Electric Actuators
LEY Series

Refer to "How to Order."

RoHS

Rod Type / Guide Rod Type

Step Motor (Servo/24 VDC) **Servo Motor** (24 VDC)

Rod Type *LEY Series*

Size: 16, 25, 32, 40 ▸p. 299

Long stroke:

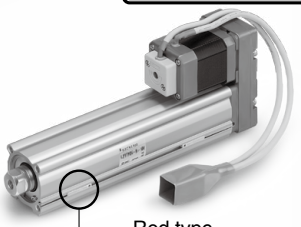
Max. 500 mm (LEY32, 40)

Mounting variations

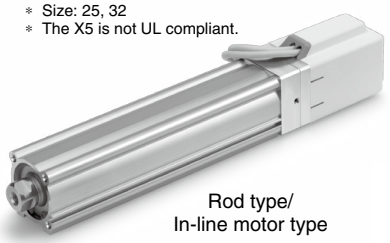
- Direct mounting: 3 directions, Bracket mounting: 3 types
- Either positioning or pushing control can be selected.
  It is possible to hold the actuator with the rod pushing a workpiece, etc.

Dust-tight/Water-jet-proof (IP65 Equivalent): **-X5** ▸p. 608

∗ Size: 25, 32
∗ The X5 is not UL compliant.



Rod type



Rod type/
In-line motor type

Guide Rod Type *LEYG Series*

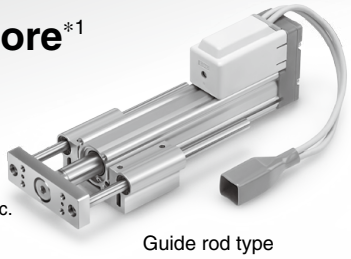
Size: 16, 25, 32, 40 ▸p. 367

Lateral end load: 5 times more∗1

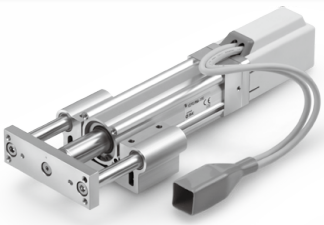
∗1 Compared with the rod type, size 25, and 100 mm stroke

Compatible with sliding bearings and ball bushing bearings
Compatible with moment loads and stoppers (sliding bearings)

- Either positioning or pushing control can be selected.
  It is possible to hold the actuator with the rod pushing a workpiece, etc.



Guide rod type



Guide rod type/
In-line motor type

AC Servo Motor

Rod Type *LEY Series*

Size: 25, 32, 63

Dust-tight/Water-jet-proof (IP65 Equivalent): **-X5** ▸p. 305, 312

- High-output motor (100/200/400 W)
- Improved high-speed transfer ability
- High acceleration/deceleration compatible (5000 mm/s²)
- Pulse input/CC-Link/SSCNETⅢ types
- With internal absolute encoder (For the LECSB/C/S)

Rod type

Rod type/
In-line motor type

Guide Rod Type *LEYG Series*

Size: 25, 32

▸p. 373, 378

Guide
rod type

Guide rod type/
In-line motor type

Step Motor (Servo/24 VDC)
Servo Motor (24 VDC)

Controllers/ Drivers ▸p. 684

- **Step data input type**
  JXC51/61/LECA6 Series (64 positioning points)
- **EtherCAT®/EtherNet/IP™/PROFINET/ DeviceNet™/IO-Link/CC-Link direct input type**
  JXCE1/91/P1/D1/L1/M1 Series
- **Programless type**
  LECP1 Series (14 positioning points)
- **Pulse input type**
  LECPA Series

AC Servo Motor **Drivers** ▸p. 764

▸ For absolute encoders

- Pulse input type
  LECSB(-T) Series
- CC-Link direct input type
  LECSC(-T) Series
- SSCNETⅢ type
  LECSS Series
- SSCNETⅢ/H type
  LECSS-T Series
- Network card type
  LECSN-T Series
- MECHATROLINK type
  LECY□ Series

▸ For incremental encoders

- Pulse input type/ Positioning type
  LECSA Series

LISTED

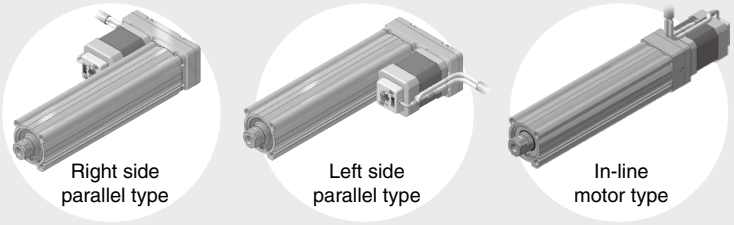
∗ Only the LECSA and LECS□-T are compliant.
The LECSN-T is only compliant if the "Without network card" option is selected.

Step Motor (Servo/24 VDC) **Servo Motor** (24 VDC)

Rod Type ***LEY Series*/Size: 16, 25, 32, 40**

Control of intermediate positioning and pushing is possible.
High precision with ball screws
(Positioning repeatability: ±0.02 mm)

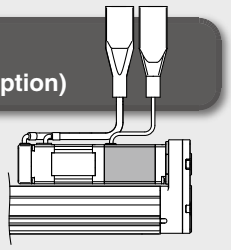
Selectable motor mounting position



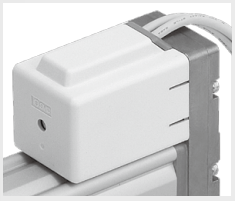
Right side parallel type | Left side parallel type | In-line motor type

Non-magnetizing lock mechanism (Option)

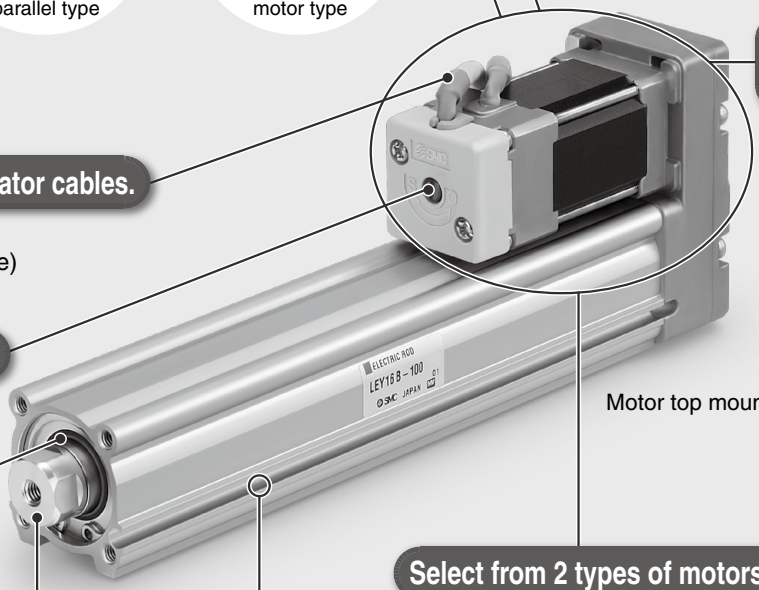
Prevents workpieces from dropping (Holding)



Motor cover available (Option)



∗ The cover has an opening.



Motor top mounting type

Select from 2 types of actuator cables.

- Standard cable
- Robotic cable (Flexible cable)

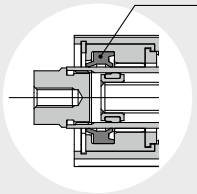
Manual override screw

For manual piston rod operation
Adjustment operation is possible when the power is OFF.

Scraper

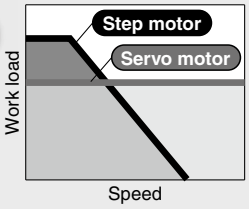
Prevents foreign matter from entering the device

Equipped with scrapers as standard



Select from 2 types of motors.

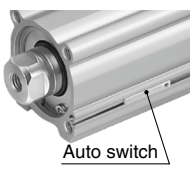
- **Step motor (Servo/24 VDC)**
  Ideal for the low-speed transfer of heavy loads and pushing operations
- **Servo motor (24 VDC)**
  Stable at high speeds
  Silent operation



Mounting groove for auto switches

For checking the limit and the intermediate signal
Applicable to the D-M9□, D-M9□E, and D-M9□W (2-color indicator)

∗ The auto switches should be ordered separately. Refer to pages 363 to 365 for details.

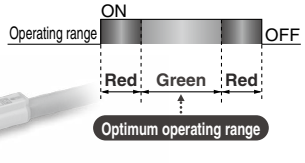


Auto switch

2-color indicator solid state auto switch

Appropriate setting of the mounting position can be performed without mistakes.

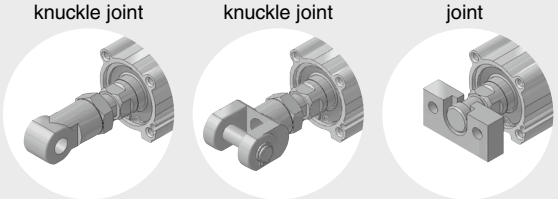
A green light lights up at the optimum operating range.



p. 361, 362

Rod end brackets

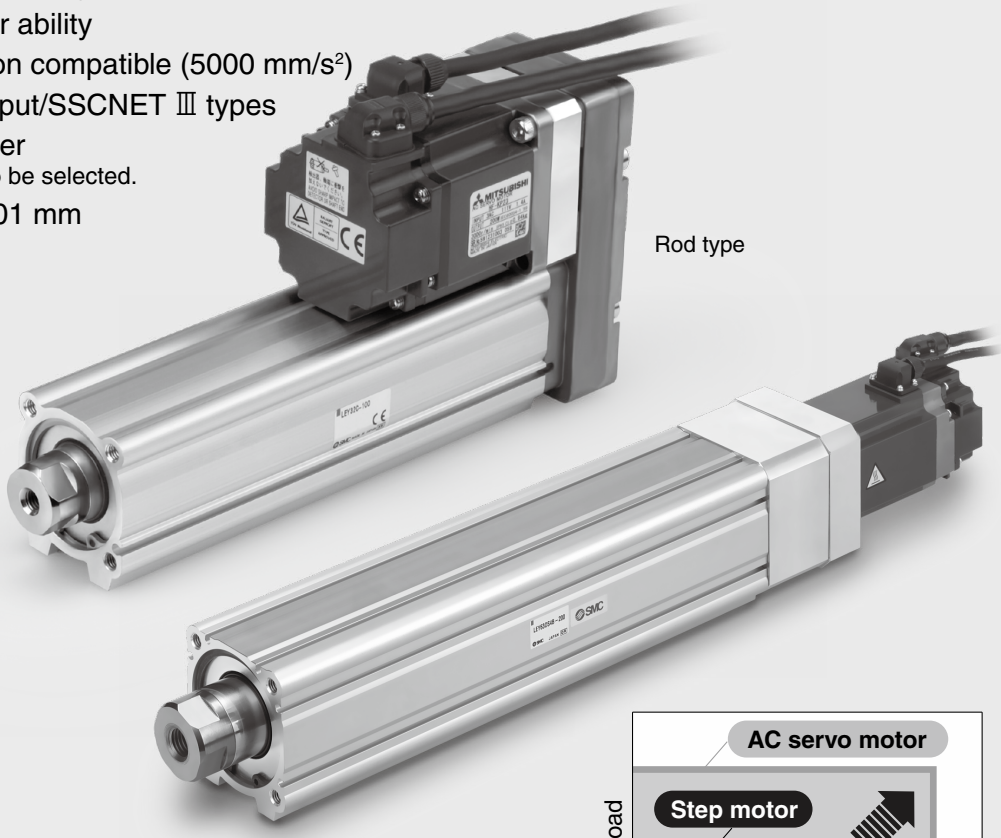
Single knuckle joint | Double knuckle joint | Simple joint



AC Servo Motor

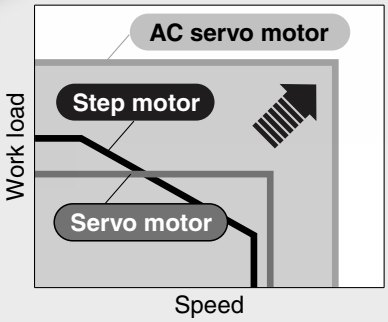
Rod Type *LEY Series*/Size: 25, 32, 63

- High-output motor (100/200/400 W)
- Improved high-speed transfer ability
- High acceleration/deceleration compatible (5000 mm/s²)
- Pulse input/CC-Link direct input/SSCNET Ⅲ types
- With internal absolute encoder
  ＊ An incremental encoder can also be selected.
- Positioning repeatability: ±0.01 mm
  (High-precision type)



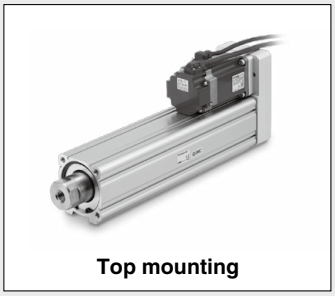
Rod type

Rod type/In-line motor type

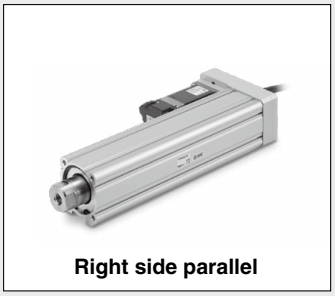


Large bore size 63

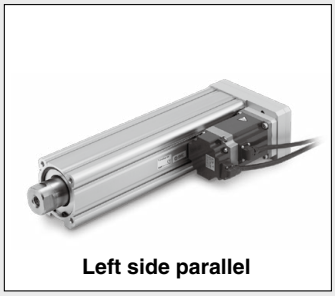
Selectable motor mounting position (4 directions)



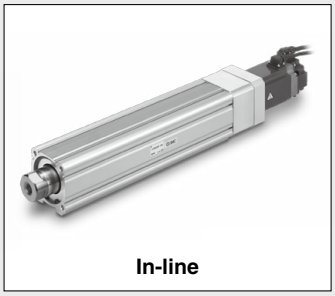
Top mounting



Right side parallel



Left side parallel



In-line

- Max. work load [kg]

	Top/Parallel	In-line
Horizontal	**200**	80
Vertical	**115**	72

- Max. force [N]

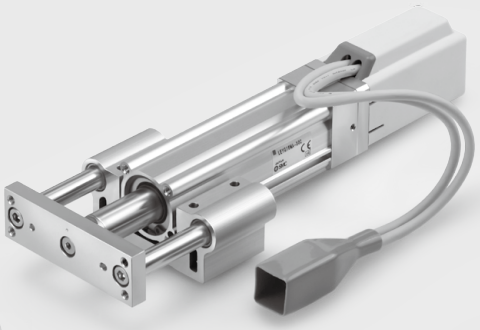
Top/Parallel	3343
In-line	1910

- High-output motor: **400 w**
- Max. speed: **1000 mm/s**
  ＊ 500 mm stroke
- Dust-tight/Water-jet-proof specification (IP65 equivalent)
  ＊ Option

Step Motor (Servo/24 VDC) **Servo Motor** (24 VDC)

Guide Rod Type *LEYG Series*/Size: 16, 25, 32, 40

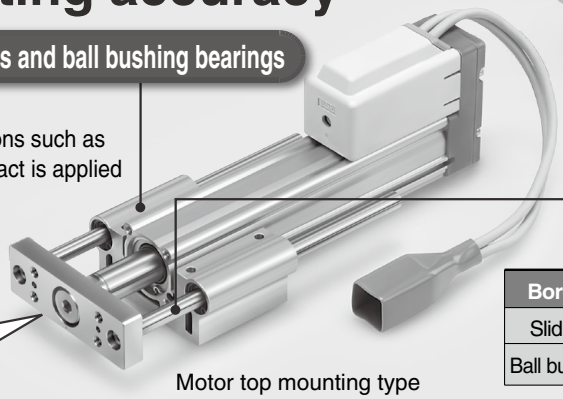
Compact, integrated guide rods Lateral load resistance and high non-rotating accuracy



In-line motor type

Compatible with sliding bearings and ball bushing bearings

- **Sliding bearings**
  Suitable for lateral load applications such as when using a stopper where impact is applied
- **Ball bushing bearings**
  Smooth operation suitable for pushers and lifters



Motor top mounting type

Improved rigidity

Lateral end load: 5 times more[*1]

*1 Compared with the rod type, size 25, and 100 mm stroke

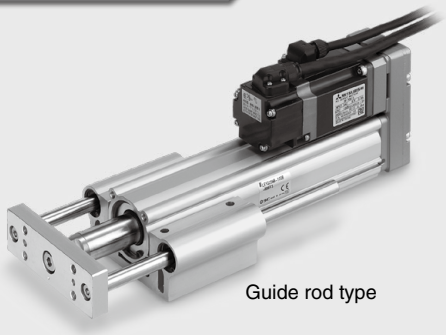
Non-rotating accuracy improved by using two guide rods

Bore size [mm]	16	25	32	40
Sliding bearings	±0.06°		±0.05°	
Ball bushing bearings	±0.05°	±0.04°		

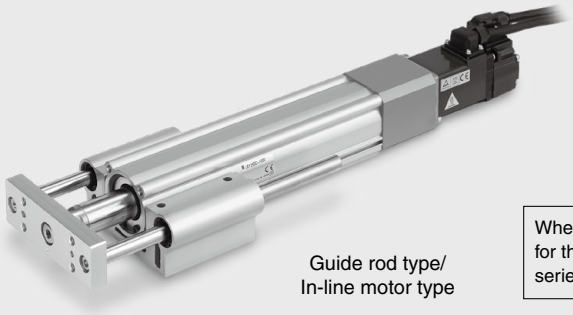
When the cylinder is retracted (initial value), the non-rotating accuracy without a load and without deflection of the guide rods will be below the values shown in the table above.

AC Servo Motor

Guide Rod Type *LEYG Series*/Size: 25, 32



Guide rod type

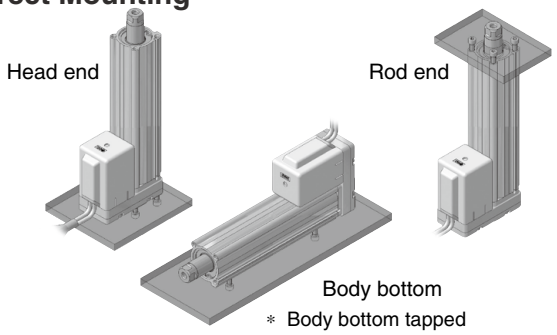


Guide rod type/
In-line motor type

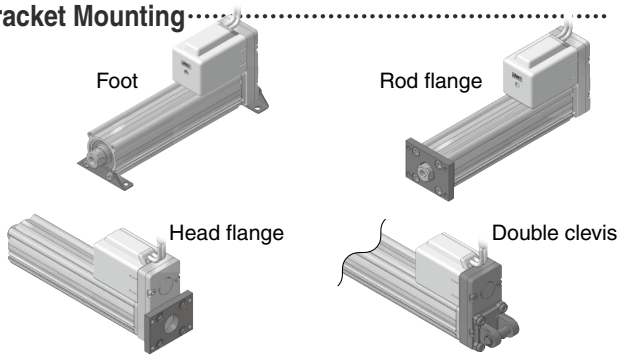
When using auto switches for the guide rod type LEYG series, refer to page 414.

Mounting Variations

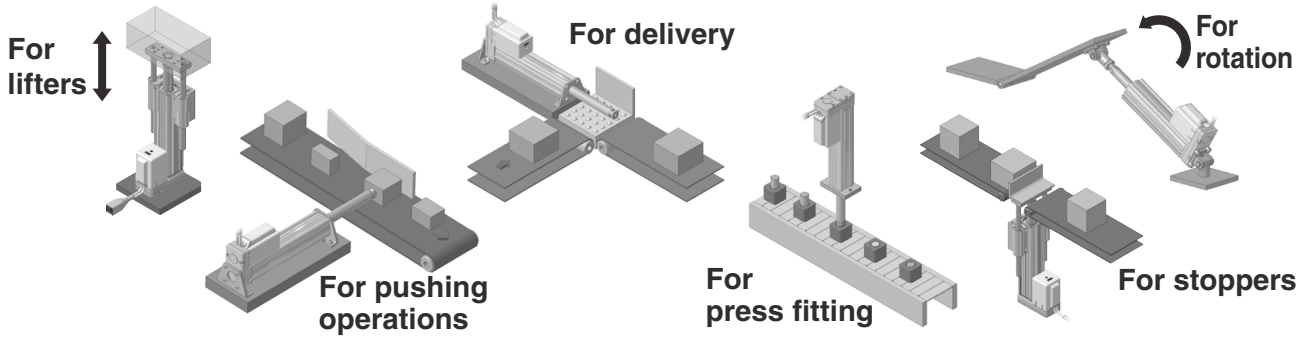
Direct Mounting



Bracket Mounting



Application Examples



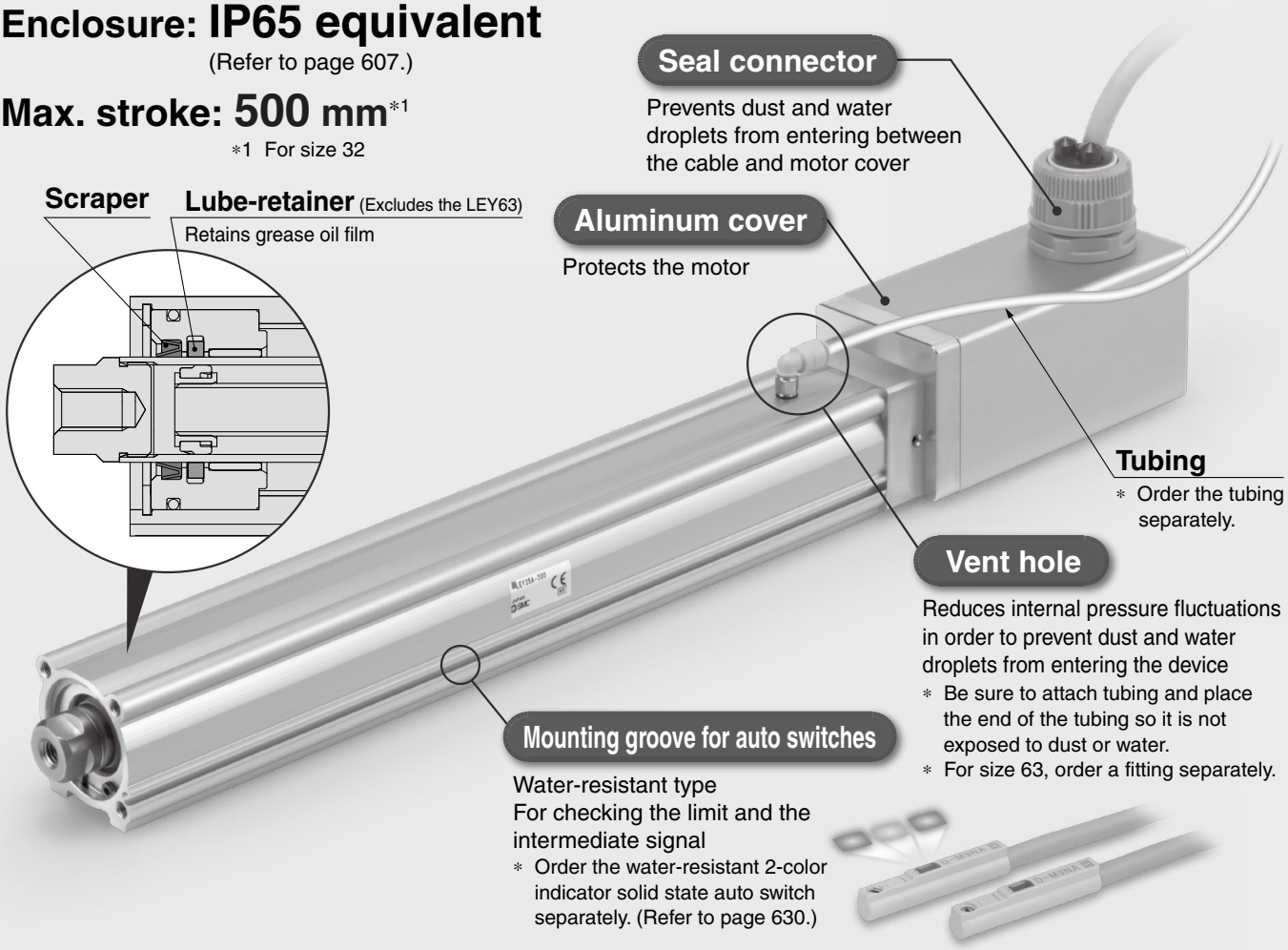
Dust-tight/Water-jet-proof (IP65 Equivalent)

●Enclosure: IP65 equivalent

(Refer to page 607.)

●Max. stroke: 500 mm*1

*1 For size 32

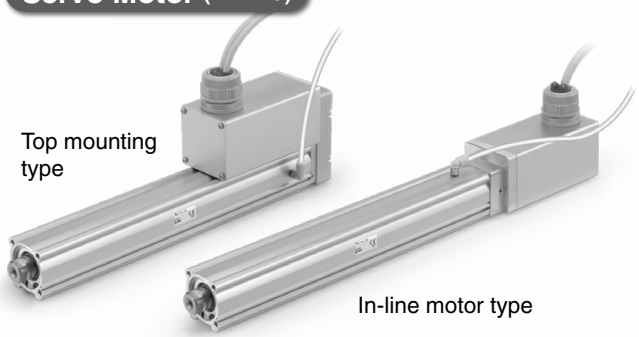


LEY-X5 (Refer to page 608.)

Size 25, 32

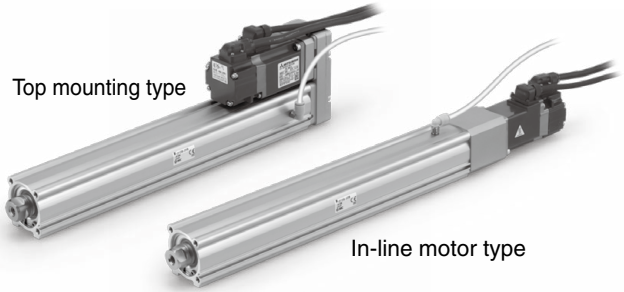
Step Motor (Servo/24 VDC)

Servo Motor (24 VDC)



LEY-X5 (Refer to page 305.)

AC Servo Motor (100/200 W)

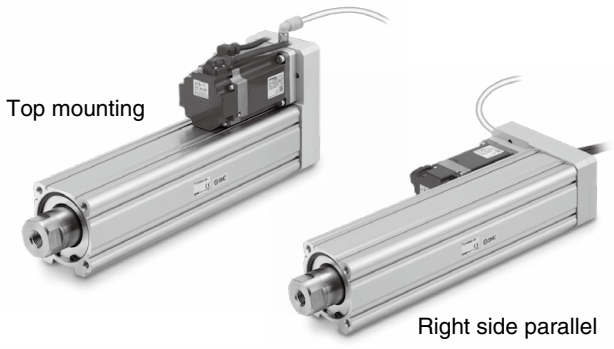


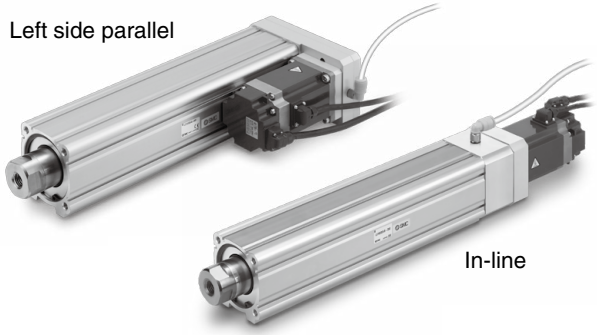
LEY63□□□-□P

(Refer to page 305./Option)

Size 63

AC Servo Motor (400 W)

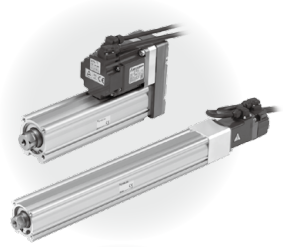




Electric Actuator/Rod Type *LEY Series*

Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

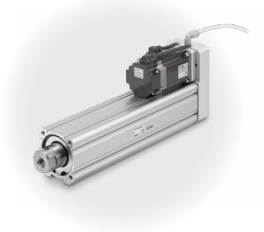
◎**Rod Type *LEY Series***



AC Servo Motor

LECS□ Series

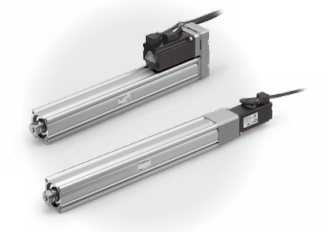
◎**Rod Type *LEY Series*** Size 25, 32



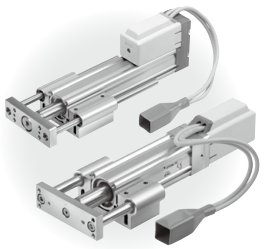
◎**Rod Type *LEY Series*** Size 63 Dust-tight/Water-jet-proof (IP65 Equivalent) * Option

LECY□ Series

◎**Rod Type *LEY Series***

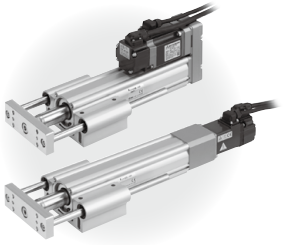


Electric Actuator/Guide Rod Type *LEYG Series*



Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

◎**Guide Rod Type *LEYG Series***



AC Servo Motor

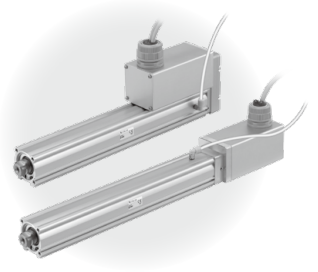
LECS□ Series

◎**Guide Rod Type *LEYG Series***

LECY□ Series

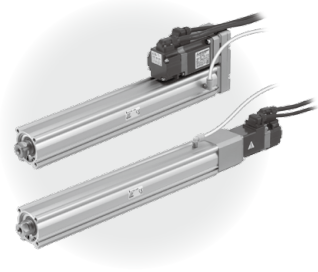
◎**Guide Rod Type *LEYG Series***

Environment



Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

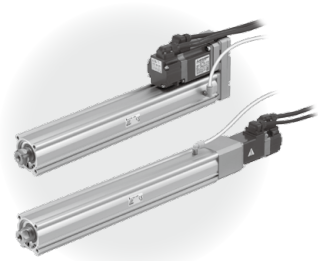
◎Rod Type *LEY-X5* (Made to Order) Dust-tight/Water-jet-proof (IP65 Equivalent)



AC Servo Motor

***LECS□* Series**

◎Rod Type *LEY-X5* (Made to Order) Dust-tight/Water-jet-proof (IP65 Equivalent)



***LECY□* Series**

◎Rod Type *LEY-X5* (Made to Order) Dust-tight/Water-jet-proof (IP65 Equivalent)

Step Motor (Servo/24 VDC) Servo Motor (24 VDC) AC Servo Motor

◎Rod Type *25A-LEY* Secondary Battery Compatible

◎Step Motor (Servo/24 VDC)/ Servo Motor (24 VDC) Controller/Driver

◎3-Axis Step Motor Controller

◎4-Axis Step Motor (Servo/24 VDC) Controller

◎AC Servo Motor Driver

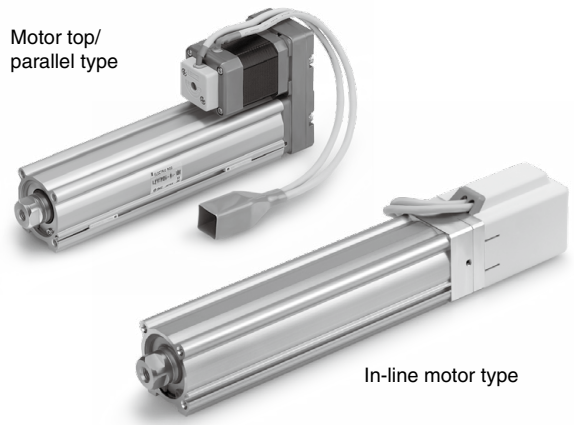
Rod Type

LEY Series

Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

p. 319

Motor top/
parallel type

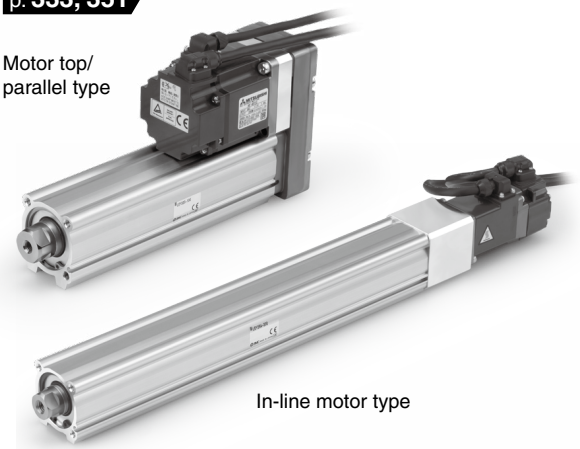


In-line motor type

AC Servo Motor

p. 333, 351

Motor top/
parallel type



In-line motor type

Environment

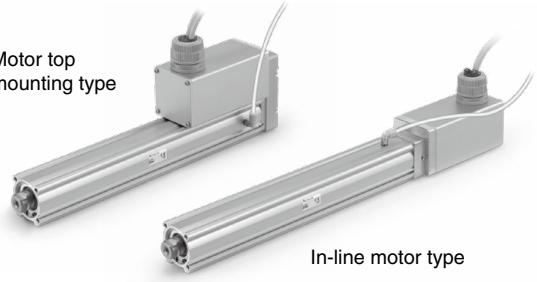
Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

Dust-tight/Water-jet-proof (IP65 Equivalent)

LEY-X5 (Made to order)

p. 611

Motor top
mounting type



In-line motor type

Secondary Battery Compatible **25A-LEY**

p. 673

Motor top/
parallel type

In-line motor type

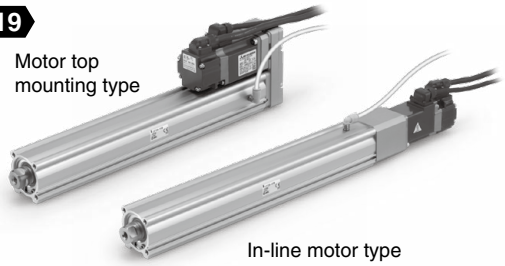
AC Servo Motor

Dust-tight/Water-jet-proof (IP65 Equivalent)

LEY25/32-X5 (Made to order)

p. 619

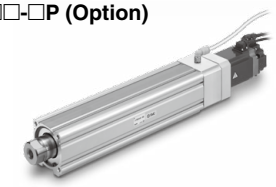
Motor top
mounting type



In-line motor type

LEY63□□□-□P (Option)

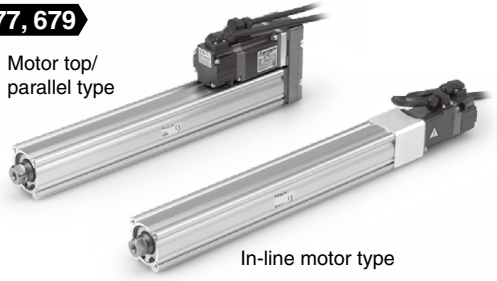
p. 343



Secondary Battery Compatible **25A-LEY**

p. 677, 679

Motor top/
parallel type



In-line motor type

Step Motor/Servo Motor Controller/Driver p. 684

AC Servo Motor Driver p. 764

Electric Actuator/Rod Type Secondary Battery Compatible

LEY/25A-LEY Series

Model Selection

LEY Series ▶ p. 319 25A-LEY Series ▶ p. 673

Selection Procedure

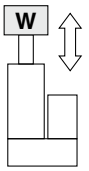
Positioning Control Selection Procedure

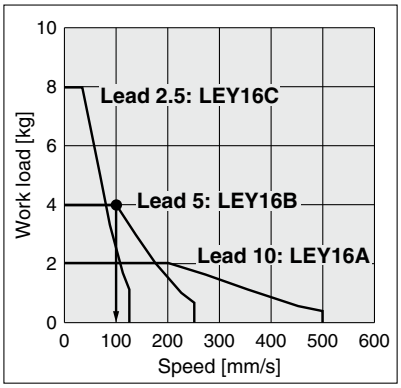
Step 1 Check the work load–speed. (Vertical transfer) → **Step 2** Check the cycle time.

Selection Example

Operating conditions

- Workpiece mass: 4 [kg]
- Speed: 100 [mm/s]
- Acceleration/Deceleration: 3000 [mm/s^2]
- Stroke: 200 [mm]
- Workpiece mounting condition: Vertical upward downward transfer





<Speed–Vertical work load graph> (LEY16/Step motor)

Step 1 **Check the work load–speed. <Speed–Vertical work load graph>**

Select a model based on the workpiece mass and speed while referencing the speed–vertical work load graph.

Selection example) The **LEY16B** can be temporarily selected as a possible candidate based on the graph shown on the right side.

* It is necessary to mount a guide outside the actuator when used for horizontal transfer. When selecting the target model, refer to the horizontal work load in the specifications on pages 323 and 324 and the precautions.

Step 2 **Check the cycle time.**

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

Cycle time:

T can be found from the following equation.

$$T = T1 + T2 + T3 + T4 \text{ [s]}$$

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

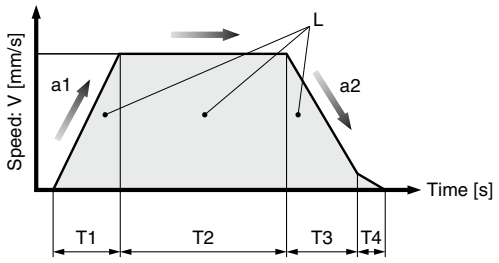
$$T1 = V/a1 \text{ [s]} \qquad T3 = V/a2 \text{ [s]}$$

- 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 while referencing the following value.

$$T4 = 0.2 \text{ [s]}$$



L : Stroke [mm] ··· (Operating condition)
V : Speed [mm/s] ··· (Operating condition)
a1: Acceleration [mm/s^2] ··· (Operating condition)
a2: Deceleration [mm/s^2] ··· (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

Calculation example)

T1 to T4 can be calculated as follows.

$T1 = V/a1 = 100/3000 = 0.033$ [s], $T3 = V/a2 = 100/3000 = 0.033$ [s]

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{200 - 0.5 \cdot 100 \cdot (0.033 + 0.033)}{100} = 1.97 \text{ [s]}$$

$T4 = 0.2$ [s]

The cycle time can be found as follows.

$T = T1 + T2 + T3 + T4 = 0.033 + 1.967 + 0.033 + 0.2 =$ **2.233 [s]**

Based on the above calculation result, the LEY16B-200 should be selected.

Selection Procedure

Pushing Control Selection Procedure

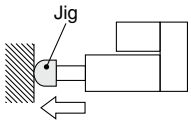
Step 1 Check the duty ratio. → **Step 2** Check the pushing force. → **Step 3** Check the lateral load on the rod end.

