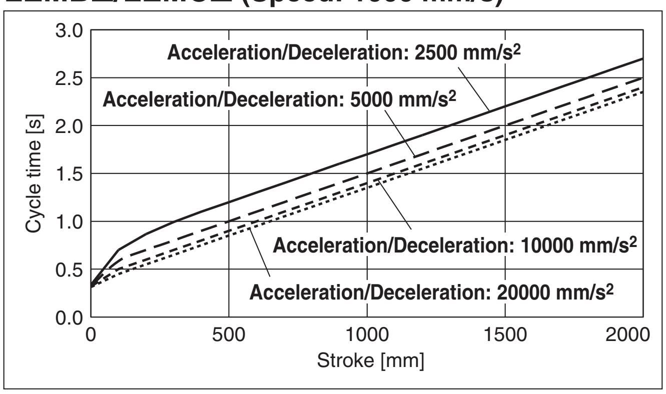


LEMH/HT32

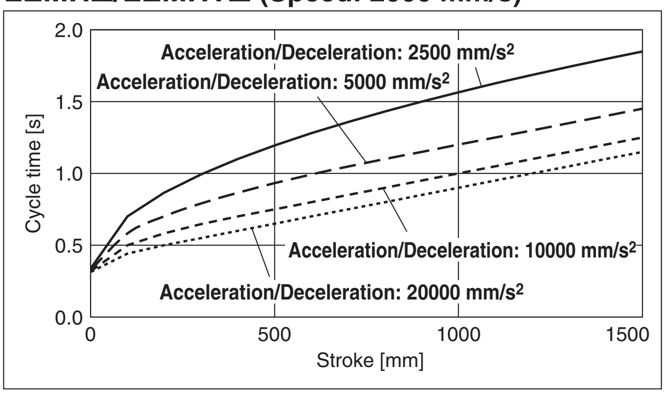


Cycle Time Graph (Guide)

LEMB□/LEMC□ (Speed: 1000 mm/s)



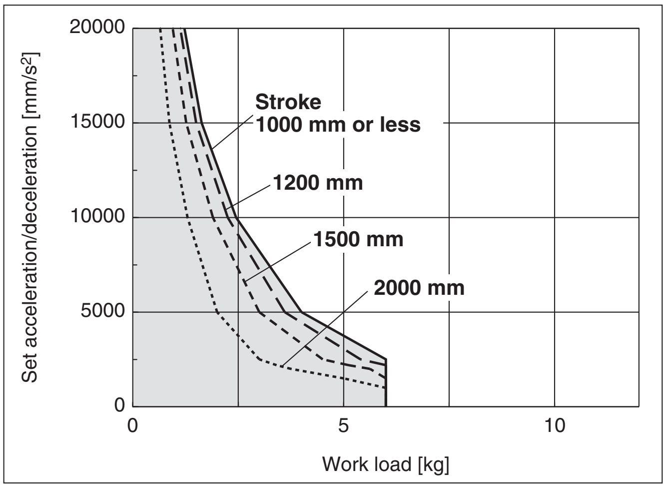
LEMH□/LEMHT□ (Speed: 2000 mm/s)



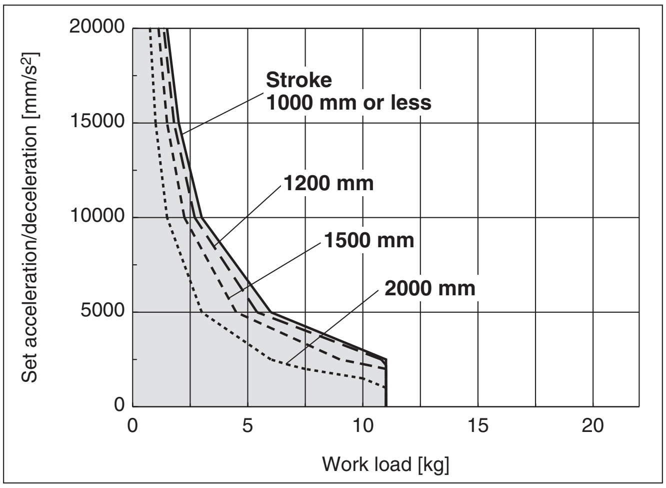
The following shows the allowable values of set acceleration to the work loads.
Set the acceleration within the allowable range.

Work Load–Acceleration/Deceleration Graph (Guide)

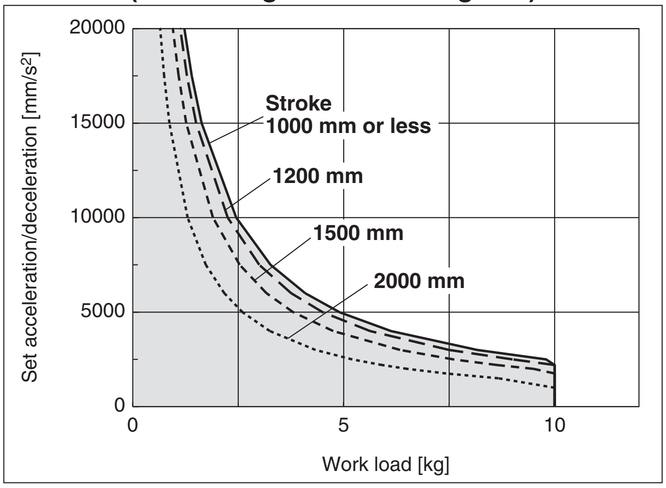
LEMB25



LEMB32

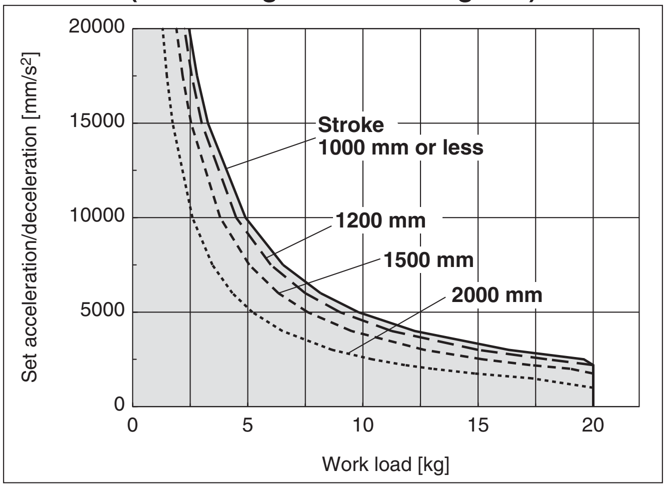


LEMB25 (Combining with external guide)/LEMC25



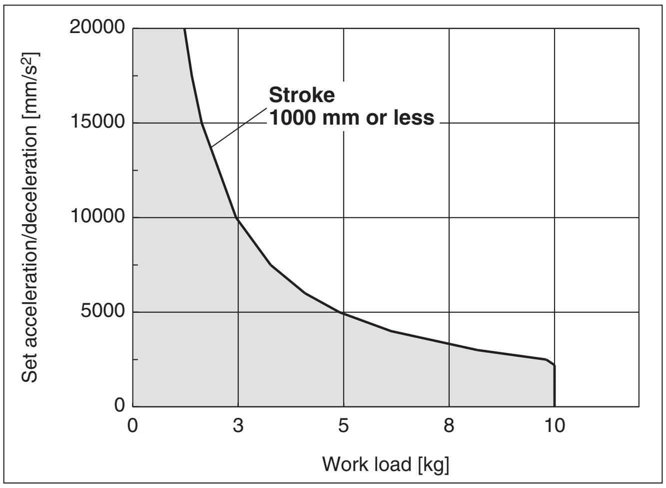
∗ Friction coefficient for combining with external guide is 0.1 or less.

LEMB32 (Combining with external guide)/LEMC32

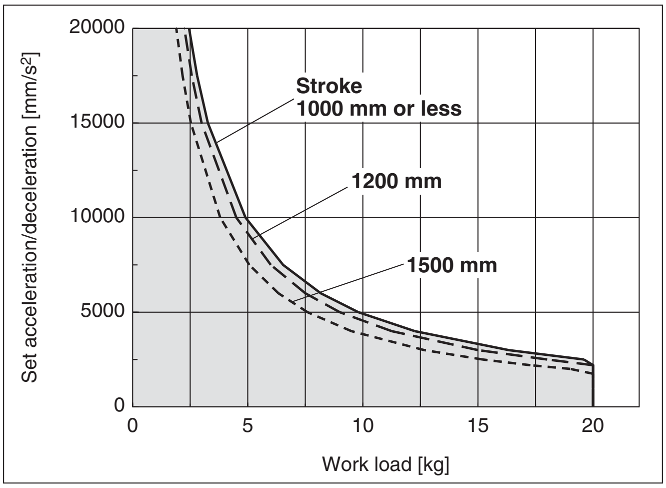


∗ Friction coefficient for combining with external guide is 0.1 or less.

LEMH25/LEMHT25



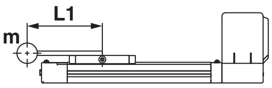
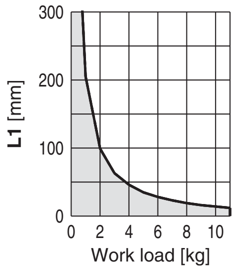
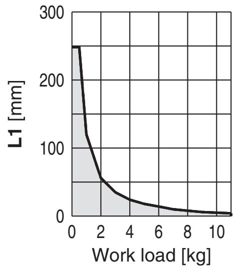
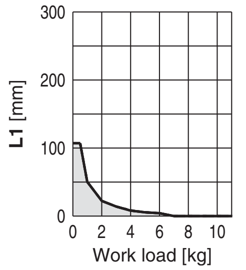
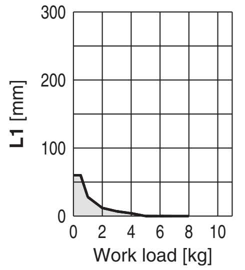
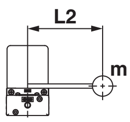
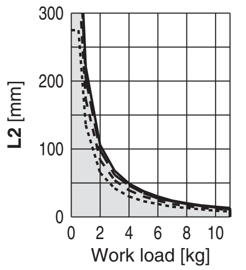
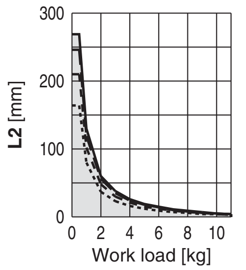
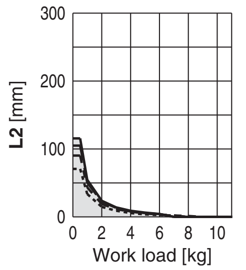
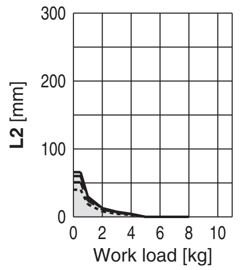
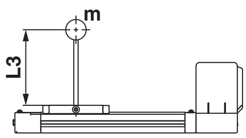
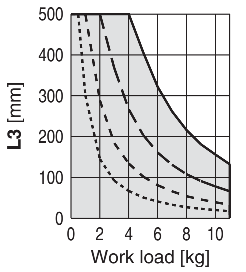
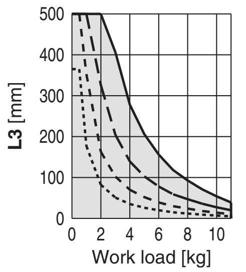
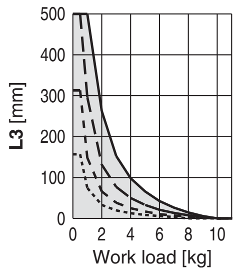
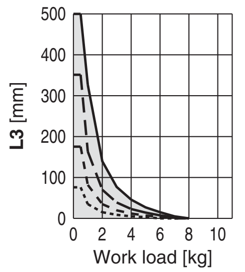
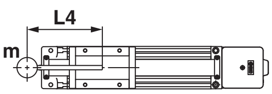
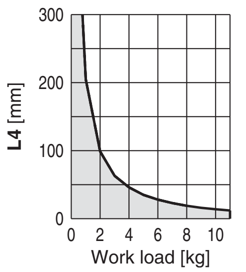
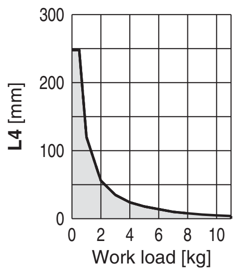
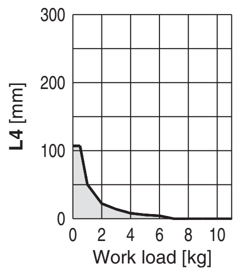
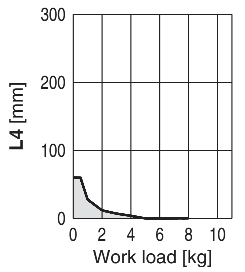
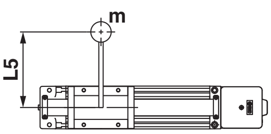
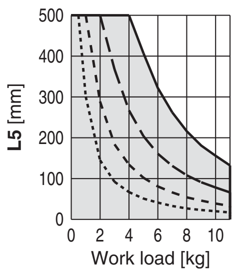
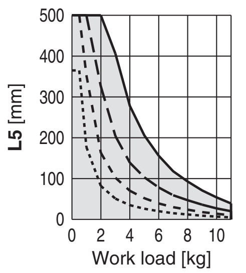
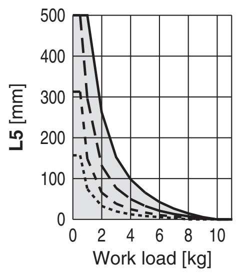
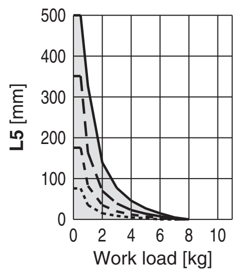
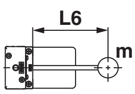
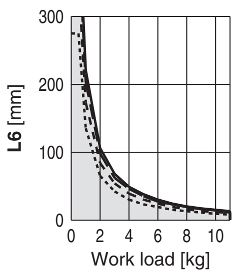
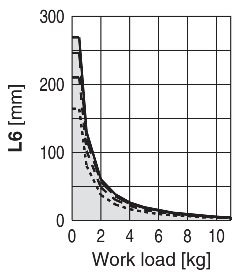
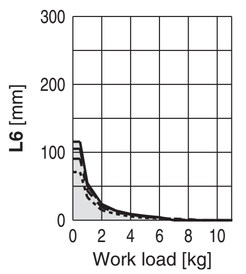
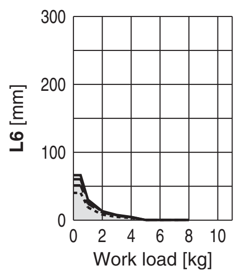
LEMH32/LEMHT32



Dynamic Allowable Moment (Series LEMB)

∗ This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" for confirmation.

Acceleration/Deceleration ——— 2500 mm/s² — — — 5000 mm/s² - - - - 10000 mm/s² ········ 20000 mm/s²

Orientation	**Load overhanging direction** **m** : Work load [mm] **Me**: Dynamic allowable moment [N·m] **L** : Overhang to the work load center of gravity [mm]		Model: **LEMB25/LEMB32**			
			Speed: 300 mm/s or less	Speed: 500 mm/s	Speed: 800 mm/s	Speed: 1000 mm/s
Horizontal/Bottom mounting		X				
Horizontal/Bottom mounting		Y				
Horizontal/Bottom mounting		Z				
Wall mounting		X				
Wall mounting		Y				
Wall mounting		Z				

∗ Vertical mounting is not available.

Dynamic Allowable Moment (Series LEMC/LEMH)

∗ This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to “Calculation of Guide Load Factor” for confirmation.

Acceleration/Deceleration ——— 2500 mm/s² — — — 5000 mm/s² - - - - 10000 mm/s² ········ 20000 mm/s²

<table>
<tr><th rowspan="2">Orientation</th><th rowspan="2" colspan="2">Load overhanging direction
m :Work load [mm]
Me: Dynamic allowable moment [N·m]
L : Overhang to the work load center of gravity [mm]</th><th colspan="4">Model</th></tr>
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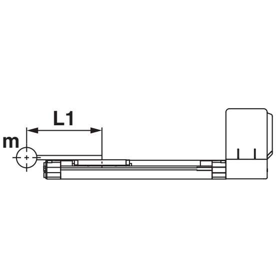
<tr><td rowspan="3">Horizontal/Bottom mounting</td><td>
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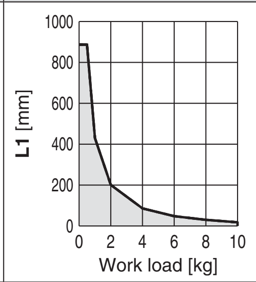
<td>
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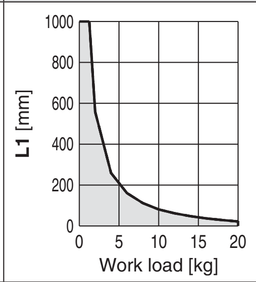
<td>
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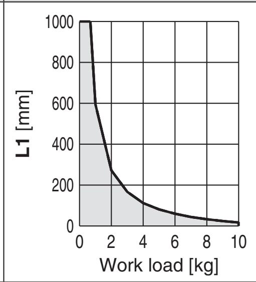
<td>
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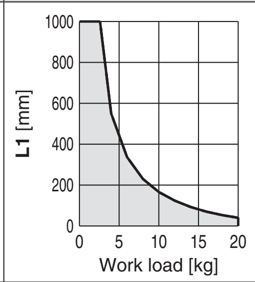
<td>
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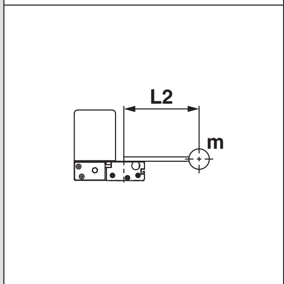
<tr><td>
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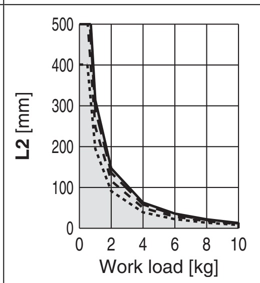
<td>
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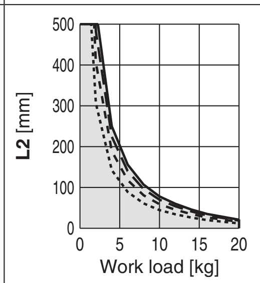
<td>
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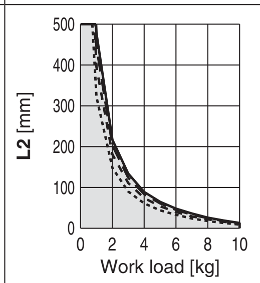
<td>
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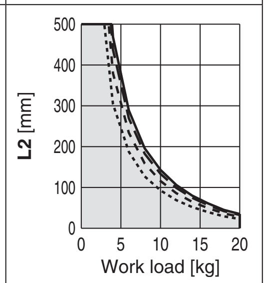
<td>
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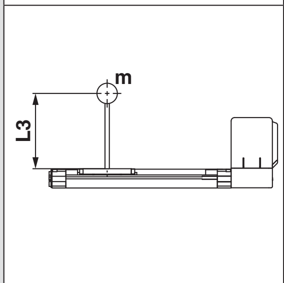
<tr><td>
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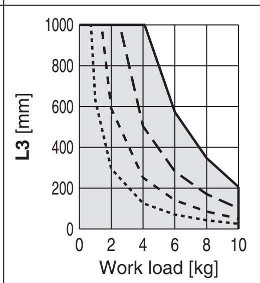
<td>
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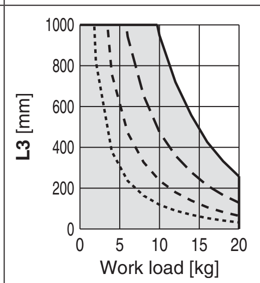
<td>
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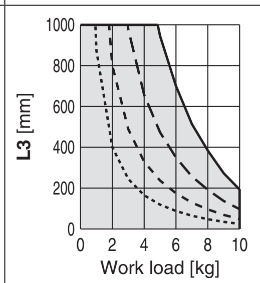
<td>
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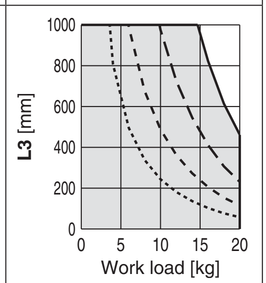
<td>
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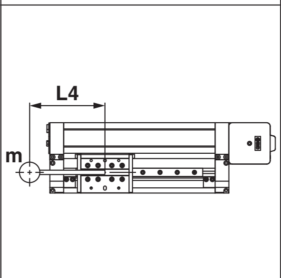
<tr><td rowspan="3">Wall mounting</td><td>
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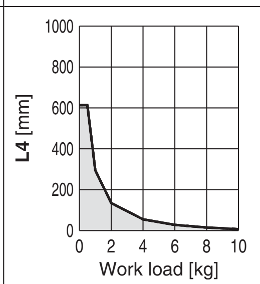
<td>
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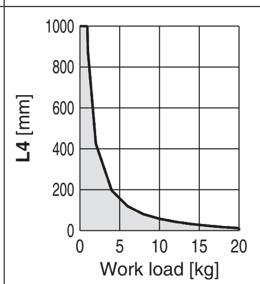
<td>
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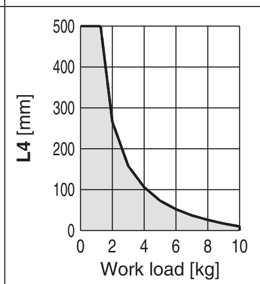
<td>
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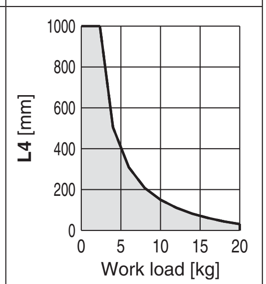
<td>
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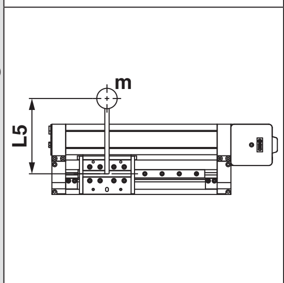
<tr><td>
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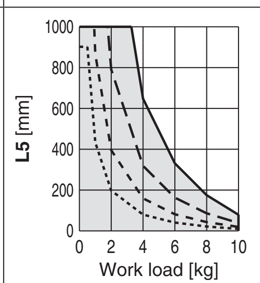
<td>
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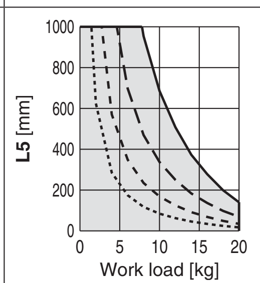
<td>
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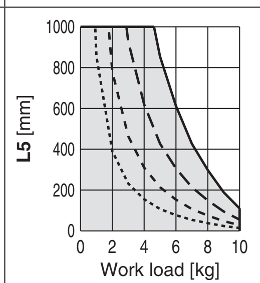
<td>
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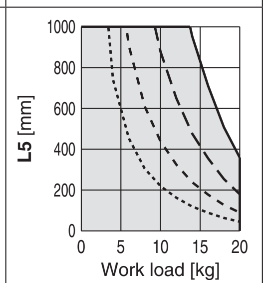
<td>
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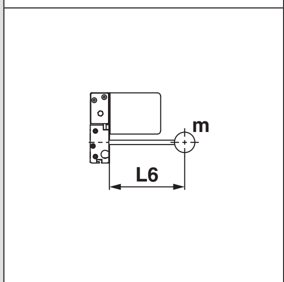
<tr><td>
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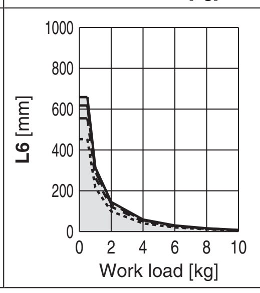
<td>
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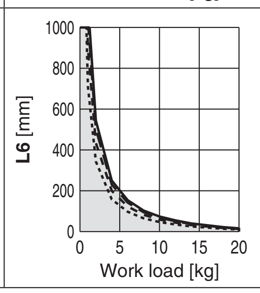
<td>
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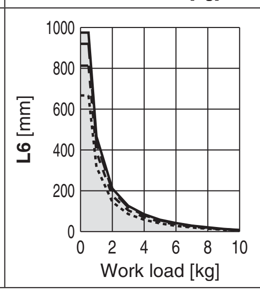
<td>
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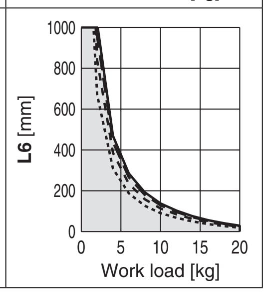
<td>
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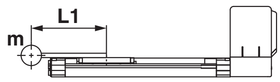
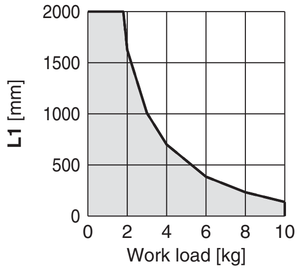
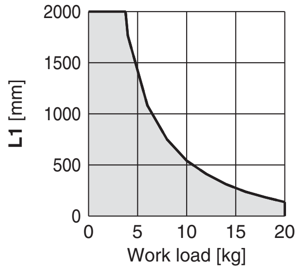
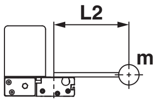
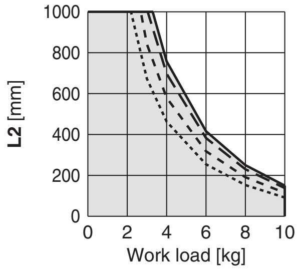
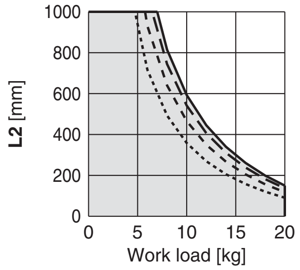
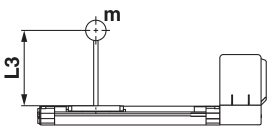
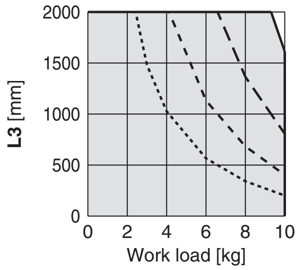
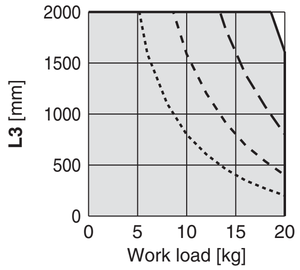
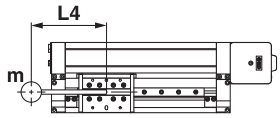
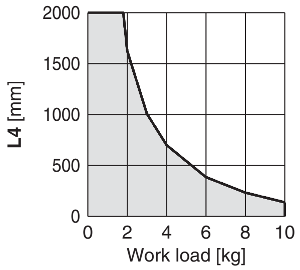
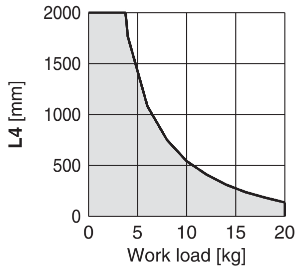
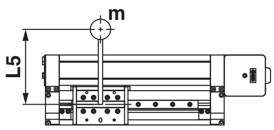
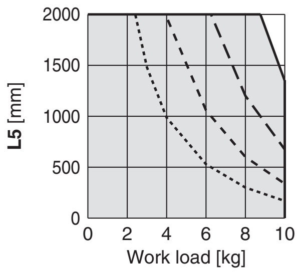
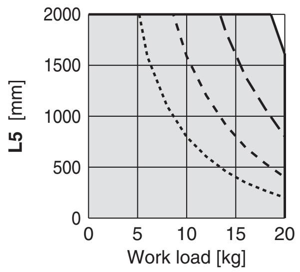
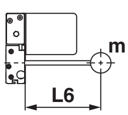
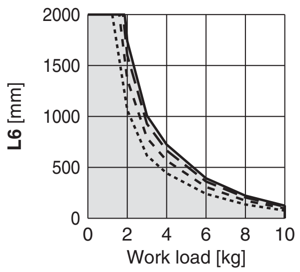
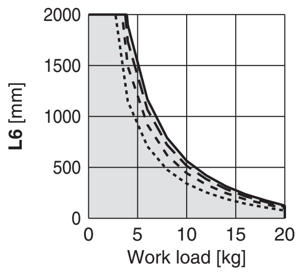
∗ Vertical mounting is not available.