∗ The duty ratio is a ratio of the operation time in one cycle.

Selection Example

Operating conditions

- Mounting condition: Horizontal (pushing)
- Jig weight: 0.2 [kg]
- Pushing force: 60 [N]
- Duty ratio: 20 [%]
- Speed: 100 [mm/s]
- Stroke: 200 [mm]



Step 1 **Check the duty ratio.**
<Conversion table of pushing force–duty ratio>

Select the [Pushing force] from the duty ratio while referencing the conversion table of pushing force–duty ratio.

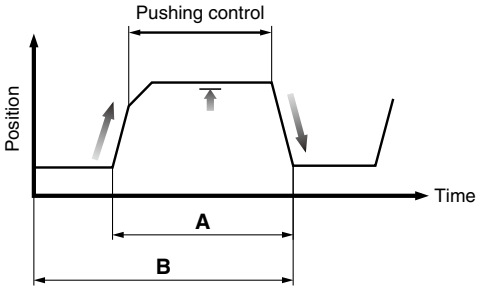
Selection example)
Based on the table below,
- Duty ratio: 20 [%]

The pushing force set value will be 70 [%].

<Conversion table of pushing force–duty ratio>
(LEY16/Step motor)

Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40 or less	100	—
50	70	12
70	20	1.3
85	15	0.8

∗ [Pushing force set value] is one of the step data input to the controller.
∗ [Continuous pushing time] is the time that the actuator can continuously keep pushing.



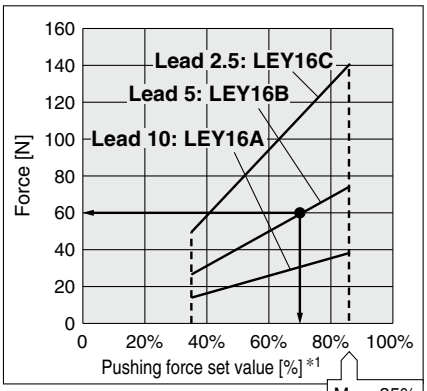
Duty ratio = A/B x 100 [%]

Step 2 **Check the pushing force.**
<Force conversion graph>

Select a model based on the pushing force set value and force while referencing the force conversion graph.

Selection example)
Based on the graph shown on the right side,
- Pushing force set value: 70 [%]
- Pushing force: 60 [N]

The **LEY16B** can be temporarily selected as a possible candidate.



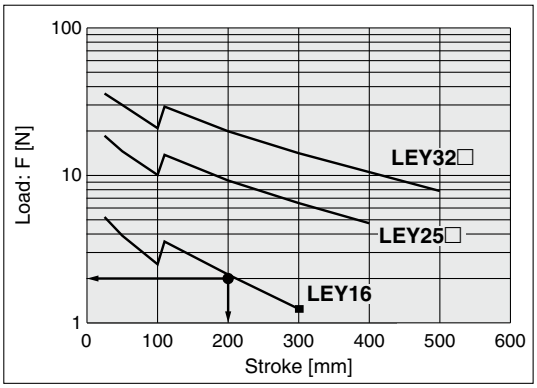
<Force conversion graph>
(LEY16/Step motor)
∗1 Set values for the controller

Step 3 **Check the lateral load on the rod end.**
<Graph of allowable lateral load on the rod end>

Confirm the allowable lateral load on the rod end of the actuator: LEY16□, which has been selected temporarily while referencing the graph of allowable lateral load on the rod end.

Selection example)
Based on the graph shown on the right side,
- Jig weight: 0.2 [kg] ≈ 2 [N]
- Product stroke: 200 [mm]

The lateral load on the rod end is in the allowable range.



<Graph of allowable lateral load on the rod end>

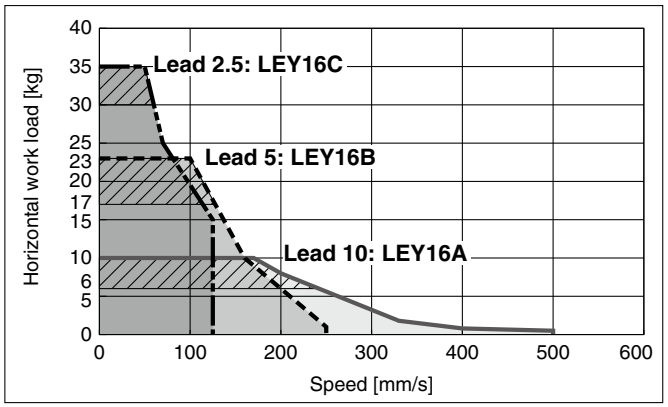
Based on the above calculation result, the LEY16B-200 should be selected.

Refer to page 302 for the LECPA, JXC□$^{2}_{3}$ and page 303 for the LECA6.

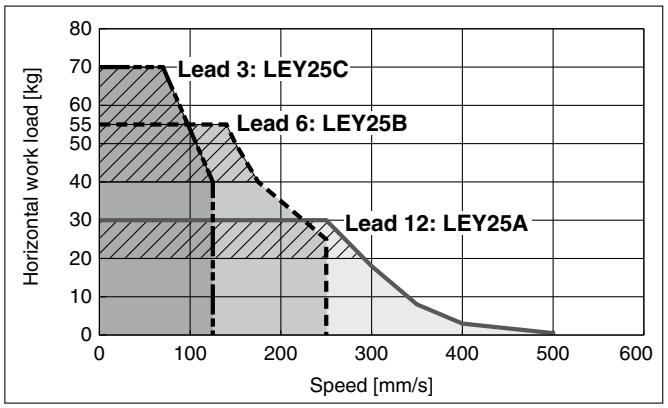
Speed–Work Load Graph (Guide)
For Step Motor (Servo/24 VDC) JXC□1, LECP1

Horizontal

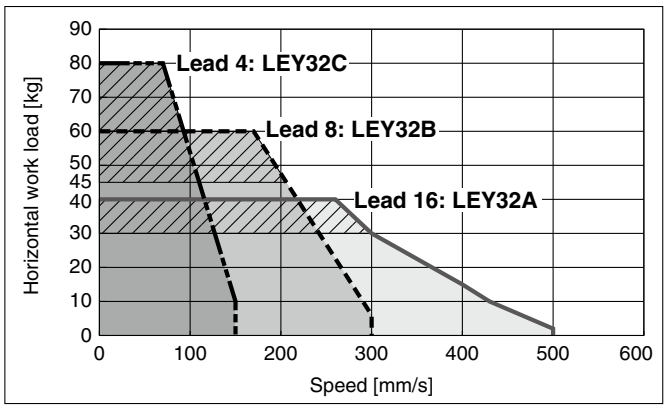
LEY16□



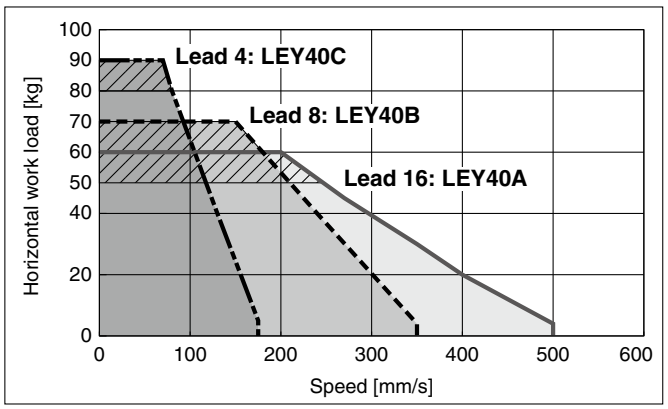
LEY25□



LEY32□

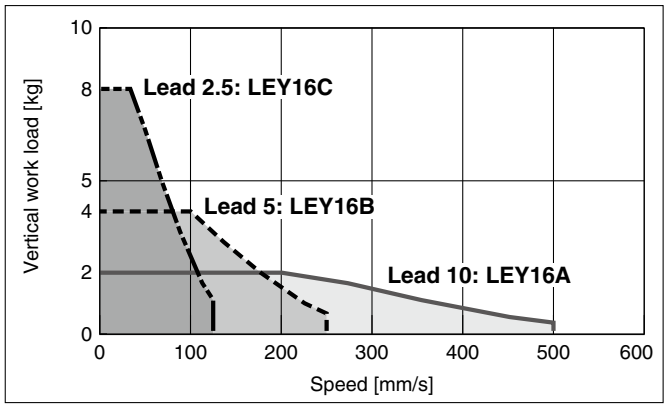


LEY40□

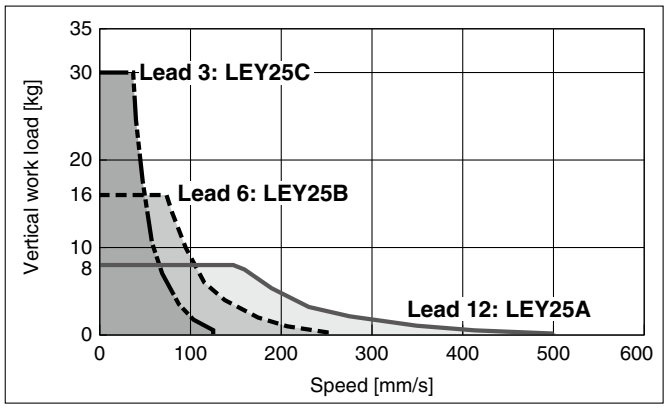


Vertical

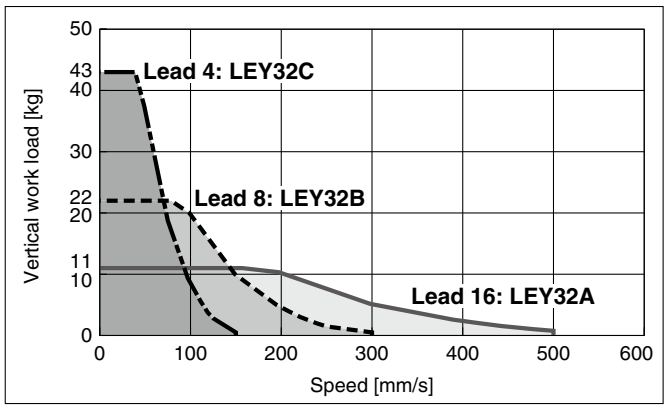
LEY16□



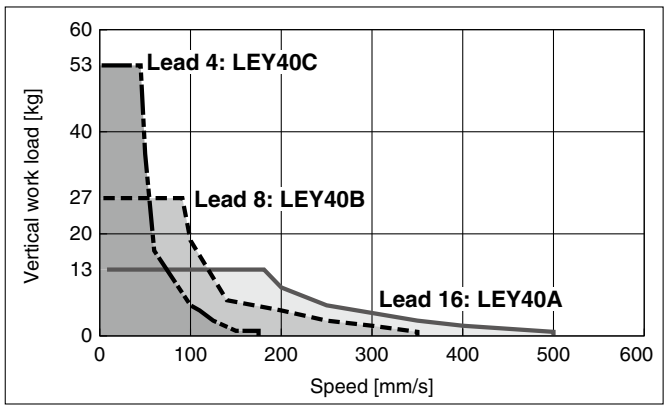
LEY25□



LEY32□



LEY40□

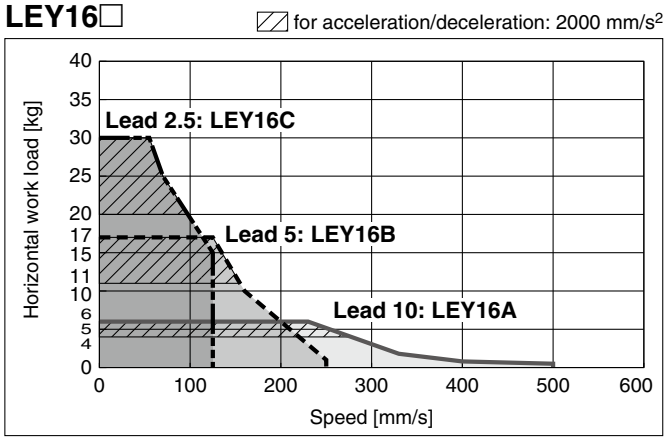


Refer to page 301 for the JXC□1, LECP1 and page 303 for the LECA6.

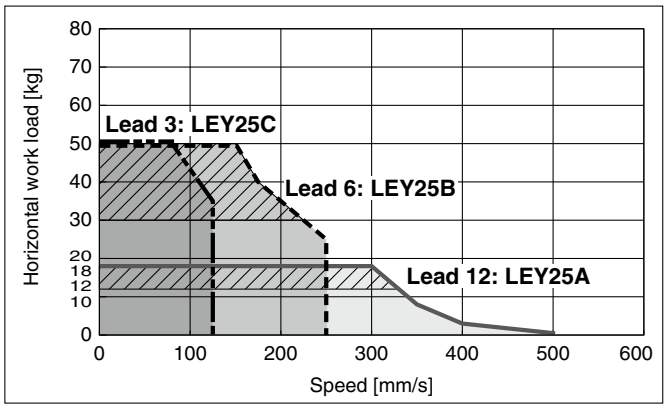
Speed–Work Load Graph (Guide)
For Step Motor (Servo/24 VDC) LECPA, JXC□$^{2}_{3}$

Horizontal

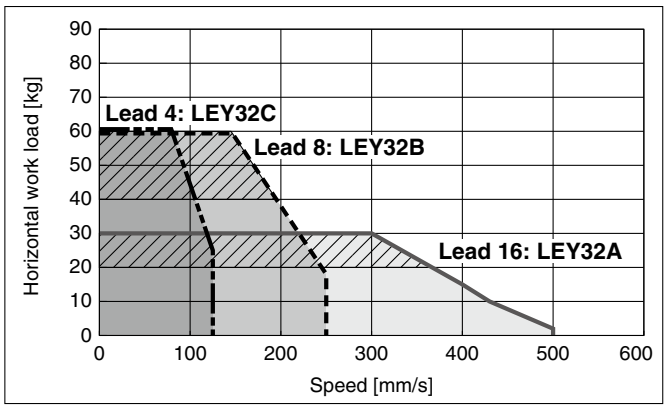
LEY16□



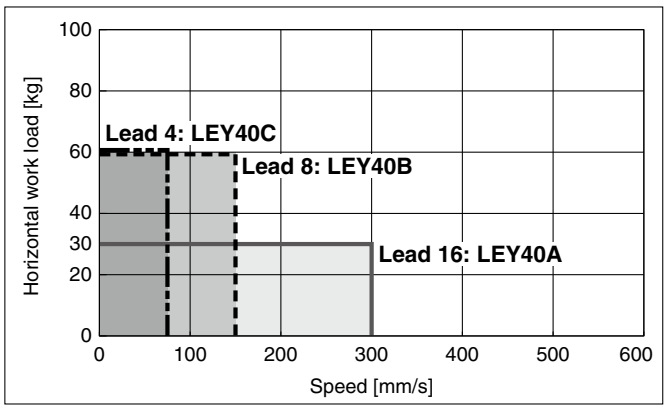
LEY25□



LEY32□

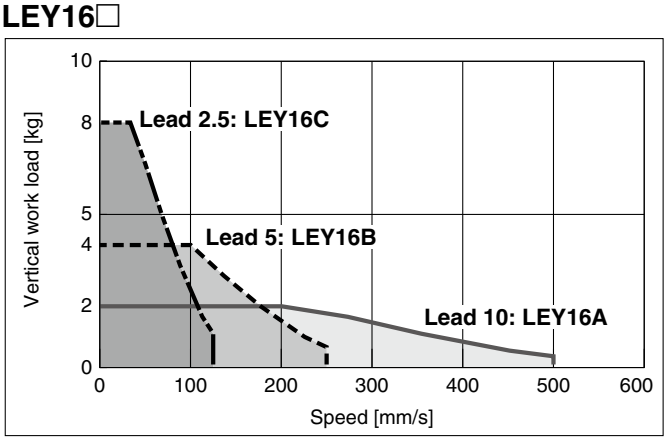


LEY40□

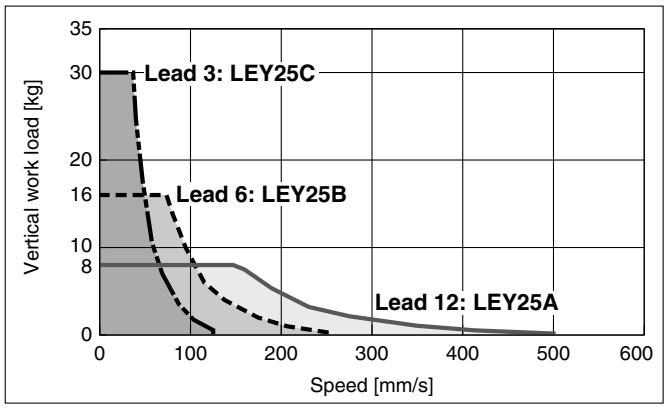


Vertical

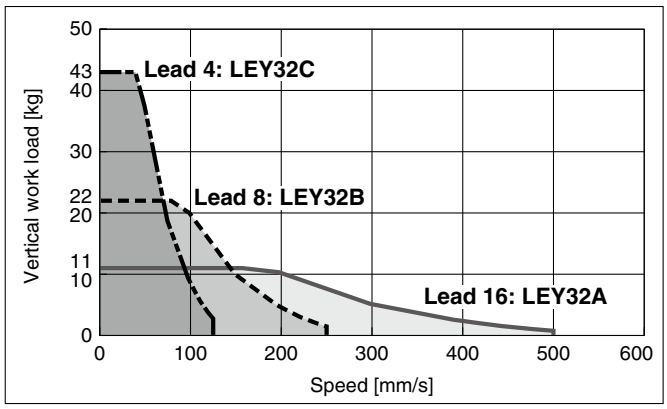
LEY16□



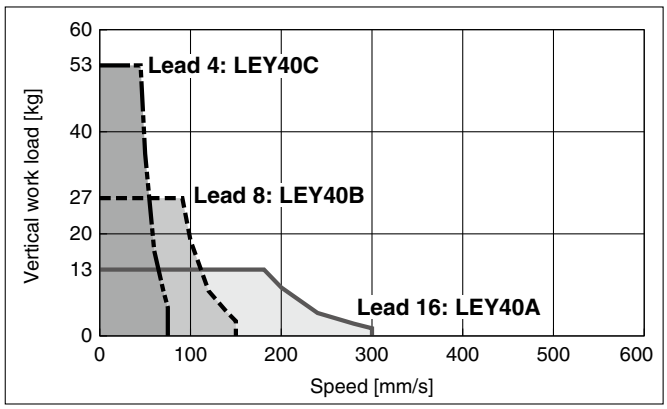
LEY25□



LEY32□



LEY40□

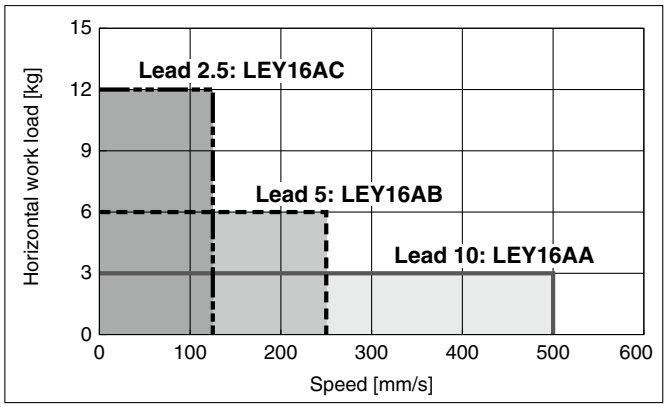


Refer to page 301 for the JXC□1, LECP1 and page 302 for the LECPA, JXC□$^{2}_{3}$.

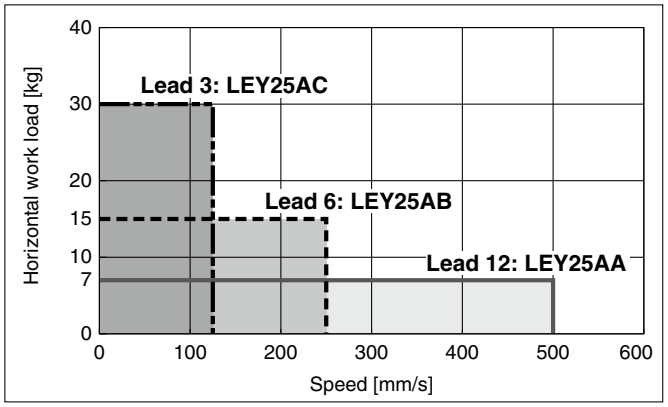
Speed–Work Load Graph (Guide) For Servo Motor (24 VDC) LECA6

Horizontal

LEY16□A

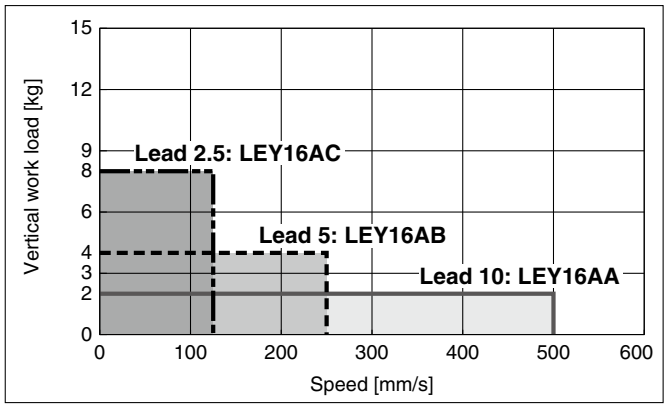


LEY25□A

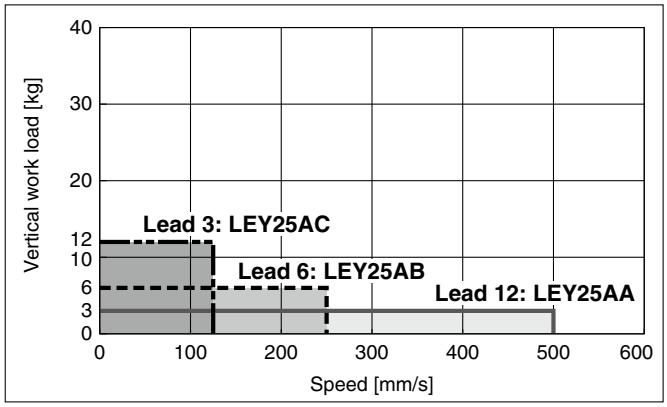


Vertical

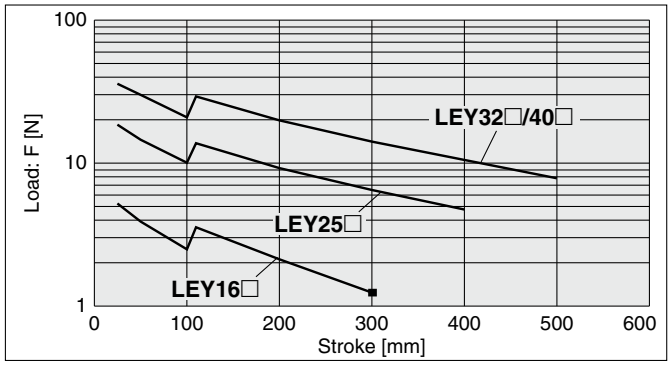
LEY16□A



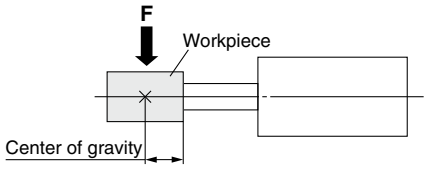
LEY25□A



Graph of Allowable Lateral Load on the Rod End (Guide)

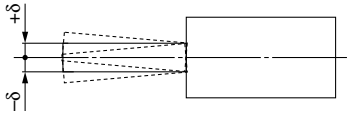


[Stroke] = [Product stroke] + [Distance from the rod end to the center of gravity of the workpiece]

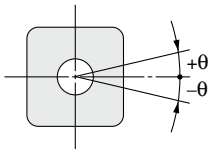


Rod Displacement: δ [mm]

Size \ Stroke	30	50	100	150	200	250	300	350	400	450	500
16	±0.4	±0.5	±0.9	±0.8	±1.1	±1.3	±1.5	—	—	—	—
25	±0.3	±0.4	±0.7	±0.7	±0.9	±1.1	±1.3	±1.5	±1.7	—	—
32, 40	±0.3	±0.4	±0.7	±0.6	±0.8	±1.0	±1.1	±1.3	±1.5	±1.7	±1.8



Non-rotating Accuracy of Rod



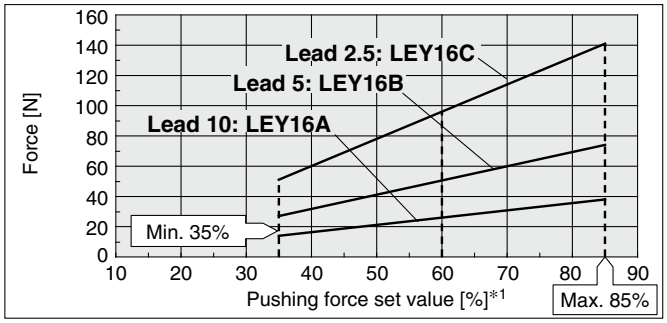
Size	Non-rotating accuracy θ
16	±1.1°
25	±0.8°
32	±0.7°
40	

* Avoid using the electric actuator in such a way that rotational torque would be applied to the piston rod.
Failure to do so may result in the deformation of the non-rotating guide, abnormal auto switch responses, play in the internal guide, or an increase in the sliding resistance.

Force Conversion Graph (Guide)

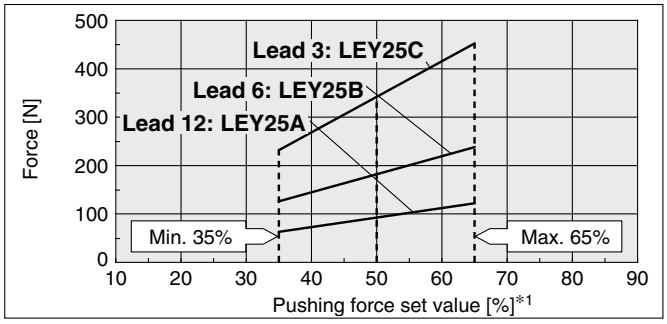
Step Motor (Servo/24 VDC)

LEY16



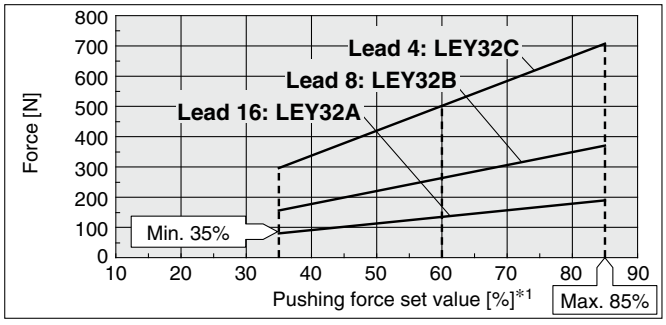
Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
25°C or less	85 or less	100	—
40°C	40 or less	100	—
	50	70	12
	70	20	1.3
	85	15	0.8

LEY25



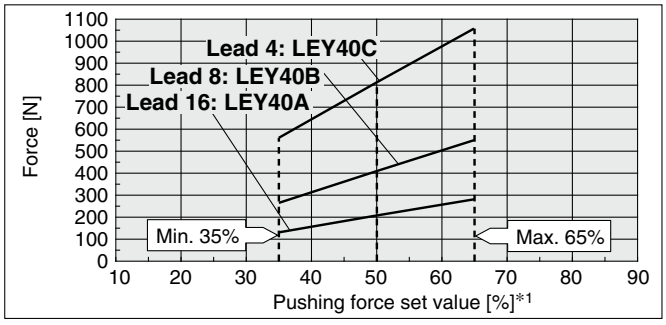
Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	65 or less	100	—

LEY32



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
25°C or less	85 or less	100	—
40°C	65 or less	100	—
	85	50	15

LEY40

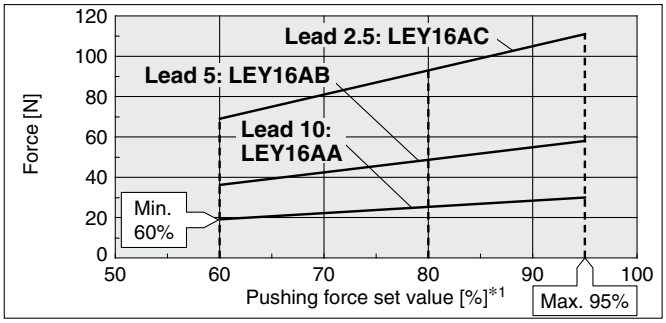


Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	65 or less	100	—

*1 Set values for the controller

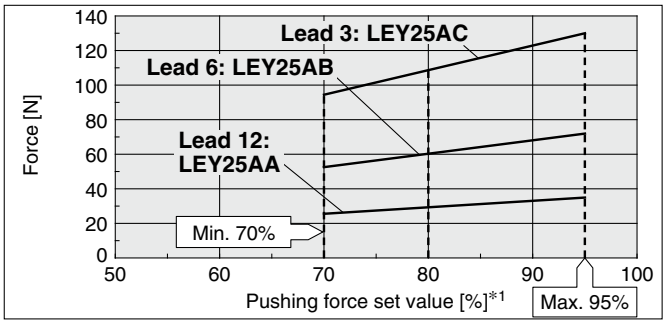
Servo Motor (24 VDC)

LEY16□A



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	95 or less	100	—

LEY25□A



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	95 or less	100	—

<Limit Values for Pushing Force and Trigger Level in Relation to Pushing Speed>
Without Load

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEY16	A/B/C	21 to 50	60 to 85%
LEY25	A/B/C	21 to 35	50 to 65%
LEY32	A	24 to 30	60 to 85%
	B/C	21 to 30	
LEY40	A	24 to 30	50 to 65%
	B/C	21 to 30	

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEY16□A	A/B/C	21 to 50	80 to 95%
LEY25□A	A/B/C	21 to 35	80 to 95%

There is a limit to the pushing force in relation to the pushing speed. If the product is operated outside of the range (low pushing force), the completion signal [INP] may be output before the pushing operation has been completed (during the moving operation). If operating with the pushing speed below the min. speed, please check for operating problems before using the product.

<Set Values for Vertical Upward Transfer Pushing Operations>

For vertical loads (upward), set the pushing force to the max. value shown below and operate at the work load or less.

Model	LEY16□			LEY25□			LEY32□			LEY40□			LEY16□A			LEY25□A		
Lead	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Work load [kg]	1	1.5	3	2.5	5	10	4.5	9	18	7	14	28	1	1.5	3	1.2	2.5	5
Pushing force	85%			65%			85%			65%			95%			95%		

Model Selection

Size 25, 32, 63

LEY Series ▶p. 333, 343 LECY□ Series ▶p. 351
LEY-X5 Series ▶p. 619 25A-LEY Series ▶p. 677

Selection Procedure

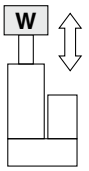
Positioning Control Selection Procedure

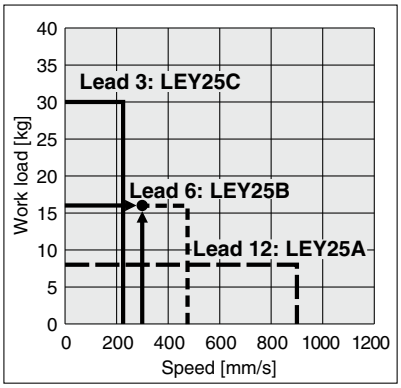
Step 1 Check the work load–speed. (Vertical transfer) → **Step 2** Check the cycle time.

Selection Example

Operating conditions

- Workpiece mass: 16 [kg]
- Speed: 300 [mm/s]
- Acceleration/Deceleration: 5000 [mm/s²]
- Stroke: 300 [mm]
- Workpiece mounting condition: Vertical upward downward transfer





<Speed–Vertical work load graph> (LEY25)

Step 1 **Check the work load–speed. <Speed–Vertical work load graph>**

Select a model based on the workpiece mass and speed while referencing the speed–vertical work load graph.

Selection example) The **LEY25B** can be temporarily selected as a possible candidate based on the graph shown on the right side.

* It is necessary to mount a guide outside the actuator when used for horizontal transfer. When selecting the target model, refer to the horizontal work load in the specifications on pages 335, 336, 344, and 621 and the precautions.

The regeneration option may be necessary. Refer to pages 307 and 308 for the "Required Conditions for Regeneration Option."

Step 2 **Check the cycle time.**

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

Cycle time:

T can be found from the following equation.

$$T = T1 + T2 + T3 + T4 \text{ [s]}$$

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

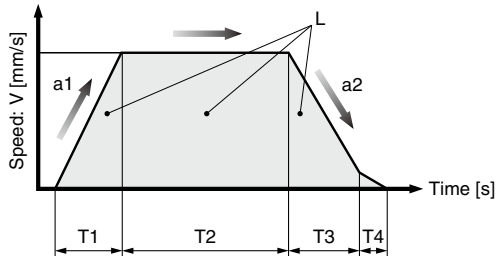
$$T1 = V/a1 \text{ [s]} \qquad T3 = V/a2 \text{ [s]}$$

- 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 motor type and load. The value below is recommended.

$$T4 = 0.05 \text{ [s]}$$



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

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

$T1 = V/a1 = 300/5000 = 0.06$ [s], $T3 = V/a2 = 300/5000 = 0.06$ [s]

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{300 - 0.5 \cdot 300 \cdot (0.06 + 0.06)}{300} = 0.94 \text{ [s]}$$

$T4 = 0.05$ [s]

The cycle time can be found as follows.
$T = T1 + T2 + T3 + T4 = 0.06 + 0.94 + 0.06 + 0.05 =$ **1.11 [s]**

Based on the above calculation result, the LEY25S2B-300 should be selected.

Selection Procedure

Force Control Selection Procedure

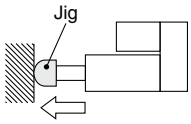
Step 1 Check the duty ratio. → **Step 2** Check the force. → **Step 3** Check the lateral load on the rod end.

∗ The duty ratio is a ratio of the operation time in one cycle.

Selection Example

Operating conditions

- Mounting condition: Horizontal (pushing)
- Jig weight: 0.5 [kg]
- Force: 255 [N]
- Duty ratio: 60 [%]
- Speed: 100 [mm/s]
- Stroke: 300 [mm]



Step 1 **Check the duty ratio.**

<Conversion table of force–duty ratio>

Select the [Force] from the duty ratio while referencing the conversion table of force–duty ratio.

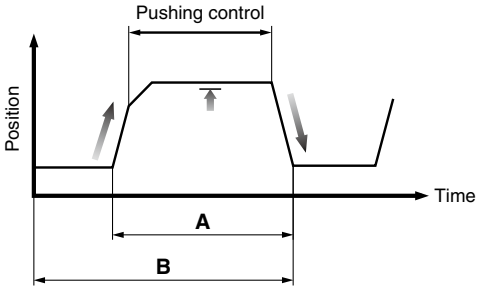
Selection example)
Based on the table below,
- Duty ratio: 60 [%]

Torque limit/Command value will be 30 [%].

<Conversion table of force–duty ratio>
(LEY25/AC Servo motor)

Torque limit/ Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

∗ [Torque limit/Command value [%]] is the set value for the driver.
∗ [Continuous pushing time] is the time that the actuator can continuously keep pushing.



Duty ratio = A/B x 100 [%]

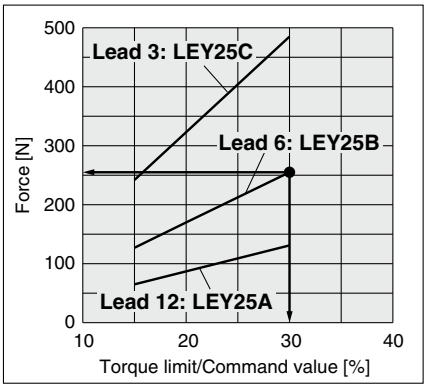
Step 2 **Check the force.**

<Force conversion graph>

Select a model based on the torque limit/command value and pushing force while referencing the force conversion graph.

Selection example)
Based on the graph shown on the right side,
- Torque limit/Command value: 30 [%]
- Force: 255 [N]

The **LEY25B** can be temporarily selected as a possible candidate.



<Force conversion graph>
(LEY25)

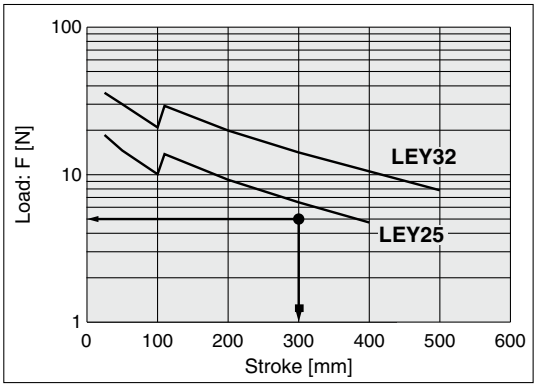
Step 3 **Check the lateral load on the rod end.**

<Graph of allowable lateral load on the rod end>

Confirm the allowable lateral load on the rod end of the actuator: LEY25B, which has been selected temporarily while referencing the graph of allowable lateral load on the rod end.

Selection example)
Based on the graph shown on the right side,
- Jig weight: 0.5 [kg] ≈ 5 [N]
- Product stroke: 300 [mm]

The lateral load on the rod end is in the allowable range.

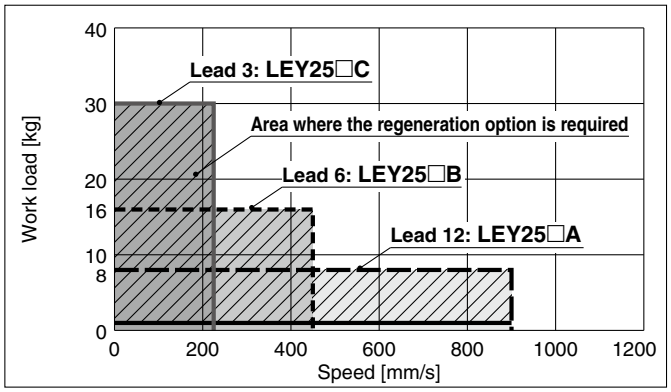


<Graph of allowable lateral load on the rod end>

Based on the above calculation result, the LEY25S2B-300 should be selected.

Speed–Vertical Work Load Graph/Required Conditions for "Regeneration Option"

LEY25□S$^{2}_{6}$/T6 (Motor mounting position: Top/Parallel, In-line)



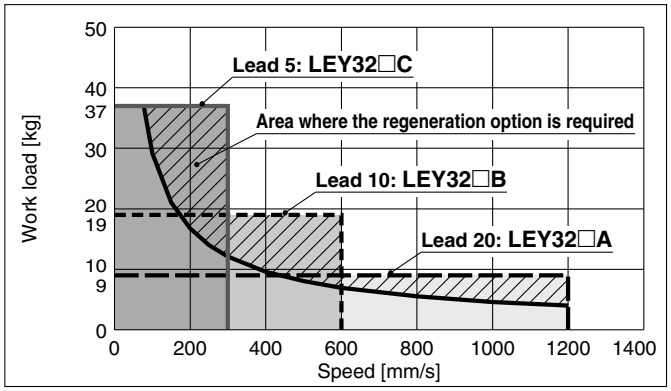
Required conditions for "Regeneration option"

∗ Regeneration option is required when using the product above the regeneration line in the graph. (It must be ordered separately.)

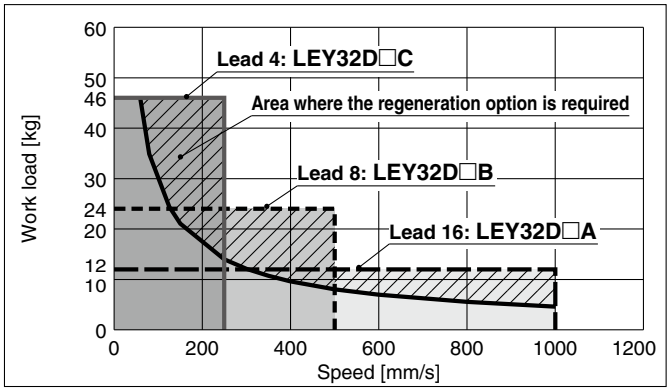
"Regeneration Option" Models

Size	Model
LEY25□	LEC-MR-RB-032
LEY32□	LEC-MR-RB-032
LEY63□	LEC-MR-RB-12

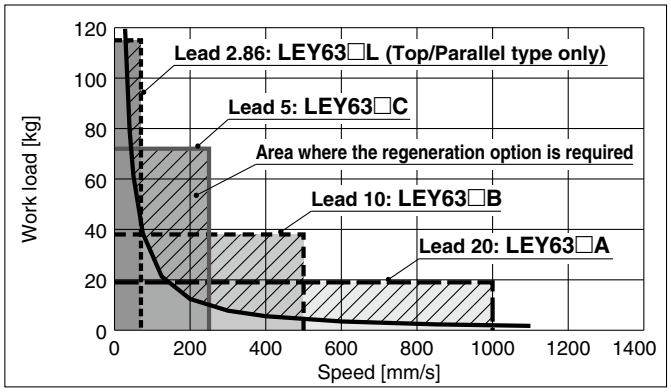
LEY32□S$^{3}_{7}$/T7 (Motor mounting position: Top/Parallel)



LEY32DS$^{3}_{7}$/T7 (Motor mounting position: In-line)

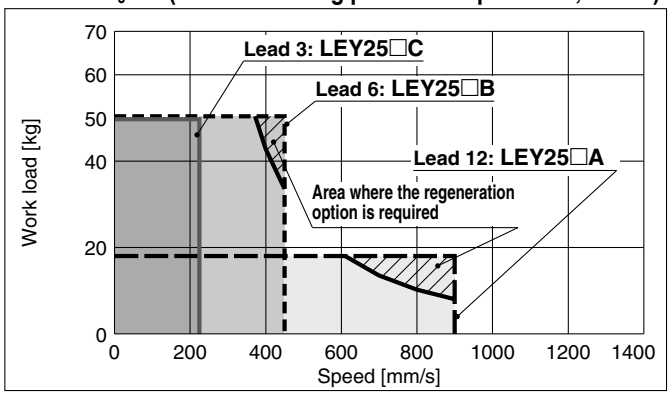


LEY63□S$^{4}_{8}$/T8 (Motor mounting position: Top/Parallel, In-line)



Speed–Horizontal Work Load Graph/Required Conditions for "Regeneration Option"

LEY25□S$^{2}_{6}$/T6 (Motor mounting position: Top/Parallel, In-line)



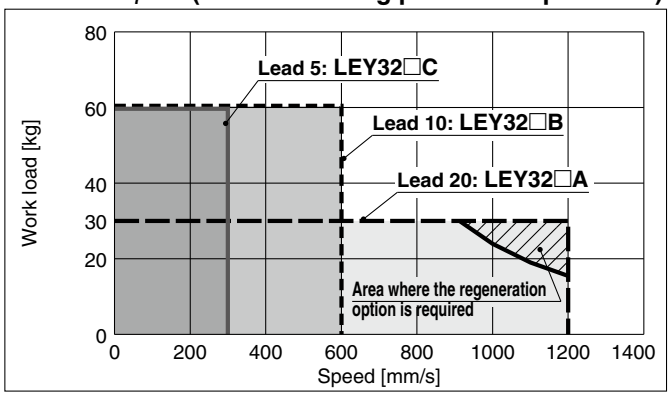
Required conditions for "Regeneration option"

∗ Regeneration option is required when using the product above the regeneration line in the graph. (It must be ordered separately.)

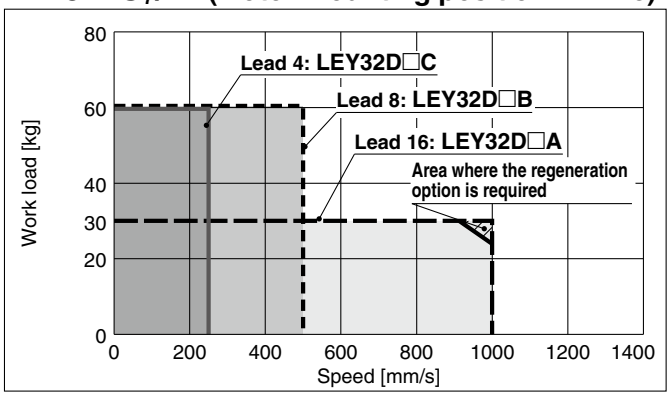
"Regeneration Option" Models

Size	Model
LEY25□	LEC-MR-RB-032
LEY32□	LEC-MR-RB-032
LEY63□	—

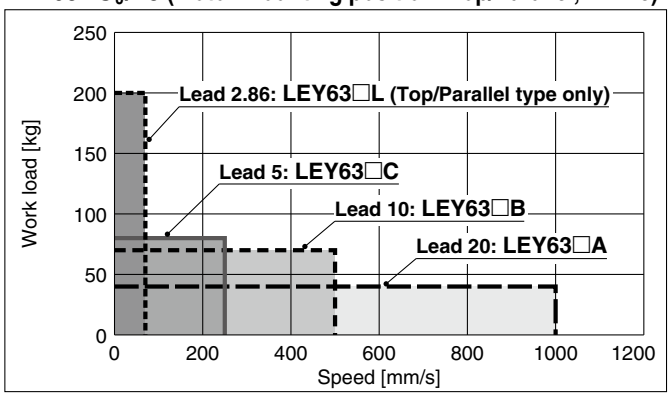
LEY32□S$^{3}_{7}$/T7 (Motor mounting position: Top/Parallel)



LEY32DS$^{3}_{7}$/T7 (Motor mounting position: In-line)



LEY63□S$^{4}_{8}$/T8 (Motor mounting position: Top/Parallel, In-line)



Allowable Stroke Speed

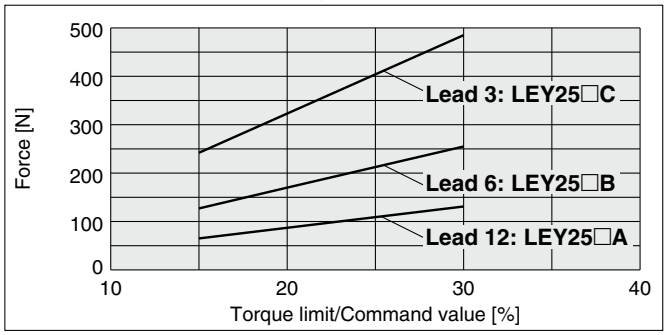
[mm/s]

Model	AC servo motor	Lead		Stroke [mm]													
		Symbol	[mm]	30	50	100	150	200	250	300	350	400	450	500	600	700	800
LEY25□S$^{2}_{6}$/T6 Motor mounting position: Top/Parallel, In-line	100 W /□40	**A**	12	900							600		—	—	—		
		B	6	450							300		—	—	—		
		C	3	225							150		—	—	—		
		(Motor rotation speed)		(4500 rpm)							(3000 rpm)		—	—	—		
LEY32□S$^{3}_{7}$/T7 Motor mounting position: Top/Parallel	200 W /□60	**A**	20	1200									800		—		
		B	10	600									400		—		
		C	5	300									200		—		
		(Motor rotation speed)		(3600 rpm)									(2400 rpm)		—		
LEY32DS$^{3}_{7}$/T7 Motor mounting position: In-line	200 W /□60	**A**	16	1000									640		—		
		B	8	500									320		—		
		C	4	250									160		—		
		(Motor rotation speed)		(3750 rpm)									(2400 rpm)		—		
LEY63□S$^{4}_{8}$/T8 Motor mounting position: Top/Parallel, In-line	400 W /□60	**A**	20	1000											800	600	500
		B	10	500											400	300	250
		C	5	250											200	150	125
		(Motor rotation speed)		(3000 rpm)											(2400 rpm)	(1800 rpm)	(1500 rpm)
		L∗1	2.86	70													
		(Motor rotation speed)		(1470 rpm)													

∗1 Top/Parallel type only

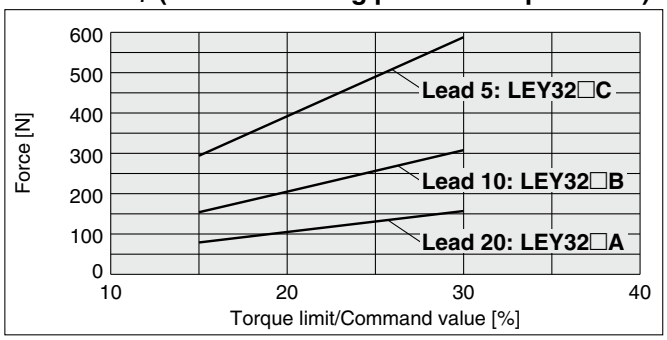
Force Conversion Graph (Guide)
For LECSA, LECSB, LECSC, LECSS

LEY25□S$^{2}_{6}$ (Motor mounting position: Top/Parallel, In-line)



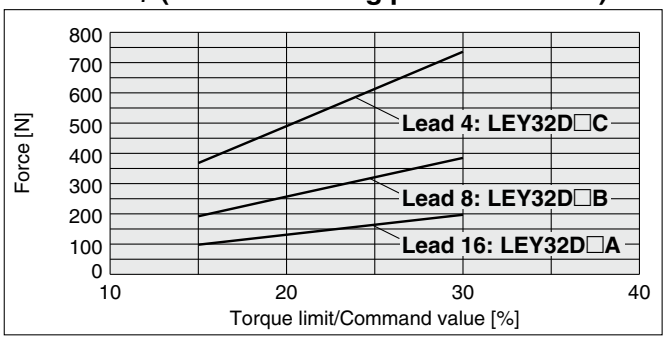
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

LEY32□S$^{3}_{7}$ (Motor mounting position: Top/Parallel)



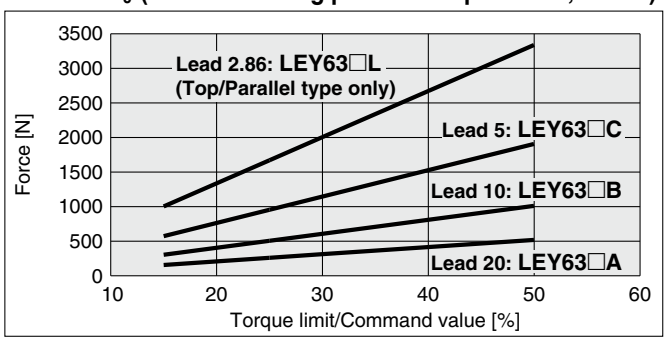
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

LEY32DS$^{3}_{7}$ (Motor mounting position: In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

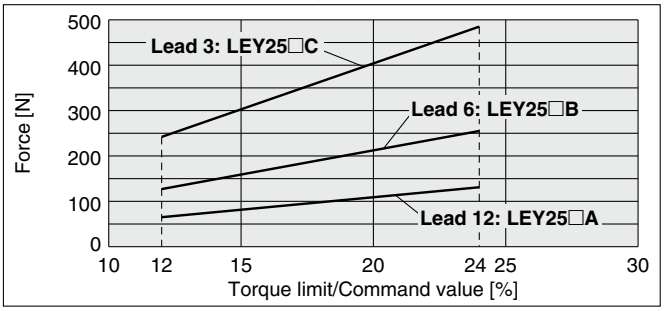
LEY63□S$^{4}_{8}$ (Motor mounting position: Top/Parallel, In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5
40	30	0.5
50	20	0.16

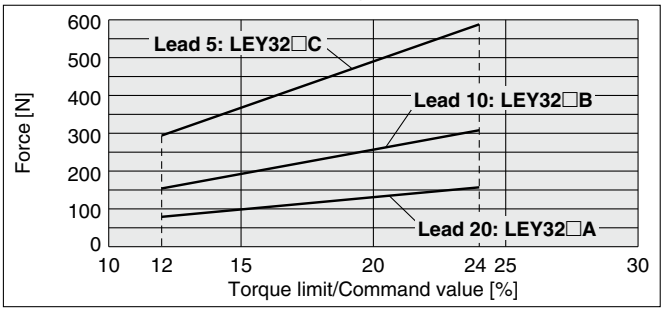
Force Conversion Graph (Guide)
For LECSS-T

LEY25□T6 (Motor mounting position: Top/Parallel, In-line)



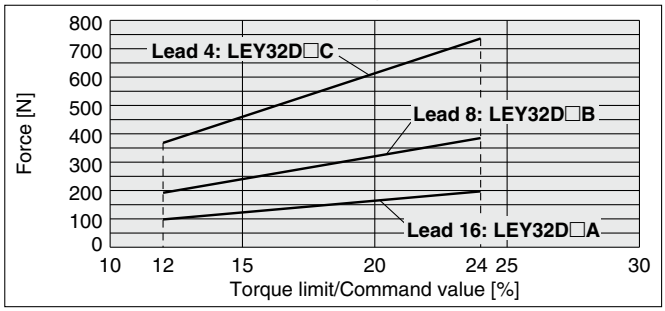
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5

LEY32□T7 (Motor mounting position: Top/Parallel)



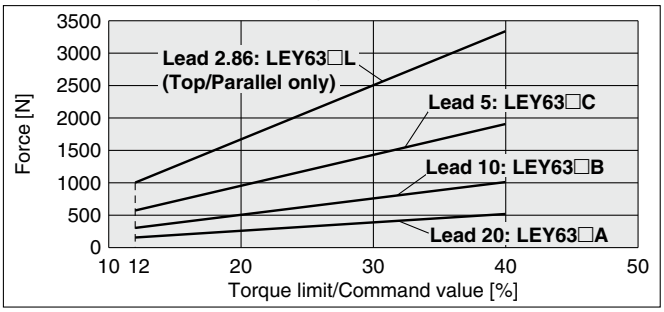
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5

LEY32DT7 (Motor mounting position: In-line)



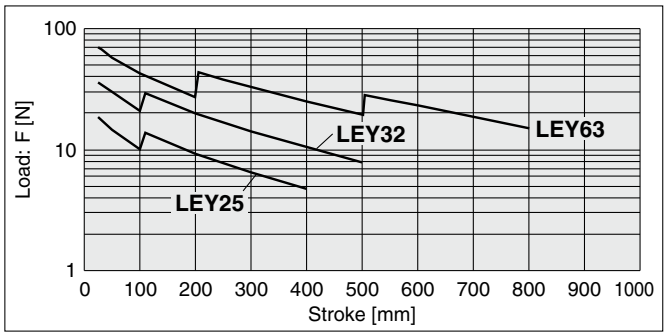
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5

LEY63□T8 (Motor mounting position: Top/Parallel, In-line)

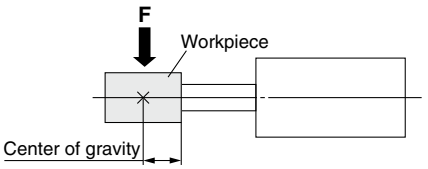


Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5
32	30	0.5
40	20	0.16

Graph of Allowable Lateral Load on the Rod End (Guide)



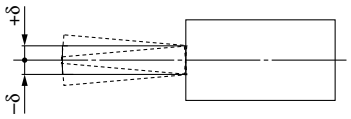
[Stroke] = [Product stroke] + [Distance from the rod end to the center of gravity of the workpiece]



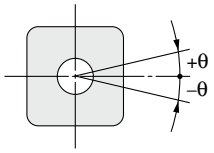
Rod Displacement (Reference Value): δ [mm]

Size \ Stroke	30	50	100	150	200	250	300	350	400	450	500	600	700	800
25	±0.3	±0.4	±0.7	±0.7	±0.9	±1.1	±1.3	±1.5	±1.7	—	—	—	—	—
32	±0.3	±0.4	±0.7	±0.6	±0.8	±1.0	±1.1	±1.3	±1.5	±1.7	±1.8	—	—	—
63	—	±0.5	±0.7	±0.9	±1.2	±1.1	±1.3	±1.5	±1.7	±1.9	±2.1	±1.7	±2.0	±2.2

∗ The values without a load are shown.



Non-rotating Accuracy of Rod



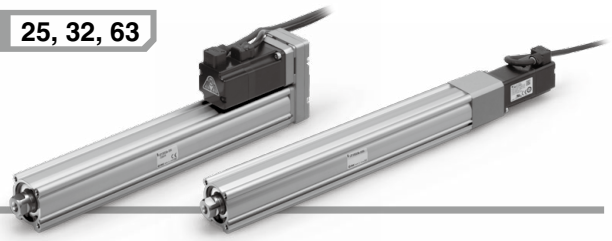
Size	Non-rotating accuracy θ
25	±0.8°
32	±0.7°
63	±0.6°

∗ Avoid using the electric actuator in such a way that rotational torque would be applied to the piston rod.
Failure to do so may result in the deformation of the non-rotating guide, abnormal auto switch responses, play in the internal guide, or an increase in the sliding resistance.

Model Selection

Size **25, 32, 63**

LEY Series ▶p. **351** **LECS□ Series** ▶p. **333, 343**
LEY-X5 Series ▶p. **625** **25A-LEY Series** ▶p. **679**



Selection Procedure

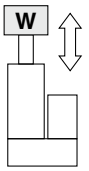
Positioning Control Selection Procedure

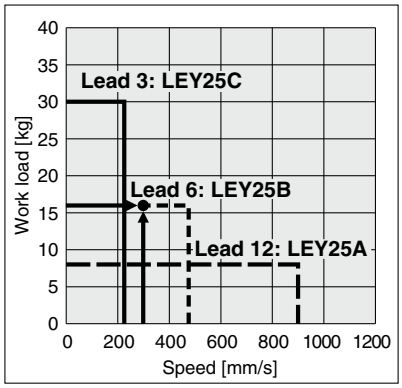
Step 1 **Check the work load–speed. (Vertical transfer)** → **Step 2** **Check the cycle time.**

Selection Example

Operating conditions

- Workpiece mass: 16 [kg]
- Speed: 300 [mm/s]
- Acceleration/Deceleration: 5000 [mm/s²]
- Stroke: 300 [mm]
- Workpiece mounting condition: Vertical upward downward transfer





<Speed–Vertical work load graph> (LEY25)

Step 1 **Check the work load–speed. <Speed–Vertical work load graph>**

Select a model based on the workpiece mass and speed while referencing the speed–vertical work load graph.

Selection example) The **LEY25B** can be temporarily selected as a possible candidate based on the graph shown on the right side.

* It is necessary to mount a guide outside the actuator when used for horizontal transfer. When selecting the target model, refer to the horizontal work load in the specifications on pages 353 and 354 and the precautions.

The regenerative resistor may be necessary. Refer to pages 314 and 315 for the "Conditions for Regenerative Resistor (Guide)."

Step 2 **Check the cycle time.**

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

Cycle time:

T can be found from the following equation.

$$T = T1 + T2 + T3 + T4 \text{ [s]}$$

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

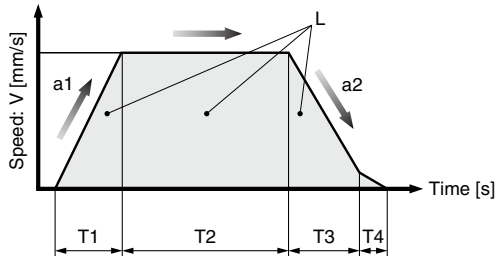
$$T1 = V/a1 \text{ [s]} \qquad T3 = V/a2 \text{ [s]}$$

- 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 motor type and load. The value below is recommended.

$$T4 = 0.05 \text{ [s]}$$



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

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

$$T1 = V/a1 = 300/5000 = 0.06 \text{ [s]}, \quad T3 = V/a2 = 300/5000 = 0.06 \text{ [s]}$$

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{300 - 0.5 \cdot 300 \cdot (0.06 + 0.06)}{300} = 0.94 \text{ [s]}$$

$$T4 = 0.05 \text{ [s]}$$

The cycle time can be found as follows.
$T = T1 + T2 + T3 + T4 = 0.06 + 0.94 + 0.06 + 0.05 =$ **1.11 [s]**

Based on the above calculation result, the LEY25V6B-300 should be selected.

Selection Procedure

Pushing Control Selection Procedure

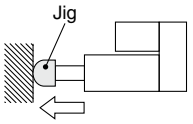
Step 1 Check the duty ratio. → **Step 2** Check the force. → **Step 3** Check the lateral load on the rod end.

∗ The duty ratio is a ratio of the operation time in one cycle.

Selection Example

Operating conditions

- Mounting condition: Horizontal (pushing)
- Jig weight: 0.5 [kg]
- Force: 255 [N]
- Duty ratio: 60 [%]
- Pushing speed: 35 [mm/s]
- Stroke: 300 [mm]



Step 1 **Check the duty ratio.**

<Conversion table of pushing force–duty ratio>

Select the [Pushing force] from the duty ratio while referencing the conversion table of pushing force–duty ratio.

Selection example)
Based on the table below,
- Duty ratio: 60 [%]

Torque limit/command value will be 90 [%].

<Conversion table of pushing force–duty ratio>
(LEY25/AC Servo motor)

Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

∗ [Pushing force set value] is one of the data input to the driver.
∗ [Continuous pushing time] is the time that the actuator can continuously keep pushing.

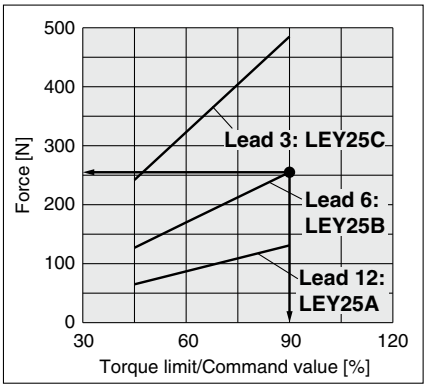
Step 2 **Check the pushing force.**

<Force conversion graph>

Select a model based on the torque limit/command value and pushing force while referencing the force conversion graph.

Selection example)
Based on the graph shown on the right side,
- Torque limit/Command value: 90 [%]
- Pushing force: 255 [N]

The **LEY25B** can be temporarily selected as a possible candidate.



<Force conversion graph>
(LEY25)

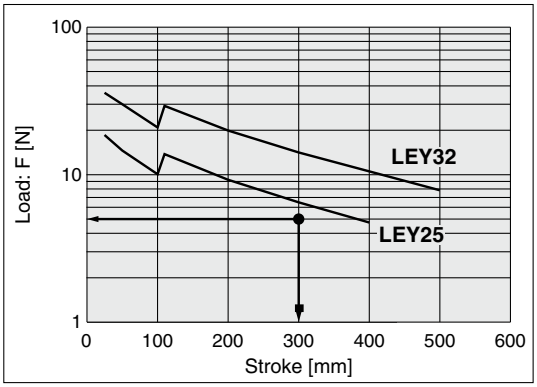
Step 3 **Check the lateral load on the rod end.**

<Graph of allowable lateral load on the rod end>

Confirm the allowable lateral load on the rod end of the actuator: LEY25B, which has been selected temporarily while referencing the graph of allowable lateral load on the rod end.

Selection example)
Based on the graph shown on the right side,
- Jig weight: 0.5 [kg] ≈ 5 [N]
- Product stroke: 300 [mm]

The lateral load on the rod end is in the allowable range.



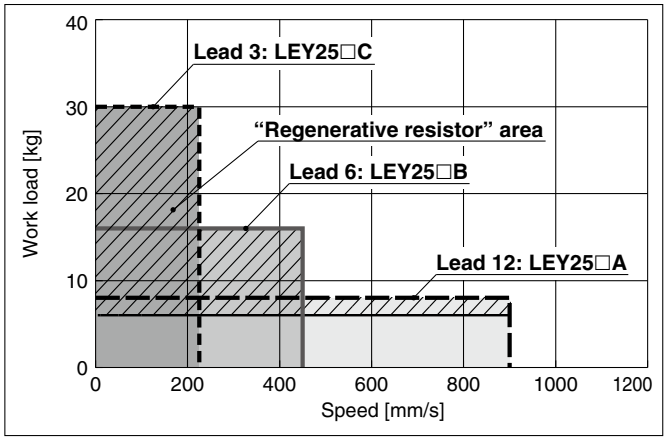
<Graph of allowable lateral load on the rod end>

Based on the above calculation result, the LEY25V6B-300 should be selected.

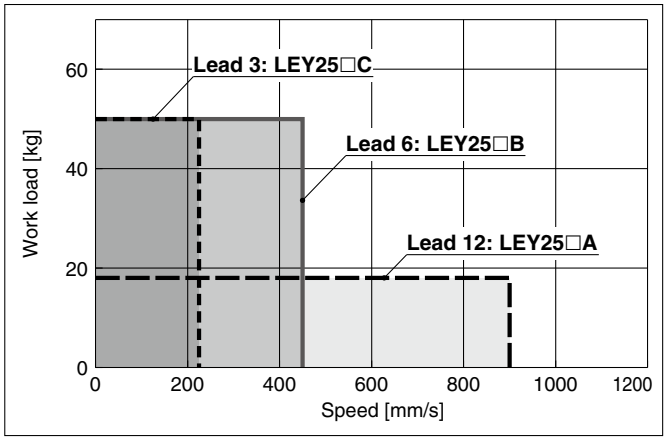
Speed–Work Load Graph/Conditions for "Regenerative Resistor" (Guide)

LEY25□V6 (Motor mounting position: Top/Parallel, In-line)

Vertical

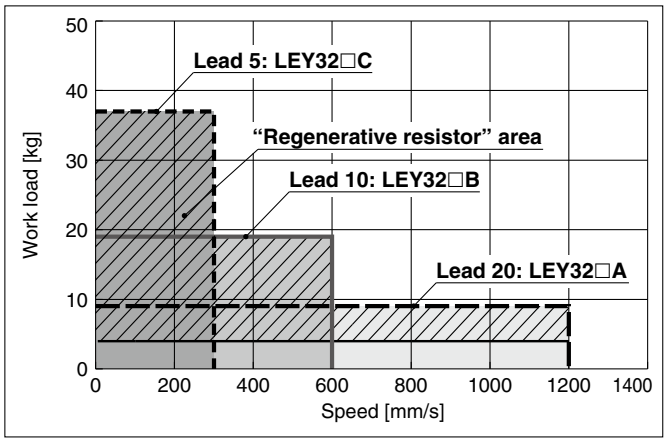


Horizontal

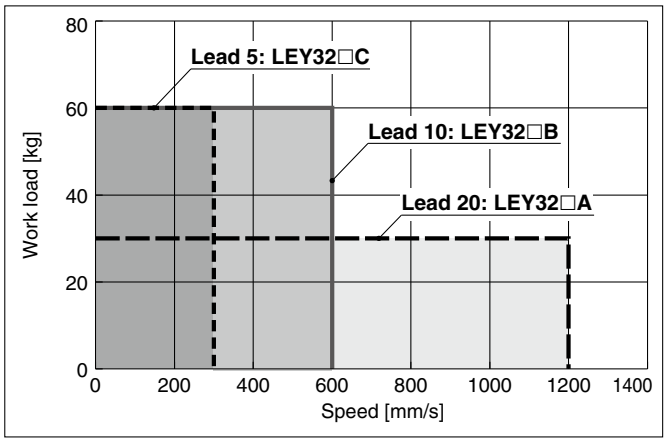


LEY32□V7 (Motor mounting position: Top/Parallel)

Vertical

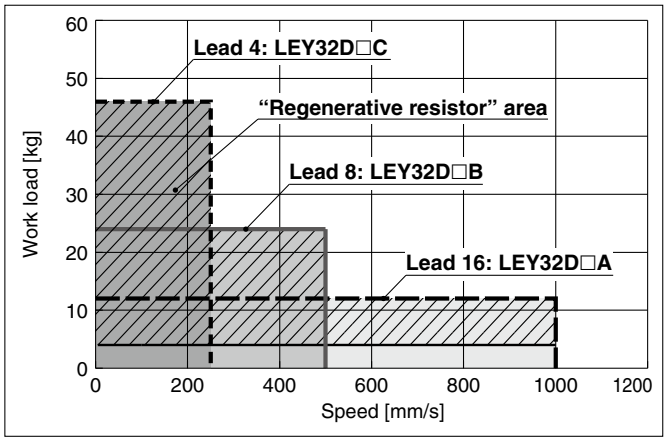


Horizontal

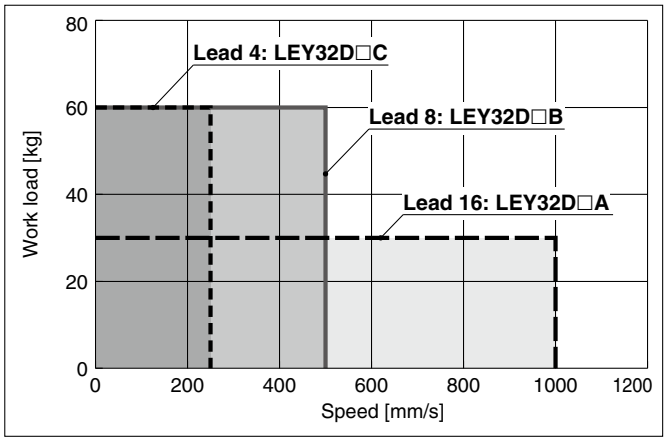


LEY32DV7 (Motor mounting position: In-line)

Vertical



Horizontal



"Regenerative resistor" area

* When using the actuator in the "Regenerative resistor" area, download the "AC servo drive capacity selection program/SigmaJunmaSize+" from the SMC website. Then, calculate the necessary regenerative resistor capacity to prepare an appropriate external regenerative resistor.
* Regenerative resistor should be provided by the customer.

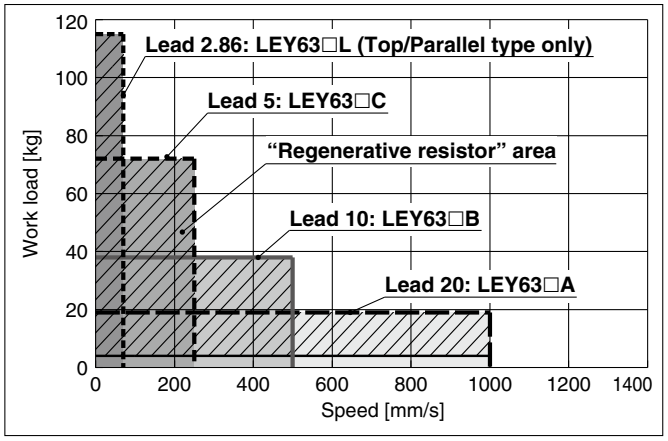
Applicable Motors/Drivers

Model	Applicable model	
	Motor	Servopack (SMC driver)
LEY25□	SGMJV-01A3A	SGDV-R90A11□ (LECYM2-V5) SGDV-R90A21□ (LECYU2-V5)
LEY32□	SGMJV-02A3A	SGDV-1R6A11□ (LECYM2-V7) SGDV-1R6A21□ (LECYU2-V7)

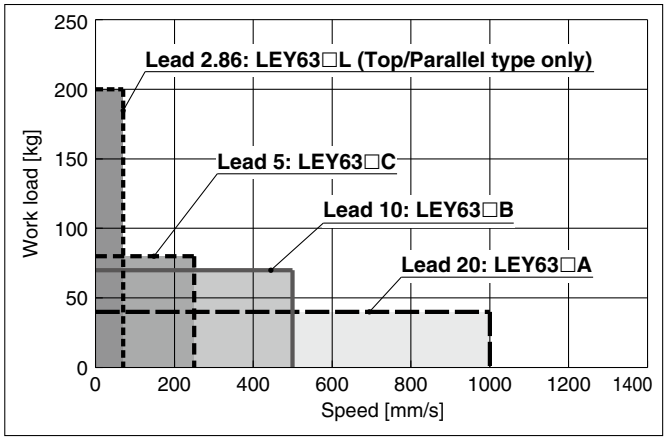
Speed–Work Load Graph/Conditions for "Regenerative Resistor" (Guide)

LEY63□V8 (Motor mounting position: Top/Parallel, In-line)

Vertical



Horizontal



"Regenerative resistor" area

* When using the actuator in the "Regenerative resistor" area, download the "AC servo drive capacity selection program/SigmaJunmaSize+" from the SMC website. Then, calculate the necessary regenerative resistor capacity to prepare an appropriate external regenerative resistor.
* Regenerative resistor should be provided by the customer.

Applicable Motors/Drivers

Product no.	Applicable model	
	Motor	Servopack (SMC driver)
LEY63□	SGMJV-04A3A	SGDV-2R8A11□ (LECYM2-V8) SGDV-2R8A21□ (LECYU2-V8)

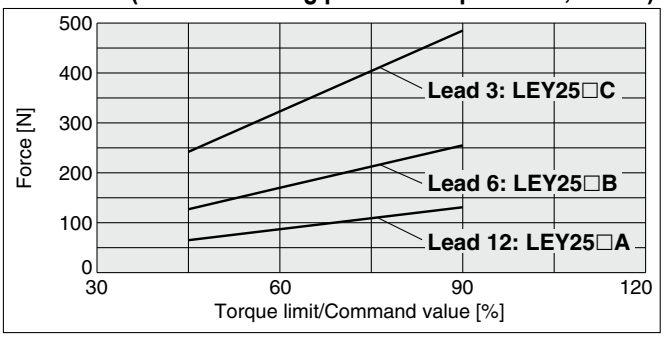
Allowable Stroke Speed

[mm/s]

Model	AC servo motor	Lead		Stroke [mm]												
		Symbol	[mm]	Up to 30	Up to 50	Up to 100	Up to 150	Up to 200	Up to 250	Up to 300	Up to 350	Up to 400	Up to 450	Up to 500	Up to 600	Up to 700	Up to 800
LEY25□V6 (Motor mounting position: Top/Parallel, In-line)	100 W /□40	**A**	12	900							600		—	—	—	—	—
		B	6	450							300		—	—	—	—	—
		C	3	225							150		—	—	—	—	—
		(Motor rotation speed)		(4500 rpm)							(3000 rpm)		—	—	—	—	—
LEY32□V7 (Motor mounting position: Top/Parallel)	200 W /□60	**A**	20	1200									800		—	—	—
		B	10	600									400		—	—	—
		C	5	300									200		—	—	—
		(Motor rotation speed)		(3600 rpm)									(2400 rpm)		—	—	—
LEY32DV7 (Motor mounting position: In-line)	200 W /□60	**A**	16	1000									640		—	—	—
		B	8	500									320		—	—	—
		C	4	250									160		—	—	—
		(Motor rotation speed)		(3750 rpm)									(2400 rpm)		—	—	—
LEY63□V8 (Motor mounting position: Top/Parallel, In-line)	400 W /□60	**A**	20	—	1000										800	600	500
		B	10	—	500										400	300	250
		C	5	—	250										200	150	125
		(Motor rotation speed)		—	(3000 rpm)										(2400 rpm)	(1800 rpm)	(1500 rpm)
		L	2.86	—	70												
		(Motor rotation speed)		—	(1470 rpm)												

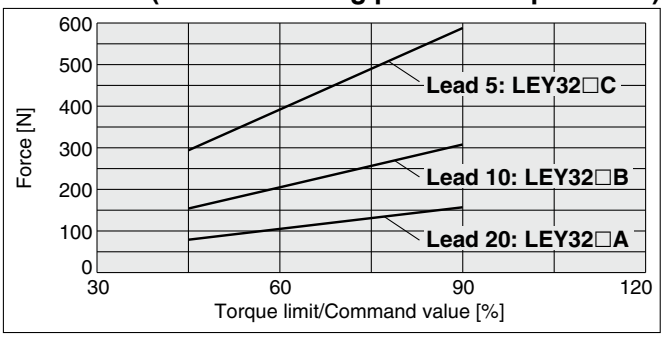
Force Conversion Graph (Guide)

LEY25□V6 (Motor mounting position: Top/Parallel, In-line)



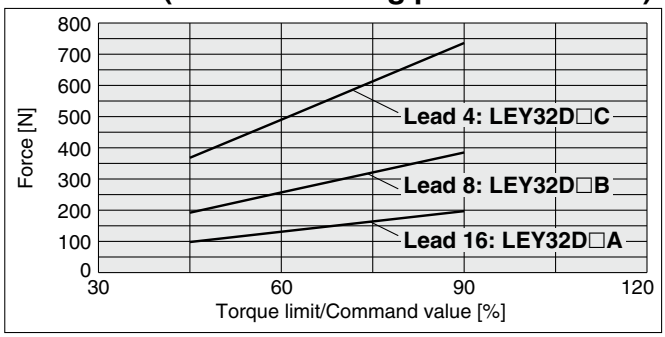
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

LEY32□V7 (Motor mounting position: Top/Parallel)



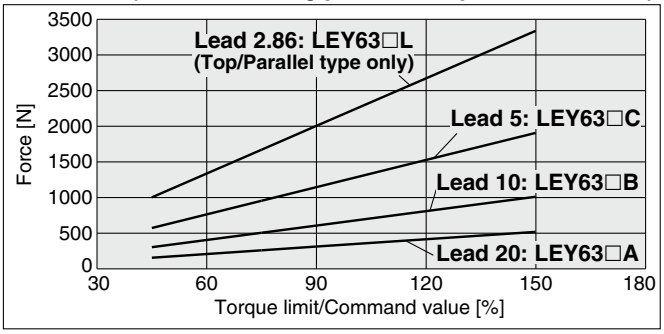
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

LEY32DV7 (Motor mounting position: In-line)



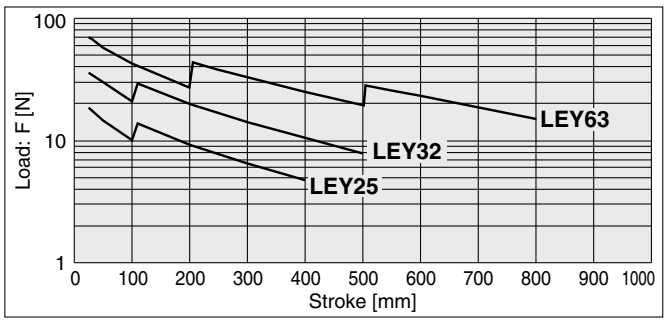
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

LEY63□V8 (Motor mounting position: Top/Parallel, In-line)

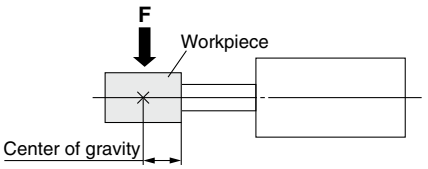


Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5
120	30	0.5
150	20	0.16

Graph of Allowable Lateral Load on the Rod End (Guide)



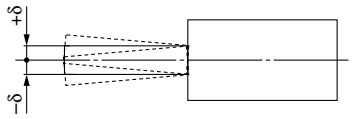
[Stroke] = [Product stroke] + [Distance from the rod end to the center of gravity of the workpiece]



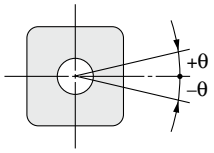
Rod Displacement (Reference Value): δ [mm]

Size \ Stroke	30	50	100	150	200	250	300	350	400	450	500	600	700	800
25	±0.3	±0.4	±0.7	±0.7	±0.9	±1.1	±1.3	±1.5	±1.7	—	—	—	—	—
32	±0.3	±0.4	±0.7	±0.6	±0.8	±1.0	±1.1	±1.3	±1.5	±1.7	±1.8	—	—	—
63	—	±0.5	±0.7	±0.9	±1.2	±1.1	±1.3	±1.5	±1.7	±1.9	±2.1	±1.7	±2.0	±2.2

∗ The values without a load are shown.