Dynamic Allowable Moment (Series LEMHT)

* This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to “Calculation of Guide Load Factor” for confirmation.

Acceleration/Deceleration —— 2500 mm/s² — — — 5000 mm/s² - - - - 10000 mm/s² ········ 20000 mm/s²

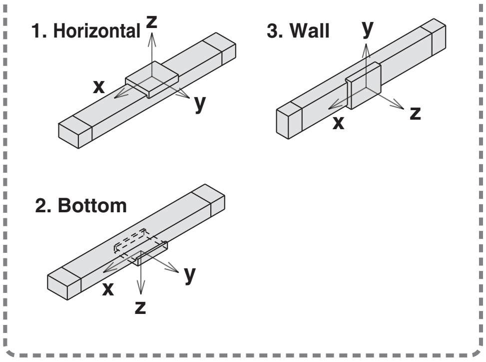
Orientation	Load overhanging direction m : Work load [mm] Me: Dynamic allowable moment [N·m] L : Overhang to the work load center of gravity [mm]		Model: LEMHT25	Model: LEMHT32
Horizontal/Bottom mounting		X		
		Y		
		Z		
Wall mounting		X		
		Y		
		Z		

* Vertical mounting is not available.

Calculation of Guide Load Factor

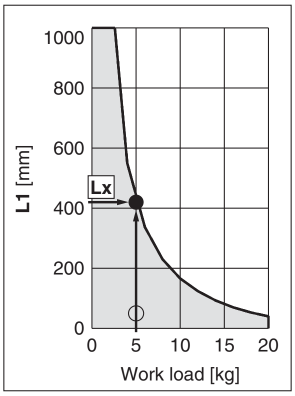
1. Decide operating conditions.
   Model: LEM
   Size: 25/32
   Mounting orientation: Horizontal/Bottom/Wall
   Acceleration [mm/s²]: **a**
   Work load [kg]: **m**
   Work load center position [mm]: **Xc/Yc/Zc**
2. Select the target graph with reference to the model, size and mounting orientation.
3. Based on the acceleration and work load, obtain the overhang [mm]: **Lx/Ly/Lz** from the graph.
4. Calculate the load factor for each direction.
   α**x = Xc/Lx**, α**y = Yc/Ly**, α**z = Zc/Lz**
5. Confirm the total of α**x**, α**y** and α**z** is 1 or less.
   α**x +** α**y +** α**z ≤ 1**
   When 1 is exceeded, please consider a reduction of acceleration and work load, or a change of the work load center position and series.

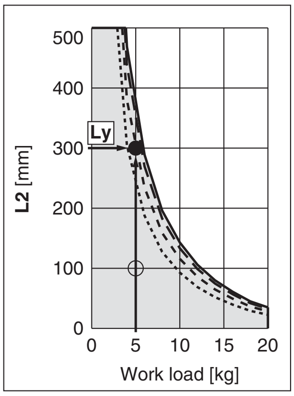
Mounting orientation

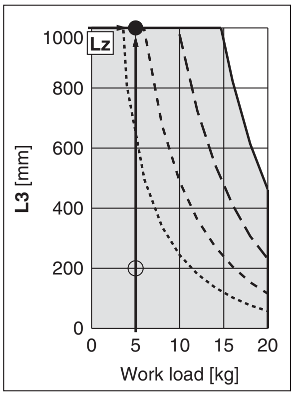


Example

1. Operating conditions
   Model: LEMH
   Size: 32
   Mounting orientation: Horizontal
   Acceleration [mm/s²]: 5000
   Work load [kg]: 5
   Work load center position [mm]: **Xc = 50**, **Yc = 100**, **Zc = 200**
2. Select three graphs from the top of the right side first row on page 166.
3. **Lx = 420 mm**, **Ly = 300 mm**, **Lz = 1000 mm**
4. The load factor for each direction can be obtained as follows.
   α**x = 50/420 = 0.12**
   α**y = 100/300 = 0.34**
   α**z = 200/1000 = 0.2**
5. α**x +** α**y +** α**z = 0.66 ≤ 1**







Electric Actuator/Low Profile Slider Type
Basic Type

Series LEMB LEMB25, 32

CE c UL US
RoHS

⚠Caution

New Series LEM	LEM□25	⇐	Series E-MY	E-MY□16
	LEM□32			E-MY□25

How to Order

LEMB 25 ☐ T – 300 ☐ ☐ – S 1 2N 1 ☐

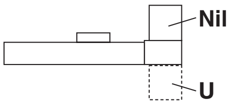
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Size

25
32

❷ Motor mounting position

Nil	Top mounting
U	Bottom mounting



❸ Equivalent lead

T	48 mm

❺ Motor option

Nil	Without option
B	With lock

❻ Stroke adjustment unit (Included)

Nil	None
M	Motor side only
E	End side only
W	Both sides

❹ Stroke

●: Standard/○: Produced upon receipt of order

Model \ Stroke	50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
LEMB25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●
LEMB32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●

* Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

⚠Caution

[CE-compliant products]

① EMC compliance was tested by combining the electric actuator LEM series and the controller LEC series.
The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore, conformity to the EMC directive cannot be certified for SMC components incorporated into the customer's equipment under actual operating conditions. As a result, it is necessary for the customer to verify conformity to the EMC directive for the machinery and equipment as a whole.

② CC-Link direct input type (LECPMJ) is not CE-compliant.

[UL-compliant products]

When conformity to UL is required, the electric actuator and controller should be used with a UL1310 Class 2 power supply.

Refer to pages 202 and 203 for auto switches.

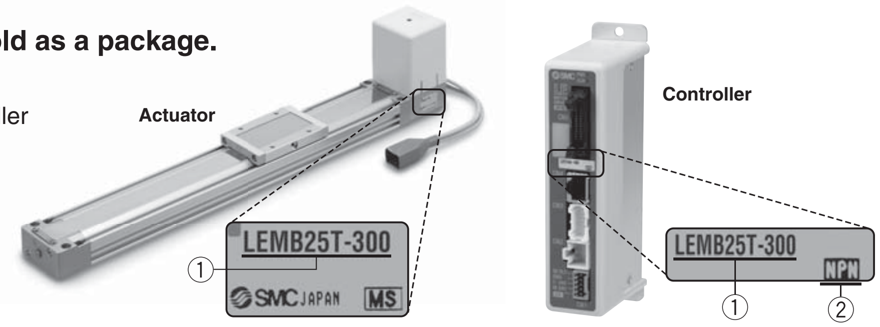
The actuator and controller are sold as a package.
(They can be ordered separately.)

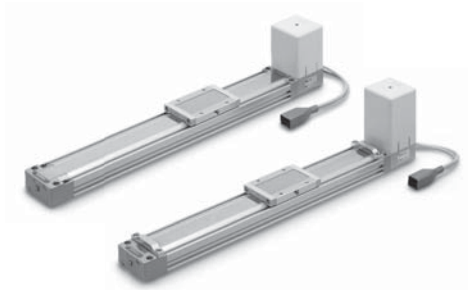
Confirm that the combination of the controller and the actuator is correct.

<Check the following before use.>

① Check the actuator label for model number.
This matches the controller.

② Check Parallel I/O configuration matches (NPN or PNP).





7 Actuator cable type

Nil	Without cable
S	Standard cable*
R	Robotic cable (Flexible cable)

* The standard cable should be used on fixed parts. For using on moving parts, select the robotic cable.

8 Actuator cable length

Nil	Without cable	8	8 m*
1	1.5 m	A	10 m*
3	3 m	B	15 m*
5	5 m	C	20 m*

* Produced upon receipt of order (Robotic cable only)

9 Controller type

Nil	Without controller	
6N	LECP6 (Step data input type)	NPN
6P		PNP
2N	LECP2* (Programless type (With stroke study))	NPN
2P		PNP
1N	LECP1 (Programless type)	NPN
1P		PNP
MJ	LECPMJ (CC-Link direct input type)	—

* Select the LECP2 when setting the stroke range using the stroke adjustment unit or an external stopper.

10 I/O cable length*1, Communication plug

Nil	Without cable (Without communication plug connector)*2
1	1.5 m
3	3 m
5	5 m
S	Straight type communication plug connector*2
T	T-branch type communication plug connector*2

*1 When "Without controller" is selected for controller types, I/O cable cannot be selected. Refer to page 580 (For LECP2), page 573 (For LECP1) or page 559 (For LECP6) if I/O cable is required.

*2 For the LECPMJ, only "Nil", "S" and "T" are selectable since I/O cable is not included.

11 Controller mounting

Nil	Screw mounting
D	DIN rail mounting*

* DIN rail is not included. Order it separately.

Compatible Controller

	Programless type (With stroke study)	Programless type	Step data input type	CC-Link direct input type
Type				
Series	LECP2	LECP1	LECP6	LECPMJ
Features	End to end operation similar to an air cylinder using the stroke study function	Capable of setting up operation (step data) without using a PC or teaching box	Value (Step data) input Standard controller	CC-Link direct input
Compatible motor	Step motor (Servo/24 VDC)			
Maximum number of step data	14 points (2 stroke end points + 12 intermediate points)	14 points	64 points	
Power supply voltage	24 VDC			
Reference page	Page 574	Page 567	Page 551	Page 591

Speed/Acceleration (Set values for LECP1/2)

Table 1 Switch and Speed Note)

Switch no.	Speed [mm/s]
0	48
1	75
2	100
3	150
4	200
5	250
6	300
7	350
8	400
9	450
10	500
11	600
12	700
13	800
14	900
15	1000

Table 2 Switch and Acceleration Note)

Switch no.	Acceleration [mm/s²]
0	250
1	500
2	1000
3	1500
4	2000
5	2500
6	3000
7	4000
8	5000
9	6000
10	7500
11	10000
12	12500
13	15000
14	17500
15	20000

Note) The factory default setting for the switch is No.0.

Specifications

Step Motor (Servo/24 VDC)

	Model		LEMB25	LEMB32
	Stroke [mm] Note 1)		50, 100, 150, 200, 250 300, 350, 400, 450, 500 550, 600, 700, 800, 900 1000, (1100), 1200, (1300) (1400), 1500, (1600), (1700) (1800), (1900), 2000	50, 100, 150, 200, 250 300, 350, 400, 450, 500 550, 600, 700, 800, 900 1000, (1100), 1200, (1300) (1400), 1500, (1600), (1700) (1800), (1900), 2000
Actuator specifications	Work load [kg] Note 2)	Horizontal	6 (10)	11 (20)
	Speed [mm/s] Note 2)		48 to 1000 (Refer to Table 1 for set values when LECP1 or 2 is selected.)	
	Max. acceleration/deceleration [mm/s²] Note 9)		20000 (Depends on the work load.)(Refer to Table 2 for set values when LECP1 or 2 is selected.)	
	Positioning repeatability [mm]		±0.08	
	Lost motion [mm] Note 10)		0.1 or less	
	Lead [mm]		48	
	Actuation type		Belt	
	Guide type		Sliding bearing	
	Operating temperature range [°C]		5 to 40	
	Operating humidity range [%RH]		90 or less (No condensation)	
	Allowable external force [N] Note 8)		10	20
Electric specifications	Motor size		□56.4	
	Motor type		Step motor (Servo/24 VDC)	
	Encoder		Incremental A/B phase (800 pulse/rotation)	
	Rated voltage [V]		24 VDC±10%	
	Power consumption [W] Note 3)		50	52
	Standby power consumption when operating [W] Note 4)		44	44
	Max. instantaneous power consumption [W] Note 5)		123	127
Lock unit specifications	Type Note 6)		Non-magnetizing lock	
	Holding force [N]		36	
	Power consumption [W] Note 7)		5	
	Rated voltage [V]		24 VDC±10%	

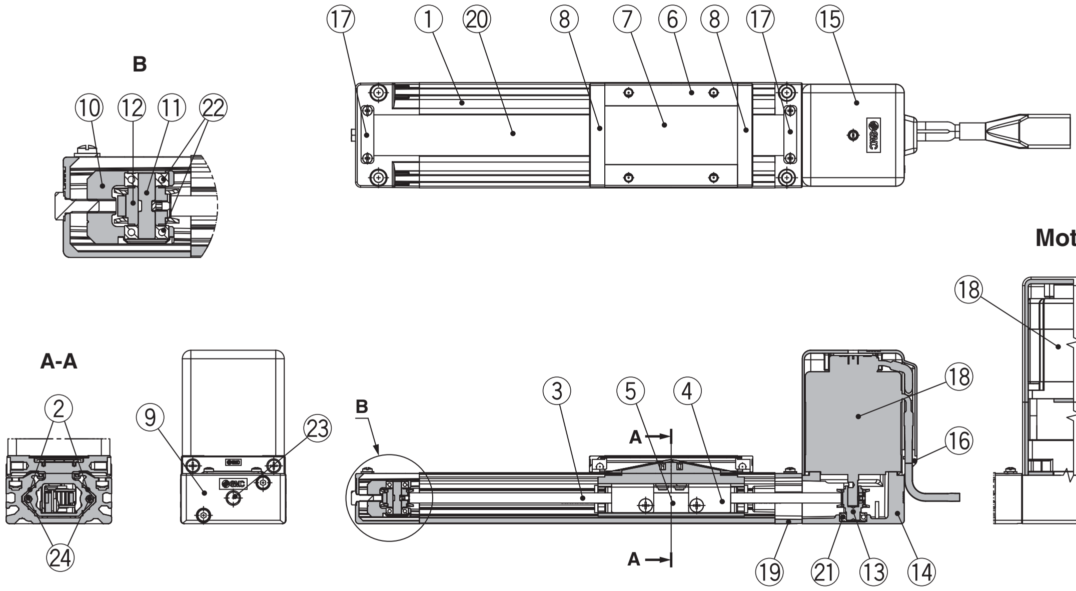
Note 1) Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
Note 2) Speed changes according to the work load.
Check "Speed–Work Load Graph (Guide)" on page 163. The work load changes according to the work load mounting condition. Check "Dynamic Allowable Moment" on page 165.
Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.
( ): When combined with external guide and the friction coefficient is 0.1 or less.
Note 3) The power consumption (including the controller) is for when the actuator is operating.
Note 4) The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during operation.
Note 5) The maximum instantaneous power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.
Note 6) With lock only
Note 7) For an actuator with lock, add the power consumption for the lock.
Note 8) The resistance value of the attached equipment should be within the allowable external resistance value.
Note 9) Maximum acceleration and deceleration are limited by the work load and stroke.
Refer to "Work Load–Acceleration/Deceleration Graph (Guide)" on page 164.
Note 10) A reference value for correcting an error in reciprocal operation.

Weight

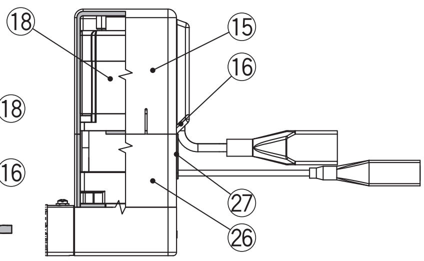
Stroke		50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	(1100)	1200	(1300)	(1400)	1500	(1600)	(1700)	(1800)	(1900)	2000
Product weight [kg]	LEMB25	1.66	1.75	1.84	1.92	2.01	2.10	2.19	2.27	2.37	2.45	2.54	2.62	2.80	2.97	3.15	3.33	3.50	3.68	3.85	4.03	4.20	4.38	4.55	4.73	4.90	5.08
	LEMB32	2.02	2.11	2.20	2.29	2.38	2.47	2.55	2.64	2.73	2.82	2.91	3.00	3.17	3.35	3.53	3.70	3.88	4.06	4.23	4.41	4.59	4.76	4.94	5.12	5.29	5.47
Additional weight with lock [kg]		0.60																									

Construction

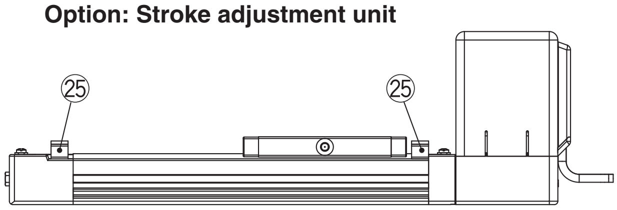
LEMB



Motor option: With lock



Option: Stroke adjustment unit



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Guide plate**	Synthetic resin	
3	**Belt**	—	
4	**Belt holder**	Carbon steel	Chromated
5	**Belt stopper**	Aluminum alloy	
6	**Table**	Aluminum alloy	Anodized
7	**Blanking plate**	Aluminum alloy	Anodized
8	**Seal band holder**	Synthetic resin	
9	**End block**	Aluminum die-casted	Painting
10	**Pulley holder**	Aluminum alloy	
11	**Pulley shaft**	Stainless steel	Heat treatment + Special treatment
12	**Pulley**	Aluminum alloy	Anodized
13	**Motor pulley**	Aluminum alloy	Anodized
14	**Motor mount**	Aluminum die-casted	Painting
15	**Motor cover**	Synthetic resin	

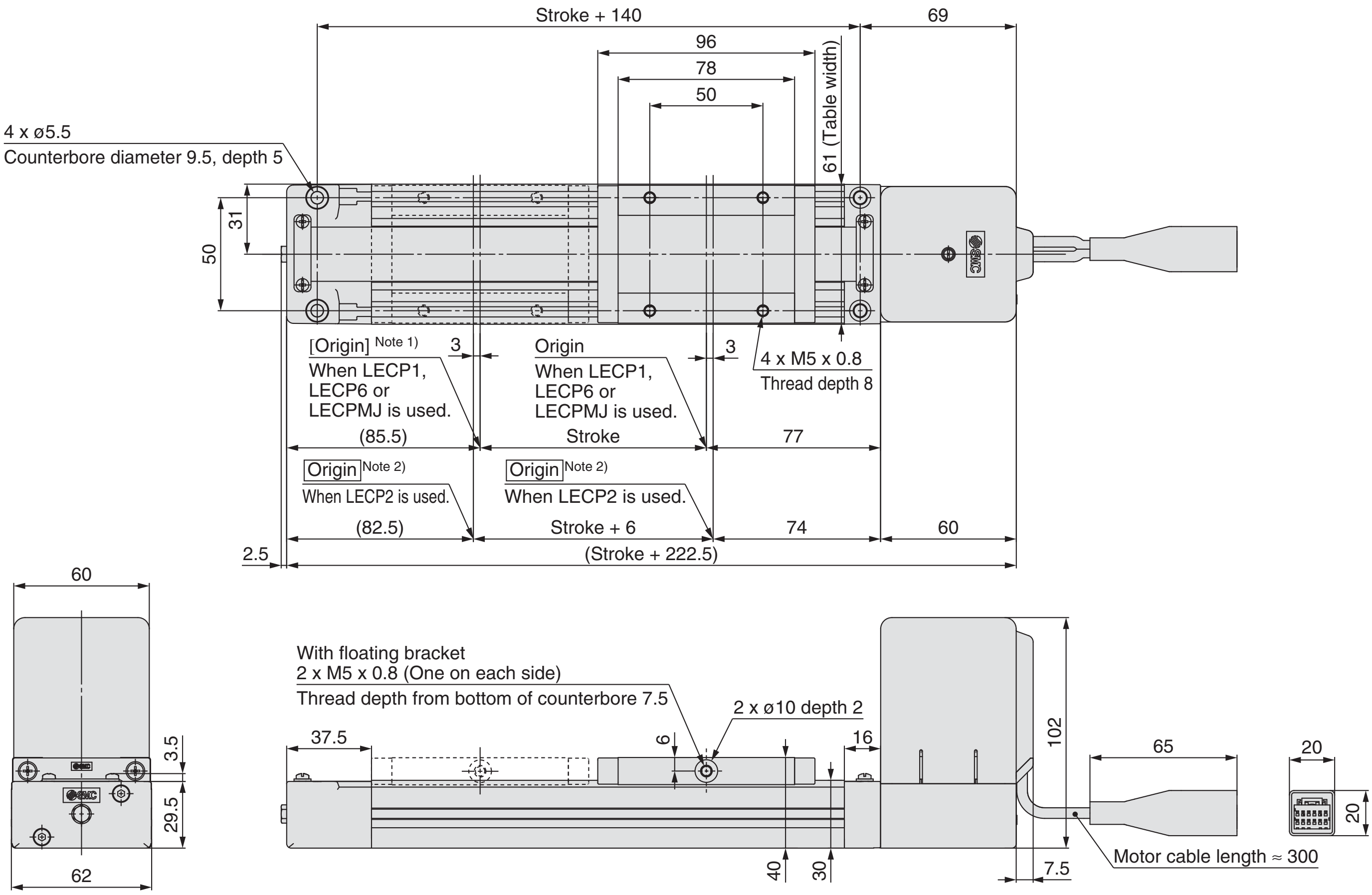
Component Parts

No.	Description	Material	Note
16	**Grommet**	Synthetic resin	
17	**Band stopper**	Stainless steel	
18	**Motor**	—	
19	**Motor end block**	Aluminum die-casted	Painting
20	**Dust seal band**	Stainless steel	
21	**Bearing**	—	
22	**Bearing**	—	
23	**Hexagon bolt**	Carbon steel	Chromated
24	**Magnet**	—	
25	**Stroke adjuster**	Aluminum alloy	Anodized (Optional)
26	**Motor cover for lock**	Aluminum alloy	Anodized Only “with lock”
27	**Grommet**	CR	Chloroprene rubber Only “with lock”

Dimensions Size 25

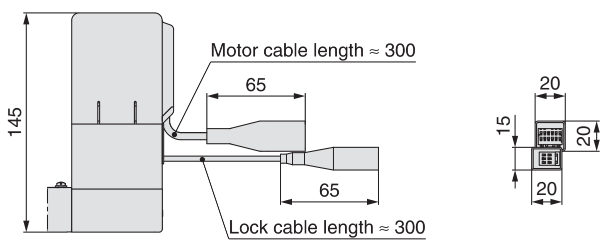
Refer to page 538 and after for dimensions of the controllers.