Non-rotating Accuracy of Rod



Size	Non-rotating accuracy θ
25	±0.8°
32	±0.7°
63	±0.6°

∗ Avoid using the electric actuator in such a way that rotational torque would be applied to the piston rod.
Failure to do so may result in the deformation of the non-rotating guide, abnormal auto switch responses, play in the internal guide, or an increase in the sliding resistance.

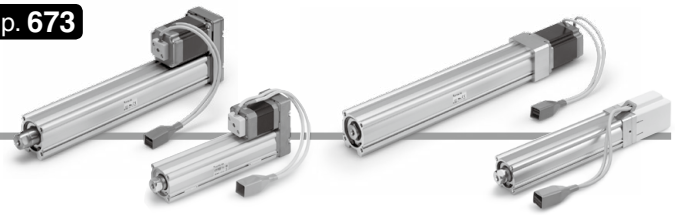
Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

Electric Actuator Rod Type

LEY Series LEY16, 25, 32, 40

RoHS

Dust-tight/Water-jet-proof ▸p. 611 Secondary Battery Compatible ▸p. 673



Motor mounting position: Top/Parallel Motor mounting position: In-line

How to Order

LEY 16 ❶ ❷ ❸ B ❹ – 30 ❺ ❻ ❼ ❽ – S1 ❾

JXC□ Series CD17T

LEC□ Series AN ❿ 1 ⓫ ⓬

For details on controllers, refer to page 320.

❶ Size

16
25
32
40

❷ Motor mounting position

Nil	Top mounting
R	Right side parallel
L	Left side parallel
D	In-line

❸ Motor type

Symbol	Type	Applicable size			Compatible controllers/drivers
		LEY16	LEY25	LEY32/40	
Nil	Step motor (Servo/24 VDC)	●	●	●	JXCE1 JXC91 JXCP1 JXCD1 LECP1 JXCL1 LECPA JXCM1 JXC51 JXC61
A	Servo motor (24 VDC)	●	●	—	LECA6

❹ Lead [mm]

Symbol	LEY16	LEY25	LEY32/40
A	10	12	16
B	5	6	8
C	2.5	3	4

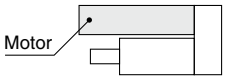
❺ Stroke [mm]

30	30
to	to
500	500

∗ For details, refer to the applicable stroke table below.

❻ Motor option*2

Nil	Without option
C	With motor cover
B	With lock
W	With lock/motor cover



❼ Rod end thread

Nil	Rod end female thread
M	Rod end male thread (1 rod end nut is included.)

❽ Mounting*3

Symbol	Type	Motor mounting position	
		Top/Parallel	In-line
Nil	Ends tapped/Body bottom tapped*4	●	●
L	Foot	●	—
F	Rod flange*4	●*6	●
G	Head flange*4	●*7	—
D	Double clevis*5	●	—

❾ Actuator cable type/length*9

Standard cable [m]	
Nil	None
S1	1.5*11
S3	3*11
S5	5*11

Robotic cable			[m]
R1	1.5	RA	10*8
R3	3	RB	15*8
R5	5	RC	20*8
R8	8*8		

Applicable Stroke Table*1

●: Standard

Model \ Stroke [mm]	30	50	100	150	200	250	300	350	400	450	500	Manufacturable stroke range
LEY16	●	●	●	●	●	●	●	—	—	—	—	10 to 300
LEY25	●	●	●	●	●	●	●	●	●	—	—	15 to 400
LEY32/40	●	●	●	●	●	●	●	●	●	●	●	20 to 500

For auto switches, refer to pages 363 to 365.

SMC

JXC□ Series (For details, refer to page 321.)

⑩ Controller

Nil	Without controller
C□1□□	With controller

C D 1 7 T

Interface
(Communication protocol/Input/Output)

E	EtherCAT®	**L**	IO-Link
9	EtherNet/IP™	**M**	CC-Link Ver 1.10
P	PROFINET	**5**	Parallel input (NPN)
D	DeviceNet™	**6**	Parallel input (PNP)

For single axis

Mounting

7	Screw mounting
8∗15	DIN rail

Communication plug connector I/O cable∗16

Symbol	Type	Applicable interface
Nil	Without accessory	—
S	Straight type communication plug connector	DeviceNet™ CC-Link Ver 1.10
T	T-branch type communication plug connector	
1	I/O cable (1.5 m)	Parallel input (NPN) Parallel input (PNP)
3	I/O cable (3 m)	
5	I/O cable (5 m)	

LEC□ Series (For details, refer to page 321.)

AN 1 □
⑩ ⑪ ⑫

⑩ Controller/Driver type∗10

Nil	Without controller/driver	
6N	**LECA6** (Step data input type)	NPN
6P		PNP
1N	**LECP1**∗11 (Programless type)	NPN
1P		PNP
AN	**LECPA**∗11 ∗12 (Pulse input type)	NPN
AP		PNP

⑪ I/O cable length∗13

Nil	Without cable (Without communication plug connector)
1	1.5 m
3	3 m∗14
5	5 m∗14

⑫ Controller/Driver mounting

Nil	Screw mounting
D	DIN rail∗15

∗1 Please consult with SMC for non-standard strokes as they are produced as special orders.
∗2 When "With lock" or "With lock/motor cover" is selected for the top mounting and right/left side parallel types, the motor body will stick out from the end of the body for size 16/40 with strokes of 30 mm or less. Check for interference with workpieces before selecting a model.
∗3 The mounting bracket is shipped together with the product but does not come assembled.
∗4 For the horizontal cantilever mounting of the rod flange, head flange, or ends tapped types, use the actuator within the following stroke range.
·LEY25: 200 mm or less ·LEY32/40: 100 mm or less
∗5 For the mounting of the double clevis type, use the actuator within the following stroke range.
·LEY16: 100 mm or less ·LEY25: 200 mm or less ·LEY32/40: 200 mm or less
∗6 The rod flange type is not available for the LEY16/40 with a 30 mm stroke and motor option "With lock," "With lock/motor cover."
∗7 The head flange type is not available for the LEY32/40.
∗8 Produced upon receipt of order (Robotic cable only)
∗9 The standard cable should only be used on fixed parts.
For use on moving parts, select the robotic cable.
Refer to pages 758 and 759 if only the actuator cable is required.
∗10 For details on controllers/drivers and compatible motors, refer to the compatible controllers/drivers on the next page.
∗11 Only available for the motor type "Step motor"
∗12 When pulse signals are open collector, order the current limiting resistor (LEC-PA-R-□) on page 736 separately.
∗13 When "Without controller/driver" is selected for controller/driver types, I/O cable cannot be selected. Refer to page 713 (For LECA6), page 724 (For LECP1), or page 736 (For LECPA) if I/O cable is required.
∗14 When "Pulse input type" is selected for controller/driver types, pulse input usable only with differential. Only 1.5 m cables usable with open collector
∗15 The DIN rail is not included. It must be ordered separately.
∗16 Select "Nil" for anything other than DeviceNet™, CC-Link, or parallel input.
Select "Nil," "S," or "T" for DeviceNet™ or CC-Link.
Select "Nil," "1," "3," or "5" for parallel input.

⚠Caution

[CE-compliant products]

① EMC compliance was tested by combining the electric actuator LEY series and the controller LEC/JXC series.
The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore, compliance with 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 compliance with the EMC directive for the machinery and equipment as a whole.

② For the servo motor (24 VDC) specification, EMC compliance was tested by installing a noise filter set (LEC-NFA). Refer to page 713 for the noise filter set. Refer to the LECA series Operation Manual for installation.

[UL-compliant products (For the LEC series)]

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

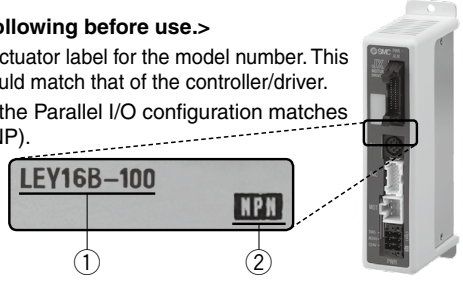
The actuator and controller/driver are sold as a package.

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

<Check the following before use.>

① Check the actuator label for the model number. This number should match that of the controller/driver.

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



∗ Refer to the Operation Manual for using the products. Please download it via our website: https://www.smcworld.com

Compatible Controllers/Drivers

Type	EtherCAT® direct input type 	EtherNet/IP™ direct input type 	PROFINET direct input type 	DeviceNet™ direct input type 	IO-Link direct input type 	CC-Link direct input type 
Series	**JXCE1**	**JXC91**	**JXCP1**	**JXCD1**	**JXCL1**	**JXCM1**
Features	EtherCAT® direct input	EtherNet/IP™ direct input	PROFINET direct input	DeviceNet™ direct input	IO-Link direct input	CC-Link direct input
Compatible motor	Step motor (Servo/24 VDC)					
Max. number of step data	64 points					
Power supply voltage	24 VDC					
Reference page	741					

Type	Step data input type 	Step data input type 	Programless type 	Pulse input type 
Series	**JXC51 JXC61**	**LECA6**	**LECP1**	**LECPA**
Features	Parallel I/O	Value (Step data) input Standard controller	Capable of setting up operation (step data) without using a PC or teaching box	Operation by pulse signals
Compatible motor	Step motor (Servo/24 VDC)	Servo motor (24 VDC)	Step motor (Servo/24 VDC)	
Max. number of step data	64 points		14 points	—
Power supply voltage	24 VDC			
Reference page	706-1	707	719	731

Specifications

Step Motor (Servo/24 VDC)

Model				LEY16			LEY25			LEY32			LEY40		
Actuator specifications	Work load [kg]*1	Horizontal (JXC□1, LECP1)	(3000 [mm/s²])	6	17	30	20	40	60	30	45	60	50	60	80
			(2000 [mm/s²])	10	23	35	30	55	70	40	60	80	60	70	90
		Horizontal (LECPA, JXC□2/3)	(3000 [mm/s²])	4	11	20	12	30	30	20	40	40	30	60	60
			(2000 [mm/s²])	6	17	30	18	50	50	30	60	60	—	—	—
		Vertical	(3000 [mm/s²])	2	4	8	8	16	30	11	22	43	13	27	53
	Pushing force [N]*2 *3 *4			14 to 38	27 to 74	51 to 141	63 to 122	126 to 238	232 to 452	80 to 189	156 to 370	296 to 707	132 to 283	266 to 553	562 to 1058
	Speed [mm/s]*4	JXC□1/LECP1		15 to 500	8 to 250	4 to 125	18 to 500	9 to 250	5 to 125	24 to 500	12 to 300	6 to 150	24 to 500	12 to 350	6 to 175
		LECPA/JXC□2/3									12 to 250	6 to 125	24 to 300	12 to 150	6 to 75
	Max. acceleration/deceleration [mm/s²]			3000											
	Pushing speed [mm/s]*5			50 or less			35 or less			30 or less			30 or less		
	Positioning repeatability [mm]			±0.02											
	Lost motion [mm]*6			0.1 or less											
	Screw lead [mm]			10	5	2.5	12	6	3	16	8	4	16	8	4
	Impact/Vibration resistance [m/s²]*7			50/20											
	Actuation type			Ball screw + Belt (LEY□)/Ball screw (LEY□D)											
	Guide type			Sliding bushing (Piston rod)											
	Operating temperature range [°C]			5 to 40											
	Operating humidity range [%RH]			90 or less (No condensation)											
Electric specifications	Motor size			□28			□42			□56.4			□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]*8			23			40			50			50		
	Standby power consumption when operating [W]*9			16			15			48			48		
	Max. instantaneous power consumption [W]*10			43			48			104			106		
Lock unit specifications	Type*11			Non-magnetizing lock											
	Holding force [N]			20	39	78	78	157	294	108	216	421	127	265	519
	Power consumption [W]*12			2.9			5			5			5		
	Rated voltage [V]			24 VDC ±10%											

*1 Horizontal: The maximum value of the work load. An external guide is necessary to support the load (Friction coefficient of guide: 0.1 or less). The actual work load and transfer speed change according to the condition of the external guide. Also, speed changes according to the work load. Check the "Model Selection" on pages 301 and 302.
Vertical: Speed changes according to the work load. Check the "Model Selection" on pages 301 and 302.
The values shown in ( ) are the acceleration/deceleration.
Set these values to be 3000 [mm/s²] or less.

*2 Pushing force accuracy is ±20% (F.S.).

*3 The pushing force values for LEY16□ is 35% to 85%, for LEY25□ is 35% to 65%, for LEY32□ is 35% to 85%, and for LEY40□ is 35% to 65%.
The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" on page 304.

*4 The speed and force may change depending on the cable length, load, and mounting conditions. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m. (At 15 m: Reduced by up to 20%)

*5 The allowable speed for pushing operation. When push conveying a workpiece, operate at the vertical work load or less.

*6 A reference value for correcting an error in reciprocal operation

*7 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

*8 The power consumption (including the controller) is for when the actuator is operating.

*9 The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation. Except during the pushing operation

*10 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.

*11 With lock only

*12 For an actuator with lock, add the power consumption for the lock.

Specifications

Servo Motor (24 VDC)

Model			LEY16□A			LEY25□A		
Actuator specifications	Work load [kg]*1	Horizontal (3000 [mm/s²])	3	6	12	7	15	30
		Vertical (3000 [mm/s²])	2	4	8	3	6	12
	Pushing force [N]*2 *3		16 to 30	30 to 58	57 to 111	18 to 35	37 to 72	66 to 130
	Speed [mm/s]		1 to 500	1 to 250	1 to 125	2 to 500	1 to 250	1 to 125
	Max. acceleration/deceleration [mm/s²]		3000					
	Pushing speed [mm/s]*4		50 or less			35 or less		
	Positioning repeatability [mm]		±0.02					
	Lost motion [mm]*5		0.1 or less					
	Screw lead [mm]		10	5	2.5	12	6	3
	Impact/Vibration resistance [m/s²]*6		50/20					
	Actuation type		Ball screw + Belt (LEY□)/Ball screw (LEY□D)					
	Guide type		Sliding bushing (Piston rod)					
	Operating temperature range [°C]		5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)					
Electric specifications	Motor size		□28			□42		
	Motor output [W]		30			36		
	Motor type		Servo motor (24 VDC)					
	Encoder		Incremental A/B phase (800 pulse/rotation)/Z phase					
	Rated voltage [V]		24 VDC ±10%					
	Power consumption [W]*7		40			86		
	Standby power consumption when operating [W]*8		4 (Horizontal)/6 (Vertical)			4 (Horizontal)/12 (Vertical)		
	Max. instantaneous power consumption [W]*9		59			96		
Lock unit specifications	Type*10		Non-magnetizing lock					
	Holding force [N]		20	39	78	78	157	294
	Power consumption [W]*11		2.9			5		
	Rated voltage [V]		24 VDC ±10%					

*1 Horizontal: The maximum value of the work load. An external guide is necessary to support the load (Friction coefficient of guide: 0.1 or less). The actual work load and transfer speed change according to the condition of the external guide.
Vertical: Check the "Model Selection" on page 303 for details.
The values shown in ( ) are the acceleration/deceleration.
Set these values to be 3000 [mm/s²] or less.
*2 Pushing force accuracy is ±20% (F.S.).
*3 The thrust setting values for LEY16A□ is 60% to 95% and for LEY25A□ is 70% to 95%. The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" on page 304.
*4 The allowable speed for pushing operation. When push conveying a workpiece, operate at the vertical work load or less.
*5 A reference value for correcting an error in reciprocal operation
*6 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
*7 The power consumption (including the controller) is for when the actuator is operating.
*8 The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation. Except during the pushing operation
*9 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.
*10 With lock only
*11 For an actuator with lock, add the power consumption for the lock.

Weight

Weight: Motor Top/Parallel Type

Series		LEY16							LEY25									LEY32										
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Product weight [kg]	Step motor	0.58	0.62	0.73	0.87	0.98	1.09	1.20	1.18	1.25	1.42	1.68	1.86	2.03	2.21	2.38	2.56	2.09	2.20	2.49	2.77	3.17	3.46	3.74	4.03	4.32	4.60	4.89
	Servo motor	0.58	0.62	0.73	0.87	0.98	1.09	1.20	1.14	1.21	1.38	1.64	1.82	1.99	2.17	2.34	2.52	—	—	—	—	—	—	—	—	—	—	—

Series		LEY40										
Stroke [mm]		30	50	100	150	200	250	300	350	400	450	500
Product weight [kg]	Step motor	2.39	2.50	2.79	3.07	3.47	3.76	4.04	4.33	4.62	4.90	5.19
	Servo motor	—	—	—	—	—	—	—	—	—	—	—

Weight: In-line Motor Type

Series		LEY16D							LEY25D									LEY32D										
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Product weight [kg]	Step motor	0.58	0.62	0.73	0.87	0.98	1.09	1.20	1.17	1.24	1.41	1.67	1.85	2.02	2.20	2.37	2.55	2.08	2.19	2.48	2.76	3.16	3.45	3.73	4.02	4.31	4.59	4.88
	Servo motor	0.58	0.62	0.73	0.87	0.98	1.09	1.20	1.13	1.20	1.37	1.63	1.81	1.98	2.16	2.33	2.51	—	—	—	—	—	—	—	—	—	—	—

Series		LEY40D										
Stroke [mm]		30	50	100	150	200	250	300	350	400	450	500
Product weight [kg]	Step motor	2.38	2.49	2.78	3.06	3.46	3.75	4.03	4.32	4.61	4.89	5.18
	Servo motor	—	—	—	—	—	—	—	—	—	—	—

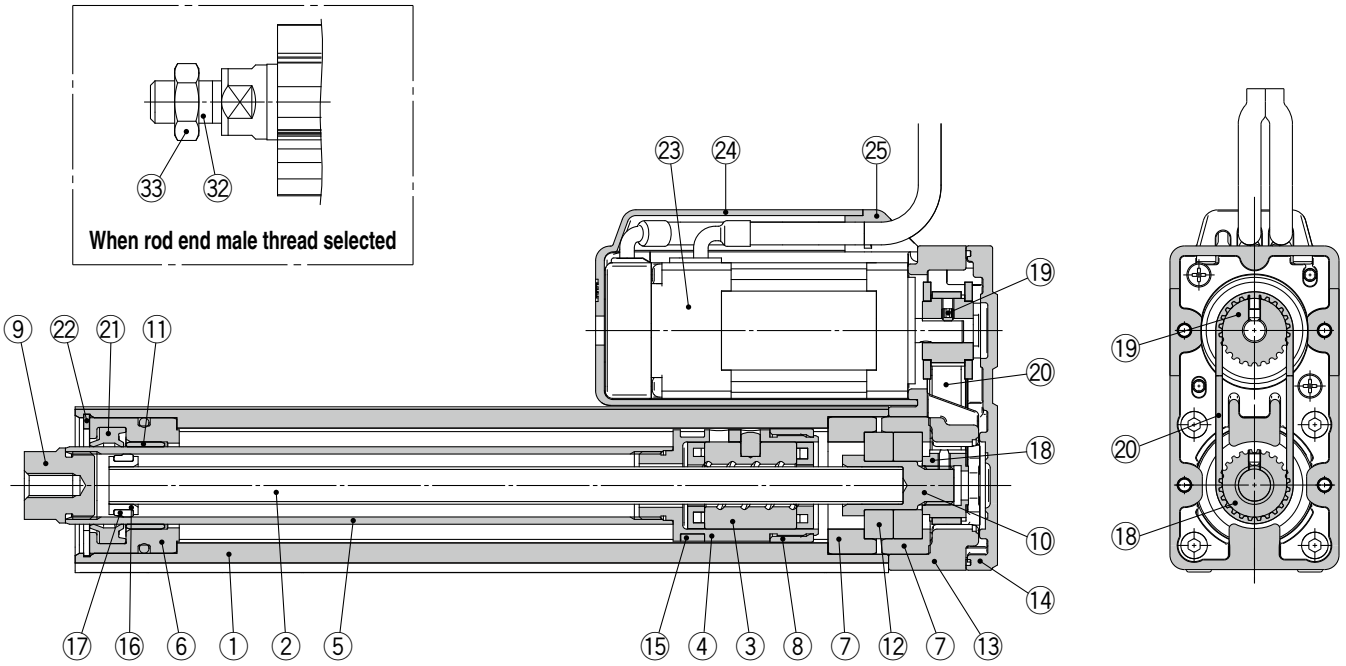
Additional Weight

[kg]

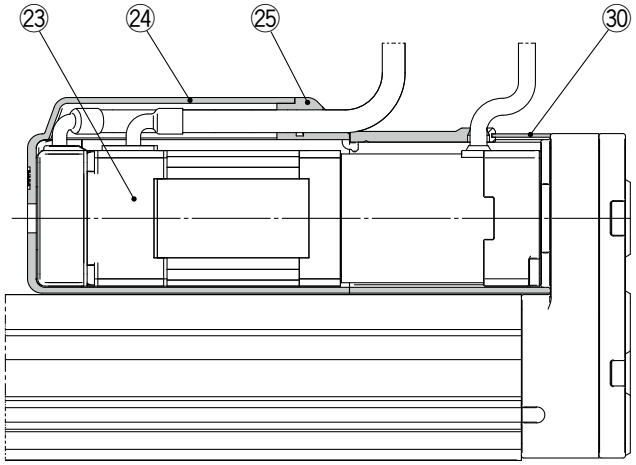
Size		16	25	32	40
Lock		0.12	0.26	0.53	0.53
Motor cover		0.02	0.03	0.04	0.05
Lock/Motor cover		0.16	0.32	0.61	0.62
Rod end male thread	Male thread	0.01	0.03	0.03	0.03
	Nut	0.01	0.02	0.02	0.02
Foot bracket (2 sets including mounting bolt)		0.06	0.08	0.14	0.14
Rod flange (including mounting bolt)		0.13	0.17	0.20	0.20
Head flange (including mounting bolt)					
Double clevis (including pin, retaining ring, and mounting bolt)		0.08	0.16	0.22	0.22

Construction

Motor top mounting type: LEY 16 25 32 40

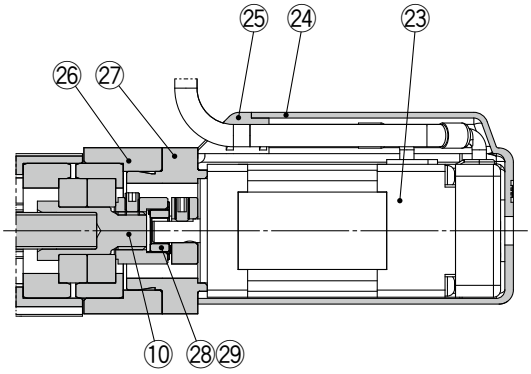


Motor top/parallel type
With lock/motor cover

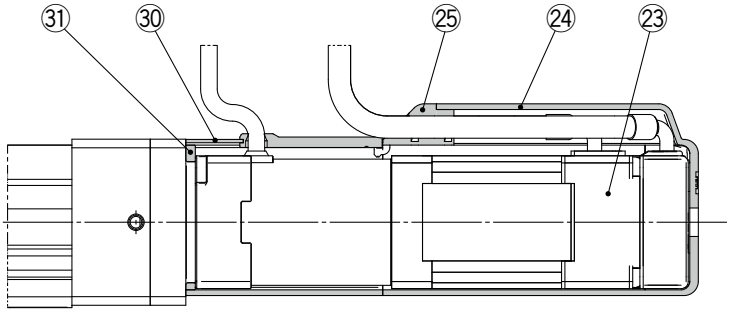


Construction

In-line motor type: LEY 16 25 32 40 D



In-line motor type: With lock/motor cover



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Synthetic resin/Alloy steel	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Connected shaft**	Free cutting carbon steel	Nickel plating
11	**Bushing**	Bearing alloy	
12	**Bearing**	—	
13	**Return box**	Aluminum die-cast	Coating
14	**Return plate**	Aluminum die-cast	Coating
15	**Magnet**	—	
16	**Wear ring holder**	Stainless steel	Stroke 101 mm or more
17	**Wear ring**	Synthetic resin	Stroke 101 mm or more
18	**Screw shaft pulley**	Aluminum alloy	
19	**Motor pulley**	Aluminum alloy	
20	**Belt**	—	
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	Phosphate coating
23	**Motor**	—	
24	**Motor cover**	Synthetic resin	Only "With motor cover"
25	**Grommet**	Synthetic resin	Only "With motor cover"
26	**Motor block**	Aluminum alloy	Anodized
27	**Motor adapter**	Aluminum alloy	Anodized/LEY16, 25 only
28	**Hub**	Aluminum alloy	
29	**Spider**	NBR	
30	**Motor cover with lock**	Aluminum alloy	Only "With lock/motor cover"
31	**Cover support**	Aluminum alloy	Only "With lock/motor cover"
32	**Socket (Male thread)**	Free cutting carbon steel	Nickel plating
33	**Nut**	Alloy steel	Zinc chromating

Replacement Parts (Motor top/parallel only)/Belt

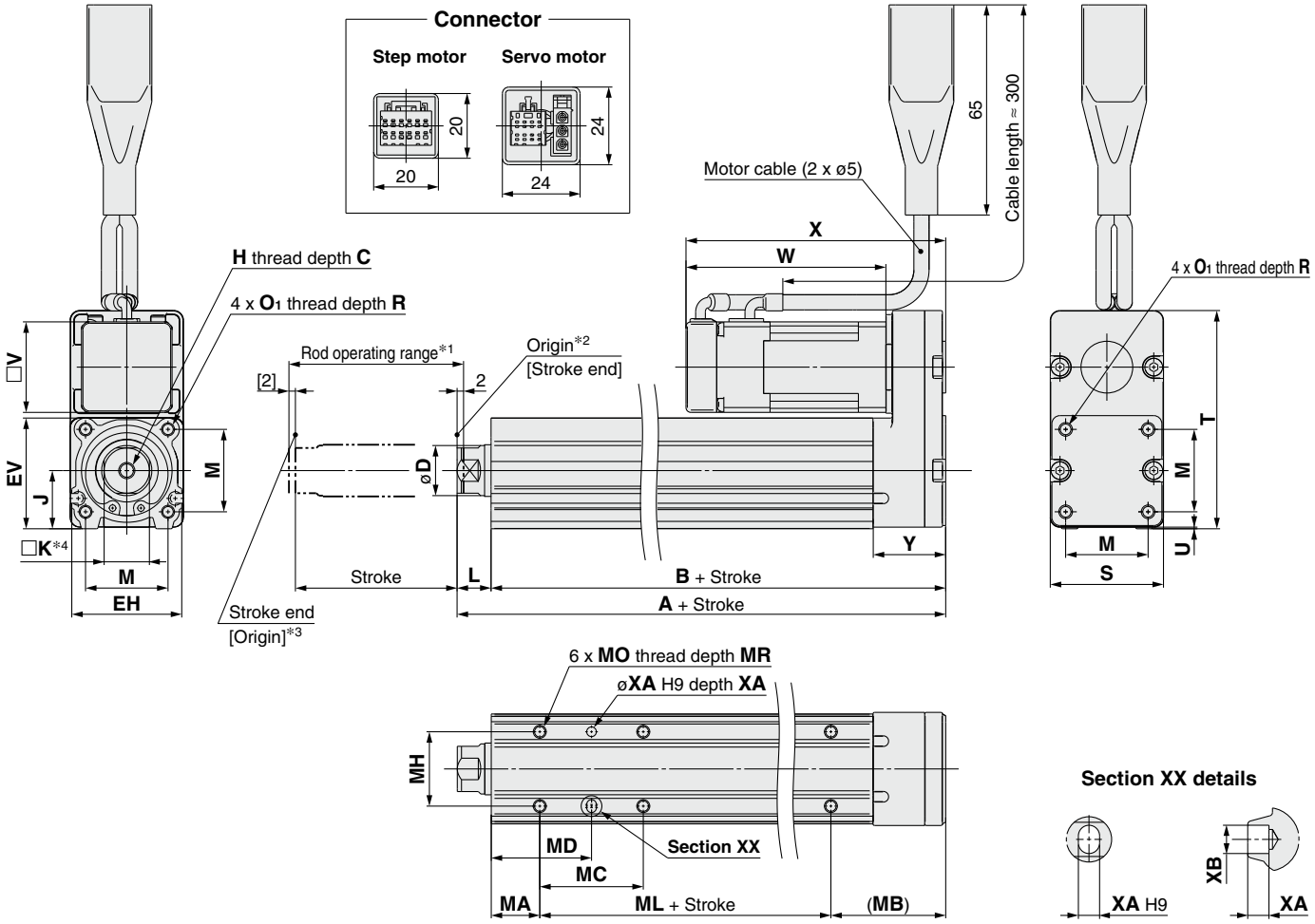
No.	Size	Order no.
20	**16**	LE-D-2-1
	25	LE-D-2-2
	32, 40	LE-D-2-3

Replacement Parts/Grease Pack

Applied portion	Order no.
Piston rod	GR-S-010 (10 g) GR-S-020 (20 g)

∗ Apply grease on the piston rod periodically.
Grease should be applied at 1 million cycles or 200 km, whichever comes first.

Dimensions: Motor Top/Parallel



*1 This is the range within which the rod can move when it returns to origin. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 Position after returning to origin
*3 [ ] for when the direction of return to origin has changed
*4 The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	A	B	C	D	EH	EV	H	J	K	L	M	O_1	R	S	T	U	V	Step motor W	Step motor X	Servo motor W	Servo motor X	Y
16	10 to 100	101	90.5	10	16	34	34.3	M5 x 0.8	18	14	10.5	25.5	M4 x 0.7	7	35	67.5	0.5	28	61.8	80.3	62.5	81	22.5
	101 to 300	121	110.5																				
25	15 to 100	130.5	116	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	46	92	1	42	63.4	85.4	59.6	81.6	26.5
	101 to 400	155.5	141																				
32	20 to 100	148.5	130	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	118	1	56.4	68.4	95.4	—	—	34
	101 to 500	178.5	160																				
40	20 to 100	148.5	130	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	118	1	56.4	90.4	117.4	—	—	34
	101 to 500	178.5	160																				

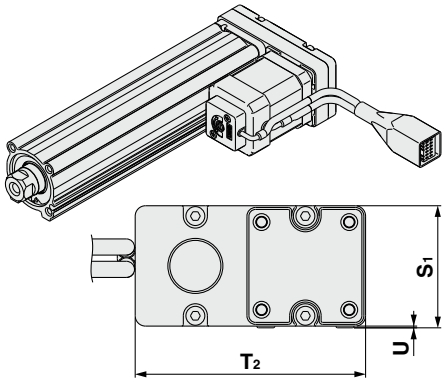
Body Bottom Tapped

[mm]

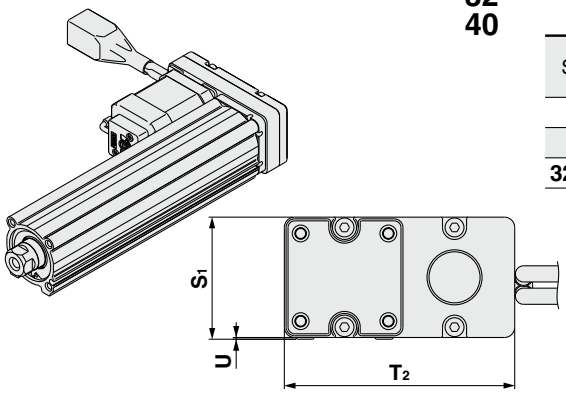
Size	Stroke range [mm]	MA	MB	MC	MD	MH	ML	MO	MR	XA	XB
16	10 to 39	15	35.5	17	23.5	23	40	M4 x 0.7	5.5	3	4
	40 to 100			32	31						
	101 to 300			62	46		60				
25	15 to 39	20	46	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100			42	41						
	101 to 124						75				
	125 to 200			59	49.5						
	201 to 400			76	58						
32 40	20 to 39	25	55	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100			36	43						
	101 to 124						80				
	125 to 200			53	51.5						
	201 to 500			70	60						

Dimensions: Motor Top/Parallel

Motor left side parallel type: LEY16/25/32/40L



Motor right side parallel type: LEY16/25/32/40R

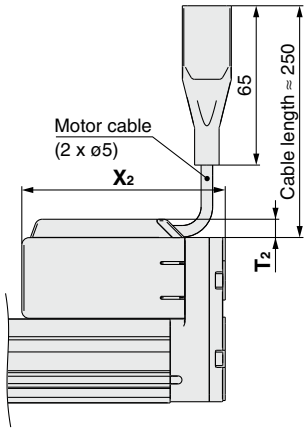


[mm]

Size	S_1	T_2	U
16	35.5	67	0.5
25	47	91	1
32, 40	61	117	1

∗ When the motor is mounted on the left or right side in parallel, the groove for auto switch on the side to which the motor is mounted is hidden.

With motor cover: LEY16/25/32/40□□A/B/C-□C

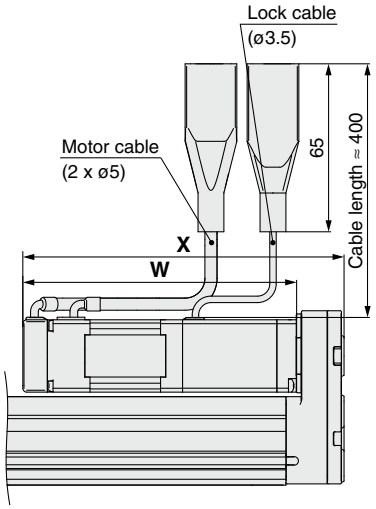


[mm]

Size	T_2	X_2
16	7.5	83
25	7.5	88.5
32	7.5	98.5
40	7.5	120.5

Motor cover material: Synthetic resin

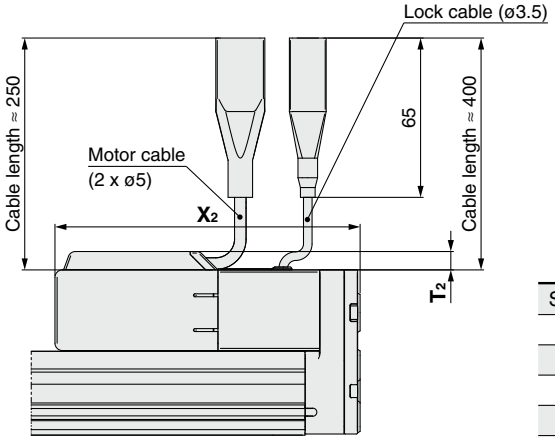
With lock: LEY16/25/32/40□□A/B/C-□B



[mm]

Size	Step motor		Servo motor	
	W	**X**	**W**	**X**
16	103.3	121.8	104.0	122.5
25	103.9	125.9	100.1	122.1
32	111.4	138.4	—	—
40	133.4	160.4	—	—

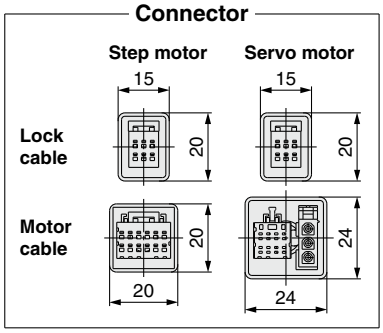
With lock/motor cover: LEY16/25/32/40□□A/B/C-□W



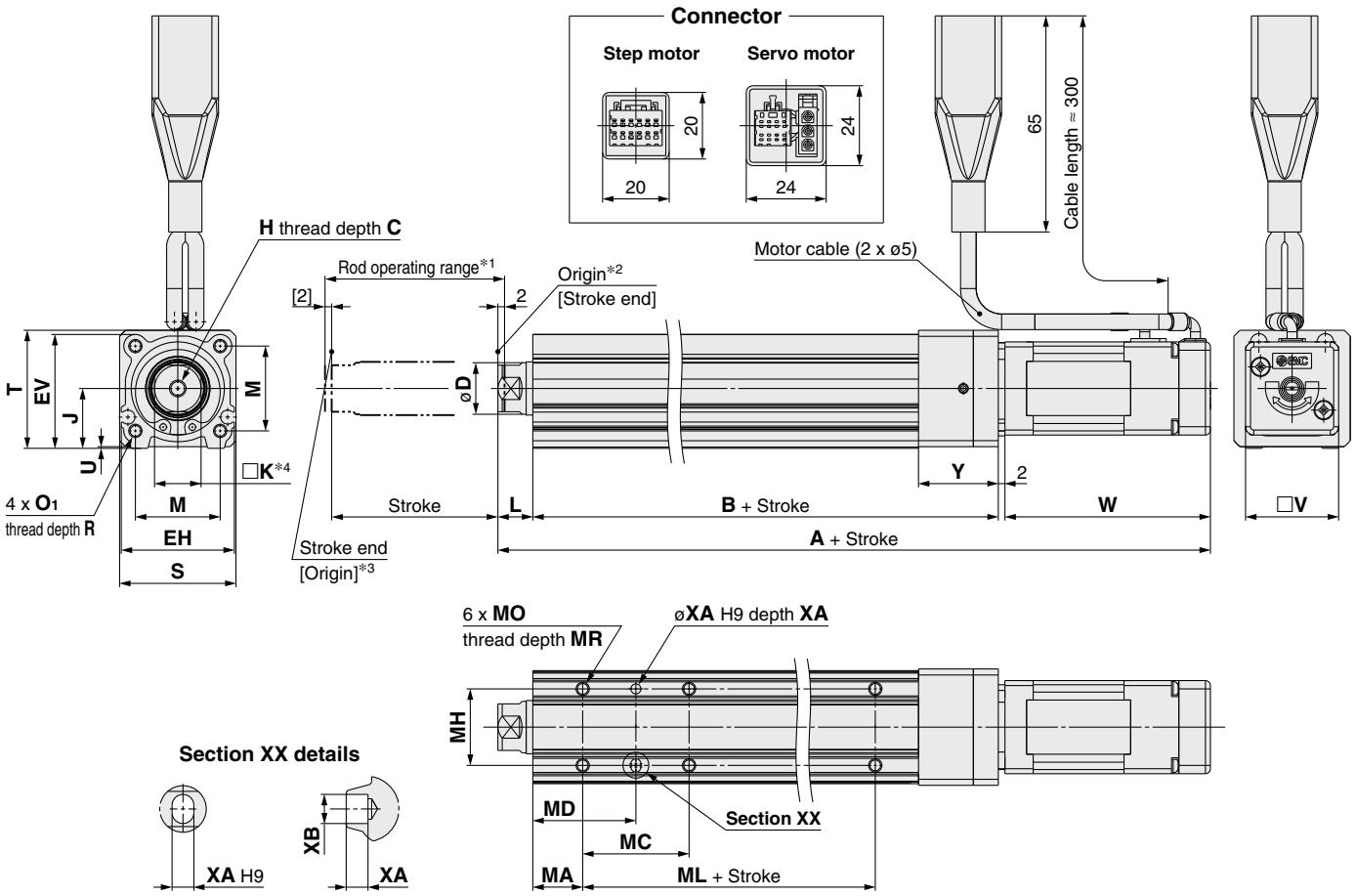
[mm]

Size	T_2	X_2
16	7.5	124.5
25	7.5	129
32	7.5	141.5
40	7.5	163.5

Connector



Dimensions: In-line Motor



*1 This is the range within which the rod can move when it returns to origin. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 Position after returning to origin
*3 [ ] for when the direction of return to origin has changed
*4 The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	A		B	C	D	EH	EV	H	J	K	L	M	O1	R	S	T	U	V	W		Y
		Step motor	Servo motor																	Step motor	Servo motor	
16	10 to 100	166.3	167	92	10	16	34	34.3	M5 x 0.8	18	14	10.5	25.5	M4 x 0.7	7	35	35.5	0.5	28	61.8	62.5	24
	101 to 300	186.3	187	112																		
25	15 to 100	195.4	191.6	115.5	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	45	46.5	1.5	42	63.4	59.6	26
	101 to 400	220.4	216.6	140.5																		
32	20 to 100	216.9	—	128	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1	10	60	61	1	56.4	68.4	—	32
	101 to 500	246.9	—	158																		
40	20 to 100	238.9	—	128	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1	10	60	61	1	56.4	90.4	—	32
	101 to 500	268.9	—	158																		

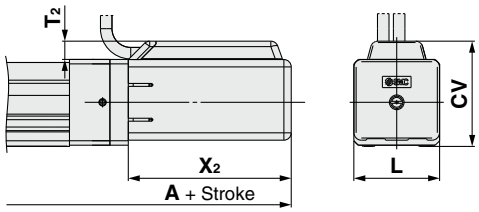
Body Bottom Tapped

[mm]

Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
16	10 to 39	15	17	23.5	23	40	M4 x 0.7	5.5	3	4
	40 to 100		32	31						
	101 to 300		62	46		60				
25	15 to 39	20	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100		42	41						
	101 to 124					75				
	125 to 200		59	49.5						
	201 to 400		76	58						
32 40	20 to 39	25	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100		36	43						
	101 to 124					80				
	125 to 200		53	51.5						
	201 to 500		70	60						

Dimensions: In-line Motor

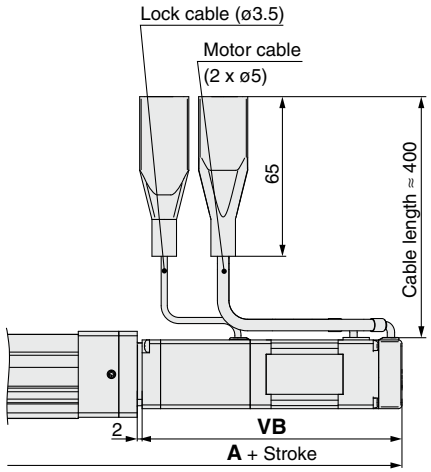
With motor cover: LEY16/25/32/40D□A/B-□C



[mm]

Size	Stroke range	A	T2	X2	L	CV
16	100st or less	169	7.5	66.5	35	43
	101st or more, 200st or less	189				
25	100st or less	198.5	7.5	68.5	46	54.5
	101st or more, 400st or less	223.5				
32	100st or less	220	7.5	73.5	60	68.5
	101st or more, 500st or less	250				
40	100st or less	242	7.5	95.5	60	68.5
	101st or more, 500st or less	272				

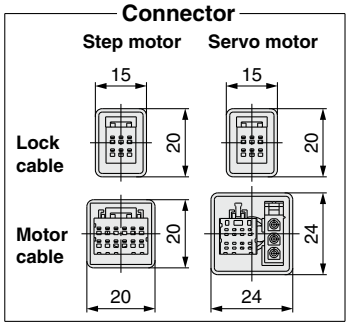
With lock: LEY16/25/32/40D□A/B-□B



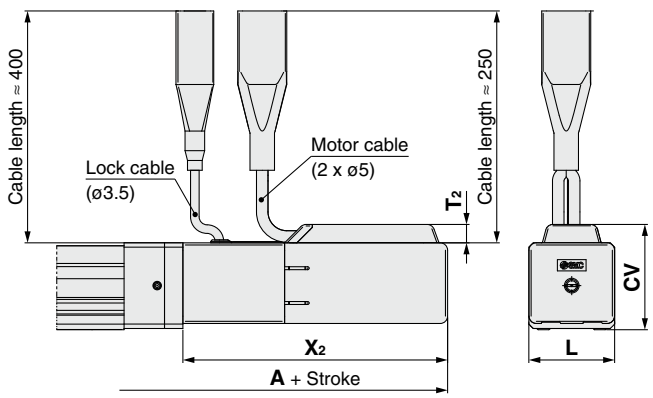
[mm]

Size	Stroke range	Step motor	Servo motor	Step motor	Servo motor
		A		VB	
16	100st or less	207.8	208.5	103.3	104
	101st or more, 200st or less	227.8	228.5		
25	100st or less	235.9	232.1	103.9	100.1
	101st or more, 400st or less	260.9	257.1		
32	100st or less	259.9	—	111.4	—
	101st or more, 500st or less	289.9	—		
40	100st or less	281.9	—	133.4	—
	101st or more, 500st or less	311.9	—		

Connector



With lock/motor cover: LEY16/25/32/40D□A/B-□W

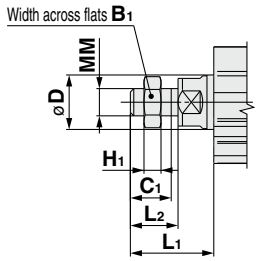


[mm]

Size	Stroke range	A	T2	X2	L	CV
16	100st or less	210.5	7.5	108	35	43
	101st or more, 300st or less	230.5				
25	100st or less	239	7.5	109	46	54.4
	101st or more, 400st or less	264				
32	100st or less	263	7.5	116.5	60	68.5
	101st or more, 500st or less	293				
40	100st or less	285	7.5	138.5	60	68.5
	101st or more, 500st or less	315				

Dimensions

End male thread: LEY16/25/32/40□□A/B/C-□□M



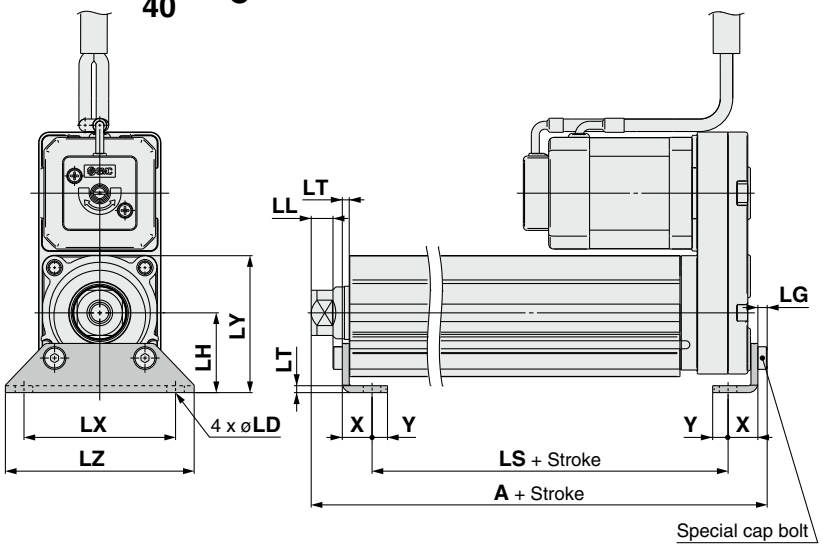
[mm]

Size	B_1	C_1	D	H_1	L_1	L_2	MM
16	13	12	16	5	24.5	14	M8 x 1.25
25	22	20.5	20	8	38	23.5	M14 x 1.5
32, 40	22	20.5	25	8	42.0	23.5	M14 x 1.5

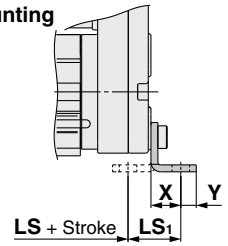
∗ The L_1 measurement is when the unit is in the original position. At this position, 2 mm at the end.

∗ Refer to page 361 for details on the rod end nut and mounting bracket.
∗ Refer to the “Handling” precautions on pages 412 to 415 when mounting end brackets such as knuckle joint or workpieces.

Foot: LEY16/25/32/40□□A/B/C-□□□L



Outward mounting



Included parts
- Foot bracket
- Body mounting bolt

Foot

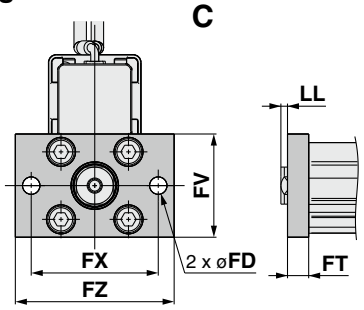
[mm]

Size	Stroke range [mm]	A	LS	LS_1	LL	LD	LG	LH	LT	LX	LY	LZ	X	Y
16	10 to 100	106.1	76.7	16.1	5.4	6.6	2.8	24	2.3	48	40.3	62	9.2	5.8
	101 to 300	126.1	96.7											
25	15 to 100	136.6	98.8	19.8	8.4	6.6	3.5	30	2.6	57	51.5	71	11.2	5.8
	101 to 400	161.6	123.8											
32	20 to 100	155.7	114	19.2	11.3	6.6	4	36	3.2	76	61.5	90	11.2	7
40	101 to 500	185.7	144											

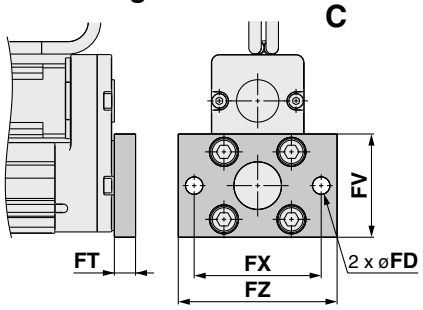
Material: Carbon steel (Chromating)
∗ The A measurement is when the unit is in the original position. At this position, 2 mm at the end.
∗ When the motor mounting is the right or left side parallel type, the head side foot bracket should be mounted outward.

Dimensions

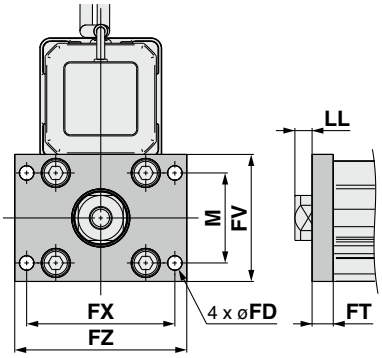
Rod flange: LEY16□□A/B/C-□□□F



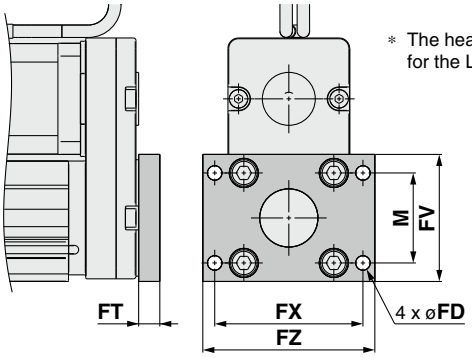
Head flange: LEY16□□A/B/C-□□□G



Rod flange: LEY32/40□□A/B/C-□□□F



Head flange: LEY25□□A/B/C-□□□G



∗ The head flange type is not available for the LEY32/40.

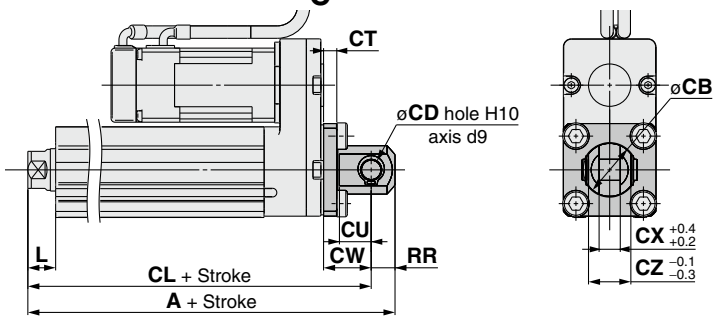
Included parts
- Flange
- Body mounting bolt

Rod/Head Flange [mm]

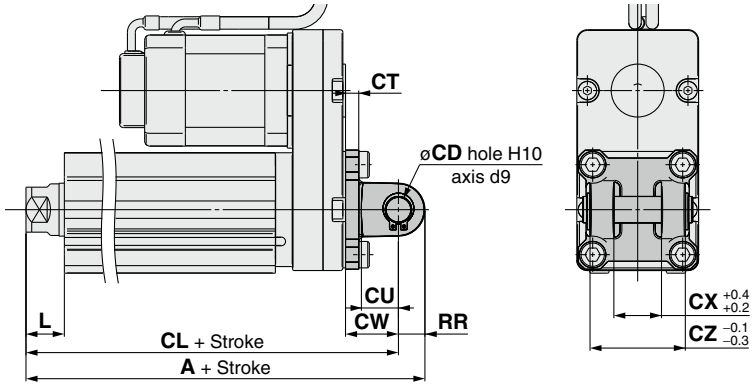
Size	FD	FT	FV	FX	FZ	LL	M
16	6.6	8	39	48	60	2.5	—
25	5.5	8	48	56	65	6.5	34
32, 40	5.5	8	54	62	72	10.5	40

Material: Carbon steel (Nickel plating)

Double clevis: LEY16□□A/B/C-□□□D



Double clevis: LEY32/40□□A/B/C-□□□D



Included parts
- Double clevis
- Body mounting bolt
- Clevis pin
- Retaining ring

∗ Refer to page 361 for details on the rod end nut and mounting bracket.

Double Clevis [mm]

Size	Stroke range [mm]	A	CL	CB	CD	CT
16	10 to 100	128	119	20	8	5
25	15 to 100	160.5	150.5	—	10	5
	101 to 200	185.5	175.5			
32	20 to 100	180.5	170.5	—	10	6
40	101 to 200	210.5	200.5			

Size	Stroke range [mm]	CU	CW	CX	CZ	L	RR
16	10 to 100	12	18	8	16	10.5	9
25	15 to 100	14	20	18	36	14.5	10
	101 to 200						
32	20 to 100	14	22	18	36	18.5	10
40	101 to 200						

Material: Cast iron (Coating)

∗ The A and CL measurements are when the unit is in the original position. At this position, 2 mm at the end.

Electric Actuator Rod Type

LEY Series LEY25, 32

Size 25, 32

∗ Refer to tables ❹ and ⓬ below.

RoHS

LECY□ Series ▶ p. 351 Dust-tight/Water-jet-proof ▶ p. 619 Secondary Battery Compatible ▶ p. 677 Motorless Type ▶ p. 907

How to Order

LEY H 25 □ S2 B – 100 □ □ □ – S 2 A1 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❶ Accuracy

Nil	Basic type
H	High-precision type

❷ Size

25
32

❸ Motor mounting position

Nil	Top mounting
R	Right side parallel
L	Left side parallel
D	In-line

❹ Motor type

Symbol	Type	Output [W]	Actuator size	Compatible drivers∗3	UL-compliant
S2∗1	AC servo motor (Incremental encoder)	100	25	LECSA□-S1	●
S3		200	32	LECSA□-S3	●
S6∗1	AC servo motor (Absolute encoder)	100	25	LECSB□-S5 LECSC□-S5 LECSS□-S5	—
S7		200	32	LECSB□-S7 LECSC□-S7 LECSS□-S7	—
T6∗2	AC servo motor (Absolute encoder)	100	25	LECSB2-T5 LECSC2-T5 LECSN2-T5-□	—
				LECSS2-T5	●
T7		200	32	LECSB2-T7 LECSC2-T7 LECSN2-T7-□	—
				LECSS2-T7	●

∗1 For motor type S2 and S6, the compatible driver part number suffixes are S1 and S5 respectively.
∗2 For motor type T6, the compatible driver part number is LECS□2-T5.
∗3 For details on the driver, refer to page 764.

❺ Lead [mm]

Symbol	LEY25	LEY32∗1
A	12	16 (20)
B	6	8 (10)
C	3	4 (5)

∗1 The values shown in ( ) are the leads for the size 32 top mounting, right/left side parallel types.
(Equivalent leads which include the pulley ratio [1.25:1])

❻ Stroke [mm]

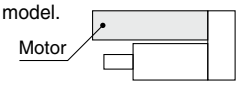
30	30
to	to
500	500

∗ For details, refer to the applicable stroke table below.

❼ Motor option

Nil	Without option
B	With lock∗1

∗1 When "With lock" is selected for the top mounting and right/left side parallel types, the motor body will stick out from the end of the body for size 25 with strokes of 30 mm or less. Check for interference with workpieces before selecting a model.



❽ Rod end thread

Nil	Rod end female thread
M	Rod end male thread (1 rod end nut is included.)

❾ Mounting∗1

Symbol	Type	Motor mounting position: Top/Parallel	Motor mounting position: In-line
Nil	Ends tapped/ Body bottom tapped∗2	●	●
L	Foot	●	—
F	Rod flange∗2	●∗4	●
G	Head flange∗2	●∗5	—
D	Double clevis∗3	●	—

∗1 The mounting bracket is shipped together with the product but does not come assembled.
∗2 For the horizontal cantilever mounting of the rod flange, head flange, or ends tapped types, use the actuator within the following stroke range.
・LEY25: 200 mm or less ・LEY32: 100 mm or less
∗3 For the mounting of the double clevis type, use the actuator within the following stroke range.
・LEY25: 200 mm or less ・LEY32: 200 mm or less
∗4 The rod flange type is not available for the LEY25 with a 30 mm stroke and motor option "With lock."
∗5 The head flange type is not available for the LEY32.

Applicable Stroke Table

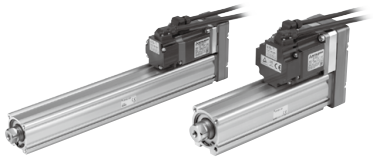
●: Standard

Model \ Stroke [mm]	30	50	100	150	200	250	300	350	400	450	500	Manufacturable stroke range
LEY25	●	●	●	●	●	●	●	●	●	—	—	15 to 400
LEY32	●	●	●	●	●	●	●	●	●	●	●	20 to 500

∗ Please consult with SMC for non-standard strokes as they are produced as special orders.

For auto switches, refer to pages 363 to 365.

SMC



Motor mounting position: Top/Parallel

Motor mounting position: In-line

⑩ Cable type*1 *2

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

*1 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)
*2 Standard cable entry direction is
• Top/Parallel: (A) Axis side
• In-line: (B) Counter axis side
(Refer to page 796 for details.)

⑪ Cable length*1 [m]

Nil	Without cable
2	2
5	5
A	10

*1 The length of the motor, encoder, and lock cables are the same.

⑫ Driver type*1

	Compatible drivers	Power supply voltage [V]	UL-compliant
Nil	Without driver	—	—
A1	LECSA1-S□	100 to 120	●
A2	LECSA2-S□	200 to 230	●
B1	LECSB1-S□	100 to 120	—
B2	LECSB2-S□	200 to 230	—
	LECSB2-T□	200 to 240	●
C1	LECSC1-S□	100 to 120	—
C2	LECSC2-S□	200 to 230	—
	LECSC2-T□		●
S1	LECSS1-S□	100 to 120	—
S2	LECSS2-S□	200 to 230	—
	LECSS2-T□	200 to 240	●
N2	LECSN2-T□	200 to 240	●
92	LECSN2-T□-9	200 to 240	—
E2	LECSN2-T□-E	200 to 240	—
P2	LECSN2-T□-P	200 to 240	—

*1 When a driver type is selected, a cable is included. Select the cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2: Standard cable (2 m)
Nil: Without cable and driver

⑬ I/O cable length [m]*1

Nil	Without cable
H	Without cable (Connector only)
1	1.5

*1 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 797 if I/O cable is required. (Options are shown on page 797.)

Compatible Drivers

Driver type	**Pulse input type /Positioning type** 	**Pulse input type** 	**CC-Link direct input type** 	**SSCNET Ⅲ type** 	**Pulse input type** 	**CC-Link direct input type** 	**SSCNET Ⅲ/H type** 	**Network card type** 
Series	**LECSA**	**LECSB**	**LECSC**	**LECSS**	**LECSB-T**	**LECSC-T**	**LECSS-T**	**LECSN-T**
Number of point tables*1	Up to 7	—	Up to 255 (2 stations occupied)	—	Up to 255	Up to 255 (2 stations occupied)	—	Up to 255
Pulse input	○	○	—	—	○	—	—	—
Applicable network	—	—	CC-Link	SSCNET Ⅲ	—	CC-Link	SSCNET Ⅲ/H	PROFINET EtherCAT® EtherNet/IP™
Control encoder	Incremental 17-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder	Absolute 22-bit encoder
Communication function	USB communication	USB communication, RS422 communication		USB communication	USB communication, RS422 communication		USB communication	USB communication
Power supply voltage [V]	100 to 120 VAC (50/60 Hz) 200 to 230 VAC (50/60 Hz)				200 to 240 VAC (50/60 Hz)	200 to 230 VAC (50/60 Hz)	200 to 240 VAC (50/60 Hz)	200 to 240 VAC (50/60 Hz)
Reference page	777							

*1 The LECSN-T only supports PROFINET and EtherCAT®.

Specifications: LECSA/LECSB/LECSC/LECSS

∗ Refer to the next page for the LECSS-T.

Model			LEY25S$^{2}_{6}$ (Top/Parallel)/LEY25DS$^{2}_{6}$ (In-line)			LEY32S$^{3}_{7}$ (Top/Parallel)			LEY32DS$^{3}_{7}$ (In-line)		
Actuator specifications	Work load [kg]	Horizontal∗1	18	50	50	30	60	60	30	60	60
		Vertical	8	16	30	9	19	37	12	24	46
	Force [N]∗2 (Set value: 15 to 30%)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max.∗3 speed [mm/s] / Stroke range	Up to 300	900	450	225	1200	600	300	1000	500	250
		305 to 400	600	300	150						
		405 to 500	—	—	—	800	400	200	640	320	160
	Pushing speed [mm/s]∗4		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s²]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02								
		High-precision type	±0.01								
	Lost motion [mm]∗5	Basic type	0.1 or less								
		High-precision type	0.05 or less								
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s²]∗6		50/20			50/20					
	Actuation type		Ball screw + Belt (LEY□)/Ball screw (LEY□D)			Ball screw + Belt [1.25:1]			Ball screw		
	Guide type		Sliding bushing (Piston rod)			Sliding bushing (Piston rod)					
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Regeneration option		May be required depending on speed and work load (Refer to pages 307 and 308.)								
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (100/200 VAC)			AC servo motor (100/200 VAC)					
	Encoder		Motor type S2, S3: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7: Absolute 18-bit encoder (Resolution: 262144 p/rev)								
	Power consumption [W]∗7	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W]∗8	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W]∗9		445			724			724		
Lock unit specifications	Type∗10		Non-magnetizing lock								
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption [W] at 20°C∗11		6.3			7.9			7.9		
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$								

∗1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.

∗2 The force setting range (set values for the driver) for the force control with the torque control mode. Set it while referencing the "Force Conversion Graph" on page 309. When the control equivalent to the pushing operation of the LECP series controller is performed, select the LECSS driver and combine it with a Simple Motion module (manufactured by Mitsubishi Electric Corporation) which has a pushing operation function.

∗3 The allowable speed changes according to the stroke. Set the number of rotations according to speed.

∗4 The allowable collision speed for collision with the workpiece with the torque control mode

∗5 A reference value for correcting an error in reciprocal operation

∗6 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

∗7 The power consumption (including the driver) is for when the actuator is operating.

∗8 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.

∗9 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.

∗10 Only when motor option "With lock" is selected

∗11 For an actuator with lock, add the power consumption for the lock.

Weight

Product Weight

[kg]

Series		LEY25S$^{2}_{6}$ (Motor mounting position: Top/Parallel)									LEY32S$^{3}_{7}$ (Motor mounting position: Top/Parallel)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Motor type	Incremental encoder	1.31	1.38	1.55	1.81	1.99	2.16	2.34	2.51	2.69	2.42	2.53	2.82	3.29	3.57	3.85	4.14	4.42	4.70	4.98	5.26
	Absolute encoder	1.37	1.44	1.61	1.87	2.05	2.22	2.40	2.57	2.75	2.36	2.47	2.76	3.23	3.51	3.79	4.08	4.36	4.64	4.92	5.20

Series		LEY25DS$^{2}_{6}$ (Motor mounting position: In-line)									LEY32DS$^{3}_{7}$ (Motor mounting position: In-line)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Motor type	Incremental encoder	1.34	1.41	1.58	1.84	2.02	2.19	2.37	2.54	2.72	2.44	2.55	2.84	3.31	3.59	3.87	4.16	4.44	4.72	5.00	5.28
	Absolute encoder	1.40	1.47	1.64	1.90	2.08	2.25	2.43	2.60	2.78	2.38	2.49	2.78	3.25	3.53	3.81	4.10	4.38	4.66	4.94	5.22

Additional Weight

[kg]

Size		25	32
Lock	Incremental encoder	0.20	0.40
	Absolute encoder [S6/S7]	0.30	0.66
Rod end male thread	Male thread	0.03	0.03
	Nut	0.02	0.02
Foot bracket (2 sets including mounting bolt)		0.08	0.14
Rod flange (including mounting bolt)		0.17	0.20
Head flange (including mounting bolt)			
Double clevis (including pin, retaining ring, and mounting bolt)		0.16	0.22

Specifications: LECS□-T

Model			LEY25T6 (Top/Parallel)/LEY25DT6 (In-line)			LEY32T7 (Top/Parallel)			LEY32DT7 (In-line)		
Actuator specifications	Work load [kg]	Horizontal*1	18	50	50	30	60	60	30	60	60
		Vertical	8	16	30	9	19	37	12	24	46
	Force [N]*2 (Set value: 12 to 24%)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max.*3 speed [mm/s] Stroke range	Up to 300	900	450	225	1200	600	300	1000	500	250
		305 to 400	600	300	150						
		405 to 500	—	—	—	800	400	200	640	320	160
	Pushing speed [mm/s]*4		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s²]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02			±0.02					
		High-precision type	±0.01			±0.01					
	Lost motion*5 [mm]	Basic type	0.1 or less								
		High-precision type	0.05 or less								
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s²]*6		50/20			50/20					
	Actuation type		Ball screw + Belt (LEY□)/Ball screw (LEY□D)			Ball screw + Belt [1.25:1]			Ball screw		
	Guide type		Sliding bushing (Piston rod)			Sliding bushing (Piston rod)					
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Regeneration option		May be required depending on speed and work load (Refer to pages 307 and 308.)								
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (200 VAC)			AC servo motor (200 VAC)					
	Encoder*12		Motor type T6, T7: Absolute 22-bit encoder (Resolution: 4194304 p/rev) (For LECSB-T□, LECSS-T□) Motor type T6, T7: Absolute 18-bit encoder (Resolution: 262144 p/rev) (For LECSC-T□)								
	Power consumption [W]*7	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W]*8	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W]*9		445			724			724		
Lock unit specifications	Type*10		Non-magnetizing lock								
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption [W] at 20°C*11		6.3			7.9			7.9		
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$								

*1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.

*2 The force setting range (set values for the driver) for the force control with the torque control mode. Set it while referencing the "Force Conversion Graph (Guide)" on page 310. When the control equivalent to the pushing operation of the JXC51/61 series controller is performed, select the LECSS-T or LECSB2-T driver.
The point table no. input method is used for the LECSB2-T. When selecting the LECSS2-T, combine it with a Simple Motion module (manufactured by Mitsubishi Electric Corporation) which has a pushing operation function.

*3 The allowable speed changes according to the stroke.

*4 The allowable collision speed for collision with the workpiece with the torque control mode

*5 A reference value for correcting an error in reciprocal operation

*6 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

*7 The power consumption (including the driver) is for when the actuator is operating.

*8 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.

*9 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.

*10 Only when motor option "With lock" is selected

*11 For an actuator with lock, add the power consumption for the lock.

*12 The resolution will change depending on the driver type.

Weight

Product Weight

[kg]

Series		LEY25T6 (Motor mounting position: Top/Parallel)									LEY32T7 (Motor mounting position: Top/Parallel)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Motor type	Absolute encoder	1.4	1.5	1.6	1.9	2.0	2.2	2.4	2.6	2.7	2.3	2.4	2.7	3.2	3.5	3.8	4.1	4.3	4.6	4.9	5.2

Series		LEY25DT6 (Motor mounting position: In-line)									LEY32DT7 (Motor mounting position: In-line)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Motor type	Absolute encoder	1.4	1.5	1.6	1.9	2.1	2.2	2.4	2.6	2.8	2.4	2.5	2.8	3.2	3.5	3.8	4.1	4.4	4.6	4.9	5.2

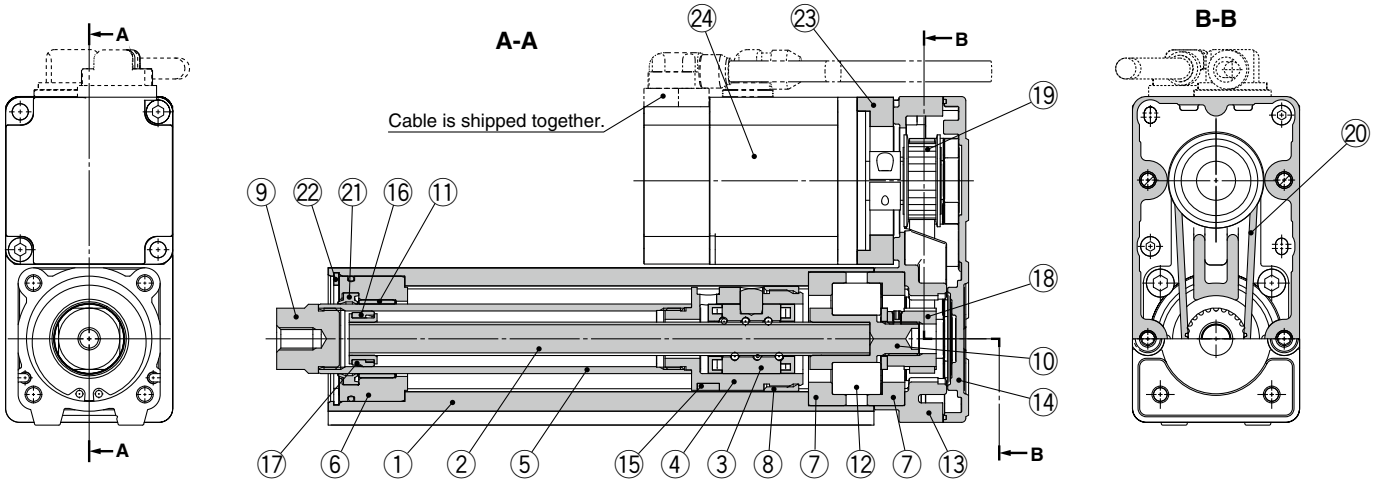
Additional Weight

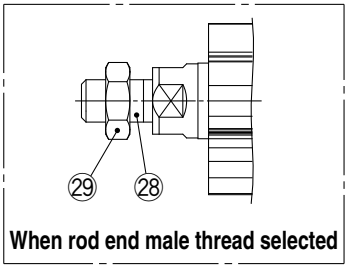
[kg]

Size		25	32
Lock	Absolute encoder [T6/T7]	0.3	0.4
Rod end male thread	Male thread	0.03	0.03
	Nut	0.02	0.02
Foot bracket (2 sets including mounting bolt)		0.08	0.14
Rod flange (including mounting bolt)		0.17	0.20
Head flange (including mounting bolt)			
Double clevis (including pin, retaining ring, and mounting bolt)		0.16	0.22

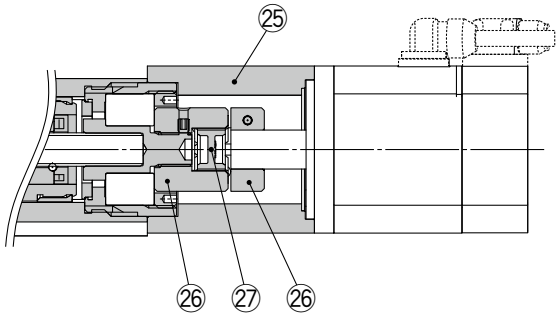
Construction

Motor top mounting type: LEY$^{25}_{32}$





In-line motor type: LEY$^{25}_{32}$D



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Synthetic resin/Alloy steel	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Connected shaft**	Free cutting carbon steel	Nickel plating
11	**Bushing**	Bearing alloy	
12	**Bearing**	—	
13	**Return box**	Aluminum die-cast	Coating
14	**Return plate**	Aluminum die-cast	Coating
15	**Magnet**	—	
16	**Wear ring holder**	Stainless steel	Stroke 101 mm or more
17	**Wear ring**	Synthetic resin	Stroke 101 mm or more
18	**Screw shaft pulley**	Aluminum alloy	
19	**Motor pulley**	Aluminum alloy	
20	**Belt**	—	
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	
23	**Motor adapter**	Aluminum alloy	Coating
24	**Motor**	—	
25	**Motor block**	Aluminum alloy	Coating
26	**Hub**	Aluminum alloy	
27	**Spider**	Urethane	
28	**Socket (Male thread)**	Free cutting carbon steel	Nickel plating
29	**Nut**	Alloy steel	Zinc chromating

Replacement Parts (Motor top/parallel only)/Belt

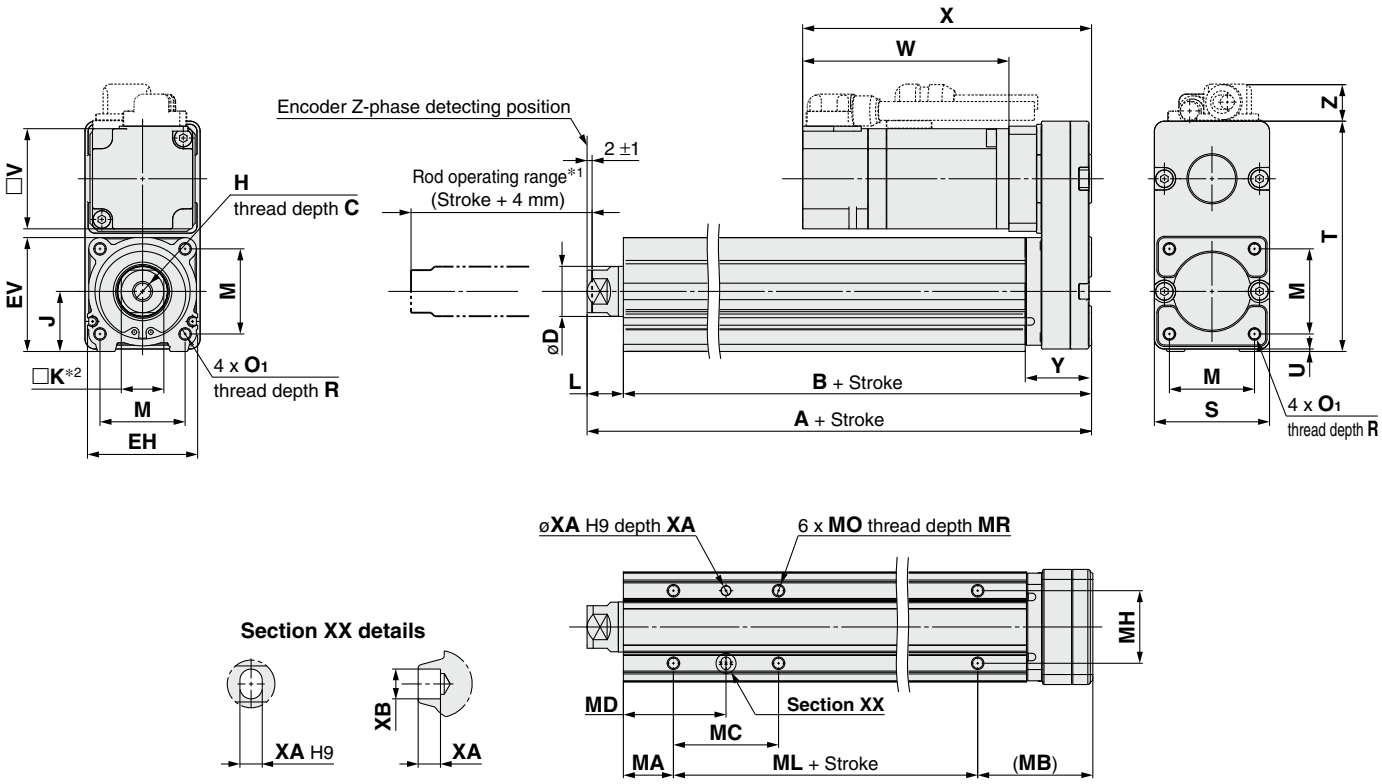
No.	Size	Order no.
20	**25**	LE-D-2-2
	32	LE-D-2-4

Replacement Parts/Grease Pack

Applied portion	Order no.
Piston rod	GR-S-010 (10 g) GR-S-020 (20 g)

∗ Apply grease on the piston rod periodically.
Grease should be applied at 1 million cycles or 200 km, whichever comes first.