Top mounting
LEMB25T-□□-□□□□□

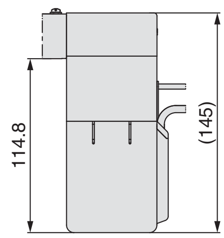


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP6, LECP1 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

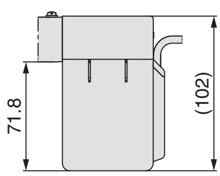
Top mounting
With lock
LEMB25T-□B□-□□□□□



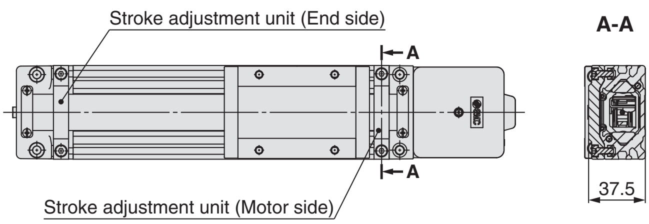
Bottom mounting
With lock
LEMB25UT-□B□-□□□□□



Bottom mounting
LEMB25UT-□□-□□□□□



Stroke adjustment unit mounting position
LEMB25□T-□□M/E/W-□□□□□

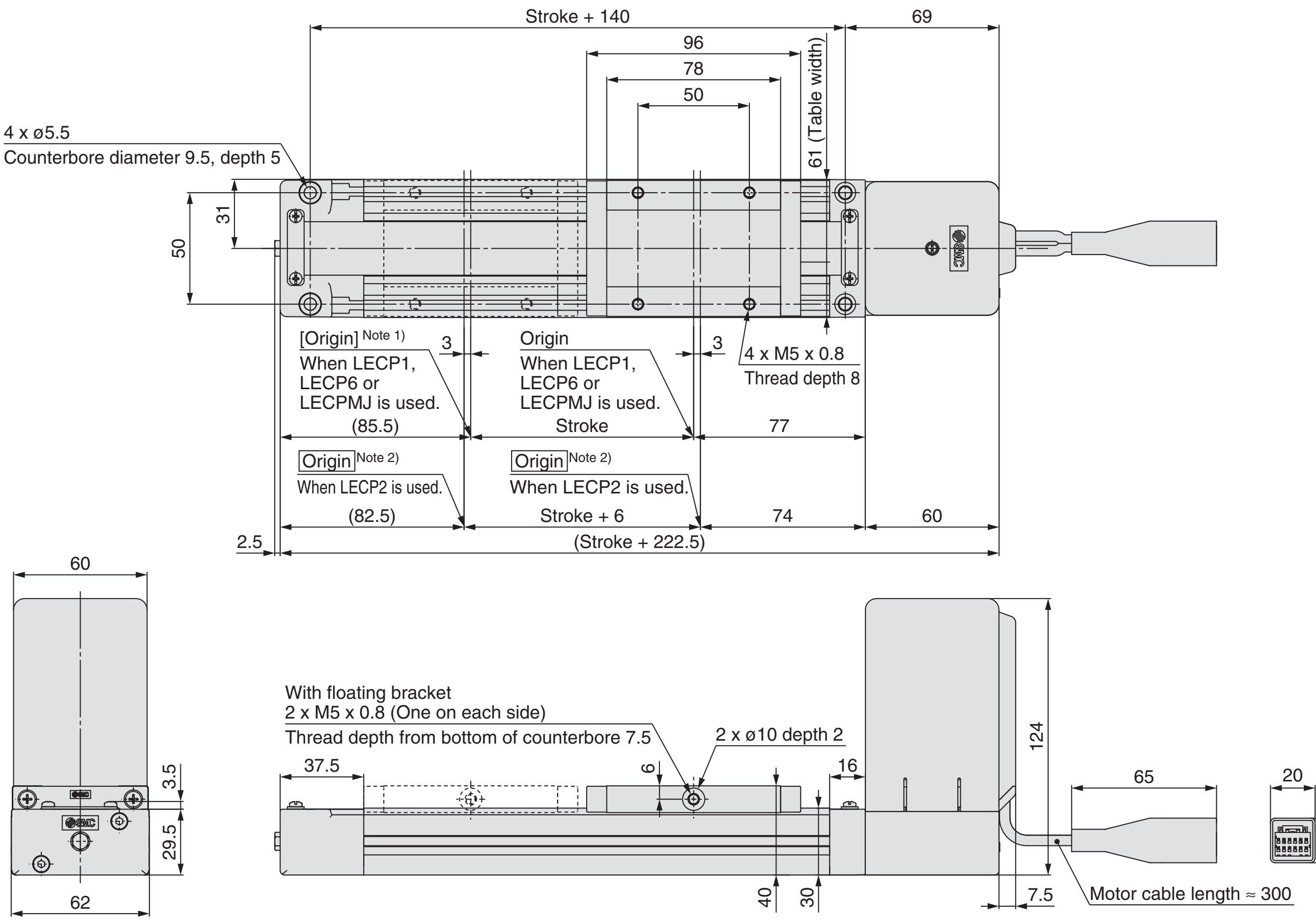


Dimensions Size 32

Refer to page 538 and after for dimensions of the controllers.

Top mounting

LEMB32T-□□-□□□□□

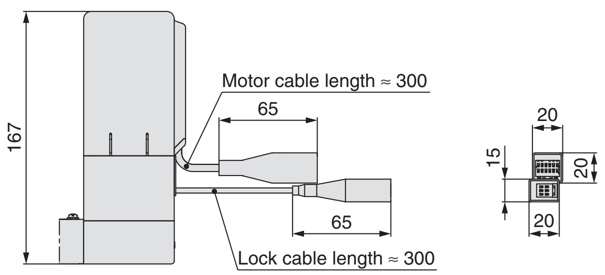


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP6, LECP1 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting

With lock

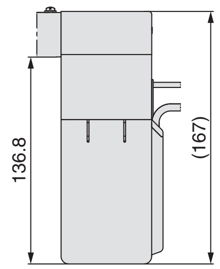
LEMB32T-□B□-□□□□□



Bottom mounting

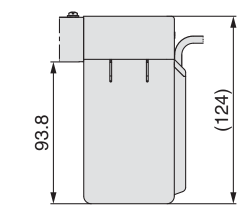
With lock

LEMB32UT-□B□-□□□□□



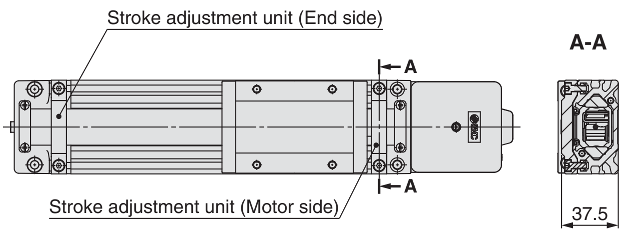
Bottom mounting

LEMB32UT-□□-□□□□□



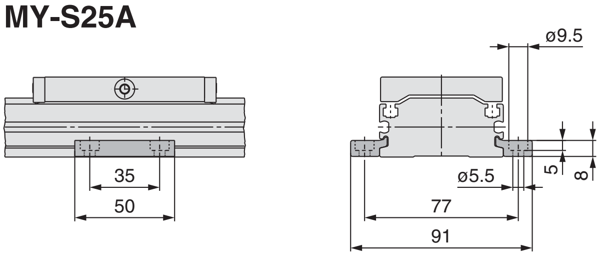
Stroke adjustment unit mounting position

LEMB32□T-□□M/E/W-□□□□□

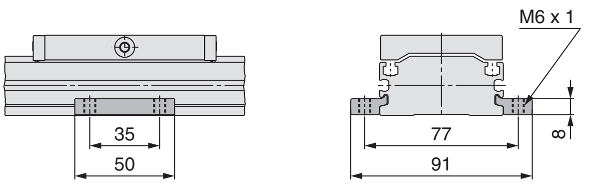


Side Support

Side support A
MY-S25A



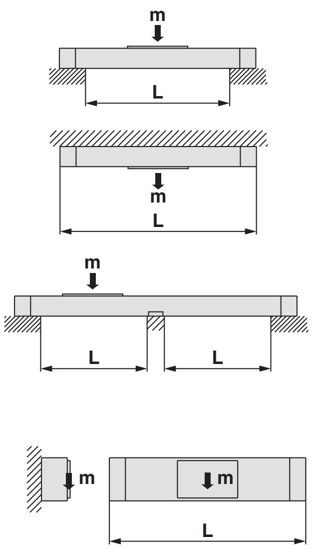
Side support B
MY-S25B

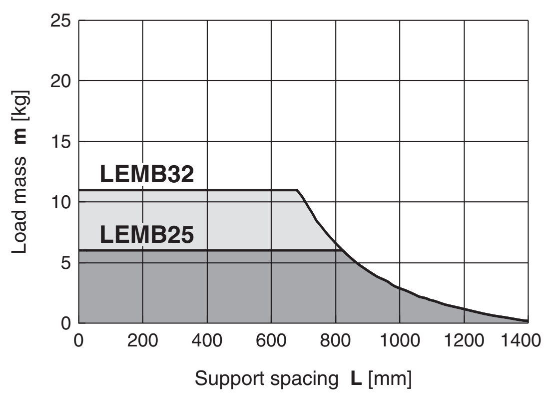


∗ A set of side supports consists of a left support and a right support.

Guide for Side Support Application

When using actuator with longer stroke, implement intermediate support to prevent frame deflection or deflection caused by vibration or external impacts. The spacing (**L**) of the intermediate supports must be no more than the values shown in the following graph.





⚠ Caution

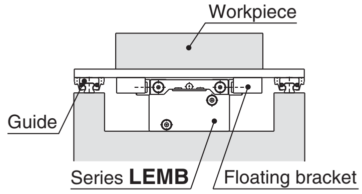
1. If the actuator mounting surfaces are not measured accurately, using the intermediate support may cause poor operation. Make sure to level the mounting surface when mounting the actuator. For long stroke operation involving overhang of workpiece, implement intermediate support as recommended even if the support spacing is within the allowable limits shown in the graph. For the intermediate support, order a side support separately.
2. Support brackets are not for mounting. Use them solely for providing support.

Floating Bracket

MYAJ25 Note) Mounting direction ① and ② are available for this model.

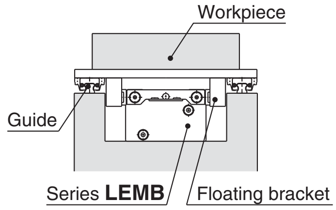
Application Example

Mounting direction ① (to minimize the installation height)

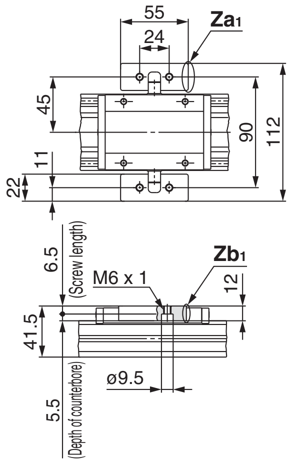


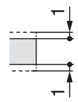
Application Example

Mounting direction ② (to minimize the installation width)

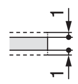


Mounting Example



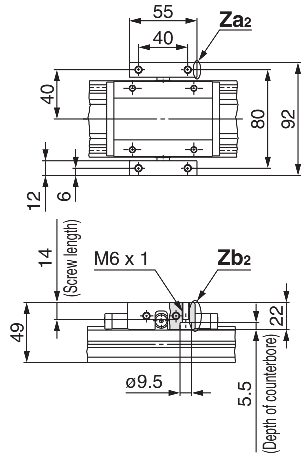


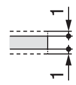
Detail drawing of Za1 (adjustable range)



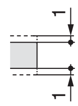
Detail drawing of Zb1 (adjustable range)

Mounting Example



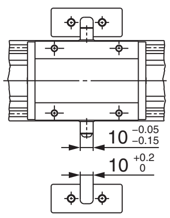


Detail drawing of Za2 (adjustable range)

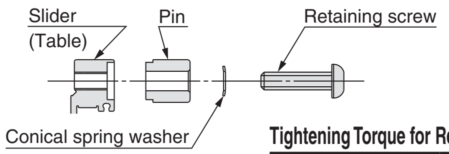


Detail drawing of Zb2 (adjustable range)

Floating Parts Dimensions



Installation of Retaining Screws



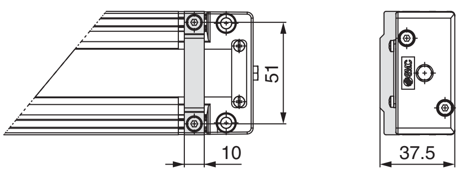
Tightening Torque for Retaining Screws [N·m]

Model	Tightening torque
MYAJ25	3

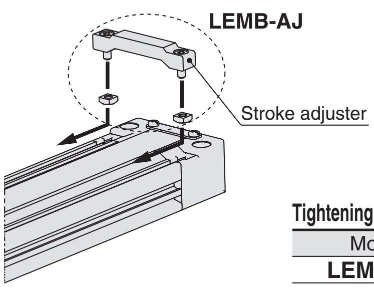
Stroke Adjustment Unit

LEMB-AJ

∗ Stroke adjustment unit includes the stroke adjuster and mounting screws.



Mounting



Tightening Torque for Retaining Screws [N·m]

Model	Tightening torque
LEMB-AJ	1.5

Step Motor (Servo/24 VDC)

Electric Actuator/Low Profile Slider Type Cam Follower Guide Type

Series LEMC LEMC25, 32

RoHS

⚠Caution

New Series LEM LEM□25 LEM□32 ← Series E-MY E-MY□16 E-MY□25

How to Order

LEMC 25 [ ] T – 300 [ ] – S 1 2N 1 [ ]

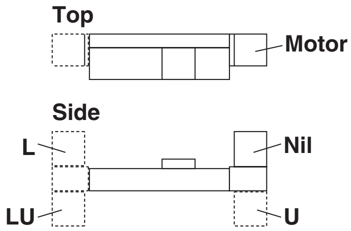
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Size

25
32

❷ Motor mounting position

Nil	Top mounting
U	Bottom mounting
L	Symmetric, Top mounting
LU	Symmetric, Bottom mounting



❸ Equivalent lead

T	48 mm

❺ Motor option

Nil	Without option
B	With lock

❹ Stroke

●: Standard/○: Produced upon receipt of order

Model \ Stroke	50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
LEMC25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●
LEMC32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●

* Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

⚠Caution

[CE-compliant products]

① EMC compliance was tested by combining the electric actuator LEM series and the controller LEC series.
The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore, conformity to the EMC directive cannot be certified for SMC components incorporated into the customer's equipment under actual operating conditions. As a result, it is necessary for the customer to verify conformity to the EMC directive for the machinery and equipment as a whole.

② CC-Link direct input type (LECPMJ) is not CE-compliant.

[UL-compliant products]

When conformity to UL is required, the electric actuator and controller should be used with a UL1310 Class 2 power supply.

Refer to pages 202 and 203 for auto switches.

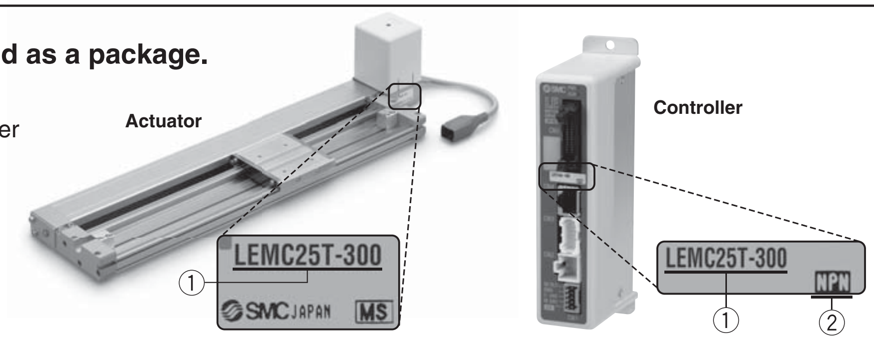
The actuator and controller are sold as a package.
(They can be ordered separately.)

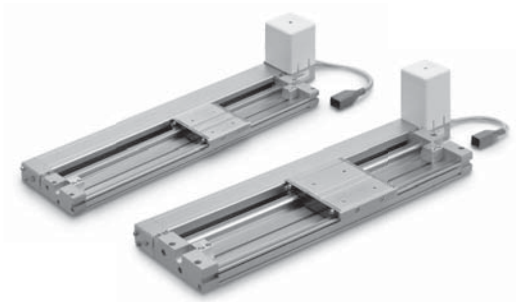
Confirm that the combination of the controller and the actuator is correct.

<Check the following before use.>

① Check the actuator label for model number.
This matches the controller.

② Check Parallel I/O configuration matches (NPN or PNP).





❻ Actuator cable type

Nil	Without cable
S	Standard cable*
R	Robotic cable (Flexible cable)

* The standard cable should be used on fixed parts. For using on moving parts, select the robotic cable.

❼ Actuator cable length

Nil	Without cable	8	8 m*
1	1.5 m	A	10 m*
3	3 m	B	15 m*
5	5 m	C	20 m*

* Produced upon receipt of order (Robotic cable only)

❽ Controller type

Nil	Without controller	
6N	LECP6 (Step data input type)	NPN
6P		PNP
2N	LECP2* (Programless type (With stroke study))	NPN
2P		PNP
1N	LECP1 (Programless type)	NPN
1P		PNP
MJ	LECPMJ (CC-Link direct input type)	—

* Select the LECP2 when setting the stroke range using the stroke adjustment unit or an external stopper.

❾ I/O cable length*1, Communication plug

Nil	Without cable (Without communication plug connector)*2
1	1.5 m
3	3 m
5	5 m
S	Straight type communication plug connector*2
T	T-branch type communication plug connector*2

*1 When "Without controller" is selected for controller types, I/O cable cannot be selected. Refer to page 580 (For LECP2), page 573 (For LECP1) or page 559 (For LECP6) if I/O cable is required.

*2 For the LECPMJ, only "Nil", "S" and "T" are selectable since I/O cable is not included.

❿ Controller mounting

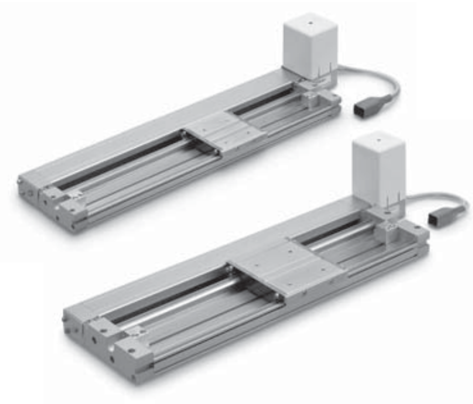
Nil	Screw mounting
D	DIN rail mounting*

* DIN rail is not included. Order it separately.

The stroke adjustment unit is built into the product.

Compatible Controller

Type	**Programless type (With stroke study)** 	**Programless type** 	**Step data input type** 	**CC-Link direct input type** 
Series	**LECP2**	**LECP1**	**LECP6**	**LECPMJ**
Features	End to end operation similar to an air cylinder using the stroke study function	Capable of setting up operation (step data) without using a PC or teaching box	Value (Step data) input Standard controller	CC-Link direct input
Compatible motor	Step motor (Servo/24 VDC)			
Maximum number of step data	14 points (2 stroke end points + 12 intermediate points)	14 points	64 points	
Power supply voltage	24 VDC			
Reference page	Page 574	Page 567	Page 551	Page 591



Speed/Acceleration (Set values for LECP1/2)

Table 1 Switch and Speed Note)

Switch no.	Speed [mm/s]
0	48
1	75
2	100
3	150
4	200
5	250
6	300
7	350
8	400
9	450
10	500
11	600
12	700
13	800
14	900
15	1000

Table 2 Switch and Acceleration Note)

Switch no.	Acceleration [mm/s²]
0	250
1	500
2	1000
3	1500
4	2000
5	2500
6	3000
7	4000
8	5000
9	6000
10	7500
11	10000
12	12500
13	15000
14	17500
15	20000

Note) The factory default setting for the switch is No.0.

Specifications

Step Motor (Servo/24 VDC)

	Model		LEMC25	LEMC32
Stroke [mm] Note 1)			50, 100, 150, 200, 250 300, 350, 400, 450, 500 550, 600, 700, 800, 900 1000, (1100), 1200, (1300) (1400), 1500, (1600), (1700) (1800), (1900), 2000	50, 100, 150, 200, 250 300, 350, 400, 450, 500 550, 600, 700, 800, 900 1000, (1100), 1200, (1300) (1400), 1500, (1600), (1700) (1800), (1900), 2000
Actuator specifications	Work load [kg] Note 2)	Horizontal	10	20
	Speed [mm/s] Note 2)		48 to 1000 (Refer to Table 1 for set values when LECP1 or 2 is selected.)	
	Max. acceleration/deceleration [mm/s²] Note 9)		20000 (Depends on the work load.)(Refer to Table 2 for set values when LECP1 or 2 is selected.)	
	Positioning repeatability [mm]		±0.08	
	Lost motion [mm] Note 10)		0.1 or less	
	Lead [mm]		48	
	Actuation type		Belt	
	Guide type		Cam follower guide	
	Operating temperature range [°C]		5 to 40	
	Operating humidity range [%RH]		90 or less (No condensation)	
	Allowable external force [N] Note 8)		10	20
Electric specifications	Motor size		□56.4	
	Motor type		Step motor (Servo/24 VDC)	
	Encoder		Incremental A/B phase (800 pulse/rotation)	
	Rated voltage [V]		24 VDC±10%	
	Power consumption [W] Note 3)		50	52
	Standby power consumption when operating [W] Note 4)		44	44
	Max. instantaneous power consumption [W] Note 5)		123	127
Lock unit specifications	Type Note 6)		Non-magnetizing lock	
	Holding force [N]		36	
	Power consumption [W] Note 7)		5	
	Rated voltage [V]		24 VDC±10%	

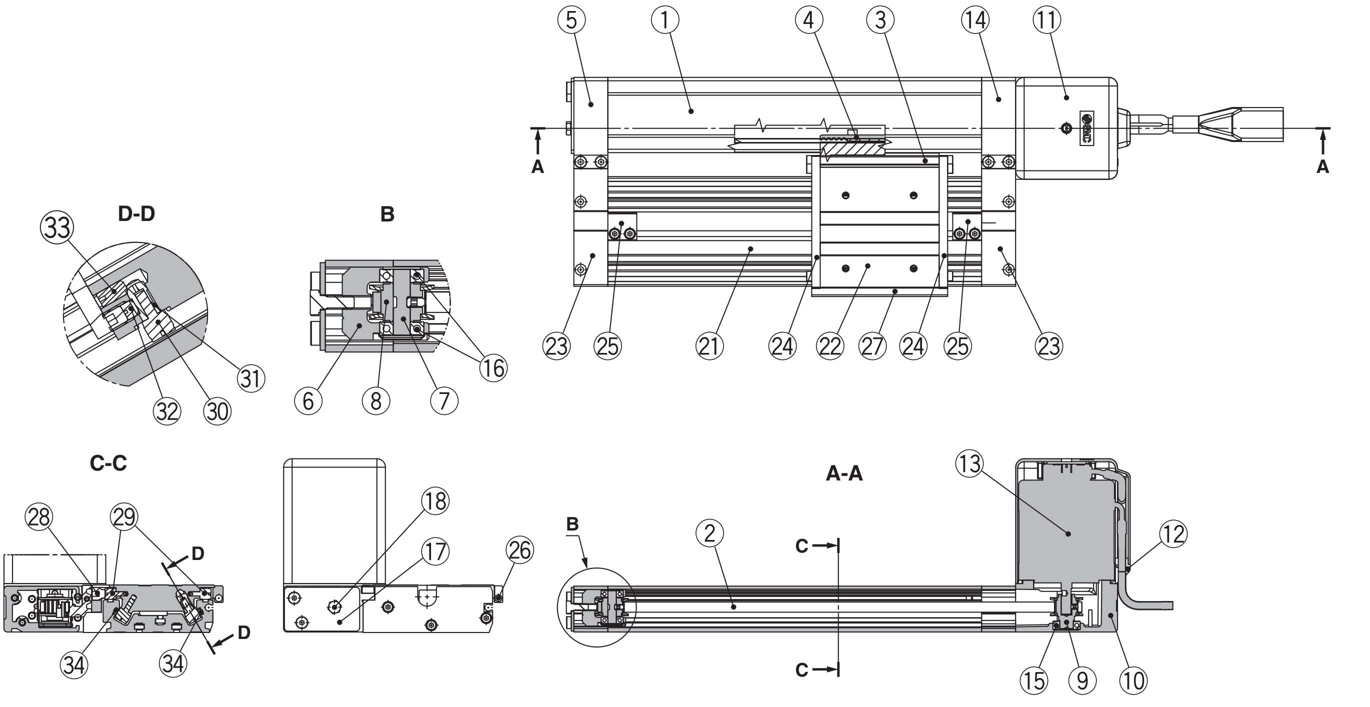
Note 1) Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
Note 2) Speed changes according to the work load.
Check "Speed–Work Load Graph (Guide)" on page 163.
The work load changes according to the work load mounting condition.
Check "Dynamic Allowable Moment" on page 166.
Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.
Note 3) The power consumption (including the controller) is for when the actuator is operating.
Note 4) The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during operation.
Note 5) The maximum instantaneous power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.
Note 6) With lock only
Note 7) For an actuator with lock, add the power consumption for the lock.
Note 8) The resistance value of the attached equipment should be within the allowable external resistance value.
Note 9) Maximum acceleration and deceleration are limited by the work load and stroke.
Refer to "Work Load–Acceleration/Deceleration Graph (Guide)" on page 164.
Note 10) A reference value for correcting an error in reciprocal operation.

Weight

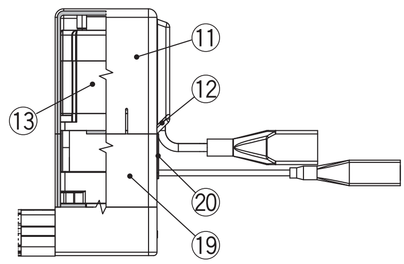
Stroke		50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	(1100)	1200	(1300)	(1400)	1500	(1600)	(1700)	(1800)	(1900)	2000
Product weight [kg]	LEMC25	2.04	2.18	2.32	2.46	2.60	2.74	2.88	3.01	3.15	3.29	3.43	3.57	3.85	4.12	4.40	4.68	4.95	5.23	5.51	5.79	6.06	6.34	6.62	6.90	7.17	7.45
	LEMC32	3.85	4.06	4.27	4.49	4.70	4.91	5.12	5.33	5.55	5.76	5.97	6.18	6.61	7.03	7.45	7.88	8.30	8.72	9.15	9.57	10.00	10.42	10.84	11.27	11.69	12.11
Additional weight with lock [kg]		0.60																									

Construction

LEMC



Motor option: With lock



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Belt**	—	
3	**L-type bracket**	Aluminum alloy	Anodized
4	**Belt stopper**	Aluminum alloy	
5	**End block**	Aluminum alloy	Anodized
6	**Pulley holder**	Aluminum alloy	
7	**Pulley shaft**	Stainless steel	Heat treatment + Special treatment
8	**Pulley**	Aluminum alloy	Anodized
9	**Motor pulley**	Aluminum alloy	Anodized
10	**Motor mount**	Aluminum die-casted	Painting
11	**Motor cover**	Synthetic resin	
12	**Grommet**	Synthetic resin	
13	**Motor**	—	
14	**Motor end block**	Aluminum alloy	Anodized
15	**Bearing**	—	
16	**Bearing**	—	
17	**Tension plate**	Aluminum alloy	Anodized
18	**Hexagon bolt**	Carbon steel	Chromated

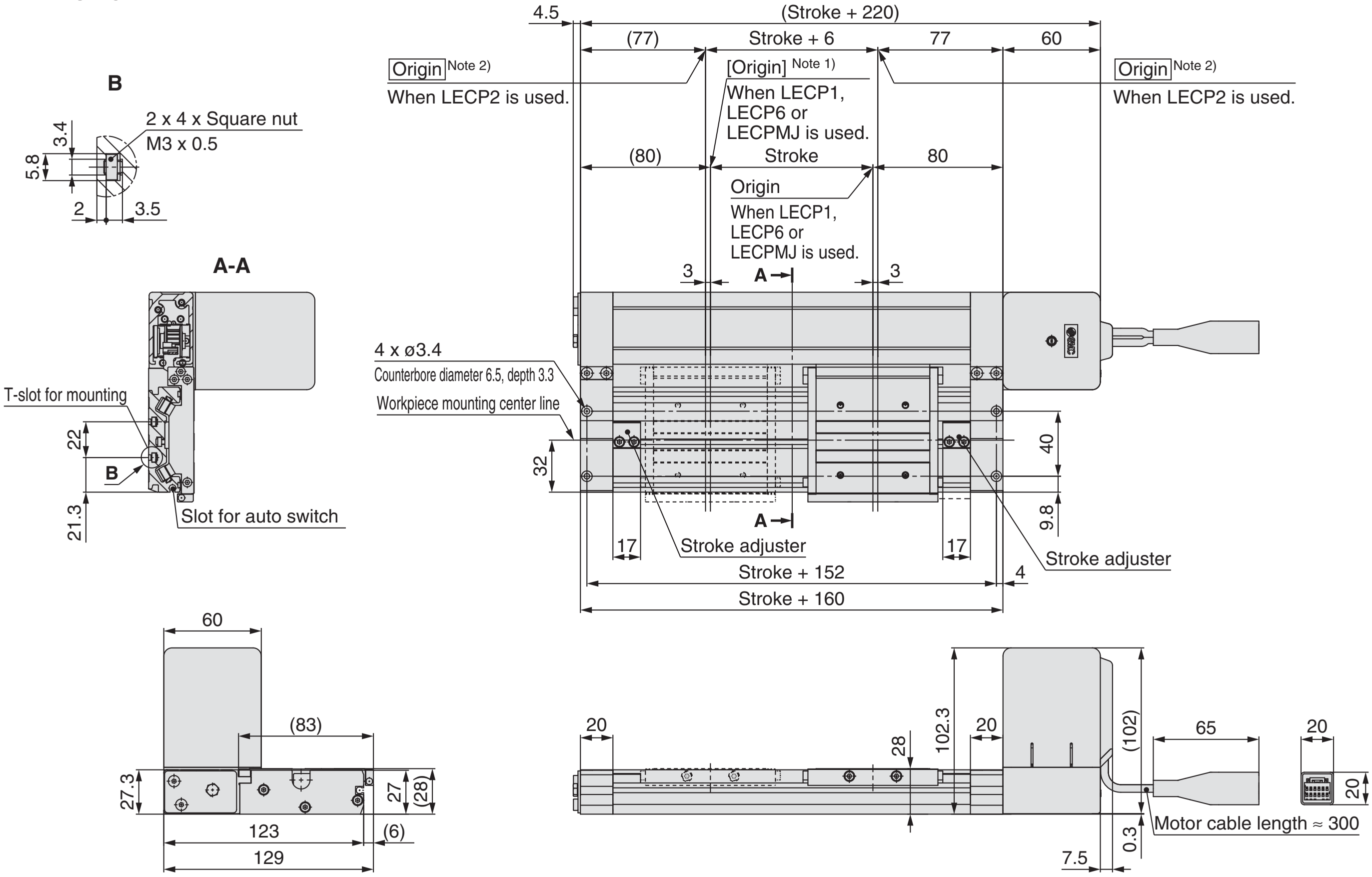
Component Parts

No.	Description	Material	Note
19	**Motor cover for lock**	Aluminum alloy	Anodized Only "with lock"
20	**Grommet**	CR	Chloroprene rubber Only "with lock"
21	**Guide unit body**	Aluminum alloy	Anodized
22	**Slide table**	Aluminum alloy	Anodized
23	**End plate**	Aluminum alloy	Anodized
24	**Stopper**	Carbon steel	Nickel plating
25	**Stroke adjuster**	Aluminum alloy	Anodized
26	**Magnet**	—	
27	**Side cover**	Aluminum alloy	Anodized
28	**Cam follower cap**	Aluminum alloy	Anodized
29	**Cam follower**	—	
30	**Cam follower**	—	
31	**Eccentric gear**	Stainless steel	
32	**Gear bracket**	Stainless steel	
33	**Adjustment gear**	Stainless steel	
34	**Rail**	Hard steel wire material	

Dimensions Size 25

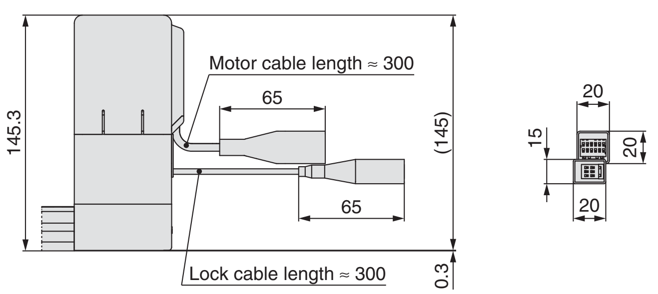
Refer to page 538 and after for dimensions of the controllers.

Top mounting
LEMC25T-□-□□□□□

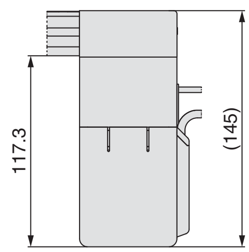


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting
With lock
LEMC25T-□B-□□□□□



Bottom mounting
With lock
LEMC25UT-□B-□□□□□



Bottom mounting
LEMC25UT-□-□□□□□

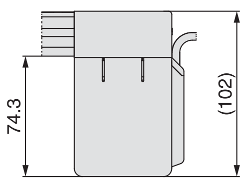
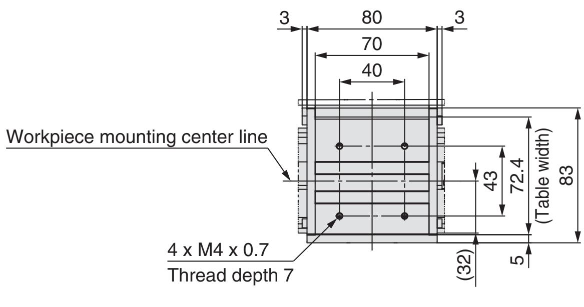


Table details

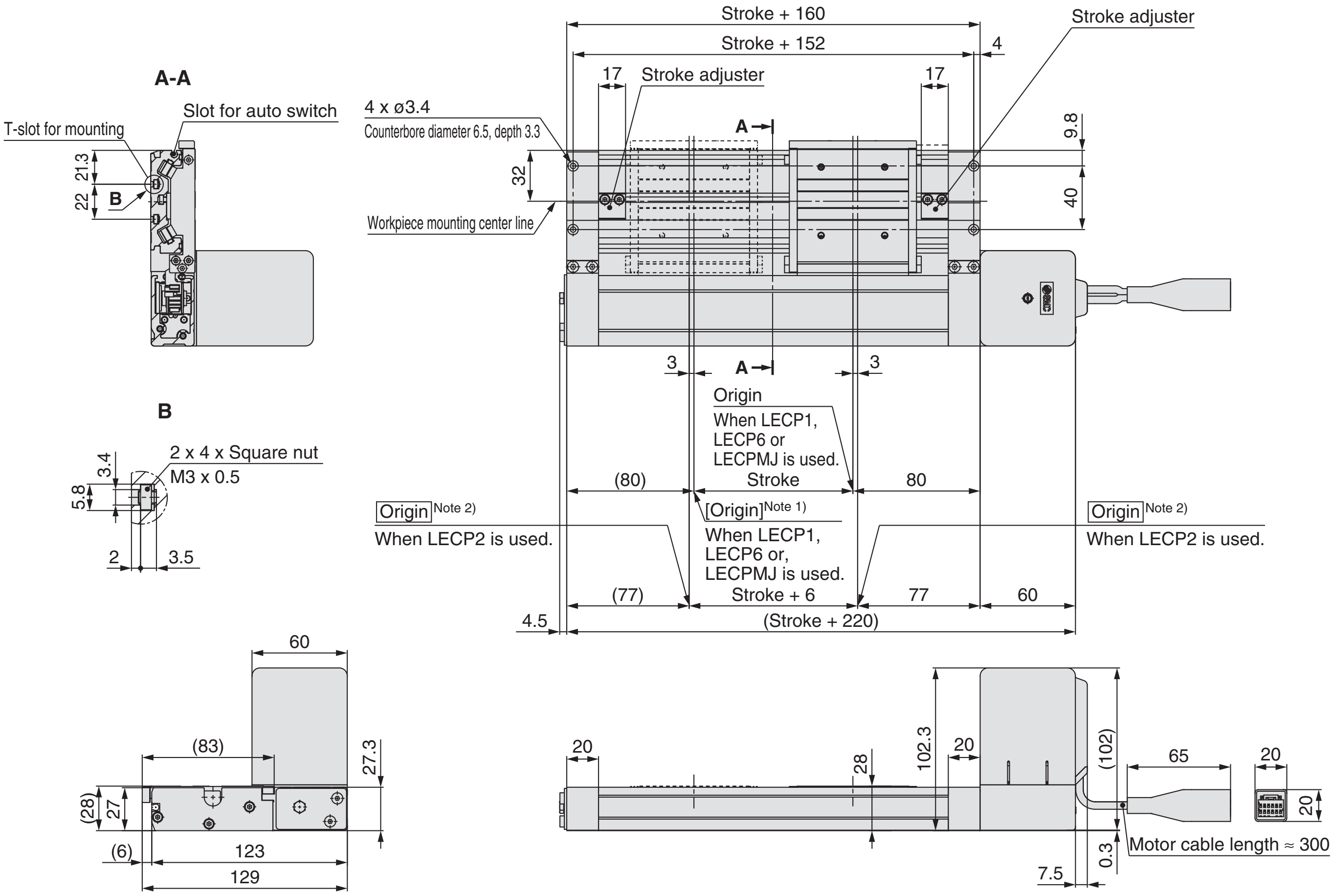


Dimensions Size 25

Refer to page 538 and after for dimensions of the controllers.

Symmetric/Top mounting

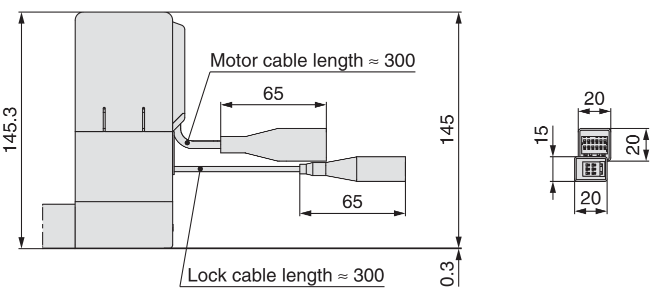
LEMC25LT-□-□□□□□



Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is “Stroke + 6 mm”.

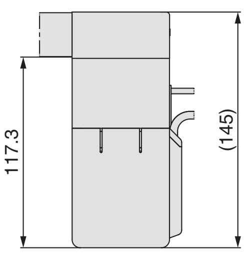
Top mounting

With lock
LEMC25LT-□B-□□□□□



Bottom mounting

With lock
LEMC25LUT-□B-□□□□□



Bottom mounting

LEMC25LUT-□-□□□□□

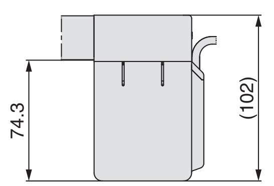
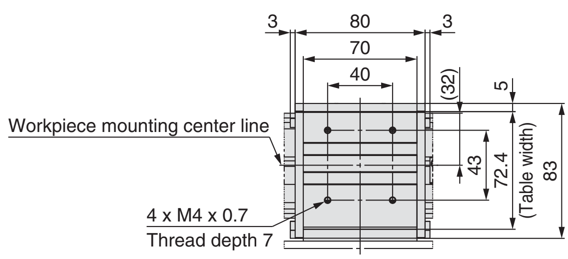


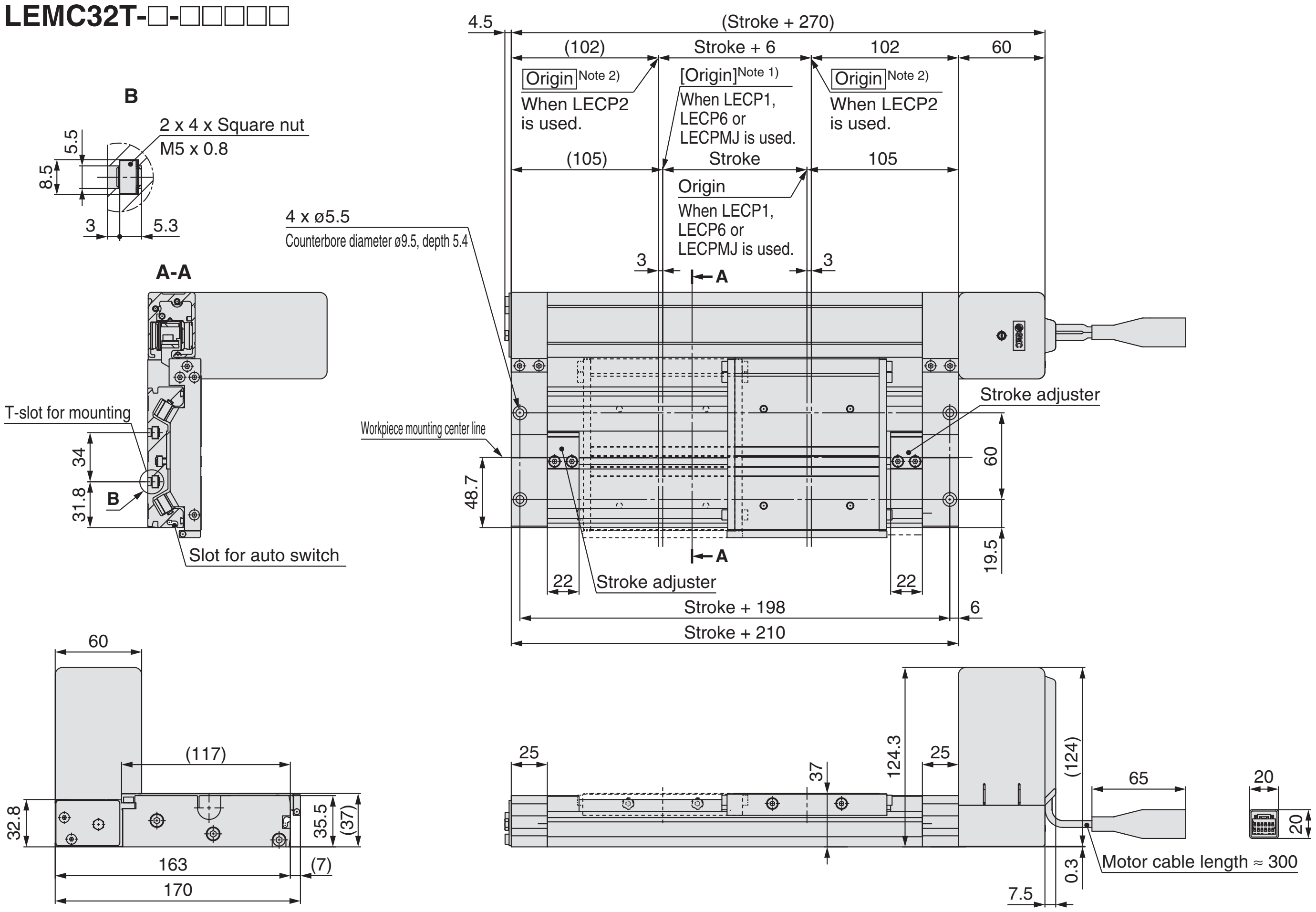
Table details



Dimensions Size 32

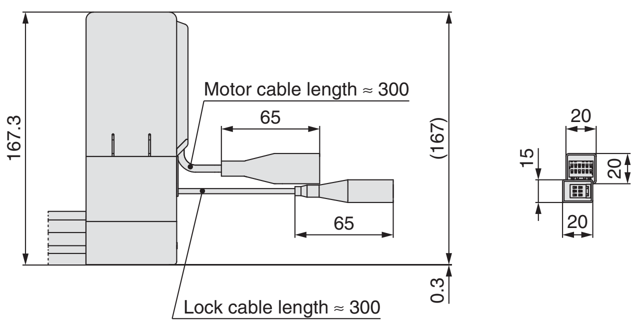
Refer to page 538 and after for dimensions of the controllers.

Top mounting
LEMC32T-□-□□□□□

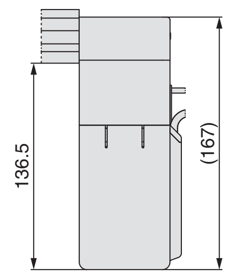


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting
With lock
LEMC32T-□B-□□□□□



Bottom mounting
With lock
LEMC32UT-□B-□□□□□



Bottom mounting
LEMC32UT-□-□□□□□

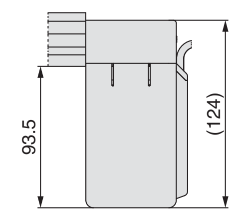
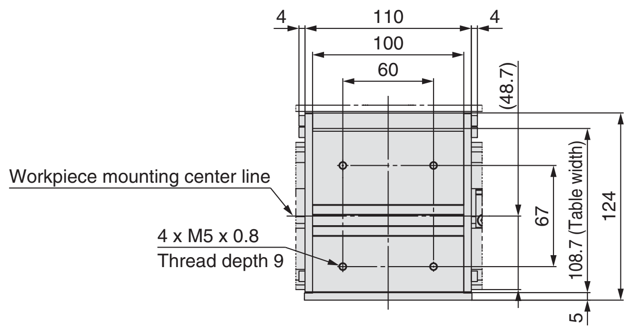


Table details

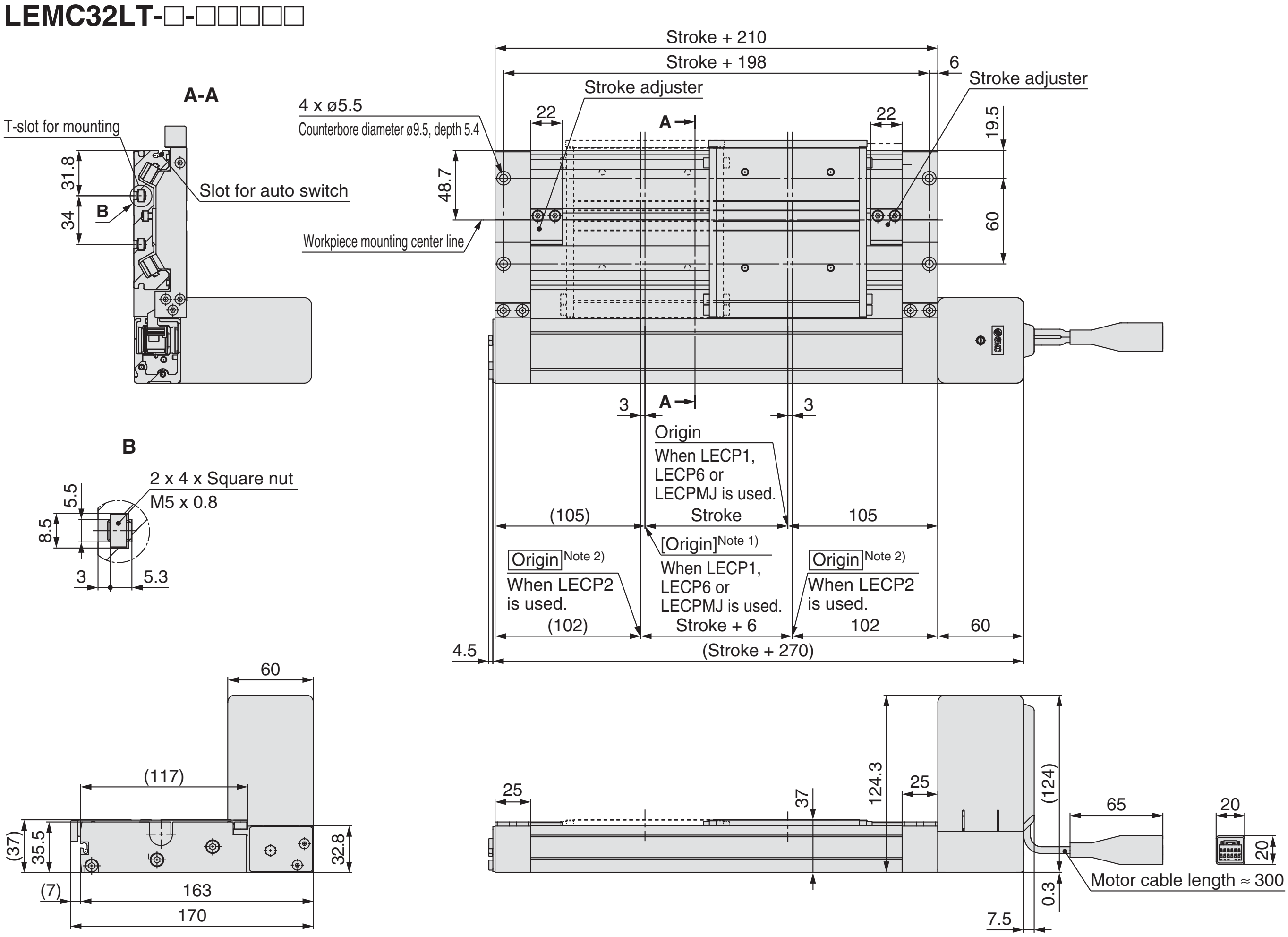


Dimensions Size 32

Refer to page 538 and after for dimensions of the controllers.