Dimensions: Motor Top/Parallel



*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	A	B	C	D	EH	EV	H	J	K	L	M	O_1	R	S	T	U	Y	V
25	15 to 100	130.5	116	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	46	92	1	26.5	40
	105 to 400	155.5	141																
32	20 to 100	148.5	130	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	118	1	34	60
	105 to 500	178.5	160																

Size	Stroke range [mm]	Incremental encoder						Absolute encoder [S6/S7]						Absolute encoder [T6/T7]					
		Without lock			With lock			Without lock			With lock			Without lock			With lock		
		W	X	Z	W	X	Z	W	X	Z	W	X	Z	W	X	Z	W	X	Z
25	15 to 100	87	120	14.1	123.9	156.9	15.8	82.4	115.4	14.1	123.5	156.5	15.8	82.4	115.4	14.1	123	156	15.8
	105 to 400																		
32	20 to 100	88.2	128.2	17.1	116.8	156.8	17.1	76.6	116.6	17.1	116.1	156.1	17.1	76.6	116.6	17.1	113.4	153.4	17.1
	105 to 500																		

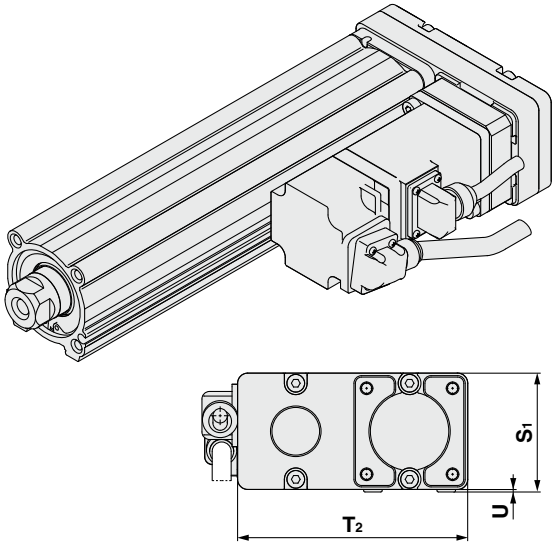
Body Bottom Tapped

[mm]

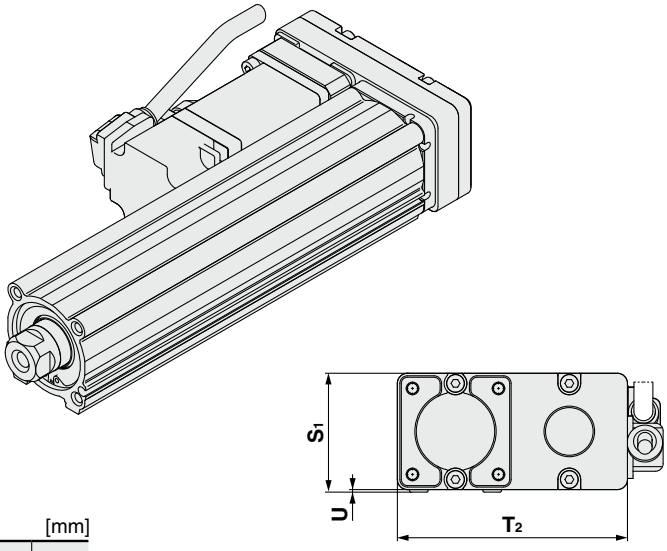
Size	Stroke range [mm]	MA	MB	MC	MD	MH	ML	MO	MR	XA	XB
25	15 to 39	20	46	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100			42	41						
	101 to 124						75				
	125 to 200			59	49.5						
	201 to 400			76	58						
32	20 to 39	25	55	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100			36	43						
	101 to 124						80				
	125 to 200			53	51.5						
	201 to 500			70	60						

Dimensions: Motor Top/Parallel

Motor left side parallel type: LEY$^{25}_{32}$L



Motor right side parallel type: LEY$^{25}_{32}$R

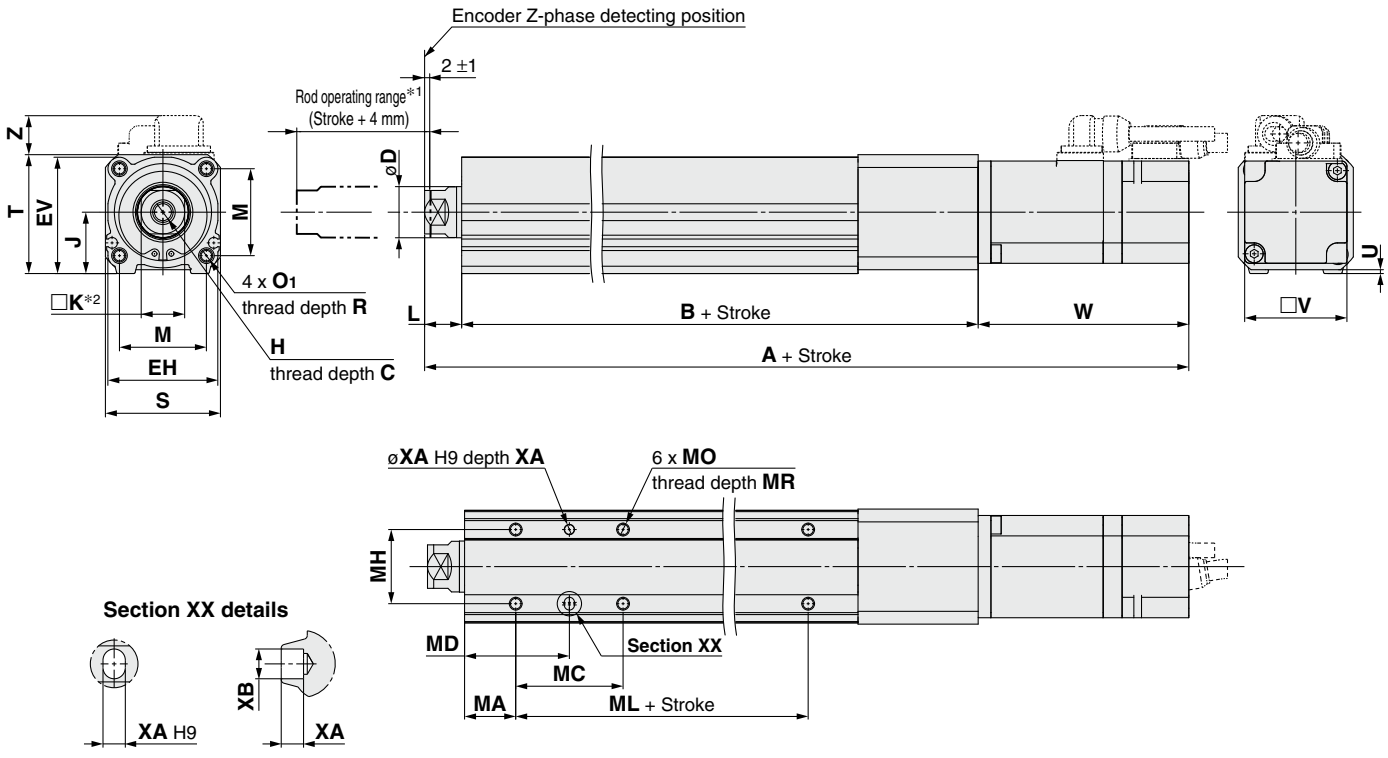


[mm]

Size	S_1	T_2	U
25	47	91	1
32	61	117	1

∗ When the motor is mounted on the left or right side in parallel, the groove for auto switch on the side to which the motor is mounted is hidden.

Dimensions: In-line Motor



*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	C	D	EH	EV	H	J	K	L	M	O1	R	S	T	U	B	V
25	15 to 100	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	45	46.5	1.5	136.5	40
	105 to 400															161.5	
32	20 to 100	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	61	1	156	60
	105 to 500															186	

Size	Stroke range [mm]	Incremental encoder						Absolute encoder [S6/S7]						Absolute encoder [T6/T7]					
		Without lock			With lock			Without lock			With lock			Without lock			With lock		
		A	W	Z	A	W	Z	A	W	Z	A	W	Z	A	VB	VC	A	VB	VC
25	15 to 100	238	87	14.6	274.9	123.9	16.3	233.4	82.4	14.6	274.5	123.5	16.3	233.4	82.4	14.6	274	123	16.3
	105 to 400	263			299.9			258.4			299.5			258.4			299		
32	20 to 100	262.7	88.2	17.1	291.3	116.8	17.1	251.1	76.6	17.1	290.6	116.1	17.1	251.1	76.6	17.1	287.9	113.4	17.1
	105 to 500	292.7			321.3			281.1			320.6			281.1			317.9		

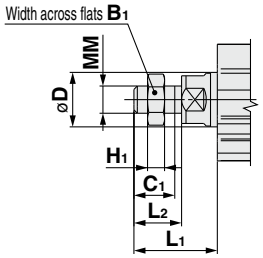
Body Bottom Tapped

[mm]

Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
25	15 to 39	20	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100		42	41						
	101 to 124					75				
	125 to 200		59	49.5						
	201 to 400		76	58						
32	20 to 39	25	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100		36	43						
	101 to 124					80				
	125 to 200		53	51.5						
	201 to 500		70	60						

Dimensions

End male thread: LEY$^{25}_{32}$□□$^{A}_{B}$-□□M$^{}_{C}$



* Refer to page 361 for details on the rod end nut and mounting bracket.
* Refer to the precautions on page 414 when mounting end brackets such as knuckle joint or workpieces.

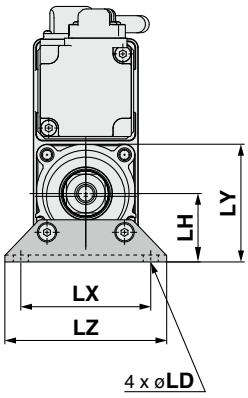
[mm]

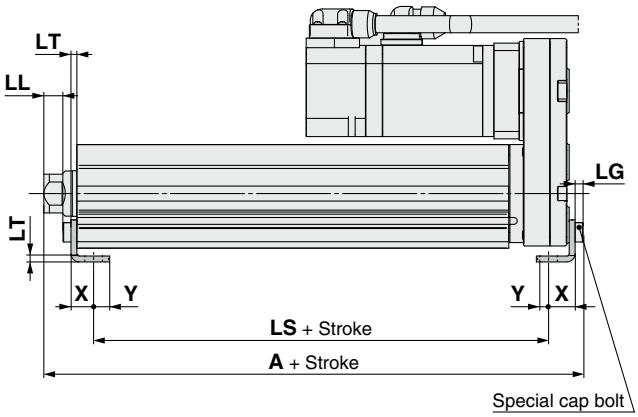
Size	B1	C1	D	H1	L1	L2	MM
25	22	20.5	20	8	38	23.5	M14 x 1.5
32	22	20.5	25	8	42.0	23.5	M14 x 1.5

* The L1 measurement is when the unit is in the original position. At this position, 2 mm at the end.

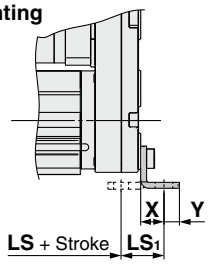
Foot: LEY$^{25}_{32}$□□$^{A}_{B}$-□□□L$^{}_{C}$

Included parts
・Foot bracket
・Body mounting bolt





Outward mounting



Foot

[mm]

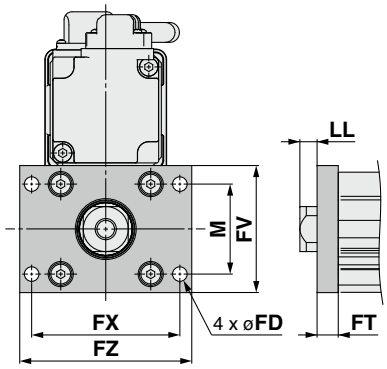
Size	Stroke range [mm]	A	LS	LS1	LL	LD	LG	LH	LT	LX	LY	LZ	X	Y
25	15 to 100	136.6	98.8	19.8	8.4	6.6	3.5	30	2.6	57	51.5	71	11.2	5.8
	101 to 400	161.6	123.8											
32	20 to 100	155.7	114	19.2	11.3	6.6	4	36	3.2	76	61.5	90	11.2	7
	101 to 500	185.7	144											

Material: Carbon steel (Chromating)

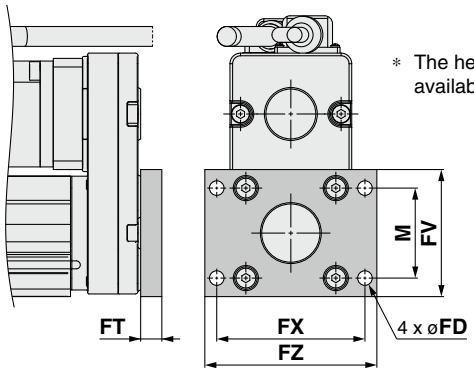
* The A measurement is when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end.
* When the motor mounting is the right or left side parallel type, the head side foot bracket should be mounted outward.

Dimensions

Rod flange: LEY$^{25}_{32}$□□$^{A}_{B}$-□□□F$^{}_{C}$



Head flange: LEY25□□$^{A}_{B}$-□□□G$^{}_{C}$



∗ The head flange type is not available for the LEY32.

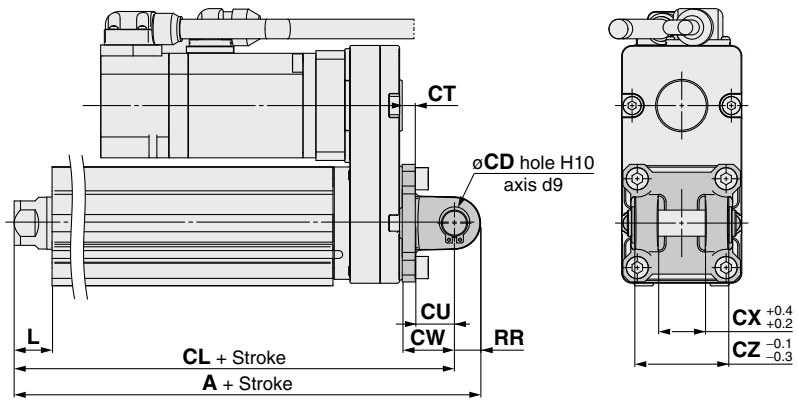
Included parts
- Flange
- Body mounting bolt

Rod/Head Flange [mm]

Size	FD	FT	FV	FX	FZ	LL	M
25	5.5	8	48	56	65	6.5	34
32	5.5	8	54	62	72	10.5	40

Material: Carbon steel (Nickel plating)

Double clevis: LEY$^{25}_{32}$□□$^{A}_{B}$-□□□D$^{}_{C}$



Included parts
- Double clevis
- Body mounting bolt
- Clevis pin
- Retaining ring

∗ Refer to page 361 for details on the rod end nut and mounting bracket.

Double Clevis [mm]

Size	Stroke range [mm]	A	CL	CD	CT
25	15 to 100	160.5	150.5	10	5
	101 to 200	185.5	175.5		
32	20 to 100	180.5	170.5	10	6
	101 to 200	210.5	200.5		

Size	Stroke range [mm]	CU	CW	CX	CZ	L	RR
25	15 to 100	14	20	18	36	14.5	10
	101 to 200						
32	20 to 100	14	22	18	36	18.5	10
	101 to 200						

Material: Cast iron (Coating)

∗ The A and CL measurements are when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end.

Electric Actuator Rod Type

Dust-tight/Water-jet-proof (IP65 Equivalent)

∗ Option

LEY Series LEY63 Size 63

∗ Refer to tables ❹ and ⓭ below.

RoHS

LECY□ Series ▶p. 351 Motorless Type ▶p. 907

Refer to page 305 for model selection.

How to Order

LEY H 63 □ S4 B – 200 □ □ □ □ – S 2 A2 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭ ⓮

❶ Accuracy

Nil	Basic type
H	High-precision type

❷ Size

63

❸ Motor mounting position

Nil	Top mounting
R	Right side parallel
L	Left side parallel
D	In-line

❹ Motor type

Symbol	Type	Output [W]	Actuator size	Compatible drivers	UL-compliant
S4	AC servo motor (Incremental encoder)	400	63	LECSA2-S4	—
S8	AC servo motor (Absolute encoder)	400	63	LECSB2-S8 LECSC2-S8 LECSS2-S8	—
T8∗1	AC servo motor (Absolute encoder)	400	63	LECSB2-T8 LECSC2-T8	—
				LECSS2-T8	●∗1

∗1 The only compatible driver complaint with UL standards is the LECSS2-T8.

❺ Lead [mm]

Symbol	LEY63
A	20
B	10
C	5
L	2.86∗1 ∗2

∗1 Screw lead 5 mm, Pulley ratio [4:7] equivalent lead
∗2 Only available for top mounting and right/left side parallel types

❻ Stroke [mm]

50	50
to	to
800	800

∗ For details, refer to the applicable stroke table below.

❼ Dust-tight/Water-jet-proof

Nil	IP5x equivalent (Dust-protected)
P	IP65 equivalent (Dust-tight/Water-jet-proof)/ With vent hole tap

∗ When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water.
∗ The fitting and tubing should be provided separately by the customer. Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].
∗ Cannot be used in an environment where oil such as cutting oil splashes or it is constantly exposed to water. Take appropriate protective measures. For details on enclosure, refer to the "Enclosure" on page 415.

❽ Motor option

Nil	Without option
B	With lock

❾ Rod end thread

Nil	Rod end female thread
M	Rod end male thread (1 rod end nut is included.)

❿ Mounting∗1

Symbol	Type	Motor mounting position	
		Top/Parallel	In-line
Nil	Ends tapped/ Body bottom tapped ∗2	●	●
L	Foot	●	—
F	Rod flange∗2	●	●
D	Double clevis∗3	●	—

∗1 The mounting bracket is shipped together with the product but does not come assembled.
∗2 For the horizontal cantilever mounting of the rod flange or ends tapped types, use the actuator within the following stroke range.
• LEY63: 400 mm or less
∗3 For the mounting of the double clevis type, use the actuator within the following stroke range.
• LEY63: 300 mm or less

⓫ Cable type∗1

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

∗1 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)
∗ Standard cable entry direction is
• Top/Parallel: (A) Axis side
• In-line: (B) Counter axis side
(Refer to page 796 for details.)

⓬ Cable length∗2 [m]

Nil	Without cable
2	2
5	5
A	10

∗2 The length of the encoder, motor, and lock cables are the same.

⓭ Driver type∗

	Compatible drivers	Power supply voltage	UL-compliant
Nil	Without driver	—	—
A2	LECSA2-S4	200 to 230	—
B2	LECSB2-S8	200 to 230	—
	LECSB2-T8	200 to 240	—
C2	LECSC2-S8	200 to 230	—
	LECSC2-T8		—
S2	LECSS2-S8	200 to 230	—
	LECSS2-T8	200 to 240	●

∗ When a driver type is selected, a cable is included. Select the cable type and cable length.
Example) S2S2: Standard cable (2 m) + Driver (LECSS2)
S2: Standard cable (2 m)
Nil: Without cable and driver

⓮ I/O cable length [m]∗1

Nil	Without cable
H	Without cable (Connector only)
1	1.5

∗1 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 797 if I/O cable is required. (Options are shown on page 797.)

Applicable Stroke Table

Model \ Stroke [mm]	50	100	150	200	250	300	350	400	450	500	600	700	800	Manufacturable stroke range
LEY63	●	●	●	●	●	●	●	●	●	●	●	●	●	50 to 800

∗ Please consult with SMC for non-standard strokes as they are produced as special orders.

Specifications

Model			LEY63S$^{4}_{8}$/T8 (Top/Parallel)				LEY63DS$^{4}_{8}$/T8 (In-line)		
Actuator specifications	Work load [kg]	Horizontal∗1	40	70	80	200	40	70	80
		Vertical∗14	19	38	72	115	19	38	72
	Force [N]/Set value∗2: 15 to 50%∗3, 4		156 to 521	304 to 1012	573 to 1910	1003 to 3343	156 to 521	304 to 1012	573 to 1910
	Max. speed∗5 [mm/s] — Stroke range	Up to 500	1000	500	250	70	1000	500	250
		505 to 600	800	400	200		800	400	200
		605 to 700	600	300	150		600	300	150
		705 to 800	500	250	125		500	250	125
	Pushing speed [mm/s]∗6		30 or less						
	Max. acceleration/deceleration [mm/s²]		5000			3000	5000		
	Positioning repeatability [mm]	Basic type	±0.02						
		High-precision type	±0.01						
	Lost motion [mm]∗7	Basic type	0.1 or less						
		High-precision type	0.05 or less						
	Screw lead [mm] (including pulley ratio)		20	10	5	5 (2.86)	20	10	5
	Impact/Vibration resistance [m/s²]∗8		50/20						
	Actuation type		Ball screw + Belt			Ball screw + Belt (Pulley ratio 4:7)	Ball screw		
	Guide type		Sliding bushing (Piston rod)						
	Operating temperature range [°C]		5 to 40						
	Operating humidity range [%RH]		90 or less (No condensation)						
	Regeneration option		May be required depending on speed and work load (Refer to pages 307 and 308.)						
Electric specifications	Motor output/Size		400 W/□60						
	Motor type		AC servo motor (200 VAC)						
	Encoder∗15		Motor type S4: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S8: Absolute 18-bit encoder (Resolution: 262144 p/rev) Motor type T8: Absolute 22-bit encoder (Resolution: 4194304 p/rev) (For LECSB2-T8, LECSS2-T8) Motor type T8: Absolute 18-bit encoder (Resolution: 262144 p/rev) (For LECSC2-T8)						
	Power consumption [W]∗9	Horizontal	210						
		Vertical	230						
	Standby power consumption when operating [W]∗10	Horizontal	2						
		Vertical	18						
	Max. instantaneous power consumption [W]∗11		1275						
Lock unit specifications	Type∗12		Non-magnetizing lock						
	Holding force [N]		313	607	1146	2006	313	607	1146
	Power consumption [W] at 20°C∗13		7.9						
	Rated voltage [V]		24 VDC$^{0}_{-10\%}$						

∗1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.
∗2 Set values for the driver
∗3 The force setting range (set values for the driver) for the force control with the torque control mode. The force and duty ratio change according to the set value. Set it while referencing the "Force Conversion Graph" on page 309. When the control equivalent to the pushing operation of the JXC51/61 series controller is performed, select the LECSS, LECSS-T or LECSB2-T driver. The point table no. input method is used for the LECSB2-T. When selecting the LECSS or LECSS2-T, combine it with a Simple Motion module (manufactured by Mitsubishi Electric Corporation) which has a pushing operation function.
∗4 For the motor type T8, the set value is from 12 to 40%.
∗5 The allowable speed changes according to the stroke. Set the number of rotations according to speed.
∗6 The allowable collision speed for collision with the workpiece with the torque control mode
∗7 A reference value for correcting an error in reciprocal operation
∗8 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
∗9 The power consumption (including the driver) is for when the actuator is operating.
∗10 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
∗11 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
∗12 Only when motor option "With lock" is selected
∗13 For an actuator with lock, add the power consumption for the lock.
∗14 When mounting vertically and using the product facing upwards in an environment where water is present, take necessary measures to prevent water from splashing on the rod cover, because water will accumulate on the rod seal due to the structure of the product.
∗15 For motor type T8, the resolution will change depending on the driver type.

Weight

Product Weight

[kg]

Series		LEY63S$^{4}_{8}$ (Motor mounting position: Top/Parallel)												
Stroke [mm]		50	100	150	200	250	300	350	400	450	500	600	700	800
Motor type	Incremental encoder	4.9	5.4	6.0	6.6	7.8	8.3	8.9	9.4	10.0	10.5	12.2	13.4	14.5
	Absolute encoder (Motor type S8)	5.0	5.5	6.1	6.7	7.9	8.4	9.0	9.5	10.1	10.6	12.3	13.5	14.6
	Absolute encoder (Motor type T8)	4.9	5.4	6.0	6.6	7.8	8.3	8.9	9.4	10.0	10.5	12.2	13.4	14.5

Series		LEY63DS$^{4}_{8}$ (Motor mounting position: In-line)												
Stroke [mm]		50	100	150	200	250	300	350	400	450	500	600	700	800
Motor type	Incremental encoder	5.1	5.6	6.2	6.7	7.9	8.4	9.0	9.6	10.2	10.7	12.4	13.5	14.7
	Absolute encoder (Motor type S8)	5.2	5.7	6.3	6.8	8.0	8.5	9.1	9.7	10.3	10.8	12.5	13.6	14.8
	Absolute encoder (Motor type T8)	5.1	5.6	6.2	6.7	7.9	8.4	9.0	9.6	10.2	10.7	12.4	13.5	14.7

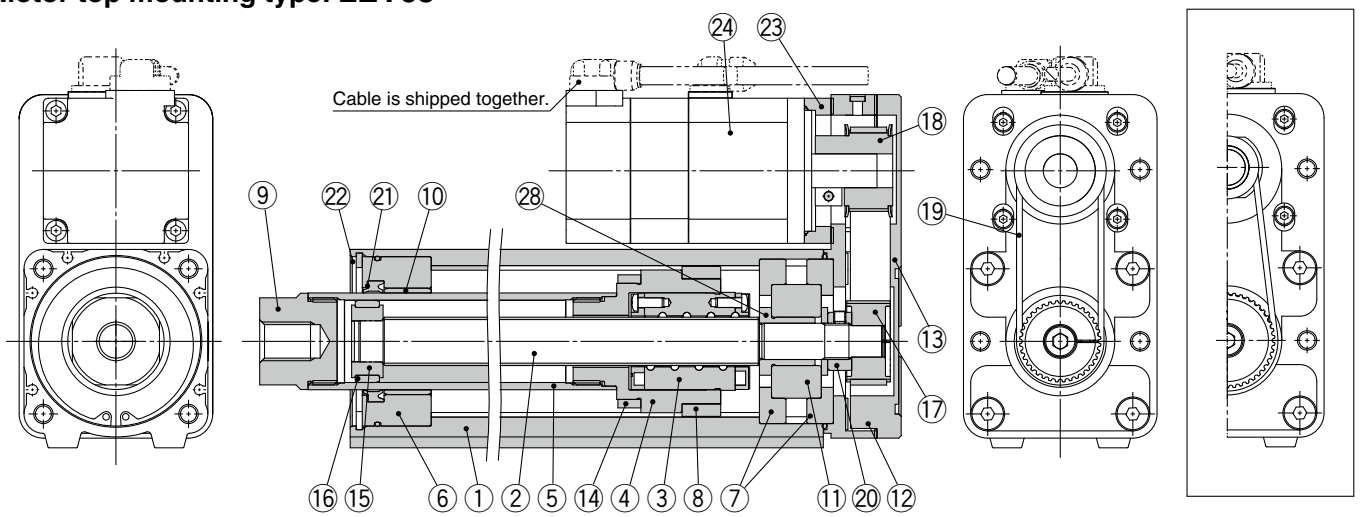
Additional Weight

[kg]

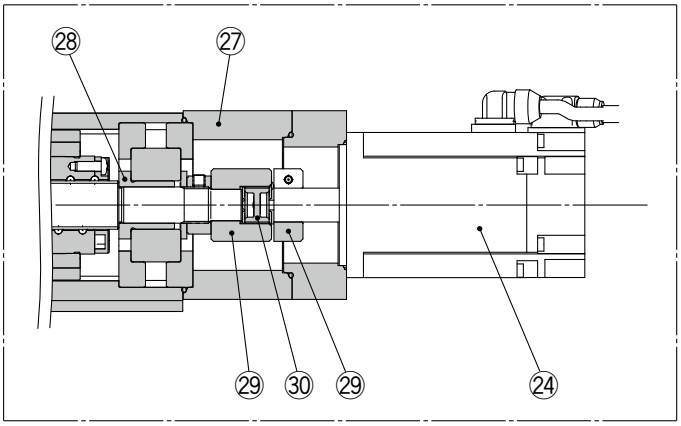
Size		63
Lock	Incremental encoder	0.4
	Absolute encoder (Motor type S8)	0.6
	Absolute encoder (Motor type T8)	0.4
Rod end male thread	Male thread	0.12
	Nut	0.04
Foot bracket (2 sets including mounting bolt)		0.26
Rod flange (including mounting bolt)		0.51
Double clevis (including pin, retaining ring, and mounting bolt)		0.58

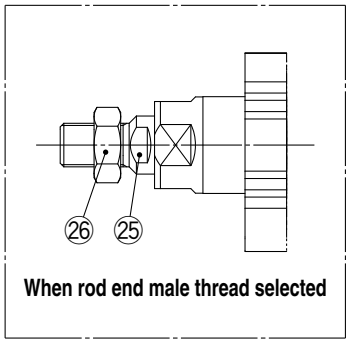
Construction

Motor top mounting type: LEY63



In-line motor type: LEY63D





Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Synthetic resin/Alloy steel	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Bushing**	Bearing alloy	
11	**Bearing**	—	
12	**Return box**	Aluminum alloy	Coating
13	**Return plate**	Aluminum alloy	Coating
14	**Magnet**	—	
15	**Wear ring holder**	Stainless steel	

No.	Description	Material	Note
16	**Wear ring**	Synthetic resin	
17	**Screw shaft pulley**	Aluminum alloy	
18	**Motor pulley**	Aluminum alloy	
19	**Belt**	—	
20	**Lock nut**	Alloy steel	Black dyed
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	
23	**Motor adapter**	Aluminum alloy	Coating
24	**Motor**	—	
25	**Socket (Male thread)**	Free cutting carbon steel	Nickel plating
26	**Nut**	Alloy steel	Trivalent chromating
27	**Motor block**	Aluminum alloy	Coating
28	**Spacer A**	Stainless steel	
29	**Hub**	Aluminum alloy	
30	**Spider**	Urethane	

Replacement Parts (Motor top/parallel only)/Belt

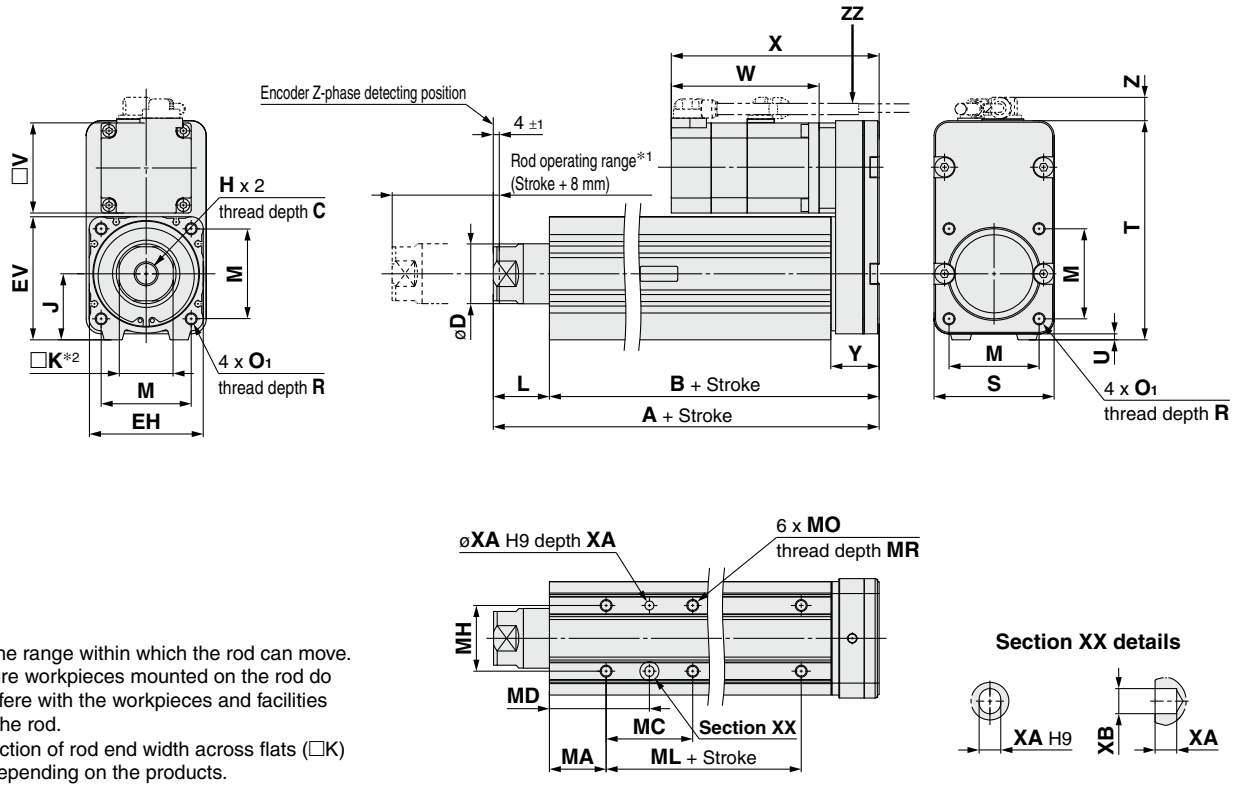
No.	Size	Lead	Order no.
19	**63**	A/B/C	LE-D-2-5
		L	LE-D-2-6

Replacement Parts/Grease Pack

Applied portion	Order no.
Piston rod	GR-S-010 (10 g) GR-S-020 (20 g)

* Apply grease on the piston rod periodically.
Grease should be applied at 1 million cycles or 200 km, whichever comes first.

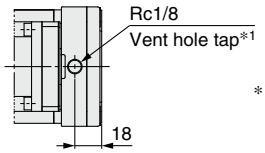
Dimensions: Motor Top/Parallel



∗1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
∗2 The direction of rod end width across flats (□K) differs depending on the products.

IP65 equivalent (Dust-tight/Water-jet-proof): LEY63□□□-□P

(View ZZ)



∗1 When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

[mm]

Size	Stroke range [mm]	A	B	C	D	EH	EV	H	J	K	L	M	O1	R	S	Y	T	U	V
63	Up to 200	192.6	155.2	21	40	76	82	M16 x 2	44	36	37.4	60	M8 x 1.25	16	80	32.2	146	4	60
	205 to 500	227.6	190.2																
	505 to 800	262.6	225.2																

Size	Stroke range [mm]	Incremental encoder						Absolute encoder [S8]						Absolute encoder [T8]					
		Without lock			With lock			Without lock			With lock			Without lock			With lock		
		W	X	Z	W	X	Z	W	X	Z	W	X	Z	W	X	Z	W	X	Z
63	Up to 200	110.2	150.2	15.6 (16.6)∗1	138.8	178.8	15.6 (16.6)∗1	98.5	138.5	15.6 (16.6)∗1	138	178	15.6 (16.6)∗1	98.3	138.3	15.6 (16.6)∗1	135.1	175.1	15.6 (16.6)∗1
	205 to 500																		
	505 to 800																		

∗1 The values in ( ) are the dimensions when L is selected for screw lead.

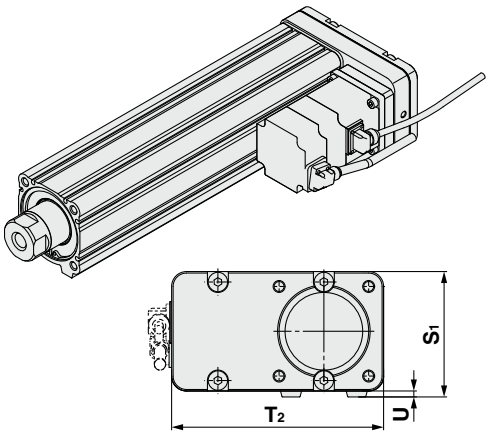
Body Bottom Tapped

[mm]

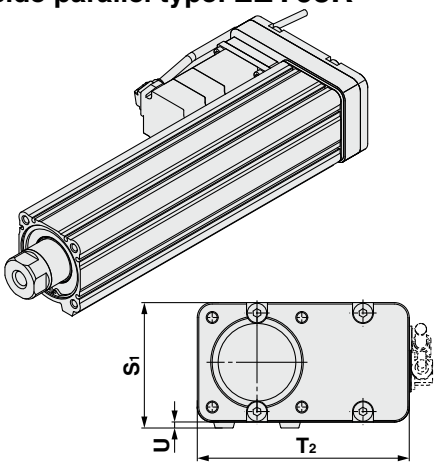
Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
63	50 to 74	38	24	50	44	65	M8 x 1.25	10	6	7
	75 to 124		45	60.5						
	125 to 200		58	67						
	201 to 500		86	81		100				
	501 to 800					135				

Dimensions: Motor Top/Parallel

Motor left side parallel type: LEY63L



Motor right side parallel type: LEY63R



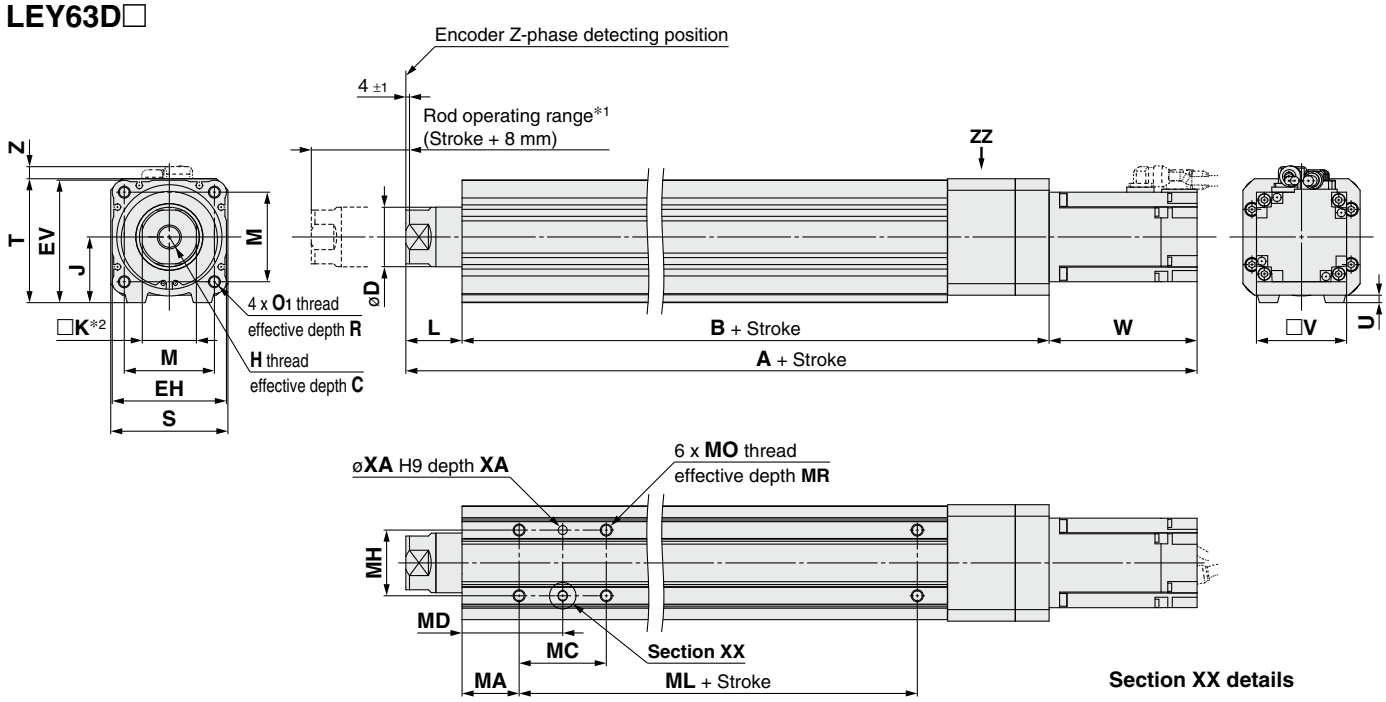
[mm]

Size	S_1	T_2	U
63	84	142	4

* When the motor is mounted on the left or right side in parallel, the groove for auto switch on the side to which the motor is mounted is hidden.