Symmetric/Top mounting

LEMC32LT-□-□□□□□

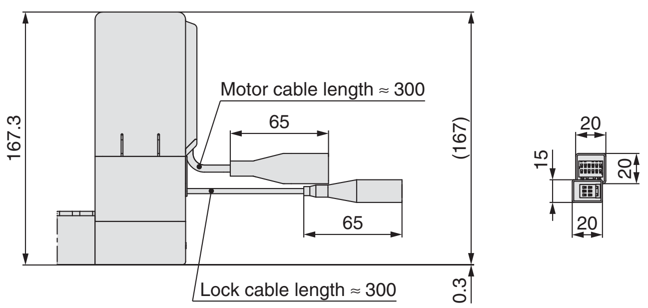


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting

With lock

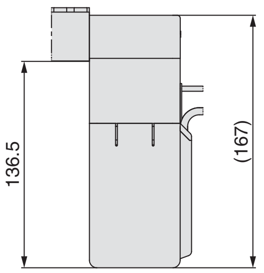
LEMC32LT-□B-□□□□□



Bottom mounting

With lock

LEMC32LUT-□B-□□□□□



Bottom mounting

LEMC32LUT-□-□□□□□

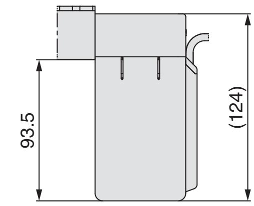
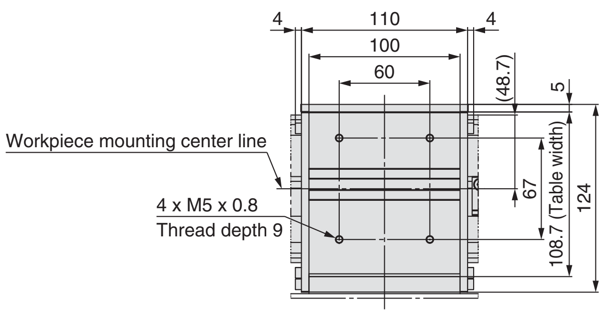
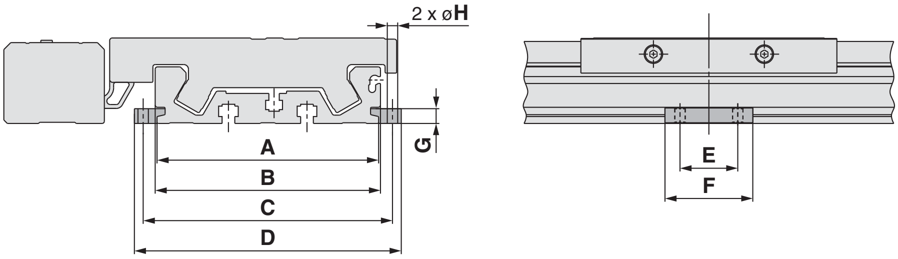


Table details



Side Support

Side support
MYC-S□A

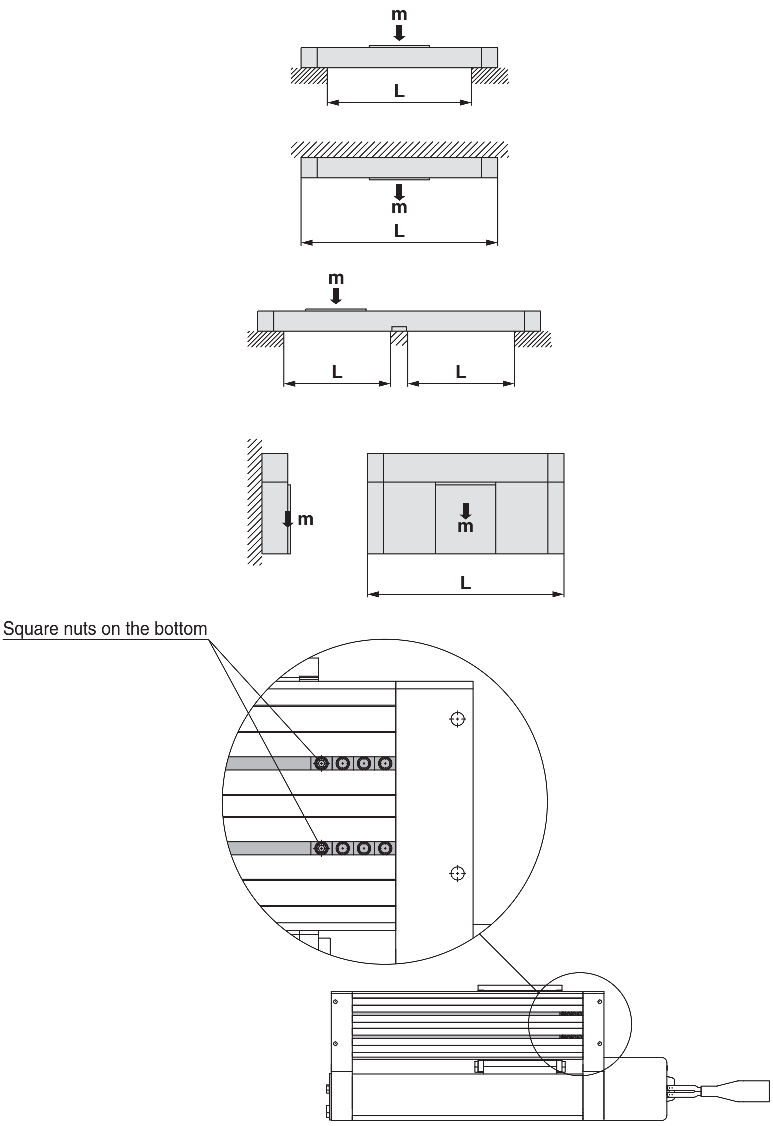


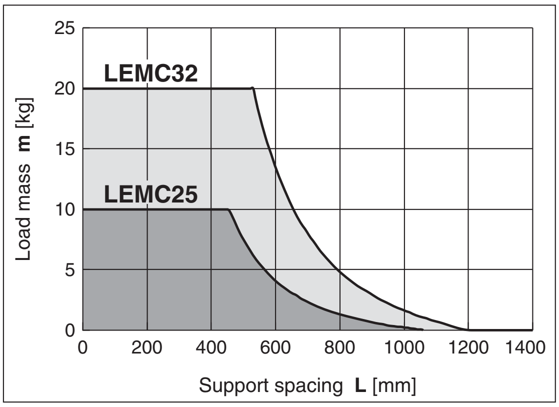
Model	Applicable actuator	A	B	C	D	E	F	G	øH
MYC-S16A	**LEMC25**	60.6	64.6	70.6	77.2	15	26	4.9	3.4
MYC-S25A	**LEMC32**	95.9	97.5	107.9	115.5	25	38	6.4	4.5

∗ A set of side supports consists of a left support and a right support.

Guide for Side Support Application

When using actuator with longer stroke, implement intermediate support to prevent frame deflection or deflection caused by vibration or external impacts. The spacing (**L**) of the intermediate supports must be no more than the values shown in the following graph.





⚠ Caution

1. If the actuator mounting surfaces are not measured accurately, using the intermediate support may cause poor operation. Make sure to level the mounting surface when mounting the actuator. For long stroke operation involving overhang of workpiece, implement intermediate support as recommended even if the support spacing is within the allowable limits shown in the graph. For the intermediate support, use the square nuts at the bottom of the body or order a side support separately.
2. Support brackets are not for mounting. Use them solely for providing support.

Electric Actuator/Low Profile Slider Type
Linear Guide Single Axis Type/Double Axis Type

Series LEMH/HT LEMH/LEMHT25, 32

RoHS

⚠Caution

New Series LEM: LEM□25, LEM□32 ← Series E-MY: E-MY□16, E-MY□25

How to Order

Linear guide single axis type: **LEMH 25 □ T − 300 □ − S 1 2N 1 □**

Linear guide double axis type: **LEMHT 25 □ T − 300 □ − S 1 2N 1 □**

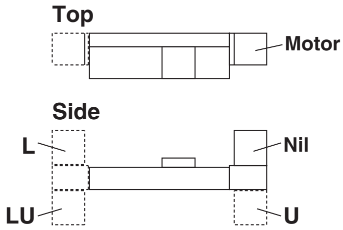
❶ 25, ❷ □, ❸ T, ❹ 300, ❺ □, ❻ S, ❼ 1, ❽ 2N, ❾ 1, ❿ □

❶ Size

25
32

❷ Motor mounting position

Nil	Top mounting
U	Bottom mounting
L	Symmetric, Top mounting
LU	Symmetric, Bottom mounting



❸ Equivalent lead

T	48 mm

❺ Motor option

Nil	Without option
B	With lock

❹ Stroke

●: Standard/○: Produced upon receipt of order

Model \ Stroke	50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100	1200	1300	1400	1500
LEMH/HT25	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○					
LEMH/HT32	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○

∗ Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

⚠Caution

[CE-compliant products]

① EMC compliance was tested by combining the electric actuator LEM series and the controller LEC series.
The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore, conformity to the EMC directive cannot be certified for SMC components incorporated into the customer's equipment under actual operating conditions. As a result, it is necessary for the customer to verify conformity to the EMC directive for the machinery and equipment as a whole.

② CC-Link direct input type (LECPMJ) is not CE-compliant.

[UL-compliant products]

When conformity to UL is required, the electric actuator and controller should be used with a UL1310 Class 2 power supply.

Refer to pages 202 and 203 for auto switches.

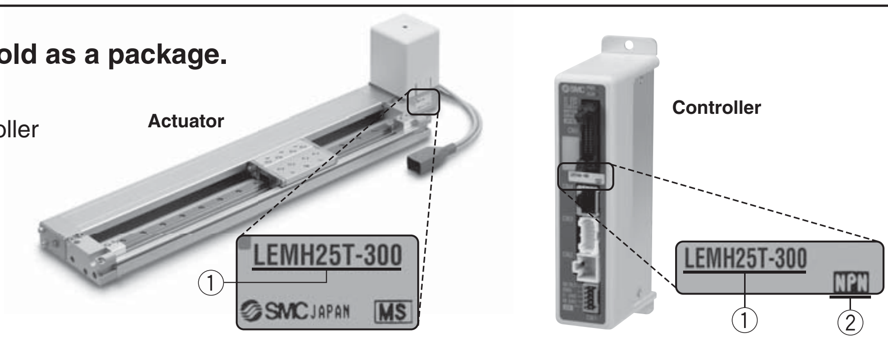
The actuator and controller are sold as a package.
(They can be ordered separately.)

Confirm that the combination of the controller and the actuator is correct.

<Check the following before use.>

① Check the actuator label for model number. This matches the controller.

② Check Parallel I/O configuration matches (NPN or PNP).



❻ Actuator cable type

Nil	Without cable
S	Standard cable*
R	Robotic cable (Flexible cable)

* The standard cable should be used on fixed parts. For using on moving parts, select the robotic cable.

❼ Actuator cable length

Nil	Without cable	**8**	8 m*
1	1.5 m	**A**	10 m*
3	3 m	**B**	15 m*
5	5 m	**C**	20 m*

* Produced upon receipt of order (Robotic cable only)

❽ Controller type

Nil	Without controller	
6N	**LECP6** (Step data input type)	NPN
6P		PNP
2N	**LECP2*** (Programless type (With stroke study))	NPN
2P		PNP
1N	**LECP1** (Programless type)	NPN
1P		PNP
MJ	**LECPMJ** (CC-Link direct input type)	—

* Select the LECP2 when setting the stroke range using the stroke adjustment unit or an external stopper.

❾ I/O cable length*1, Communication plug

Nil	Without cable (Without communication plug connector)*2
1	1.5 m
3	3 m
5	5 m
S	Straight type communication plug connector*2
T	T-branch type communication plug connector*2

*1 When "Without controller" is selected for controller types, I/O cable cannot be selected. Refer to page 580 (For LECP2), page 573 (For LECP1) or page 559 (For LECP6) if I/O cable is required.

*2 For the LECPMJ, only "Nil", "S" and "T" are selectable since I/O cable is not included.

❿ Controller mounting

Nil	Screw mounting
D	DIN rail mounting*

* DIN rail is not included. Order it separately.

The stroke adjustment unit is built into the product.

Compatible Controller

Type	**Programless type (With stroke study)** 	**Programless type** 	**Step data input type** 	**CC-Link direct input type** 
Series	**LECP2**	**LECP1**	**LECP6**	**LECPMJ**
Features	End to end operation similar to an air cylinder using the stroke study function	Capable of setting up operation (step data) without using a PC or teaching box	Value (Step data) input Standard controller	CC-Link direct input
Compatible motor	Step motor (Servo/24 VDC)			
Maximum number of step data	14 points (2 stroke end points + 12 for intermediate points)	14 points	64 points	
Power supply voltage	24 VDC			
Reference page	Page 574	Page 567	Page 551	Page 591

Speed/Acceleration (Set values for LECP1/2)

Table 1 Switch and Speed Note)

Switch no.	Speed [mm/s]
0	48
1	75
2	100
3	150
4	200
5	300
6	400
7	500
8	600
9	800
10	1000
11	1200
12	1400
13	1600
14	1800
15	2000

Table 2 Switch and Acceleration Note)

Switch no.	Acceleration [mm/s²]
0	250
1	500
2	1000
3	1500
4	2000
5	2500
6	3000
7	4000
8	5000
9	6000
10	7500
11	10000
12	12500
13	15000
14	17500
15	20000

Note) The factory default setting for the switch is No.0.

Specifications

Step Motor (Servo/24 VDC)

	Model		LEMH25/LEMHT25	LEMH32/LEMHT32
	Stroke [mm] Note 1)		50, 100, 150, 200, 250 300, 350, 400, 450 500, 550, 600, (700) (800), (900), (1000)	50, 100, 150, 200, 250, 300, 350 400, 450, 500, 550, 600, (700) (800), (900), (1000), (1100) (1200), (1300), (1400), (1500)
Actuator specifications	Work load [kg] Note 2)	Horizontal	10	20
	Speed [mm/s] Note 2)		48 to 2000 (Refer to Table 1 for set values when LECP1 or 2 is selected.)	
	Max. acceleration/deceleration [mm/s²] Note 9)		20000 (Depends on the work load.)(Refer to Table 2 for set values when LECP1 or 2 is selected.)	
	Positioning repeatability [mm]		±0.08	
	Lost motion [mm] Note 10)		0.1 or less	
	Lead [mm]		48	
	Actuation type		Belt	
	Guide type		Linear guide	
	Operating temperature range [°C]		5 to 40	
	Operating humidity range [%RH]		90 or less (No condensation)	
	Allowable external force [N] Note 8)		10	20
Electric specifications	Motor size		□56.4	
	Motor type		Step motor (Servo/24 VDC)	
	Encoder		Incremental A/B phase (800 pulse/rotation)	
	Rated voltage [V]		24 VDC ±10%	
	Power consumption [W] Note 3)		50	52
	Standby power consumption when operating [W] Note 4)		44	44
	Max. instantaneous power consumption [W] Note 5)		123	127
Lock unit specifications	Type Note 6)		Non-magnetizing lock	
	Holding force [N]		36	
	Power consumption [W] Note 7)		5	
	Rated voltage [V]		24 VDC ±10%	

Note 1) Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
Note 2) Speed changes according to the work load.
Check "Speed–Work Load Graph (Guide)" on page 163.
The work load changes according to the work load mounting condition. Check "Dynamic Allowable Moment" on pages 166 and 167.
Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.
Note 3) The power consumption (including the controller) is for when the actuator is operating.
Note 4) The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during operation.
Note 5) The maximum instantaneous power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.
Note 6) With lock only
Note 7) For an actuator with lock, add the power consumption for the lock.
Note 8) The resistance value of the attached equipment should be within the allowable external resistance value.
Note 9) Maximum acceleration and deceleration are limited by the work load and the stroke. Refer to "Work Load–Acceleration/Deceleration Graph (Guide)" on page 164.
Note 10) A reference value for correcting an error in reciprocal operation.

Weight

Linear Guide Single Axis Type

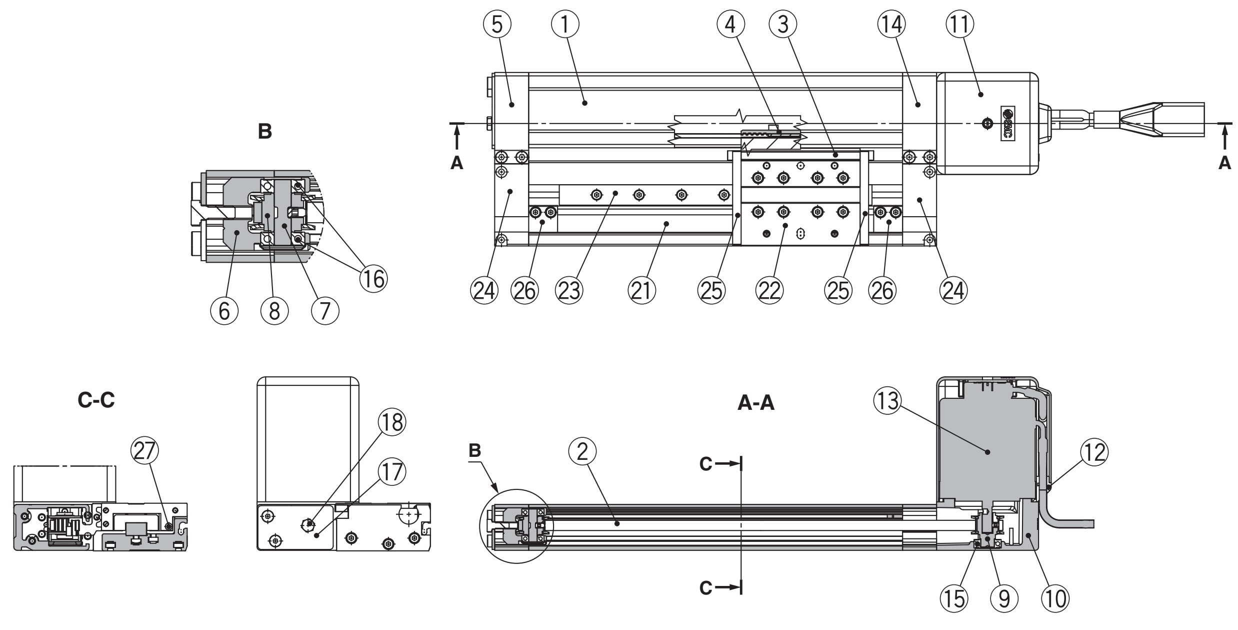
Stroke		50	100	150	200	250	300	350	400	450	500	550	600	(700)	(800)	(900)	(1000)	(1100)	(1200)	(1300)	(1400)	(1500)
Product weight [kg]	LEMH25	1.91	2.05	2.18	2.32	2.46	2.59	2.73	2.87	3.00	3.14	3.28	3.42	3.69	3.96	4.24	4.51	—	—	—	—	—
	LEMH32	3.47	3.70	3.93	4.17	4.40	4.63	4.87	5.10	5.33	5.57	5.80	6.03	6.50	6.97	7.44	7.90	8.37	8.84	9.30	9.77	10.24
Additional weight with lock [kg]		0.60																				

Linear Guide Double Axis Type

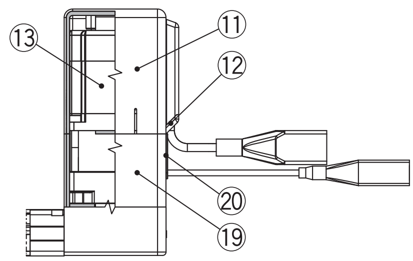
Stroke		50	100	150	200	250	300	350	400	450	500	550	600	(700)	(800)	(900)	(1000)	(1100)	(1200)	(1300)	(1400)	(1500)
Product weight [kg]	LEMHT25	2.40	2.61	2.82	3.03	3.24	3.45	3.66	3.87	4.08	4.29	4.50	4.71	5.13	5.55	5.97	6.38	—	—	—	—	—
	LEMHT32	4.82	5.20	5.58	5.97	6.35	6.73	7.12	7.50	7.88	8.27	8.65	9.04	9.80	10.57	11.34	12.10	12.87	13.64	14.41	15.17	15.94
Additional weight with lock [kg]		0.60																				

Construction

LEMH



Motor option: With lock



Component Parts

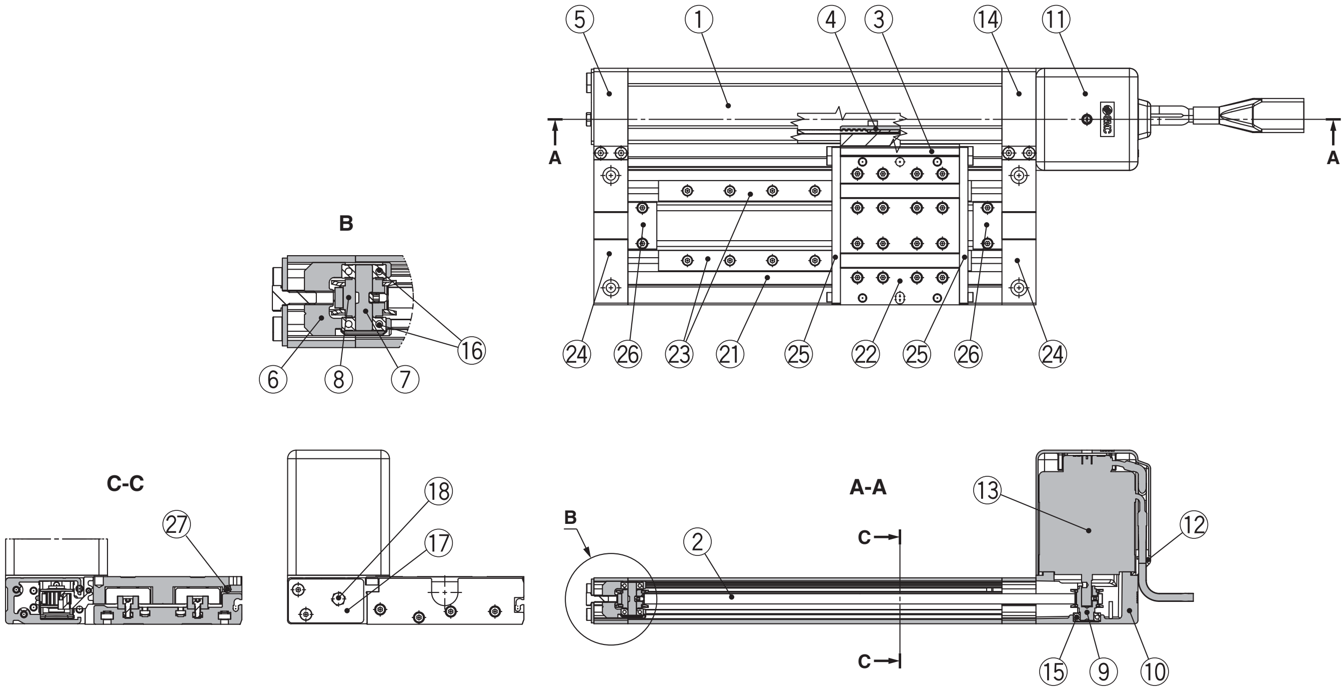
No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Belt**	—	
3	**L-type bracket**	Aluminum alloy	Anodized
4	**Belt stopper**	Aluminum alloy	
5	**End block**	Aluminum alloy	Anodized
6	**Pulley holder**	Aluminum alloy	
7	**Pulley shaft**	Stainless steel	Heat treatment + Special treatment
8	**Pulley**	Aluminum alloy	Anodized
9	**Motor pulley**	Aluminum alloy	Anodized
10	**Motor mount**	Aluminum die-casted	Painting
11	**Motor cover**	Synthetic resin	
12	**Grommet**	Synthetic resin	
13	**Motor**	—	
14	**Motor end block**	Aluminum alloy	Anodized
15	**Bearing**	—	

Component Parts

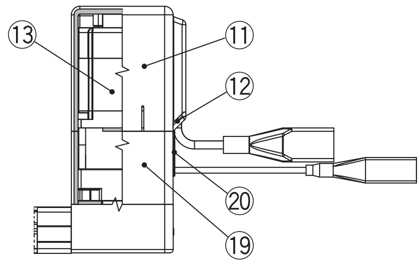
No.	Description	Material	Note
16	**Bearing**	—	
17	**Tension plate**	Aluminum alloy	Anodized
18	**Hexagon bolt**	Carbon steel	Chromated
19	**Motor cover for lock**	Aluminum alloy	Anodized Only “with lock”
20	**Grommet**	CR	Chloroprene rubber Only “with lock”
21	**Guide unit body**	Aluminum alloy	Anodized
22	**Slide table**	Aluminum alloy	Anodized
23	**Guide**	—	
24	**End plate**	Aluminum alloy	Anodized
25	**Stopper**	Carbon steel	Nickel plating
26	**Stroke adjuster**	Aluminum alloy	Anodized
27	**Magnet**	—	

Construction

LEMHT



Motor option: With lock



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Belt**	—	
3	**L-type bracket**	Aluminum alloy	Anodized
4	**Belt stopper**	Aluminum alloy	
5	**End block**	Aluminum alloy	Anodized
6	**Pulley holder**	Aluminum alloy	
7	**Pulley shaft**	Stainless steel	Heat treatment + Special treatment
8	**Pulley**	Aluminum alloy	Anodized
9	**Motor pulley**	Aluminum alloy	Anodized
10	**Motor mount**	Aluminum die-casted	Painting
11	**Motor cover**	Synthetic resin	
12	**Grommet**	Synthetic resin	
13	**Motor**	—	
14	**Motor end block**	Aluminum alloy	Anodized
15	**Bearing**	—	

Component Parts

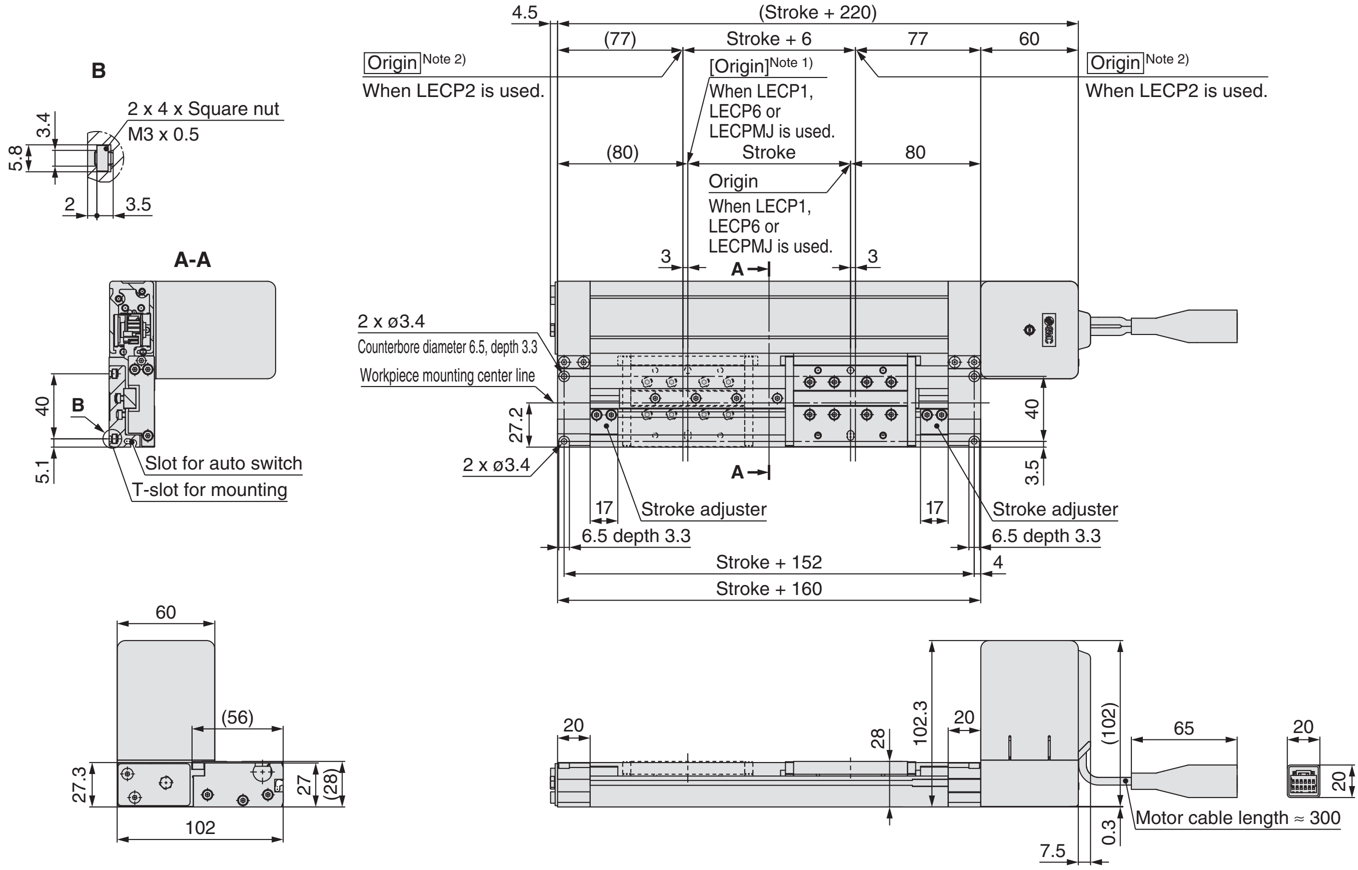
No.	Description	Material	Note
16	**Bearing**	—	
17	**Tension plate**	Aluminum alloy	Anodized
18	**Hexagon bolt**	Carbon steel	Chromated
19	**Motor cover for lock**	Aluminum alloy	Anodized Only “with lock”
20	**Grommet**	CR	Chloroprene rubber Only “with lock”
21	**Guide unit body**	Aluminum alloy	Anodized
22	**Slide table**	Aluminum alloy	Anodized
23	**Guide**	—	
24	**End plate**	Aluminum alloy	Anodized
25	**Stopper**	Carbon steel	Nickel plating
26	**Stroke adjuster**	Aluminum alloy	Anodized
27	**Magnet**	—	

Dimensions: Linear Guide Single Axis Type Size 25

Refer to page 538 and after for dimensions of the controllers.

Top mounting

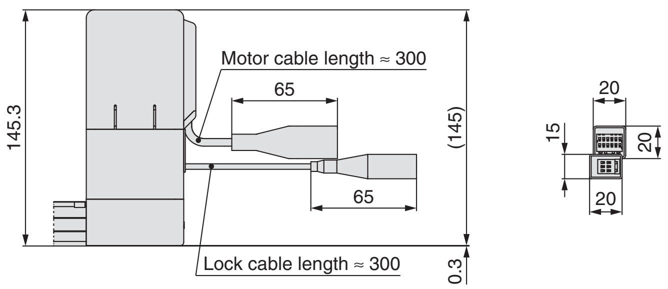
LEMH25T-□-□□□□□



Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is “Stroke + 6 mm”.

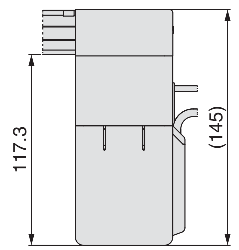
Top mounting

With lock
LEMH25T-□B-□□□□□



Bottom mounting

With lock
LEMH25UT-□B-□□□□□



Bottom mounting

LEMH25UT-□-□□□□□

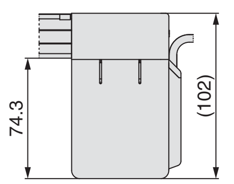
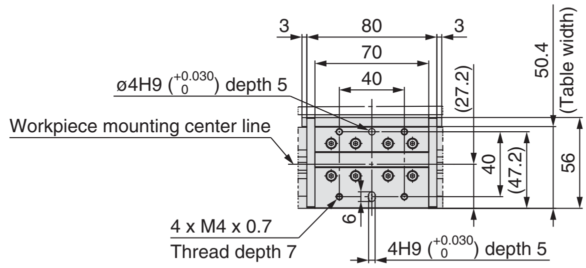


Table details



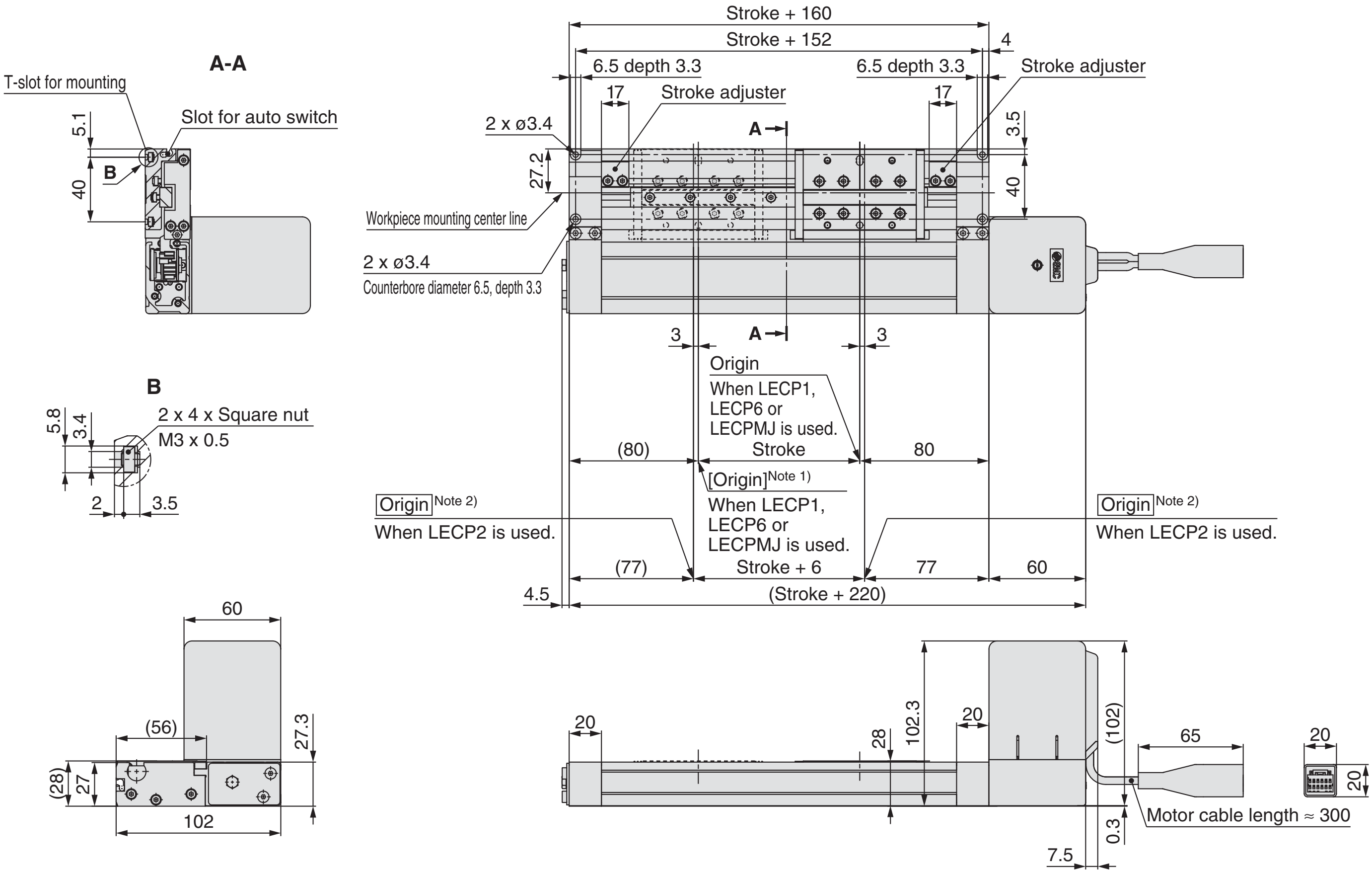
LEFS LEFB | LEJS LEJB | LEL | LEM | LEY LEYG | LES LESH | LEPY LEPS | LER | LEH | LEY-X5 | 11-LEFS | 11-LEJS | 25A- | LEC□ | LECS□ | LECSS-T | LECYM LECYU | Motorless | LAT3

Dimensions: Linear Guide Single Axis Type Size 25

Refer to page 538 and after for dimensions of the controllers.

Symmetric/Top mounting

LEMH25LT-□-□□□□□

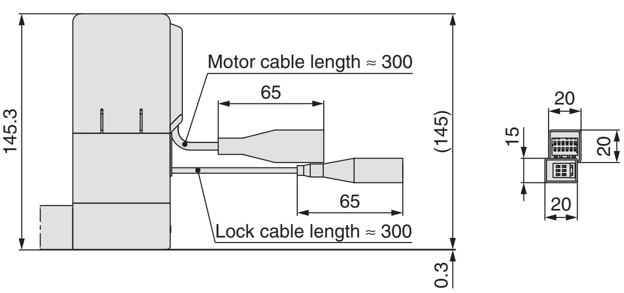


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is “Stroke + 6 mm”.

Top mounting

With lock

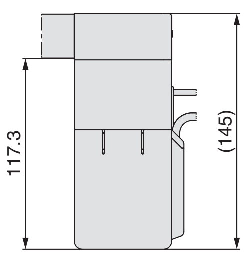
LEMH25LT-□B-□□□□□



Bottom mounting

With lock

LEMH25LUT-□B-□□□□□



Bottom mounting

LEMH25LUT-□-□□□□□

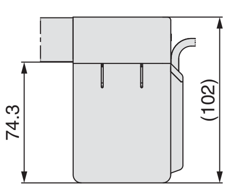
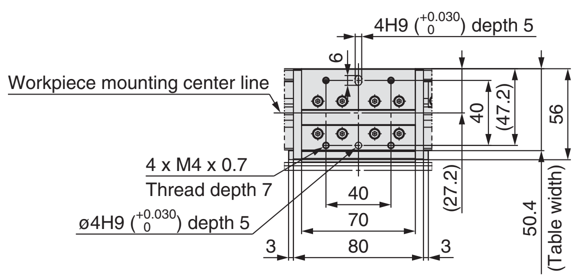


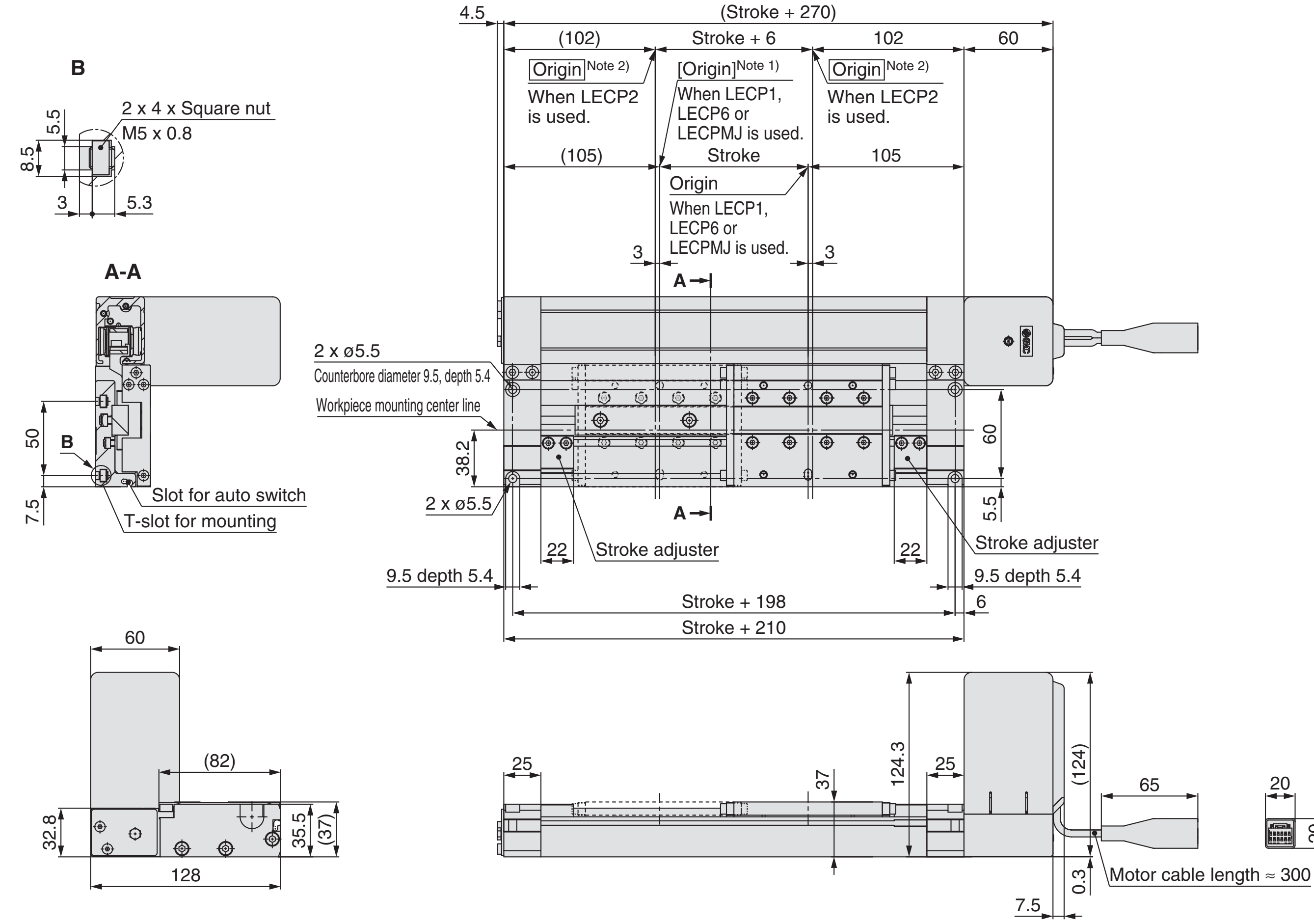
Table details



Dimensions: Linear Guide Single Axis Type **Size 32**

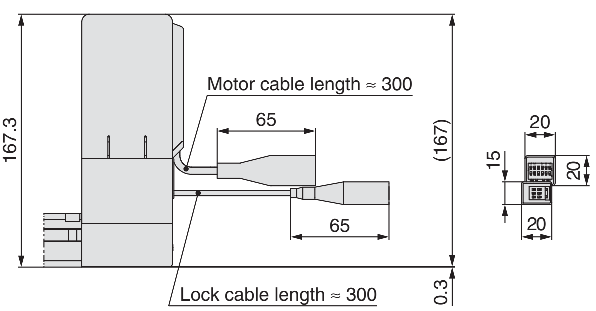
Refer to page 538 and after for dimensions of the controllers.

Top mounting
LEMH32T-□-□□□□□

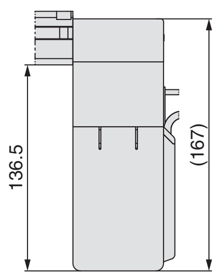


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is “Stroke + 6 mm”.

Top mounting
With lock
LEMH32T-□B-□□□□□



Bottom mounting
With lock
LEMH32UT-□B-□□□□□



Bottom mounting
LEMH32UT-□-□□□□□

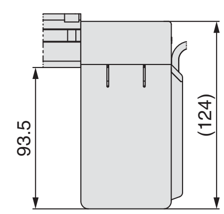
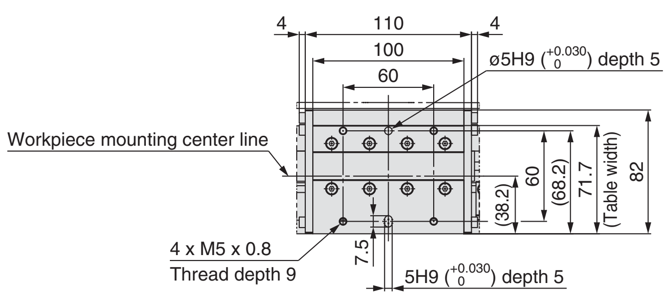


Table details

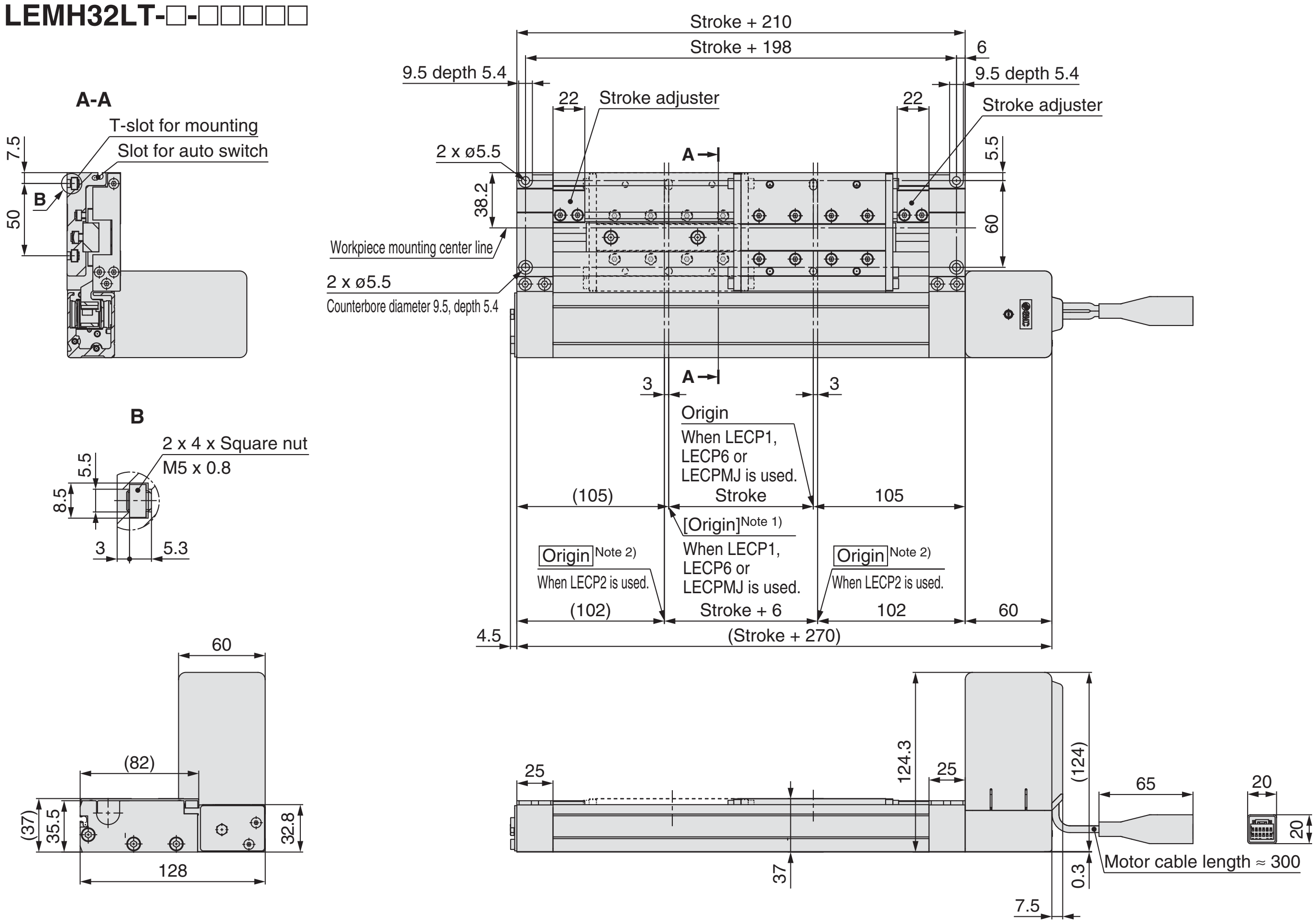


Dimensions: Linear Guide Single Axis Type Size 32

Refer to page 538 and after for dimensions of the controllers.