Dimensions: In-line Motor

LEY63D□



∗1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
∗2 The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	C	D	EH	EV	H	J	K	L	M	O1	R	S	T	U	B	V
63	Up to 200	21	40	76	82	M16 x 2	44	36	37.4	60	M8 x 1.25	16	78	83	5	190.7	60
	205 to 500															225.7	
	505 to 800															260.7	

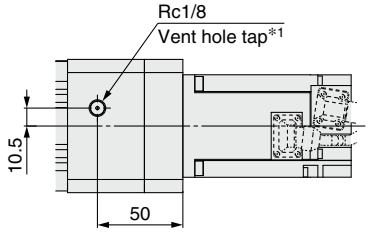
Size	Stroke range [mm]	Incremental encoder [S4]						Absolute encoder [S8]						Absolute encoder [T8]					
		Without lock			With lock			Without lock			With lock			Without lock			With lock		
		A	W	Z	A	W	Z	A	W	Z	A	W	Z	A	W	Z	A	W	Z
63	Up to 200	338.3	110.2	8.1	366.9	138.8	8.1	326.6	98.5	8.1	366.1	138	8.1	326.4	98.3	8.1	363.2	135.1	8.1
	205 to 500	373.3			401.9			361.6			401.1			361.4			398.2		
	505 to 800	408.3			436.9			396.6			436.1			396.4			433.2		

Body Bottom Tapped

[mm]

Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
63	50 to 74	38	24	50	44	65	M8 x 1.25	10	6	7
	75 to 124		45	60.5						
	125 to 200		58	67						
	201 to 500		86	81		100				
	501 to 800					135				

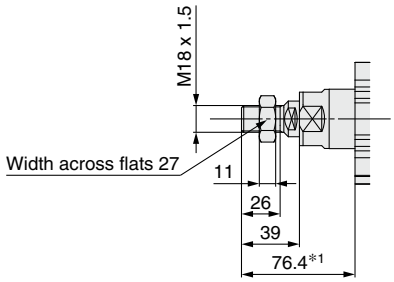
IP65 equivalent (Dust-tight/Water-jet-proof): LEY63D□□-□P
(View ZZ)



∗1 When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

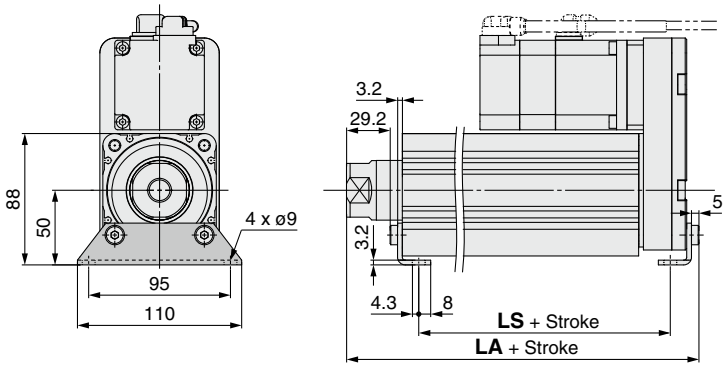
Dimensions

End male thread: LEY63□□□-□□M

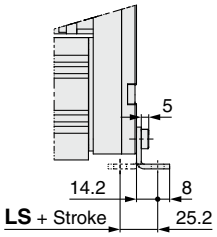


∗1 The measurement 76.4 is when the unit is in the Z-phase detecting position. At this position, 4 mm from the end of the operating range.

Foot: LEY63□□□-□□L



Outward mounting



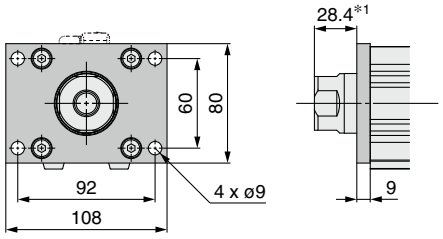
Included parts
• Foot bracket
• Body mounting bolt

Material: Carbon steel (Chromating)
∗ The overall length is when the unit is in the Z-phase detecting position. At this position, 4 mm from the end of the operating range.
∗ When the motor mounting is the right or left side parallel type, the head side foot bracket should be mounted outward.

[mm]

Stroke range [mm]	LA	LS
50 to 200	200.8	133.2
201 to 500	235.8	168.2
501 to 800	270.8	203.2

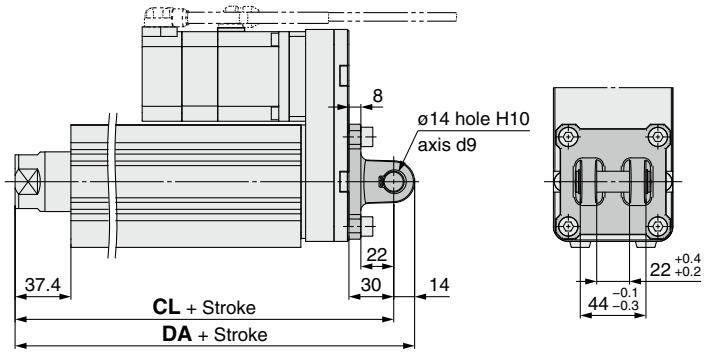
Rod flange: LEY63□□□-□□F



Included parts
• Flange
• Body mounting bolt

Material: Carbon steel (Nickel plating)
∗1 When the unit is in the Z-phase detecting position. At this position, 4 mm from the end of the operating range.

Double clevis: LEY63□□□-□□D



Included parts
• Double clevis
• Body mounting bolt
• Clevis pin
• Retaining ring

Material: Cast iron (Coating)
∗ The overall length is when the unit is in the Z-phase detecting position. At this position, 4 mm from the end of the operating range.

[mm]

Stroke range [mm]	DA	CL
50 to 200	236.6	222.6
201 to 500	271.6	257.6
501 to 800	306.6	292.6

Electric Actuator Rod Type

Dust-tight/Water-jet-proof (IP65 Equivalent)

∗ Option

LEY Series LEY25, 32, 63

CE RoHS

LECS□ Series ▸p. 333, 343 Dust-tight/Water-jet-proof (IP65 Equivalent) ▸p. 625 Secondary Battery Compatible ▸p. 679
Motorless Type ▸p. 907

How to Order

LEY H 25 □ V6 B – 200 □ □ □ □ – S 3 M2 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭ ⓮

❶ Accuracy

Nil	Basic type
H	High-precision type

❷ Size

25
32
63

❸ Motor mounting position

Nil	Top mounting
R	Right side parallel
L	Left side parallel
D	In-line

❹ Motor type

Symbol	Type	Output [W]	Size	Compatible drivers
V6∗1	AC servo motor (Absolute encoder)	100	25	LECYM2-V5 LECYU2-V5
V7		200	32	LECYM2-V7 LECYU2-V7
V8		400	63	LECYM2-V8 LECYU2-V8

∗1 For motor type V6, the compatible driver part number suffix is V5.

❺ Lead [mm]

Symbol	LEY25	LEY32∗1	LEY63
A	12	16 (20)	20
B	6	8 (10)	10
C	3	4 (5)	5
L	—	—	2.86∗2

∗1 The values shown in ( ) are the leads for the top mounting, right/left side parallel types. (Equivalent leads which include the pulley ratio [1.25:1])

∗2 Only available for top mounting and right/left side parallel types (Equivalent leads which include the pulley ratio [4:7])

❻ Stroke [mm]

30	30
to	to
800	800

∗ For details, refer to the applicable stroke table below.

❼ Dust-tight/Water-jet-proof (Only available for LEY63)

Symbol	LEY25/32	LEY63
Nil	IP4x equivalent	IP5x equivalent (Dust-protected)
P	—	IP65 equivalent (Dust-tight/ Water-jet-proof)/With vent hole tap

∗ When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water.

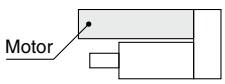
∗ The fitting and tubing should be provided separately by the customer. Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

∗ Cannot be used in environments exposed to cutting oil, etc. Take appropriate protective measures. For details on enclosure, refer to the "Enclosure" on page 415.

❽ Motor option

Nil	Without option
B	With lock

∗ When "With lock" is selected for the top mounting and right/left side parallel types, the motor body will stick out from the end of the body for size 25 with strokes of 30 mm or less. Check for interference with workpieces before selecting a model.



❾ Rod end thread

Nil	Rod end female thread
M	Rod end male thread (1 rod end nut is included.)

Applicable Stroke Table

●: Standard

Model \ Stroke [mm]	30	50	100	150	200	250	300	350	400	450	500	600	700	800	Manufacturable stroke range
LEY25	●	●	●	●	●	●	●	●	●	—	—	—	—	—	15 to 400
LEY32	●	●	●	●	●	●	●	●	●	●	●	—	—	—	20 to 500
LEY63	—	●	●	●	●	●	●	●	●	●	●	●	●	●	50 to 800

∗ Please consult with SMC for non-standard strokes as they are produced as special orders.

For auto switches, refer to pages 363 to 365.

Motor mounting position: Top/Parallel

Motor mounting position: In-line

⑩ Mounting*1

Symbol	Type	Motor mounting position	
		Top/Parallel	In-line
Nil	Ends tapped/ Body bottom tapped*2	●	●
L	Foot	●	—
F	Rod flange*2	●*4	●
G	Head flange*2	●*5	—
D	Double clevis*3	●	—

*1 The mounting bracket is shipped together with the product but does not come assembled.
*2 For the horizontal cantilever mounting of the ends tapped, rod flange, or head flange types, use the actuator within the following stroke range.
· LEY25: 200 mm or less · LEY32: 100 mm or less · LEY63: 400 mm or less
*3 For the mounting of the double clevis type, use the actuator within the following stroke range.
· LEY25: 200 mm or less · LEY32: 200 mm or less · LEY63: 300 mm or less
*4 The rod flange type is not available for the LEY25 with a 30 mm stroke and motor option "With lock."
*5 The head flange type is not available for the LEY32/LEY63.

⑪ Cable type*1

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

*1 The motor and encoder cables are included. The motor cable for lock option is included when the motor with lock option is selected.

⑫ Cable length [m]*1

Nil	Without cable
3	3
5	5
A	10
C	20

*1 The length of the motor and encoder cables are the same. (For with lock)

⑬ Driver type

	Compatible drivers	Power supply voltage [V]
Nil	Without driver	—
M2	LECYM2-V□	200 to 230
U2	LECYU2-V□	200 to 230

* When a driver type is selected, a cable is included. Select the cable type and cable length.

⑭ I/O cable length [m]*1

Nil	Without cable
H	Without cable (Connector only)
1	1.5

*1 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 808 if I/O cable is required. (Options are shown on page 808.)

Compatible Drivers

Driver type	MECHATROLINK-Ⅱ type 	MECHATROLINK-Ⅲ type 
Series	**LECYM**	**LECYU**
Applicable network	MECHATROLINK-Ⅱ	MECHATROLINK-Ⅲ
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	801	

Specifications

Model			LEY25V6 (Top/Parallel)/LEY25DV6 (In-line)			LEY32V7 (Top/Parallel)			LEY32DV7 (In-line)		
Actuator specifications	Work load [kg]	Horizontal*1	18	50	50	30	60	60	30	60	60
		Vertical	8	16	30	9	19	37	12	24	46
	Force [N]*2 (Set value: 45 to 90%)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max.*3 speed [mm/s]	Stroke range: Up to 300	900	450	225	1200	600	300	1000	500	250
		305 to 400	600	300	150						
		405 to 500	—	—	—	800	400	200	640	320	160
	Pushing speed [mm/s]*4		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s²]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02			±0.02					
		High-precision type	±0.01			±0.01					
	Lost motion*5 [mm]	Basic type	0.1 or less			0.1 or less					
		High-precision type	0.05 or less			0.05 or less					
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s²]*6		50/20			50/20					
	Actuation type		Ball screw + Belt (LEY□)/Ball screw (LEY□D)			Ball screw + Belt [1.25:1]			Ball screw		
	Guide type		Sliding bushing (Piston rod)			Sliding bushing (Piston rod)					
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Conditions for*7 "Regenerative resistor" [kg]	Horizontal	Not required			Not required					
		Vertical	6 or more			4 or more					
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (200 VAC)			AC servo motor (200 VAC)					
	Encoder		Absolute 20-bit encoder (Resolution: 1048576 p/rev)								
	Power consumption [W]*8	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W]*9	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W]*10		445			724			724		
Lock unit specifications	Type*11		Non-magnetizing lock								
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption [W] at 20°C*12		5.5			6			6		
	Rated voltage [V]		24 VDC $^{+10\%}_{0}$								

*1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.
*2 The force setting range (set values for the driver) for the force control with the torque control mode. Set it while referencing the "Force Conversion Graph (Guide)" on page 316.
*3 The allowable speed changes according to the stroke.
*4 The allowable collision speed for collision with the workpiece with the torque control mode
*5 A reference value for correcting an error in reciprocal operation
*6 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
*7 The work load conditions which require the "Regenerative resistor" when operating at the maximum speed (Duty ratio: 100%). Order the regenerative resistor separately. For details, refer to the "Conditions for Regenerative Resistor (Guide)" on pages 314 and 315.
*8 The power consumption (including the driver) is for when the actuator is operating.
*9 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
*10 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
*11 Only when motor option "With lock" is selected
*12 For an actuator with lock, add the power consumption for the lock.

Weight

Product Weight

[kg]

Series	LEY25V6 (Motor mounting position: Top/Parallel)									LEY32V7 (Motor mounting position: Top/Parallel)										
Stroke [mm]	30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Weight [kg]	1.2	1.3	1.6	1.7	1.9	2.1	2.2	2.4	2.6	2.3	2.4	2.7	3.2	3.5	3.8	4.0	4.3	4.6	4.9	5.2

Series	LEY25DV6 (Motor mounting position: In-line)									LEY32DV7 (Motor mounting position: In-line)										
Stroke [mm]	30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Weight [kg]	1.2	1.3	1.5	1.7	1.9	2.1	2.3	2.4	2.6	2.3	2.4	2.7	3.2	3.5	3.8	4.1	4.3	4.6	4.9	5.2

Additional Weight

[kg]

Size		25	32
Lock		0.30	0.60
Rod end male thread	Male thread	0.03	0.03
	Nut	0.02	0.02
Foot bracket (2 sets including mounting bolt)		0.08	0.14
Rod flange (including mounting bolt)		0.17	0.20
Head flange (including mounting bolt)			
Double clevis (including pin, retaining ring, and mounting bolt)		0.16	0.22

Specifications

Model			LEY63V8 (Top/Parallel)				LEY63DV8 (In-line)		
Actuator specifications	Work load [kg]	Horizontal*1	40	70	80	200	40	70	80
		Vertical	19	38	72	115	19	38	72
	Force [N]/Set value*2 : 45 to 150%*3		156 to 521	304 to 1012	573 to 1910	1003 to 3343	156 to 521	304 to 1012	573 to 1910
	Max. speed*4 [mm/s] Stroke range	Up to 500	1000	500	250	70	1000	500	250
		505 to 600	800	400	200		800	400	200
		605 to 700	600	300	150		600	300	150
		705 to 800	500	250	125		500	250	125
	Pushing speed [mm/s]*5		30 or less						
	Max. acceleration/deceleration [mm/s²]		5000			3000	5000		
	Positioning repeatability [mm]	Basic type	±0.02						
		High-precision type	±0.01						
	Lost motion [mm]*6	Basic type	0.1 or less						
		High-precision type	0.05 or less						
	Screw lead [mm] (including pulley ratio)		20	10	5	5 (2.86)	20	10	5
	Impact/Vibration resistance [m/s²]*7		50/20						
	Actuation type		Ball screw			Ball screw + Belt (Pulley ratio 4:7)	Ball screw		
	Guide type		Sliding bushing (Piston rod)						
	Operating temperature range [°C]		5 to 40						
	Operating humidity range [%RH]		90 or less (No condensation)						
	Conditions for*8 "Regenerative resistor" [kg]	Horizontal	Not required						
		Vertical	2.5 or more						
Electric specifications	Motor output/Size		400 W/□60						
	Motor type		AC servo motor (200 VAC)						
	Encoder		Absolute 20-bit encoder (Resolution: 1048576 p/rev)						
	Power consumption [W]*9	Horizontal	210						
		Vertical	230						
	Standby power consumption when operating [W]*10	Horizontal	2						
		Vertical	18						
	Max. instantaneous power consumption [W]*11		1275						
Lock unit specifications	Type*12		Non-magnetizing lock						
	Holding force [N]		313	607	1146	2006	313	607	1146
	Power consumption [W] at 20°C*13		6						
	Rated voltage [V]		24 VDC $^{+10\%}_{0}$						

*1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.
*2 Set values for the driver
*3 The force setting range (set values for the driver) for the force control with the torque control mode. The force and duty ratio change according to the set value. Set it while referencing the "Force Conversion Graph (Guide)" on page 316.
*4 The allowable speed changes according to the stroke.
*5 The allowable collision speed for collision with the workpiece with the torque control mode
*6 A reference value for correcting an error in reciprocal operation
*7 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
*8 The work load conditions which require the "Regenerative resistor" when operating at the maximum speed (Duty ratio: 100%)
*9 The power consumption (including the driver) is for when the actuator is operating.
*10 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
*11 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
*12 Only when motor option "With lock" is selected
*13 For an actuator with lock, add the power consumption for the lock.

Weight

Product Weight

[kg]

Series	LEY63V8 (Motor mounting position: Top/Parallel)												
Stroke [mm]	50	100	150	200	250	300	350	400	450	500	600	700	800
Weight [kg]	4.8	5.3	6.0	6.5	7.7	8.2	8.8	9.3	9.9	10.4	12.1	13.3	14.4

Series	LEY63DV8 (Motor mounting position: In-line)												
Stroke [mm]	50	100	150	200	250	300	350	400	450	500	600	700	800
Weight [kg]	5.0	5.5	6.1	6.6	7.8	8.3	9.0	9.5	10.1	10.6	12.3	13.4	14.6

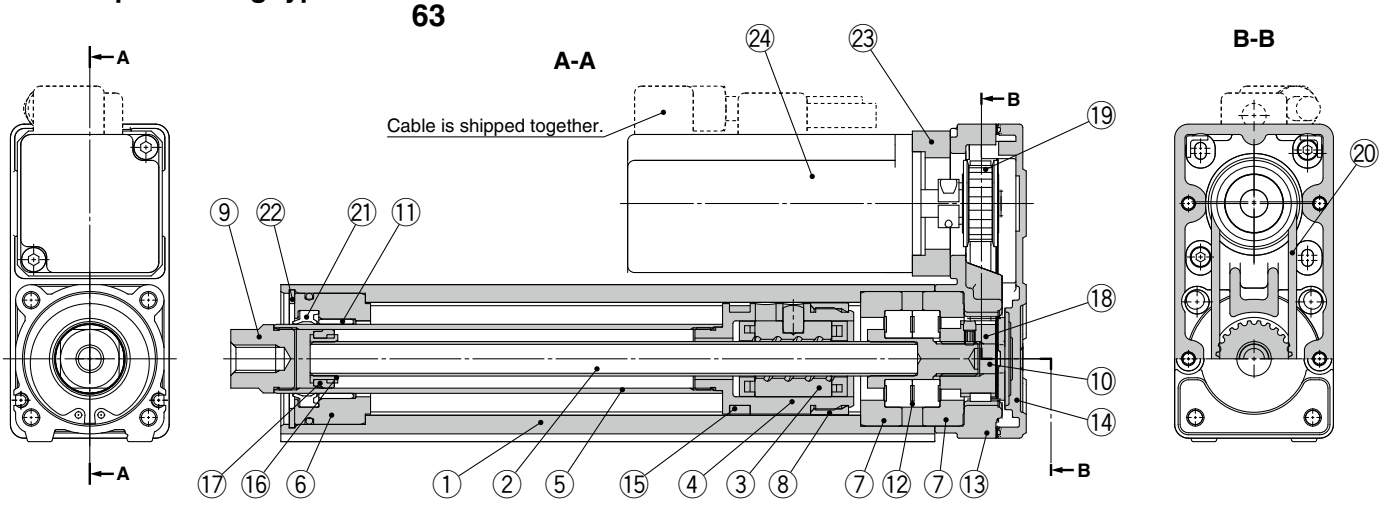
Additional Weight

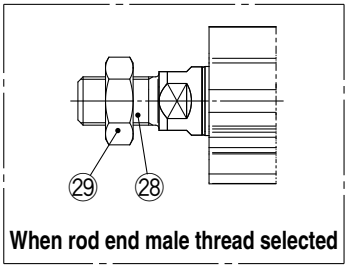
[kg]

Size		63
Lock		0.6
Rod end male thread	Male thread	0.12
	Nut	0.04
Foot bracket (2 sets including mounting bolt)		0.26
Rod flange (including mounting bolt)		0.51
Double clevis (including pin, retaining ring, and mounting bolt)		0.58

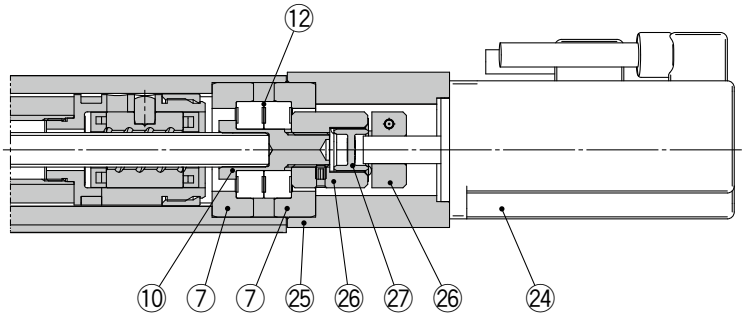
Construction

Motor top mounting type: LEY 25 / 32 / 63





In-line motor type: LEY 25 / 32 / 63 D



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Synthetic resin/Alloy steel	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Connected shaft**	Free cutting carbon steel	Nickel plating
11	**Bushing**	Bearing alloy	
12	**Bearing**	—	
13	**Return box**	Aluminum die-cast	Coating
14	**Return plate**	Aluminum die-cast	Coating
15	**Magnet**	—	
16	**Wear ring holder**	Stainless steel	Stroke 101 mm or more
17	**Wear ring**	Synthetic resin	Stroke 101 mm or more
18	**Screw shaft pulley**	Aluminum alloy	

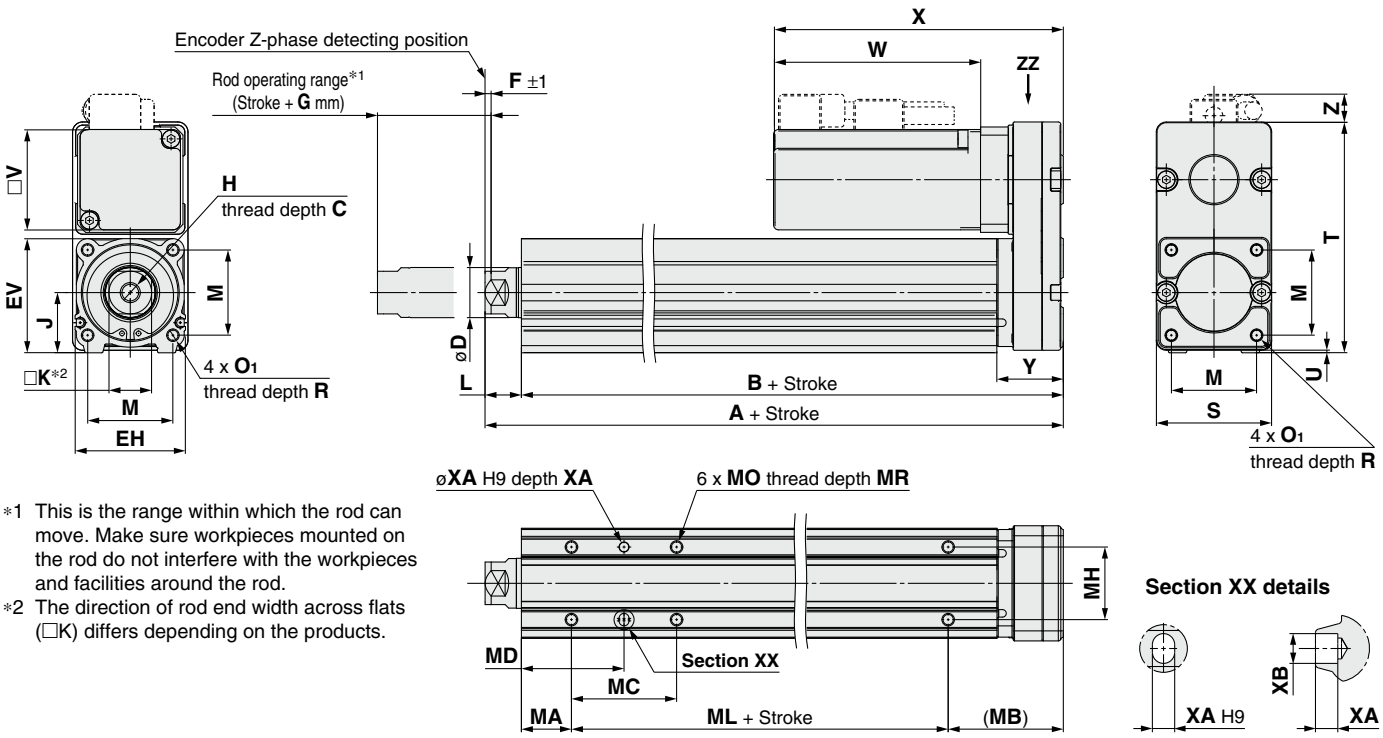
No.	Description	Material	Note
19	**Motor pulley**	Aluminum alloy	
20	**Belt**	—	
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	Phosphate coating
23	**Motor adapter**	Aluminum alloy	Coating
24	**Motor**	—	
25	**Motor block**	Aluminum alloy	Coating
26	**Hub**	Aluminum alloy	
27	**Spider**	Urethane	
28	**Socket (Male thread)**	Free cutting carbon steel	Nickel plating
29	**Nut**	Alloy steel	Zinc chromating

Replacement Parts (Motor top/parallel only)/Belt

No.	Size	Order no.
20	25	LE-D-2-2
	32	LE-D-2-4

No.	Size	Lead	Order no.
20	63	A/B/C	LE-D-2-5
		L	LE-D-2-6

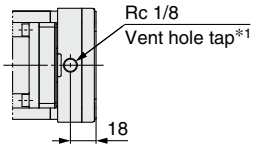
Dimensions: Motor Top/Parallel



*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 The direction of rod end width across flats (□K) differs depending on the products.

IP65 equivalent (Dust-tight/Water-jet-proof): LEY63□□□-□P

(View ZZ)



*1 When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

[mm]

Size	Stroke range [mm]	A	B	C	D	EH	EV	H	J	K	L	M	O_1	R	S	T	U	Y	V
25	15 to 100	130.5	116	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	46	92	1	26.5	40
	105 to 400	155.5	141																
32	20 to 100	148.5	130	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	118	1	34	60
	105 to 500	178.5	160																
63	Up to 200	192.6	155.2	21	40	76	82	M16 x 2	44	36	37.4	60	M8 x 1.25	16	80	146	4	32.2	60
	205 to 500	227.6	190.2																
	505 to 800	262.6	225.2																

Size	Stroke range [mm]	Without lock			With lock			F	G
		W	X	Z	W	X	Z		
25	15 to 100	82.5	115.5	11	127.5	160.5	11	2	4
	105 to 400								
32	20 to 100	80	120	14	120	160	14	2	4
	105 to 500								
63	50 to 200	98.5	138.5	12.5 (13.5)*1	138.5	178.5	12.5 (13.5)*1	4	8
	205 to 500								
	505 to 800								

*1 L lead

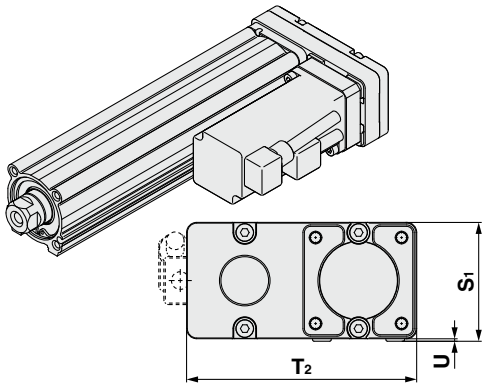
Body Bottom Tapped

[mm]

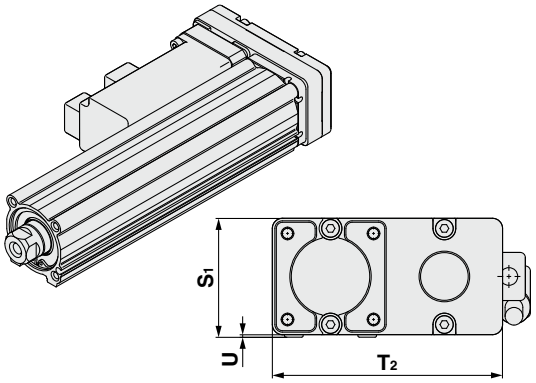
Size	Stroke range [mm]	MA	MB	MC	MD	MH	ML	MO	MR	XA	XB
25	15 to 35	20	46	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100			42	41						
	105 to 120						75				
	125 to 200			59	49.5						
	205 to 400			76	58						
32	20 to 35	25	55	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100			36	43						
	105 to 120						80				
	125 to 200			53	51.5						
	205 to 500			70	60						
63	50 to 70	38	52.2	24	50	44	65	M8 x 1.25	10	6	7
	75 to 120			45	60.5						
	125 to 200			58	67						
	205 to 500			86	81		100				
	505 to 800						135				

Dimensions: Motor Top/Parallel

Motor left side parallel type: LEY 25 32 63 L



Motor right side parallel type: LEY 25 32 63 R

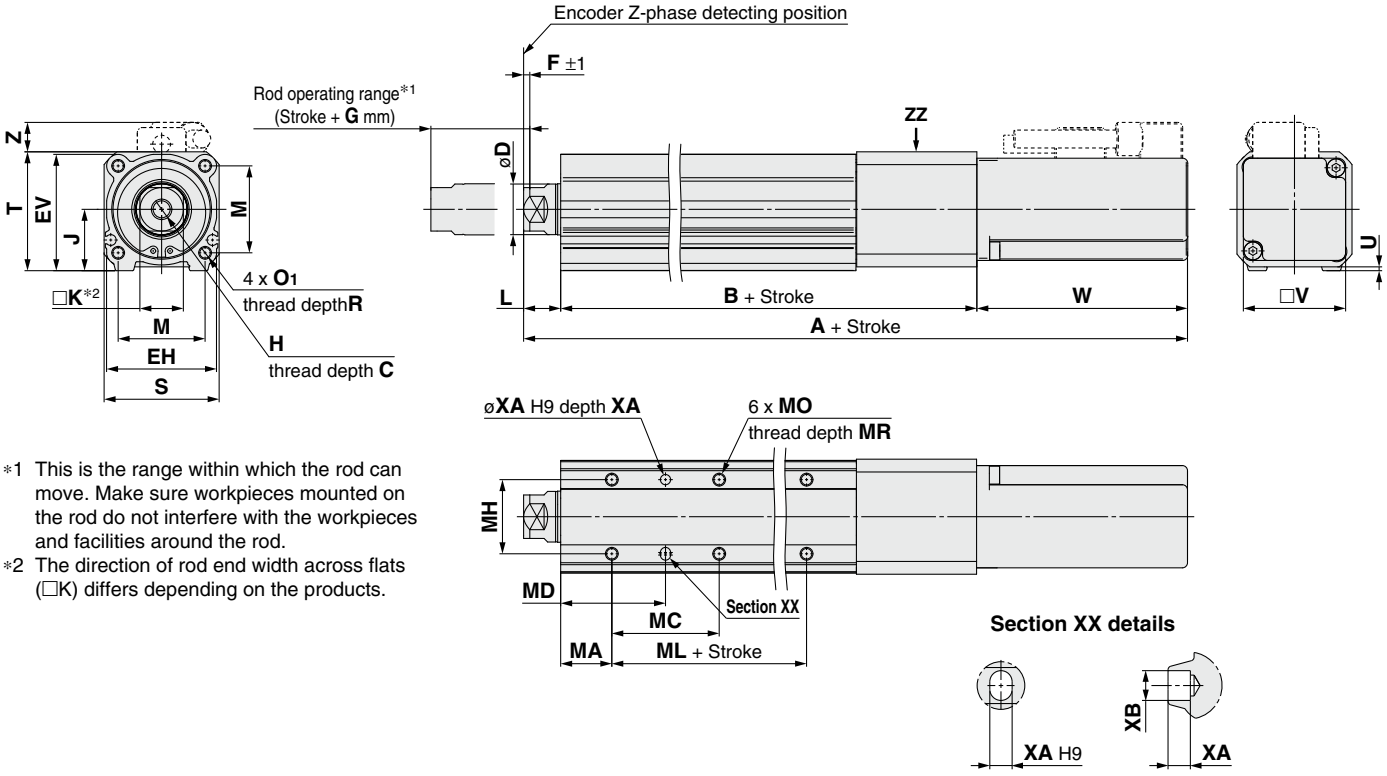


[mm]

Size	S_1	T_2	U
25	47	91	1
32	61	117	1
63	84	142	4

∗ When the motor is mounted on the left or right side in parallel, the groove for auto switch on the side to which the motor is mounted is hidden.

Dimensions: In-line Motor



*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	C	D	EH	EV	H	J	K	L	M	O1	R	S	T	U	B	V
25	15 to 100	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	45	46.5	1.5	136.5	40
	105 to 400															161.5	
32	20 to 100	13	25	51	56.5	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	61	1	156	60
	105 to 500															186	
63	50 to 200	21	40	76	82	M16 x 2	44	36	37.4	60	M8 x 1.25	16	78	83	5	190.7	60
	205 to 500															225.7	
	505 to 800															260.7	

Size	Stroke range [mm]	Without lock			With lock			F	G
		A	W	Z	A	W	Z		
25	15 to 100	233.5	82.5	11.5	278.5	127.5	11.5	2	4
	105 to 400	258.5			303.5				
32	20 to 100	254.5	80	14	294.5	120	14	2	4
	105 to 500	284.5			324.5				
63	50 to 200	326.6	98.5	5	366.6	138.5	5	4	8
	205 to 500	361.6			401.6				
	505 to 800	396.6			436.6				

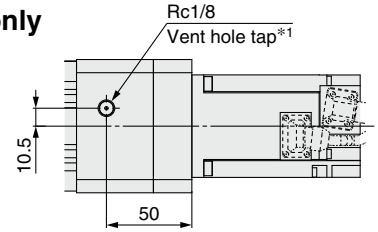
Body Bottom Tapped

[mm]

Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
25	15 to 35	20	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100		42	41						
	105 to 120					75				
	125 to 200		59	49.5						
	205 to 400		76	58						
32	20 to 100	25	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100		36	43						
	105 to 120					80				
	125 to 200		53	51.5						
	205 to 500		70	60						
63	50 to 70	38	24	50	44	65	M8 x 1.25	10	6	7
	75 to 120		45	60.5						
	125 to 200		58	67						
	205 to 500		86	81		100				
	505 to 800					135				

IP65 equivalent (Dust-tight/Water-jet-proof): LEY63D□□-□P (View ZZ)

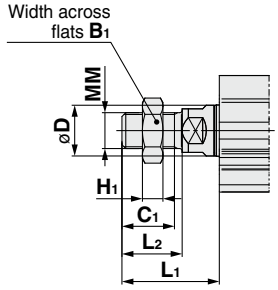
∗ **LEY63 only**



*1 When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

Dimensions

End male thread: LEY 25/32/63 □□ A/B/C/L -□□M



∗ Refer to page 361 for details on the rod end nut and mounting bracket.
∗ Refer to the precautions on page 414 when mounting end brackets such as knuckle joint or workpieces.

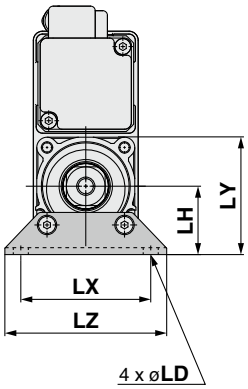
[mm]

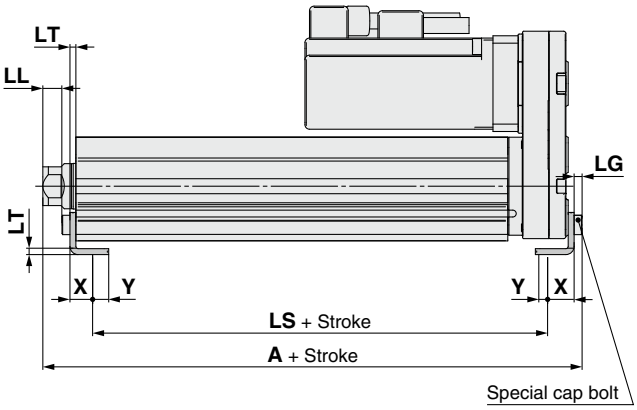
Size	B_1	C_1	D	H_1	L_1∗1	L_2	MM
25	22	20.5	20	8	38	23.5	M14 x 1.5
32	22	20.5	25	8	42.0	23.5	M14 x 1.5
63	27	26	40	11	76.4	39	M18 x 1.5

∗1 The L_1 measurement is when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end (size 25, 32) and 4 mm at the end (size 63).

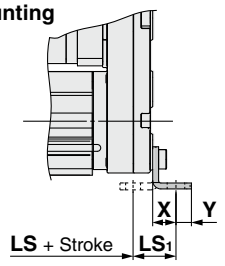
Foot: LEY 25/32/63 □□ A/B/C/L -□□□L

Included parts
·Foot bracket
·Body mounting bolt





Outward mounting



Foot

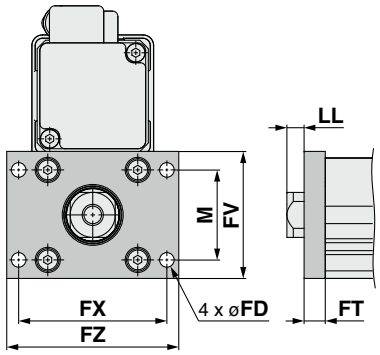
[mm]

Size	Stroke range [mm]	A	LS	LS_1	LL	LD	LG	LH	LT	LX	LY	LZ	X	Y
25	15 to 100	136.6	98.8	19.8	8.4	6.6	3.5	30	2.6	57	51.5	71	11.2	5.8
	105 to 400	161.6	123.8											
32	20 to 100	155.7	114	19.2	11.3	6.6	4	36	3.2	76	61.5	90	11.2	7
	105 to 500	185.7	144											
63	50 to 200	200.8	133.2	25.2	29.2	8.6	5	50	3.2	95	88	110	14.2	8
	205 to 500	235.8	168.2											
	505 to 800	270.8	203.2											

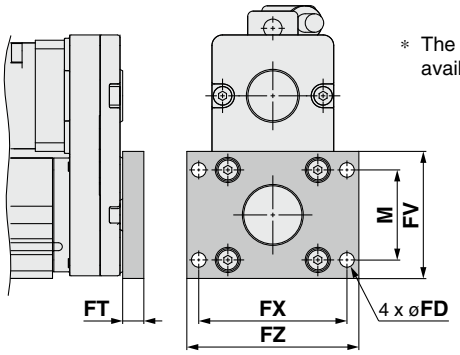
Material: Carbon steel (Chromating)
∗ The A measurement is when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end (size 25, 32) and 4 mm at the end (size 63).
∗ When the motor mounting is the right or left side parallel type, the head side foot bracket should be mounted outward.