Symmetric/Top mounting

LEMH32LT-□-□□□□□

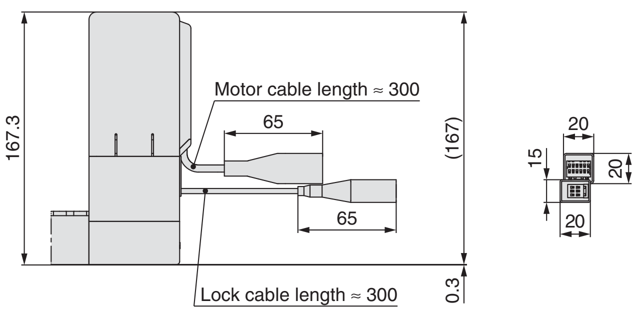


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting

With lock

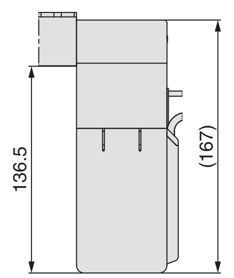
LEMH32LT-□B-□□□□□



Bottom mounting

With lock

LEMH32LUT-□B-□□□□□



Bottom mounting

LEMH32LUT-□-□□□□□

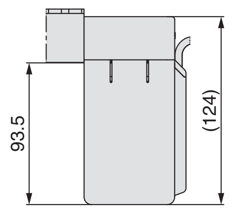
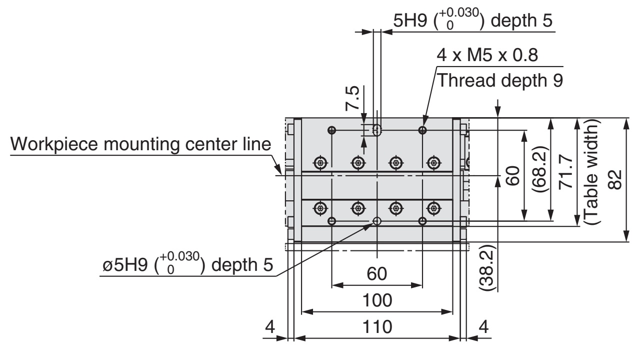


Table details

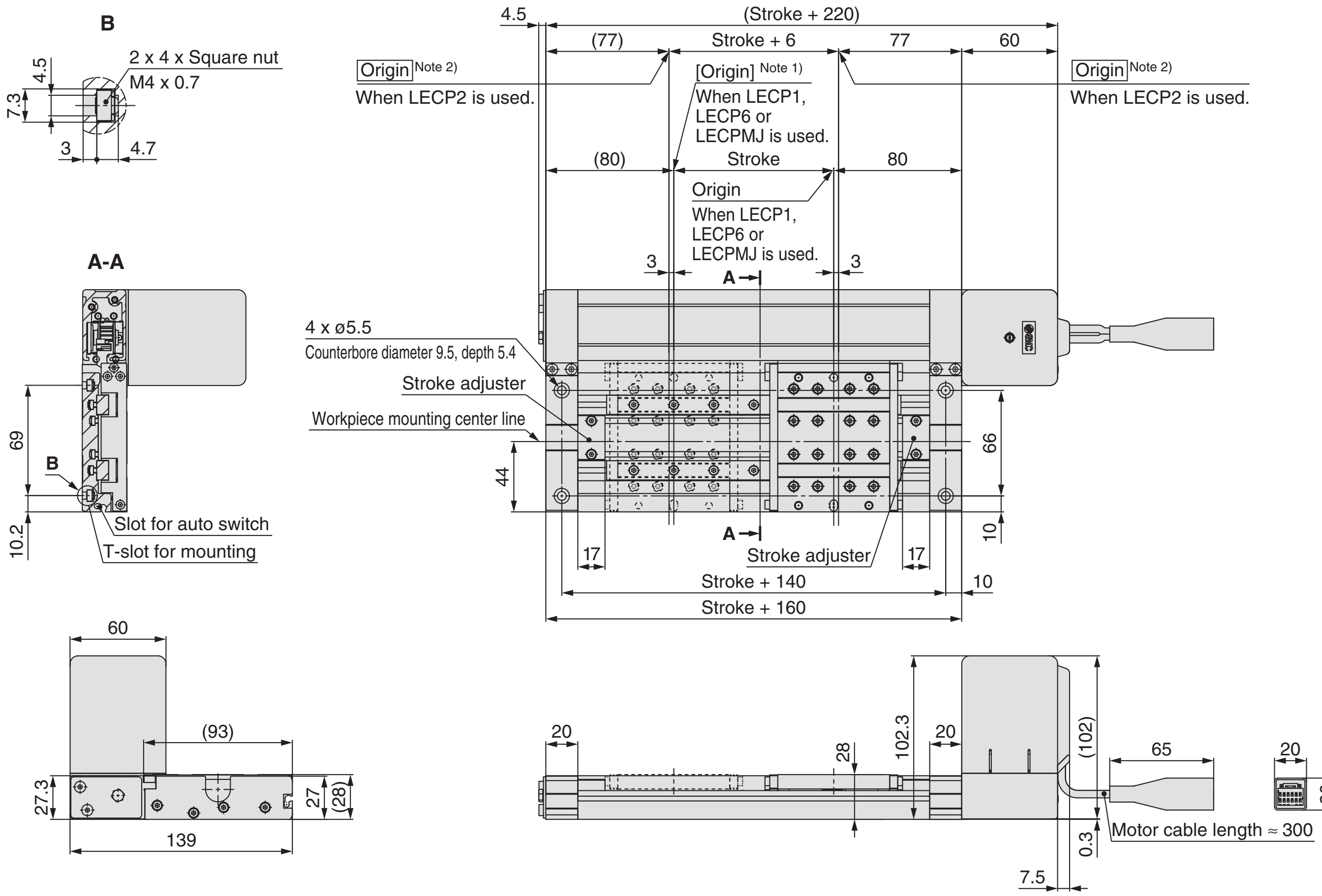


Dimensions: Linear Guide Double Axis Type Size 25

Refer to page 538 and after for dimensions of the controllers.

Top mounting

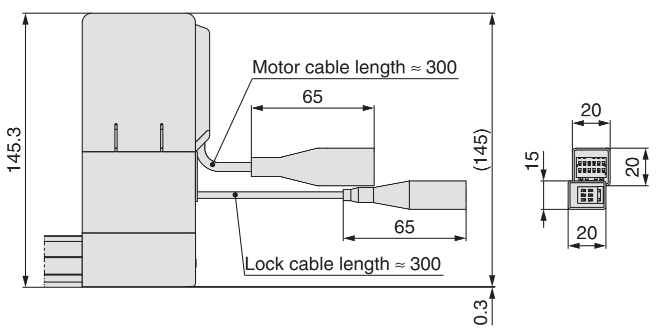
LEMHT25T-□-□□□□□



Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is “Stroke + 6 mm”.

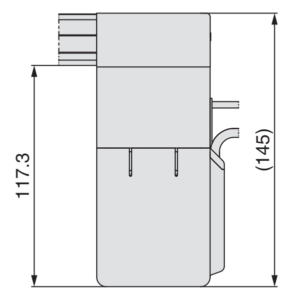
Top mounting

With lock
LEMHT25T-□B-□□□□□



Bottom mounting

With lock
LEMHT25UT-□B-□□□□□



Bottom mounting

LEMHT25UT-□-□□□□□

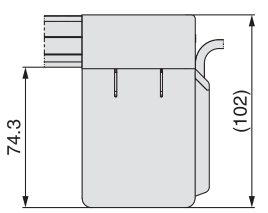
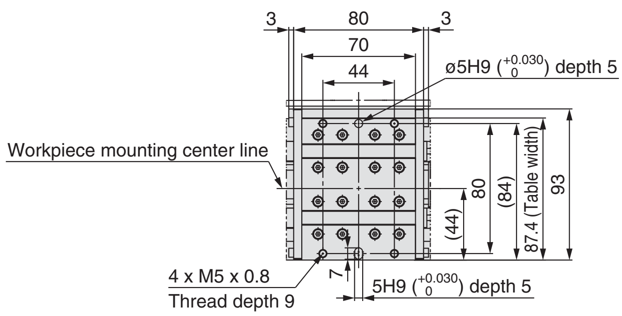


Table details

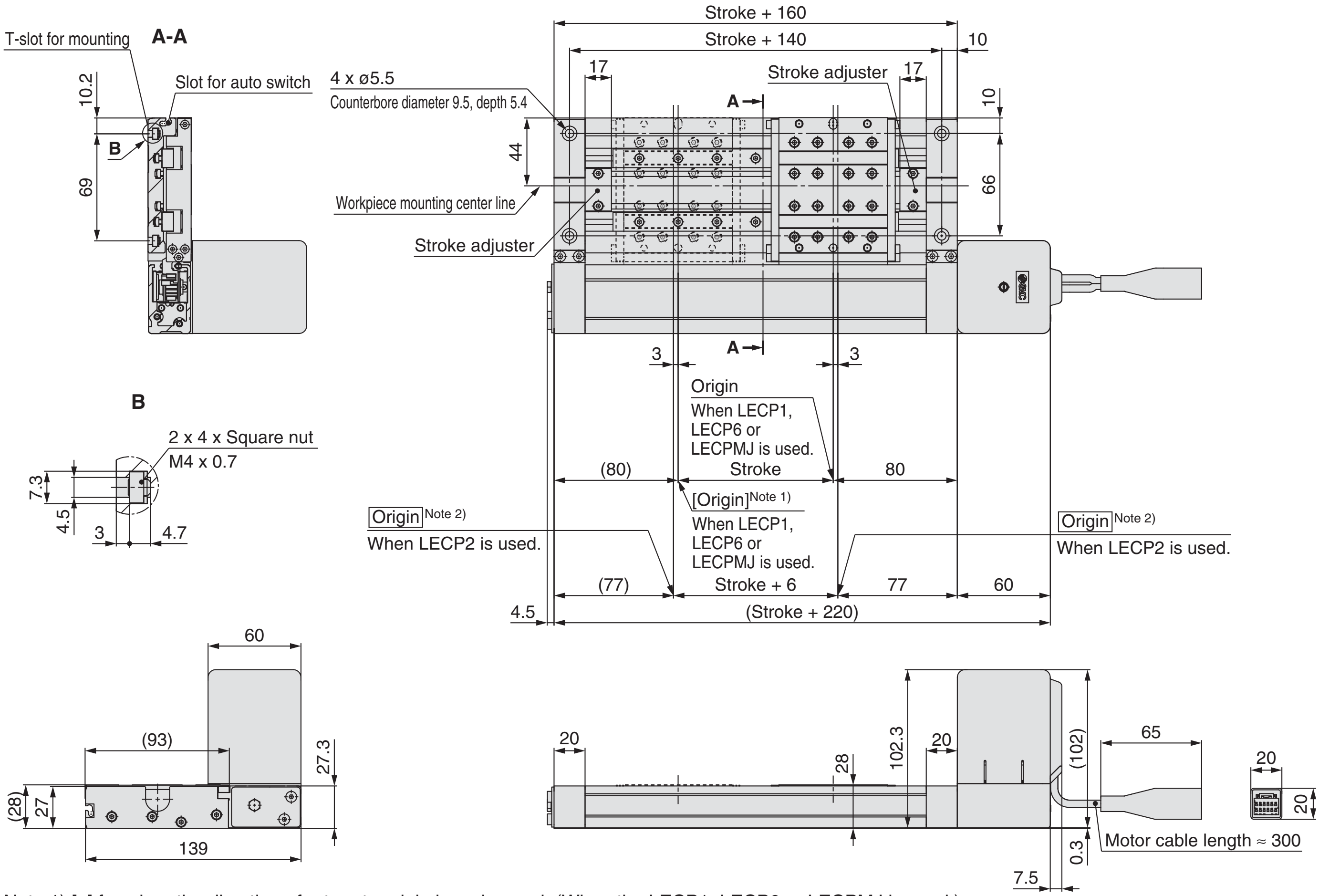


LEFS LEFB
LEJS LEJB
LEL
LEM
LEY LEYG
LES LESH
LEPY LEPS
LER
LEH
LEY-X5
11-LEFS
11-LEJS
25A-
LEC□
LECS□
LECSS-T
LECYM LECYU
Motorless
LAT3

Dimensions: Linear Guide Double Axis Type Size 25

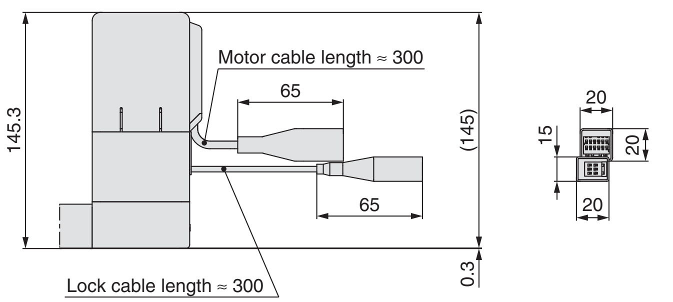
Refer to page 538 and after for dimensions of the controllers.

Symmetric/Top mounting
LEMHT25LT-□-□□□□□

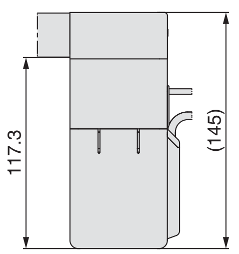


Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting
With lock
LEMHT25LT-□B-□□□□□



Bottom mounting
With lock
LEMHT25LUT-□B-□□□□□



Bottom mounting
LEMHT25LUT-□-□□□□□

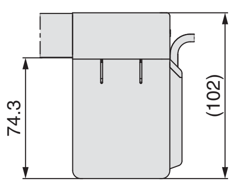
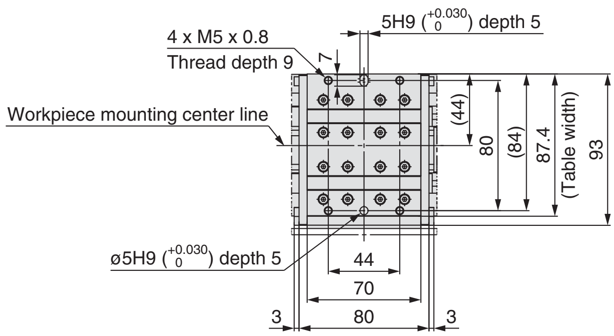


Table details

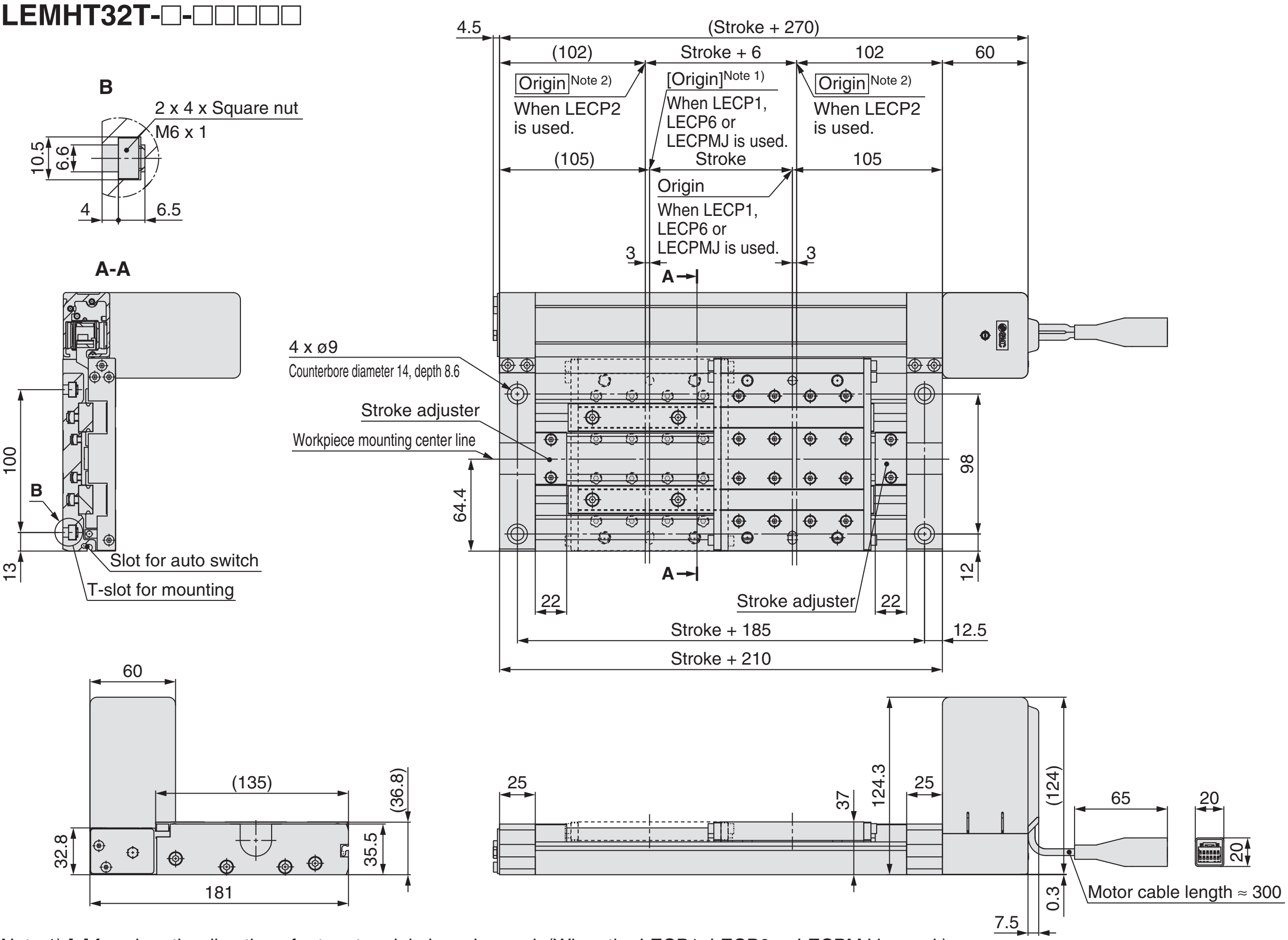


Dimensions: Linear Guide Double Axis Type **Size 32**

Refer to page 538 and after for dimensions of the controllers.

Top mounting

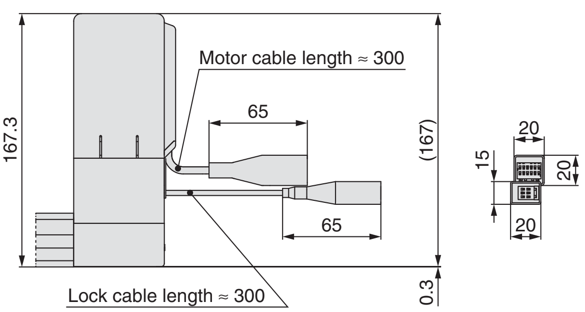
LEMHT32T-□-□□□□□



Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is “Stroke + 6 mm”.

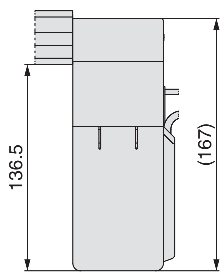
Top mounting

With lock
LEMHT32T-□B-□□□□□



Bottom mounting

With lock
LEMHT32UT-□B-□□□□□



Bottom mounting

LEMHT32UT-□-□□□□□

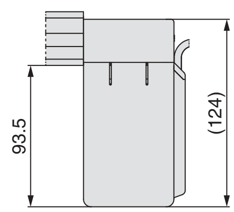
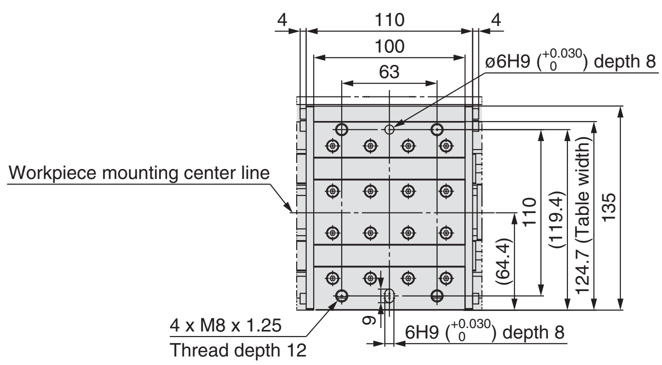


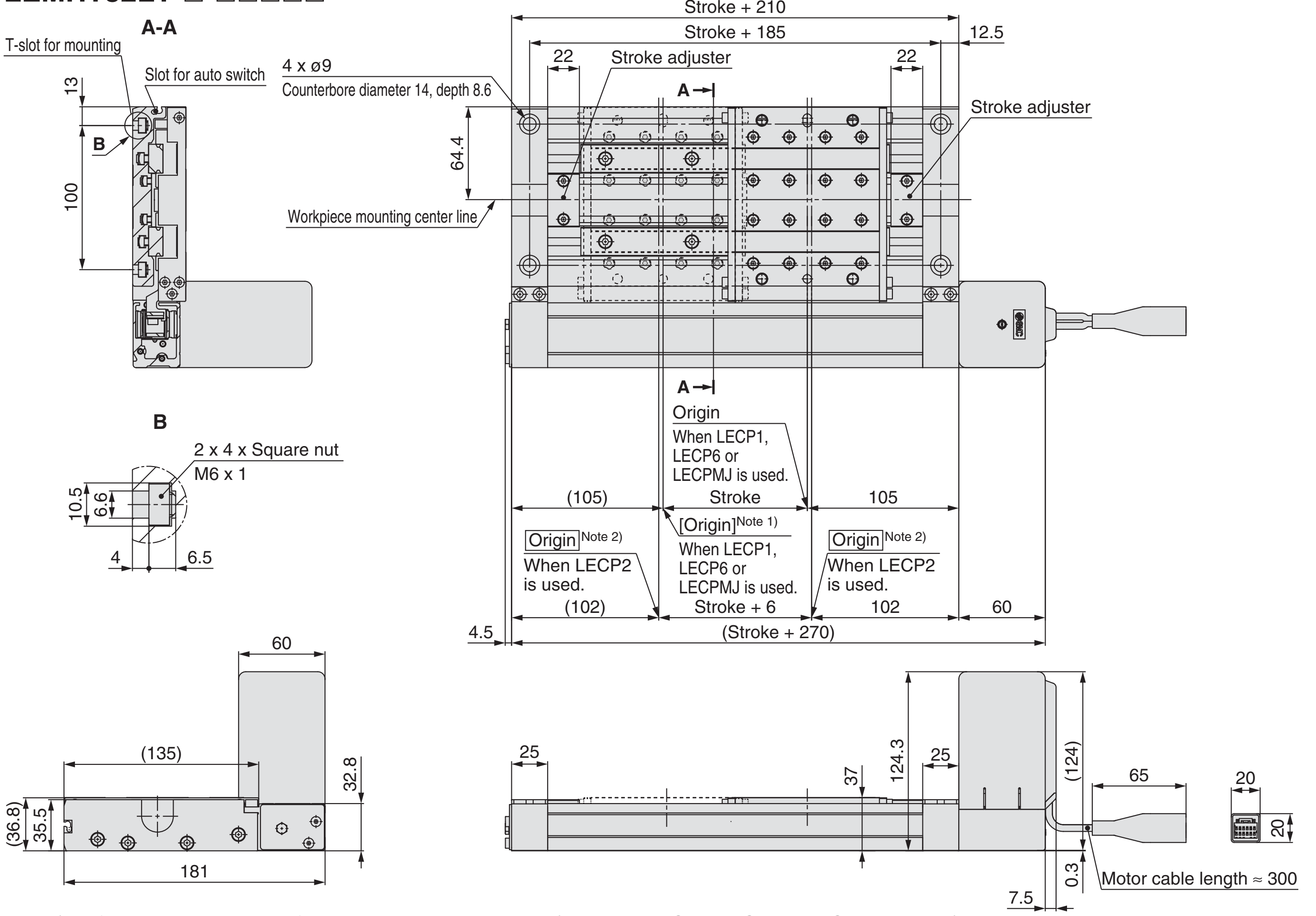
Table details



Dimensions: Linear Guide Double Axis Type **Size 32**

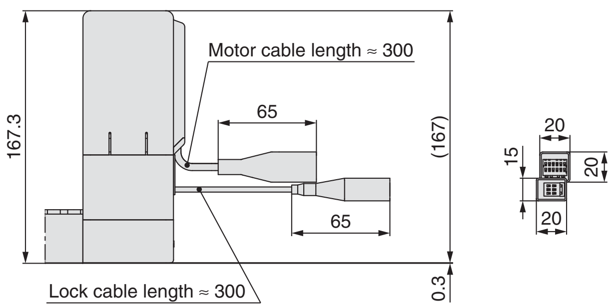
Refer to page 538 and after for dimensions of the controllers.

Symmetric/Top mounting
LEMHT32LT-□-□□□□□



Note 1) [ ] for when the direction of return to origin has changed. (When the LECP1, LECP6 or LECPMJ is used.)
Note 2) Origin for when the LECP2 is used. The movable stroke is "Stroke + 6 mm".

Top mounting
With lock
LEMHT32LT-□B-□□□□□



Bottom mounting
With lock
LEMHT32LUT-□B-□□□□□

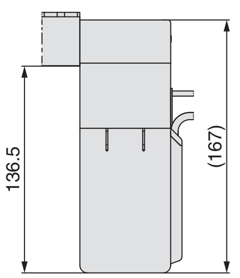
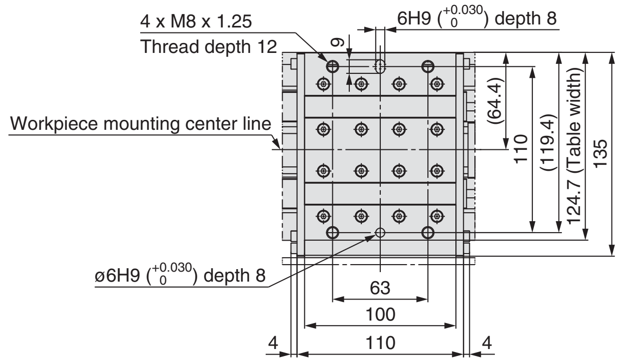
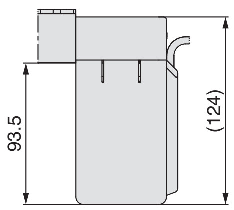


Table details

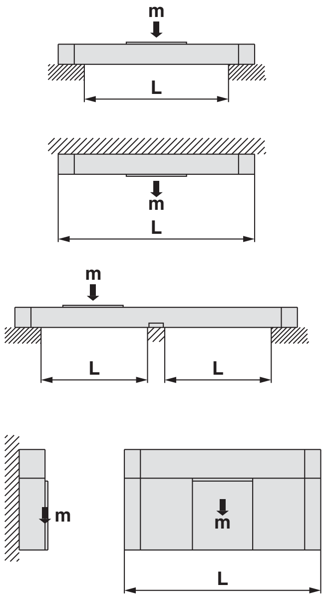


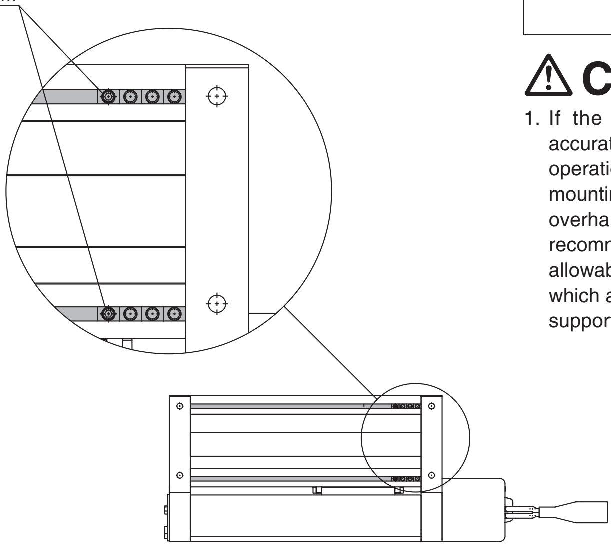
Bottom mounting
LEMHT32LUT-□-□□□□□

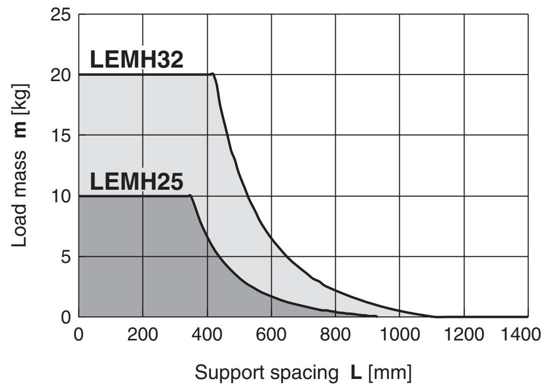


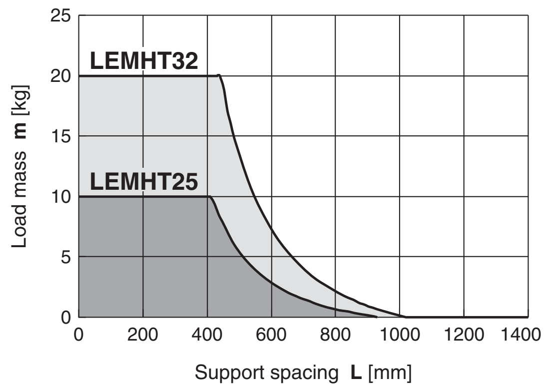
Guide for Intermediate Support

When using actuator with longer stroke, implement intermediate support to prevent frame deflection or deflection caused by vibration or external impacts. The spacing (**L**) of the intermediate supports must be no more than the values shown in the following graph.









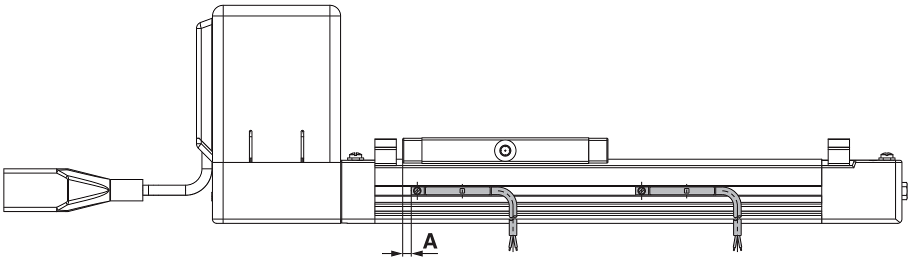
⚠ Caution

1. If the actuator mounting surfaces are not measured accurately, using the intermediate support may cause poor operation. Make sure to level the mounting surface when mounting the actuator. For long stroke operation involving overhang of workpiece, implement intermediate support as recommended even if the support spacing is within the allowable limits shown in the graph. Use the square nuts which are on the bottom of the actuator for the intermediate support.

Series LEM
Auto Switch Mounting

Auto Switch Proper Mounting Position at Stroke End Detection

For LEMB



D-M9, D-M9□V
D-M9□W, D-M9□WV

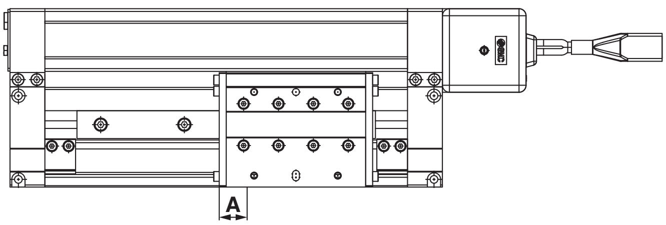
[mm]

Model	Nominal size	A	Operating range
LEMB	25	40	5.5
LEMC		8	3.5
LEMH		10	6
LEMHT		34	7
LEMB	32	40	5.5
LEMC		8.4	4
LEMH			5.5
LEMHT			5.5

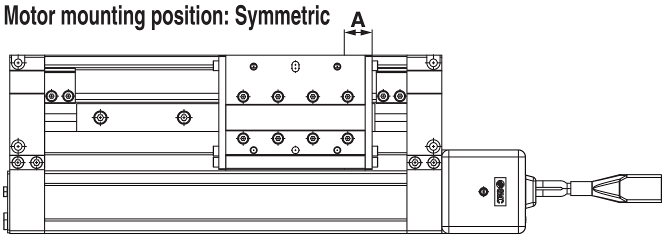
Note) The operating range is a guideline including hysteresis, not meant to be guaranteed. There may be large variations (as much as ±30%) depending on the ambient environment.

For LEMC/H/HT The proper mounting position at stroke end detection (A dimension) changes depending on the motor mounting position (standard or symmetric).

Motor mounting position: Standard



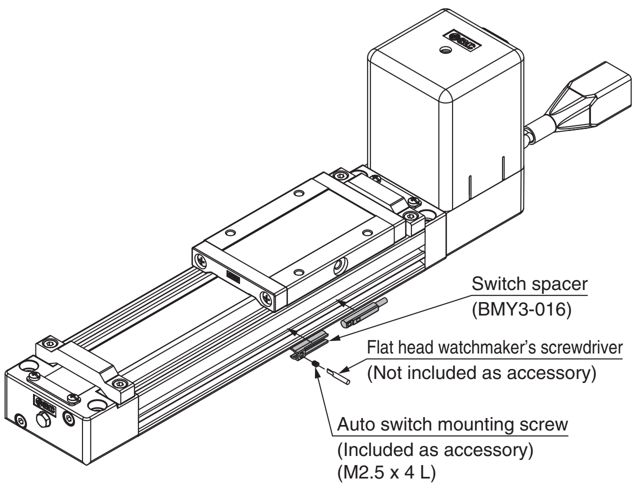
Motor mounting position: Symmetric



Auto Switch Mounting

Series LEMB

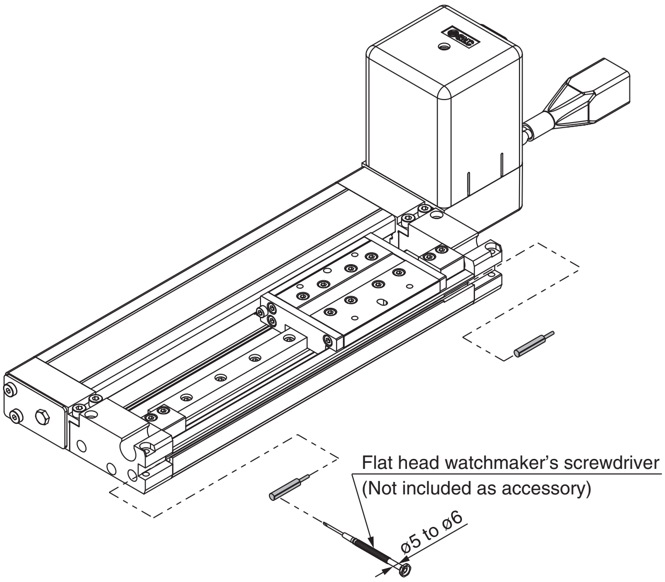
When mounting an auto switch, first hold the switch spacer with your fingers and push it into the slot. Confirm that it is aligned evenly within the slot and adjust the position if necessary. Then, insert the auto switch into the slot and slide it into the spacer.
After establishing the mounting position, use a flat head watchmaker's screwdriver to tighten the included auto switch mounting screw.



Note) When tightening the auto switch mounting screw, use a watchmaker's screwdriver with a handle of approximately 5 to 6 mm in diameter. Also, tighten with a torque of about 0.05 to 0.1 N·m. As a guide, turn about 90° past the point at which tightening can first be felt.

Series LEMC/H/HT

When mounting an auto switch, insert the auto switch into the actuator's auto switch mounting slot as shown below. Once in the mounting position, use a flat head watchmaker's screwdriver to tighten the included auto switch mounting screw.



Note) When tightening the auto switch mounting screw (included with auto switch), use a watchmaker's screwdriver with a handle of approximately 5 to 6 mm in diameter.

Switch Spacer Part No.

Applicable bore size [mm]	25	32
Switch spacer part no.	BMY3-016	

Tightening Torque for Auto Switch Mounting Screw [N·m]

Auto switch model	Tightening torque
D-M9□(V) D-M9□W(V)	0.10 to 0.15

Solid State Auto Switch
Direct Mounting Style
D-M9N(V)/D-M9P(V)/D-M9B(V) CE RoHS

Refer to SMC website for the details about products conforming to the international standards.

Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Flexibility is 1.5 times greater than the former model (SMC comparison).
- Using flexible cable as standard.

⚠Caution

Precautions

Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Specifications

PLC: Programmable Logic Controller

D-M9□, D-M9□V (With indicator light)

Auto switch model	D-M9N	D-M9NV	D-M9P	D-M9PV	D-M9B	D-M9BV
Electrical entry	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)				—	
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 µA or less at 24 VDC				0.8 mA or less	
Indicator light	Red LED lights up when turned ON.					
Standards	CE marking, RoHS					

Oilproof Heavy-duty Lead Wire Specifications

Auto switch model		D-M9N□	D-M9P□	D-M9B□
Sheath	Outside diameter [mm]	2.7 x 3.2 (ellipse)		
Insulator	Number of cores	3 cores (Brown/Blue/Black)		2 cores (Brown/Blue)
	Outside diameter [mm]	ø0.9		
Conductor	Effective area [mm²]	0.15		
	Strand diameter [mm]	ø0.05		
Minimum bending radius [mm] (Reference value)		20		

Note 1) Refer to the Best Pneumatics No. 2 for solid state auto switch common specifications.
Note 2) Refer to the Best Pneumatics No. 2 for lead wire lengths.

Weight

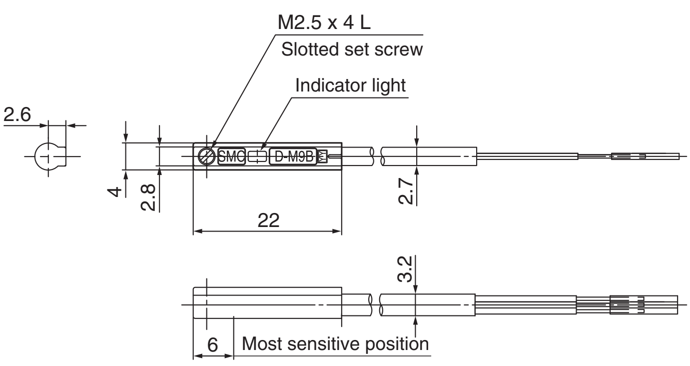
[g]

Auto switch model		D-M9N(V)	D-M9P(V)	D-M9B(V)
Lead wire length	0.5 m (**Nil**)	8		7
	1 m (**M**)	14		13
	3 m (**L**)	41		38
	5 m (**Z**)	68		63

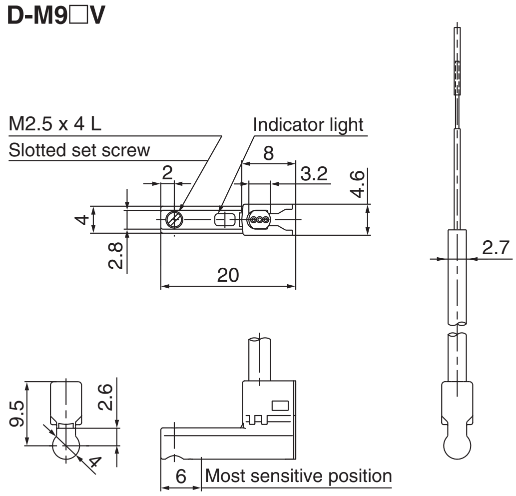
Dimensions

[mm]

D-M9□



D-M9□V



2-Color Indication Solid State Auto Switch Direct Mounting Style
D-M9NW(V)/D-M9PW(V)/D-M9BW(V) CE RoHS

Refer to SMC website for the details about products conforming to the international standards.

Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Flexibility is 1.5 times greater than the former model (SMC comparison).
- Using flexible cable as standard.
- The optimum operating range can be determined by the color of the light. (Red → Green ← Red)

⚠Caution

Precautions

Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Specifications

PLC: Programmable Logic Controller

D-M9□W, D-M9□WV (With indicator light)						
Auto switch model	D-M9NW	D-M9NWV	D-M9PW	D-M9PWV	D-M9BW	D-M9BWV
Electrical entry	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)				—	
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 μA or less at 24 VDC				0.8 mA or less	
Indicator light	Operating range ·········· Red LED lights up. Optimum operating range ·········· Green LED lights up.					
Standards	CE marking, RoHS					

Oilproof Flexible Heavy-duty Lead Wire Specifications

Auto switch model		D-M9NW□	D-M9PW□	D-M9BW□
Sheath	Outside diameter [mm]	2.7 x 3.2 (ellipse)		
Insulator	Number of cores	3 cores (Brown/Blue/Black)		2 cores (Brown/Blue)
	Outside diameter [mm]	ø0.9		
Conductor	Effective area [mm^2]	0.15		
	Strand diameter [mm]	ø0.05		
Minimum bending radius [mm] (Reference value)		20		

Note 1) Refer to the Best Pneumatics No. 2 for solid state auto switch common specifications.
Note 2) Refer to the Best Pneumatics No. 2 for lead wire lengths.

Weight

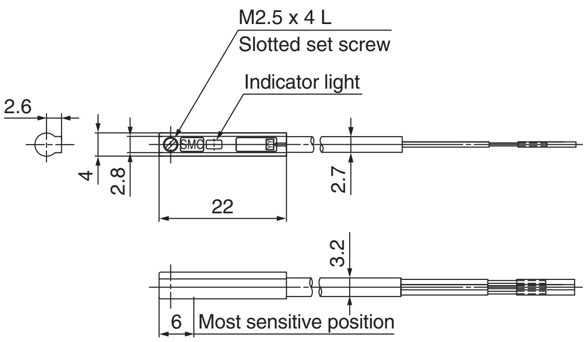
[g]

Auto switch model		D-M9NW(V)	D-M9PW(V)	D-M9BW(V)
Lead wire length	0.5 m (**Nil**)	8		7
	1 m (**M**)	14		13
	3 m (**L**)	41		38
	5 m (**Z**)	68		63

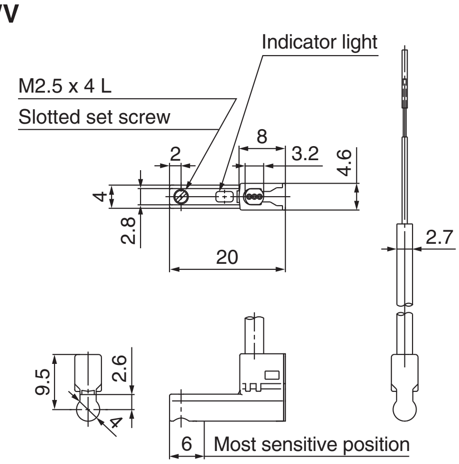
Dimensions

[mm]

D-M9□W



D-M9□WV



Series LEM
Electric Actuator Specific Product Precautions 1

Be sure to read this before handling. Refer to page 906 for Safety Instructions. For Electric Actuator Precautions, refer to pages 907 to 912, or “Handling Precautions for SMC Products” and the Operation Manual on SMC website, http://www.smcworld.com

Design

⚠Caution

1. Do not apply a load in excess of the specification limits.
Select a suitable actuator by work load and allowable moment. If the product is used outside of the specification limits, the eccentric load applied to the guide will be excessive and have adverse effects such as creating play on the guide, degrading accuracy and shortening the life of the product.

2. Do not increase the speed in excess of the specification limits.
Select a suitable actuator by the relationship between the “speed–work load”, and the “work load–acceleration/deceleration”. If the product is used outside of the specification limits, it will have adverse effects such as creating noise, degrading accuracy and shortening the life of the product.

3. Do not use the product in applications where excessive external force or impact force is applied to it.
This can cause a failure.

4. When external force is applied to the table, it is necessary to add external force to the work load as the total carried load for the sizing.
When a cable duct or flexible moving tube is attached in parallel to the actuator, it is necessary to add the friction to the work load as the total carried load for the sizing, too.

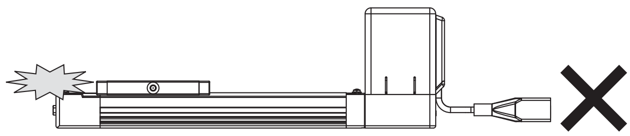
5. The resistance value of the attached equipment should be within the allowable external resistance value.

Handling

⚠Caution

1. INP output signal (LECP6)
1) Positioning operation
When the product comes within the set range by step data [In positon], the INP output signal will turn on.
Initial value: Set to [1] or higher.

2. Never hit at the stroke end except during return to origin. (Except when the LECP2 controller is used.)
Internal stopper can be broken.



3. The moving force should be the initial value.
If the moving force is set below the initial value, it may cause an alarm.

4. The actual speed of this actuator is affected by the work load.
Check the model selection section of the catalog.

5. Do not apply a load, impact or resistance in addition to the transferred load during return to origin.
Additional force will cause the displacement of the origin position since it is based on detected motor torque.

6. Do not dent, scratch or cause other damage to the body and table mounting surfaces.
This may cause unevenness in the mounting surface, play in the guide or an increase in the sliding resistance.

Handling

⚠Caution

7. Do not apply strong impact or an excessive moment while mounting a workpiece.
If an external force over the allowable moment is applied, it may cause play in the guide or an increase in the sliding resistance.

8. Provide a flat surface for installing the actuator. The degree of surface flatness should be determined by the machine precision requirement, or its corresponding precision.
The degree of surface flatness for installing the actuator should be within 0.1 mm/500 mm. The degree of surface flatness for mounting a workpiece should be within 0.05 mm (LEMB), 0.02 mm (LEMC/H/HT).

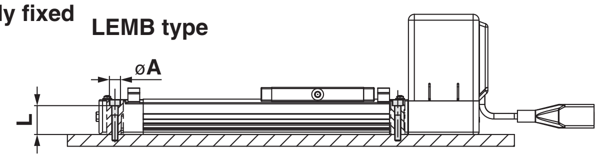
9. When mounting the actuator, keep a 40 mm or longer diameter for bends in the cable.

10. Do not hit the table with the workpiece in the positioning operation and positioning range.

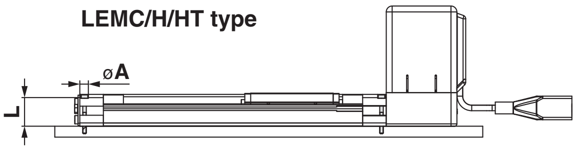
11. When mounting the product, use screws with adequate length and tighten them with adequate torque.
Tightening the screws with a higher torque than the maximum may cause a malfunction, whilst the tightening with a lower torque can cause the displacement of the mounting position or in extreme conditions the actuator could become detached from its mounting position.

Body fixed

LEMB type



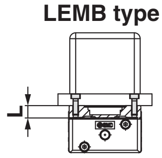
LEMC/H/HT type

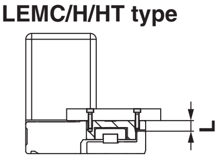


Model	Screw size	Maximum tightening torque [N·m]	øA [mm]	L [mm]
LEMB□	M5	3	5.5	24.5
LEMC25 LEMH25	M3	0.6	3.4	23.7
LEMC32 LEMH32	M5	3	5.5	30.1
LEMHT25	M5	3	5.5	21.6
LEMHT32	M8	12.5	9	26.9

Workpiece fixed

LEMB type　　LEMC/H/HT type





Model	Screw size	Maximum tightening torque [N·m]	L (Maximum screw-in depth)[mm]
LEMB□	M5 x 0.8	3	8
LEMC25 LEMH25	M4 x 0.5	1.5	7
LEMC32 LEMH32	M5 x 0.8	3	9
LEMHT25	M5 x 0.8	3	9
LEMHT32	M8 x 1.25	12.5	12

To prevent the workpiece retaining screws from touching the body, use screws that are 0.5 mm or shorter than the maximum screw-in depth. If long screws are used, they can touch the body and cause a malfunction.

Electric Actuator Specific Product Precautions 2

Be sure to read this before handling. Refer to page 906 for Safety Instructions. For Electric Actuator Precautions, refer to pages 907 to 912, or "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

Handling

⚠Caution

12. Do not operate by fixing the table and moving the actuator body.

13. The belt drive actuator cannot be used vertically for applications.

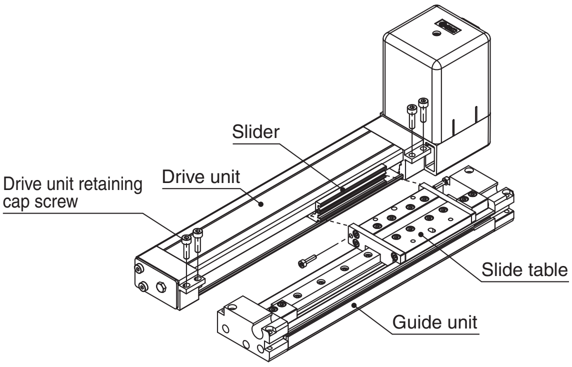
14. Check the specifications for the minimum speed of each actuator.
Otherwise, unexpected malfunctions, such as knocking, may occur.

15. In the case of the belt drive actuator, vibration may occur during operation at speeds within the actuator specifications, this could be caused by the operating conditions. Change the speed setting to a speed that does not cause vibration.

16. High frequency noise will be generated during deceleration depending on the operating conditions. This is a noise generated during processing the regenerative power. It is not a failure.

17. When using actuator with longer stroke, implement an intermediate support.
When using actuator with longer stroke, implement intermediate support to prevent frame deflection or deflection caused by vibration or external impacts.

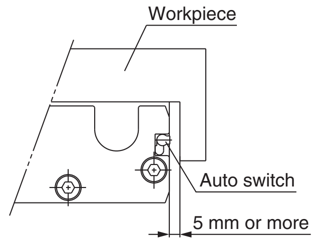
18. Attaching and detaching the drive unit
To remove the drive unit, remove the 6 drive unit retaining cap screws and remove the slider from the guide unit. To install the drive unit, insert its slider into the slide table on the guide unit and tighten 2 screws of connection part, and then equally tighten the 4 retaining cap screws. Tighten the retaining cap screws securely because if they become loose, problems may occur such as damage, malfunction.



Handling

⚠Caution

19. Workpiece mounting
When mounting a magnetic workpiece, keep a clearance of 5 mm or greater between the auto switch and the workpiece. Otherwise, the magnetic force within the actuator may be lost, resulting in malfunction of the auto switch.



Maintenance

⚠Warning

Maintenance frequency
Perform maintenance according to the table below.

Frequency	Appearance check	Internal check	Belt check
Inspection before daily operation	○	—	—
Inspection every 6 months/1000 km/5 million cycles *	○	○	○

* Select whichever comes first.

● Items for visual appearance check
1. Loose set screws, Abnormal dirt
2. Check of flaw and cable joint
3. Vibration, Noise

● Items for internal check
1. Lubricant condition on moving parts.
2. Loose or mechanical play in fixed parts or fixing screws.

● Items for belt check
Stop operation immediately and replace the belt when belt appear to be below. Further, ensure your operating environment and conditions satisfy the requirements specified for the product.

a. Tooth shape canvas is worn out.
Canvas fiber becomes fuzzy. Rubber is removed and the fiber becomes whitish. Lines of fibers become unclear.

b. Peeling off or wearing of the side of the belt
Belt corner becomes round and frayed thread sticks out.

c. Belt partially cut
Belt is partially cut. Foreign matter caught in teeth other than cut part causes flaw.

d. Vertical line of belt teeth
Flaw which is made when the belt runs on the flange.

e. Rubber back of the belt is softened and sticky.

f. Crack on the back of the belt