Dimensions

Rod flange: LEY 25/32/63 □□ A/B/C/L -□□□F



Head flange: LEY 25/32/63 □□ A/B/C/L -□□□G



∗ The head flange type is not available for the LEY32/LEY63.

Included parts
·Flange
·Body mounting bolt

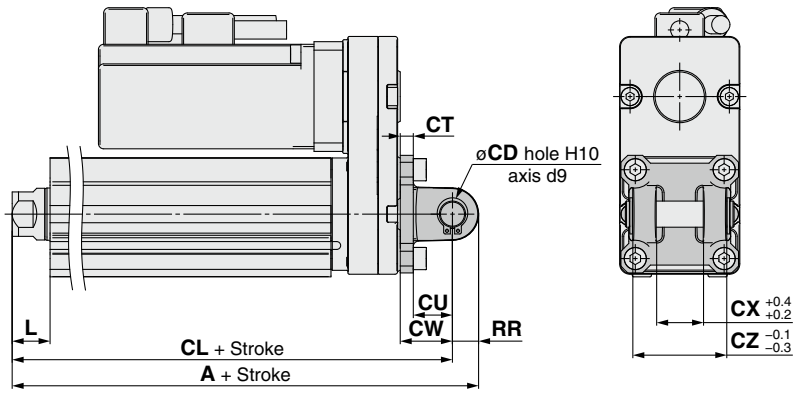
Rod/Head Flange [mm]

Size	FD	FT	FV	FX	FZ	LL	M
25	5.5	8	48	56	65	6.5	34
32	5.5	8	54	62	72	10.5	40
63	9	9	80	92	108	28.4	60

Material: Carbon steel (Nickel plating)

∗ The LL measurement is when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end (size 25, 32) and 4 mm at the end (size 63).

Double clevis: LEY 25/32/63 □□ A/B/C/L -□□□D



∗ Refer to page 361 for details on the rod end nut and mounting bracket.

Included parts
· Double clevis
· Body mounting bolt
· Clevis pin
· Retaining ring

Double Clevis [mm]

Size	Stroke range [mm]	A	CL	CD	CT	CU	CW	CX	CZ	L	RR
25	15 to 100	160.5	150.5	10	5	14	20	18	36	14.5	10
	105 to 200	185.5	175.5								
32	20 to 100	180.5	170.5	10	6	14	22	18	36	18.5	10
	105 to 200	210.5	200.5								
63	50 to 200	236.6	222.6	14	8	22	30	22	44	37.4	14
	205 to 500	271.6	257.6	—	—						
	505 to 800	306.6	292.6	—	—						

Material: Cast iron (Coating)

∗ The A and CL measurements are when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end (size 25, 32) and 4 mm at the end (size 63).

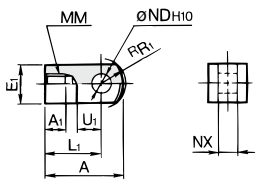
Accessory Mounting Brackets

Accessory Brackets/Support Brackets

Single Knuckle Joint

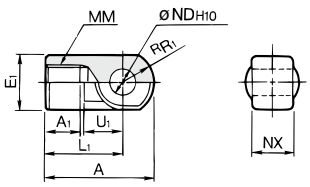
∗ If a knuckle joint is used, select the body option [end male thread].

I-G02



Material: Carbon steel

I-G04



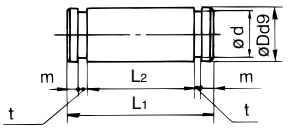
Material: Cast iron

[mm]

Part no.	Applicable size	A	A1	E1	L1	MM	R1	U1	NDH10	NX
I-G02	**16**	34	8.5	□16	25	M8 x 1.25	10.3	11.5	$8^{+0.058}_{0}$	$8^{-0.2}_{-0.4}$
I-G04	**25, 32, 40**	42	14	ø22	30	M14 x 1.5	12	14	$10^{+0.058}_{0}$	$18^{-0.3}_{-0.5}$
I-G05	**63**	56	18	ø28	40	M18 x 1.5	16	20	$14^{+0.070}_{0}$	$22^{-0.3}_{-0.5}$

Knuckle Pin

∗ Common with double clevis pin



Material: Carbon steel

[mm]

Part no.	Applicable size	Dd9	L1	L2	d	m	t	Retaining ring
IY-G02	**16**	$8^{-0.040}_{-0.076}$	21	16.2	7.6	1.5	0.9	Type C retaining ring 8
IY-G04	**25, 32, 40**	$10^{-0.040}_{-0.076}$	41.6	36.2	9.6	1.55	1.15	Type C retaining ring 10
IY-G05	**63**	$14^{-0.050}_{-0.093}$	50.6	44.2	13.4	2.05	1.15	Type C retaining ring 14

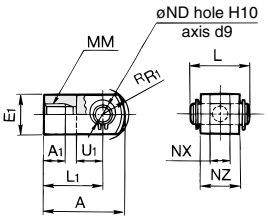
Mounting Bracket Part Nos.

Mounting bracket	Order qty.	Applicable size				Contents
		16	**25**	**32, 40**	**63**	
Foot	2∗1	LEY-L016	LEY-L025	LEY-L032	LEY-L063	Foot bracket x 2 Mounting bolt x 4
Flange	1	LEY-F016	LEY-F025	LEY-F032	LEY-F063	Flange x 1 Mounting bolt x 4
Double clevis	1	LEY-D016	LEY-D025	LEY-D032	LEY-D063	Clevis x 1 Mounting bolt x 4 Clevis pin x 1 Type C retaining ring for axis x 2

∗1 When ordering foot brackets, order 2 pieces per actuator.

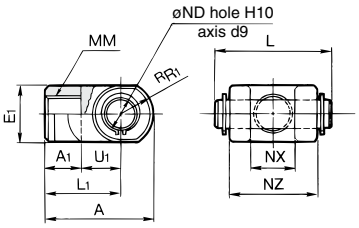
Double Knuckle Joint

Y-G02



Material: Carbon steel

Y-G04



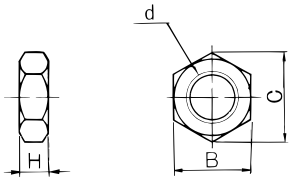
Material: Cast iron

∗ Knuckle pin and retaining ring are included. [mm]

Part no.	Applicable size	A	A1	E1	L1	MM	R1
Y-G02	**16**	34	8.5	□16	25	M8 x 1.25	10.3
Y-G04	**25, 32, 40**	42	16	ø22	30	M14 x 1.5	12
Y-G05	**63**	56	20	ø28	40	M18 x 1.5	16

Part no.	Applicable size	U1	NDH10	NX	NZ	L	Applicable pin part no.
Y-G02	**16**	11.5	$8^{+0.058}_{0}$	$8^{+0.4}_{+0.2}$	16	21	**IY-G02**
Y-G04	**25, 32, 40**	14	$10^{+0.058}_{0}$	$18^{+0.5}_{+0.3}$	36	41.6	**IY-G04**
Y-G05	**63**	20	$14^{+0.070}_{0}$	$22^{+0.5}_{+0.3}$	44	50.6	**IY-G05**

Rod End Nut



Material: Carbon steel

[mm]

Part no.	Applicable size	d	H	B	C
NT-02	**16**	M8 x 1.25	5	13	15.0
NT-04	**25, 32, 40**	M14 x 1.5	8	22	25.4
NT-05	**63**	M18 x 1.5	11	27	31.2

Simple Joint Brackets

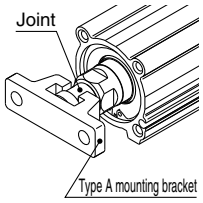
* The joint is not included in type A and type B mounting brackets. Therefore, it must be ordered separately.

Joint and Mounting Bracket (Type A/B)/Part No.

Joint **LEY-U025**

Applicable size

025	25, 32, 40



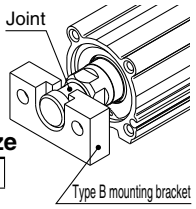
Mounting bracket **YA-03**

Mounting bracket

YA	Type A mounting bracket
YB	Type B mounting bracket

Applicable size

03	25, 32, 40



Allowable Eccentricity [mm]

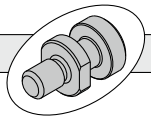
Applicable size	25	32	40
Eccentricity tolerance	±1		
Backlash	0.5		

<How to Order>
- The joint is not included in type A and type B mounting brackets. Therefore, it must be ordered separately.

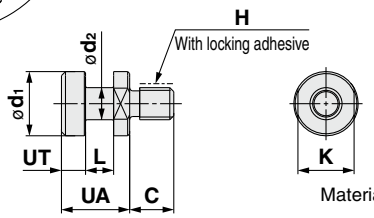
Example) Order no.
- Joint..... LEY-U025
- Type A mounting bracket..... YA-03

Joint and Mounting Bracket (Type A/B)/Part No.

Applicable size	Joint part no.	Applicable mounting bracket part no.	
		Type A mounting bracket	Type B mounting bracket
25, 32, 40	LEY-U025	YA-03	YB-03



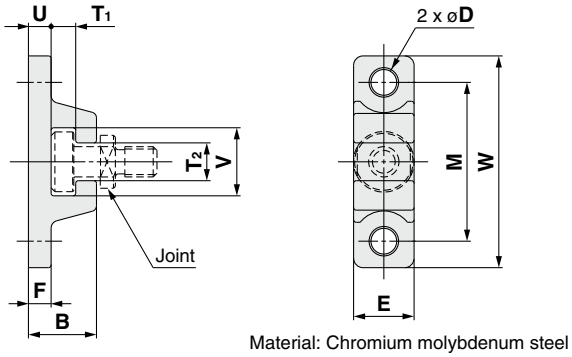
Joint



Material: Stainless steel
[mm]

Part no.	Applicable size	UA	C	d_1	d_2	H	K	L	UT	Weight [g]
LEY-U025	**25, 32, 40**	17	11	16	8	M8 x 1.25	14	7	6	22

Type A Mounting Bracket

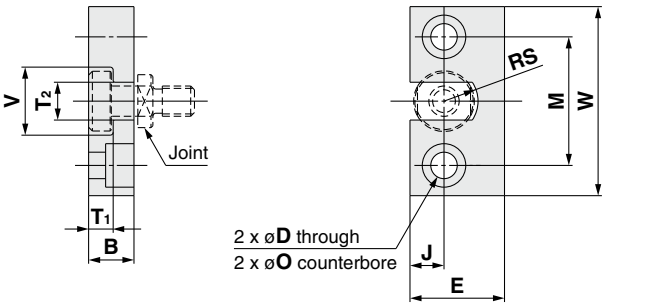


Material: Chromium molybdenum steel
[mm]

Part no.	Applicable size	B	D	E	F	M	T_1	T_2	U
YA-03	**25, 32, 40**	18	6.8	16	6	42	6.5	10	6

Part no.	Applicable size	V	W	Weight [g]
YA-03	**25, 32, 40**	18	56	55

Type B Mounting Bracket



Material: Stainless steel
[mm]

Part no.	Applicable size	B	D	E	J	M	øO
YB-03	**25, 32, 40**	12	7	25	9	34	11.5 depth 7.5

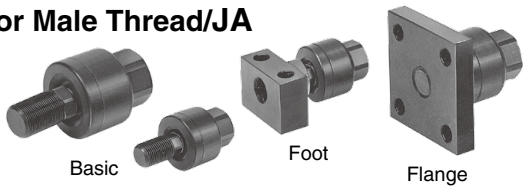
Part no.	Applicable size	T_1	T_2	V	W	RS	Weight [g]
YB-03	**25, 32, 40**	6.5	10	18	50	9	80

Floating Joints (Refer to the **Web Catalog** for details.)

●For Male Thread/JC (Light weight type)

- **With the aluminum case**

●For Male Thread/JA



●For Male Thread/JS (Stainless steel)

- **Stainless steel 304 (Appearance)**
- **Dust cover**
  Fluororubber/Silicone rubber

Applicable size	Thread size
16	M8 x 1.25
25, 32, 40	M14 x 1.5
63	M18 x 1.5

●For Female Thread/JB

Applicable size	Thread size
16	M5 x 0.8
25, 32, 40	M8 x 1.25
63	M16 x 2

Solid State Auto Switch
Direct Mounting Type
D-M9N(V)/D-M9P(V)/D-M9B(V)

Refer to the SMC website for details on products that are compliant with international standards.

Grommet

- **2-wire load current is reduced (2.5 to 40 mA).**
- **Using flexible cable as standard spec.**

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 direction	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 illuminates when turned ON.					
Standard	CE marking, RoHS					

Oilproof Heavy-duty Lead Wire Specifications

Auto switch model		D-M9N(V)	D-M9P(V)	D-M9B(V)
Sheath	Outside diameter [mm]	2.6		
Insulator	Number of cores	3 cores (Brown/Blue/Black)		2 cores (Brown/Blue)
	Outside diameter [mm]	0.88		
Conductor	Effective area [mm²]	0.15		
	Strand diameter [mm]	0.05		
Minimum bending radius [mm] (Reference values)		17		

∗ Refer to page 996 for solid state auto switch common specifications.
∗ Refer to page 996 for lead wire lengths.

⚠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.

Weight

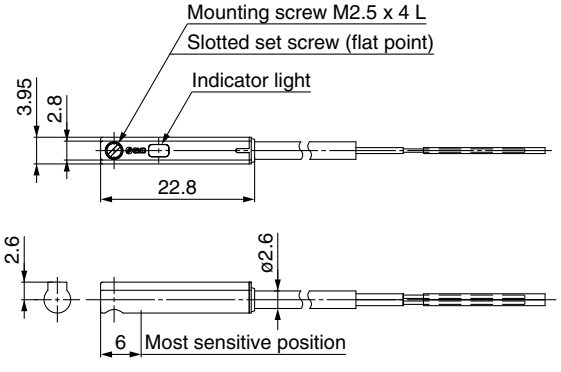
[g]

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

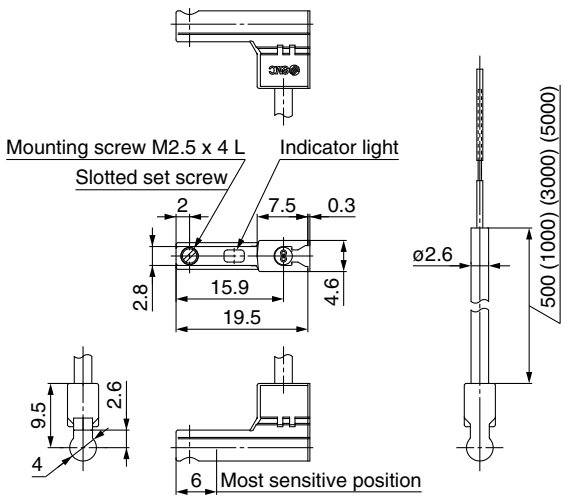
Dimensions

[mm]

D-M9□



D-M9□V



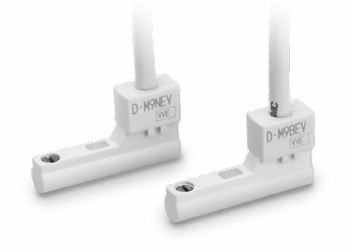
SMC

Normally Closed Solid State Auto Switch Direct Mounting Type
D-M9NE(V)/D-M9PE(V)/D-M9BE(V)

Refer to the SMC website for details on products that are compliant with international standards.

Grommet

- **Output signal turns on when no magnetic force is detected.**
- **Can be used for the actuator adopted by the solid state auto switch D-M9 series (excluding special order products)**



⚠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□E, D-M9□EV (With indicator light)						
Auto switch model	D-M9NE	D-M9NEV	D-M9PE	D-M9PEV	D-M9BE	D-M9BEV
Electrical entry direction	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 illuminates when turned ON.					
Standard	CE marking, RoHS					

Oilproof Heavy-duty Lead Wire Specifications

Auto switch model		D-M9NE(V)	D-M9PE(V)	D-M9BE(V)
Sheath	Outside diameter [mm]	2.6		
Insulator	Number of cores	3 cores (Brown/Blue/Black)		2 cores (Brown/Blue)
	Outside diameter [mm]	0.88		
Conductor	Effective area [mm²]	0.15		
	Strand diameter [mm]	0.05		
Minimum bending radius [mm] (Reference values)		17		

∗ Refer to page 996 for solid state auto switch common specifications.
∗ Refer to page 996 for lead wire lengths.

Weight

[g]

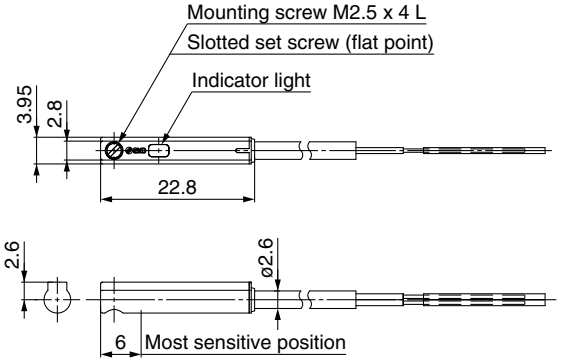
Auto switch model		D-M9NE(V)	D-M9PE(V)	D-M9BE(V)
Lead wire length	0.5 m (**Nil**)	8		7
	1 m (**M**)∗1	14		13
	3 m (**L**)	41		38
	5 m (**Z**)∗1	68		63

∗1 The 1 m and 5 m options are produced upon receipt of order.

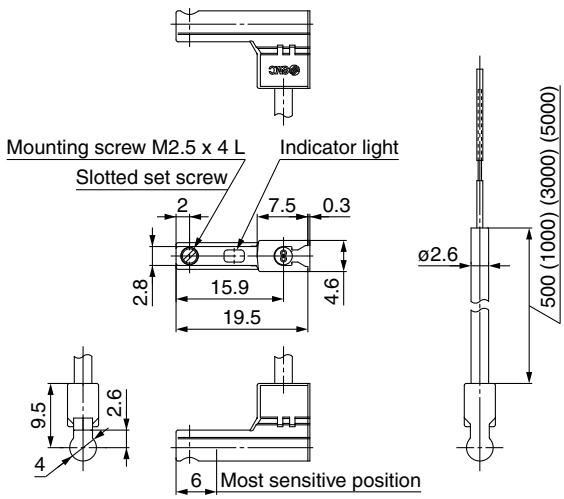
Dimensions

[mm]

D-M9□E



D-M9□EV



2-Color Indicator Solid State Auto Switch Direct Mounting Type
D-M9NW(V)/D-M9PW(V)/D-M9BW(V)

Refer to the SMC website for details on products that are compliant with international standards.

Grommet

- **2-wire load current is reduced (2.5 to 40 mA).**
- **Using flexible cable as standard spec.**
- **The proper 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 direction	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 illuminates. Proper operating range ····· Green LED illuminates.					
Standard	CE marking, RoHS					

Oilproof Flexible Heavy-duty Lead Wire Specifications

Auto switch model		D-M9NW(V)	D-M9PW(V)	D-M9BW(V)
Sheath	Outside diameter [mm]	2.6		
Insulator	Number of cores	3 cores (Brown/Blue/Black)		2 cores (Brown/Blue)
	Outside diameter [mm]	0.88		
Conductor	Effective area [mm²]	0.15		
	Strand diameter [mm]	0.05		
Minimum bending radius [mm] (Reference values)		17		

∗ Refer to page 996 for solid state auto switch common specifications.
∗ Refer to page 996 for lead wire lengths.

Weight

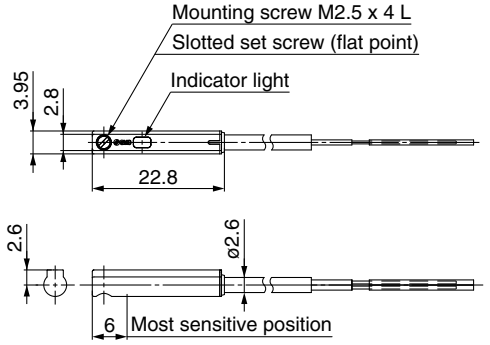
[g]

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

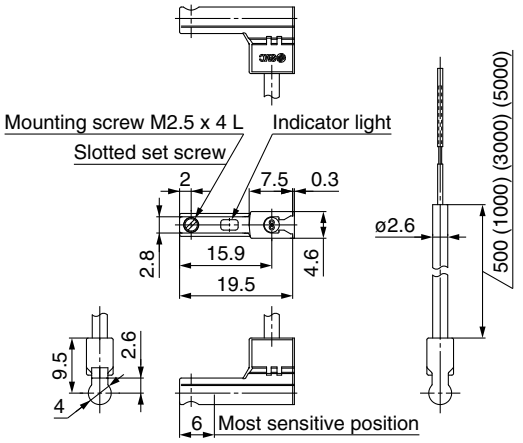
Dimensions

[mm]

D-M9□W



D-M9□WV



SMC

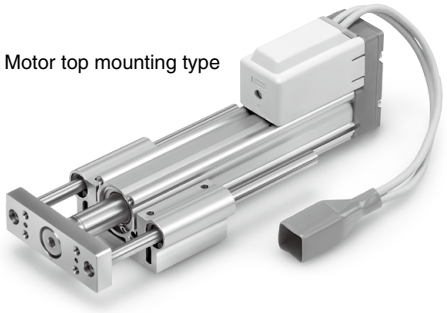
Guide Rod Type

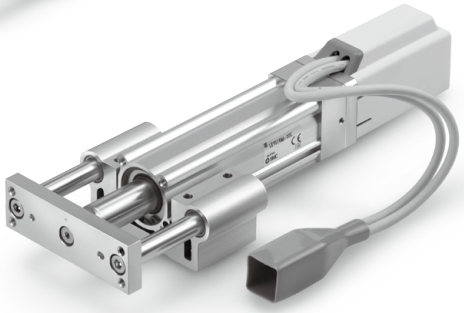
LEYG Series

Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

p. 383

Motor top mounting type



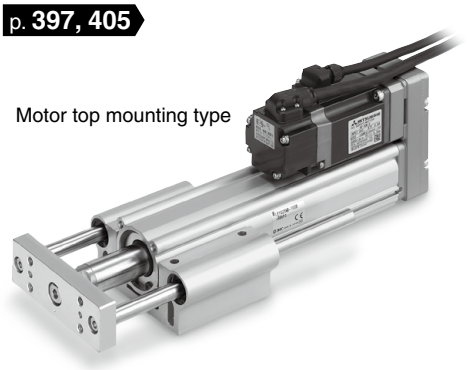


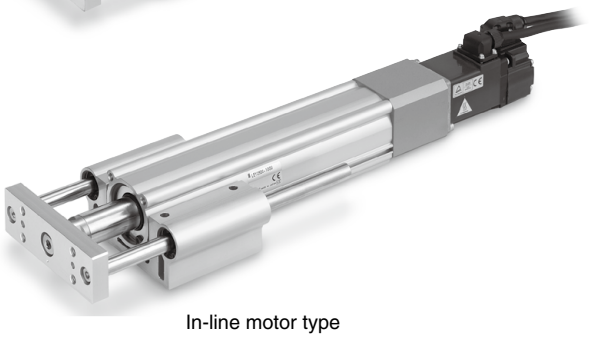
In-line motor type

AC Servo Motor

p. 397, 405

Motor top mounting type



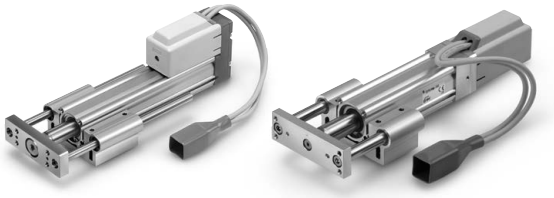


In-line motor type

Step Motor/Servo Motor Controller/Driver p. 684

AC Servo Motor Driver p. 764

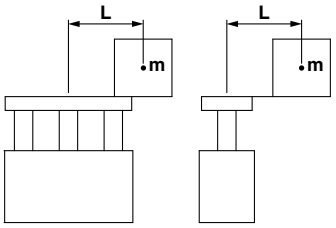
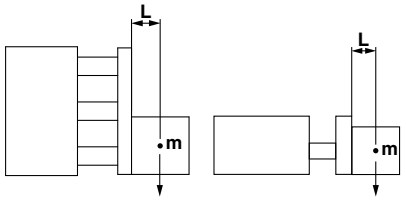
Model Selection



LEYG Series ▶ p. 383

Moment Load Graph

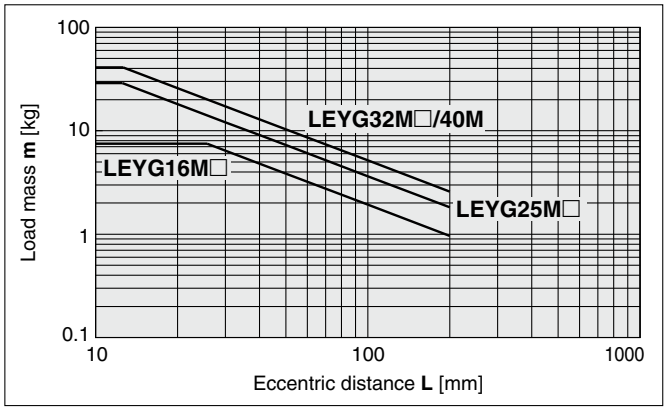
Selection conditions

		Vertical	Horizontal	
Mounting position				
Max. speed [mm/s]		"Speed–Work Load Graph"	200 or less	Over 200
Bearing	Sliding bearing	Graphs ①, ②	Graphs ⑤, ⑥*1	—
	Ball bushing bearing	Graphs ③, ④	Graphs ⑦, ⑧	Graphs ⑨, ⑩

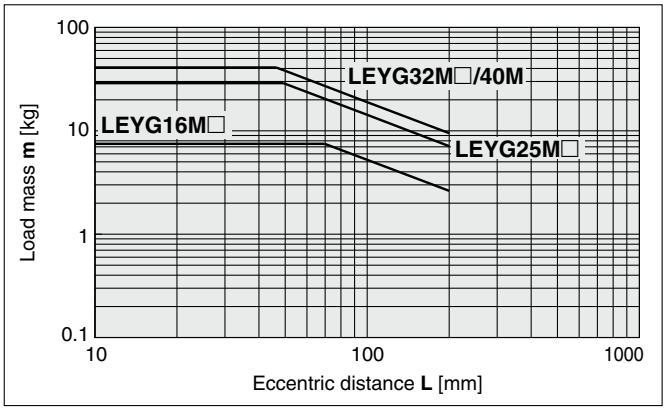
*1 For the sliding bearing type, the speed is restricted with a horizontal/moment load.

Vertical Mounting, Sliding Bearing

① **70 mm stroke or less**



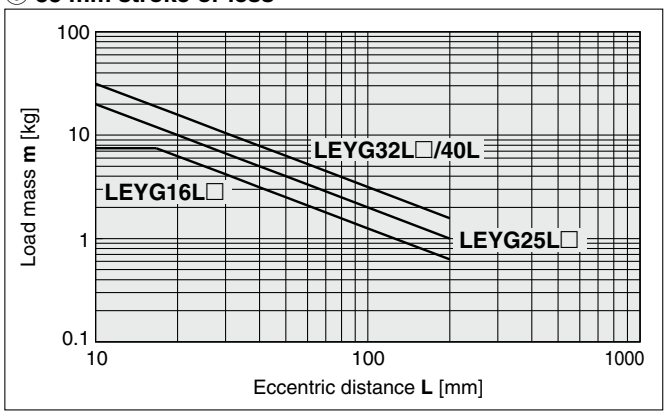
② **Over 75 mm stroke**



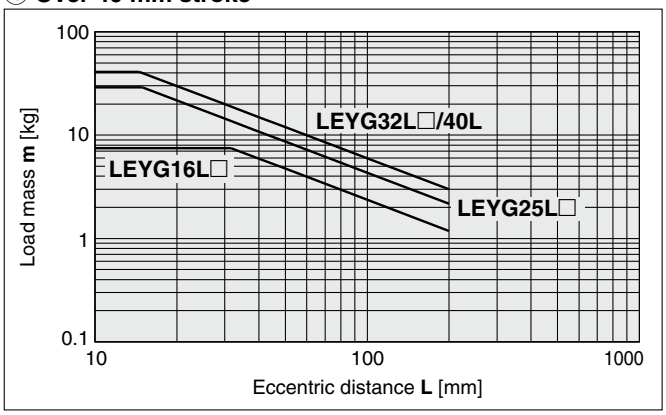
∗ The limit of vertical load mass varies depending on "lead" and "speed." Check the "Speed–Work Load Graph" on pages 369 to 371.

Vertical Mounting, Ball Bushing Bearing

③ **35 mm stroke or less**



④ **Over 40 mm stroke**

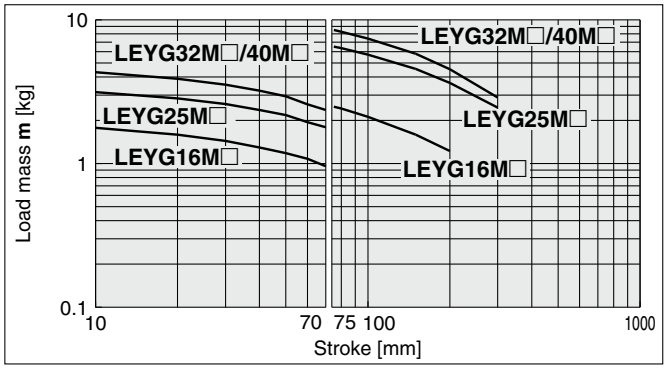


∗ The limit of vertical load mass varies depending on "lead" and "speed." Check the "Speed–Work Load Graph" on pages 369 to 371.

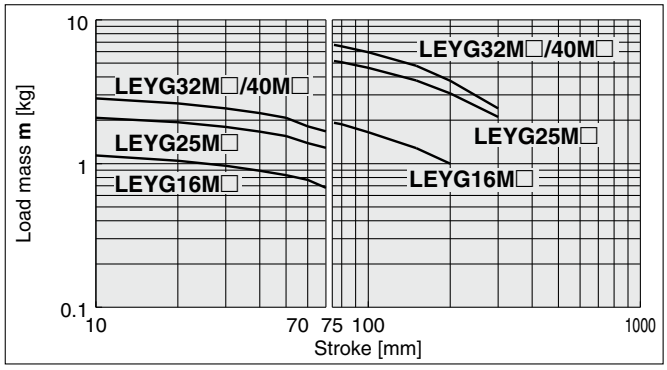
Moment Load Graph

Horizontal Mounting, Sliding Bearing

⑤ **L = 50 mm**



⑥ **L = 100 mm**



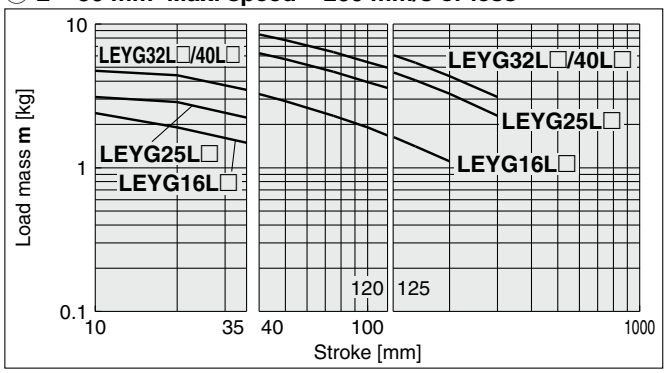
∗ Set the speed to less than or equal to the values shown below.

Motor type	LEYG□M□A	LEYG□M□B	LEYG□M□C
Step motor (Servo/24 VDC)	200 mm/s	125 mm/s	75 mm/s
Servo motor (24 VDC)	200 mm/s	200 mm/s	125 mm/s

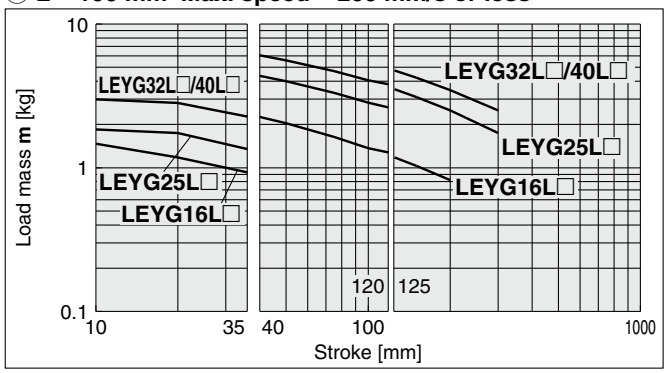
∗ For the specifications below, operate the system at the "load mass" shown in the graph x 80%.
- LEYG25MAA/Servo motor (24 VDC), Lead 12

Horizontal Mounting, Ball Bushing Bearing

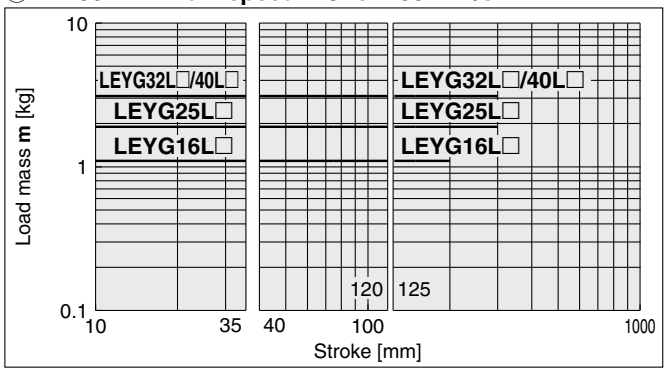
⑦ **L = 50 mm Max. speed = 200 mm/s or less**



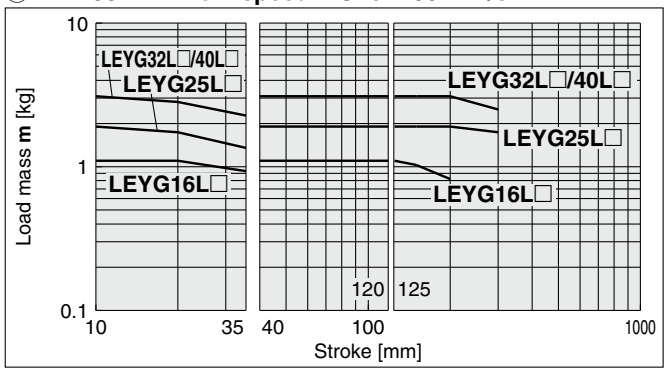
⑧ **L = 100 mm Max. speed = 200 mm/s or less**



⑨ **L = 50 mm Max. speed = Over 200 mm/s**

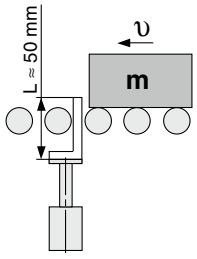


⑩ **L = 100 mm Max. speed = Over 200 mm/s**



Operating Range when Used as a Stopper

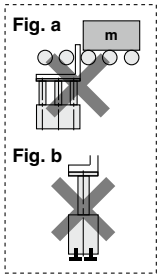
LEYG□M (Sliding bearing)

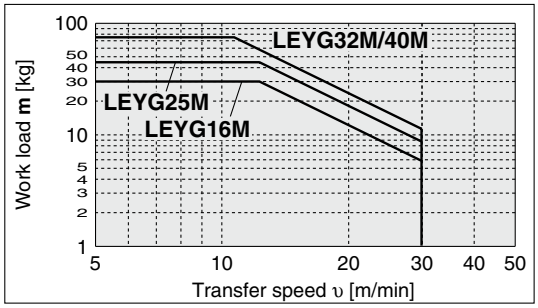


⚠Caution

Handling Precautions

- When used as a stopper, select a model with a stroke of 30 mm or less.
- LEYG□L (ball bushing bearing) cannot be used as a stopper.
- Workpiece collision in series with guide rod cannot be permitted (**Fig. a**).
- The body should not be mounted on the end. It must be mounted on the top or bottom (**Fig. b**).





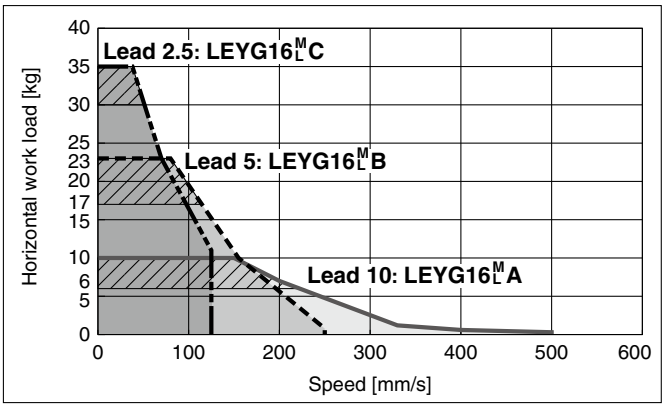
* These graphs show the work load when the external guide is used together. When using the LEYG alone, refer to pages 367 and 368.

Refer to page 370 for the LECPA, JXC□$^{2}_{3}$ and page 371 for the LECA6.

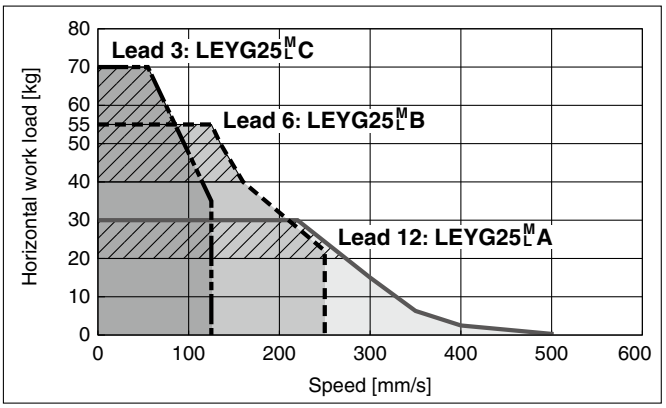
Speed–Work Load Graph (Guide)
For Step Motor (Servo/24 VDC) JXC□1, LECP1

Horizontal

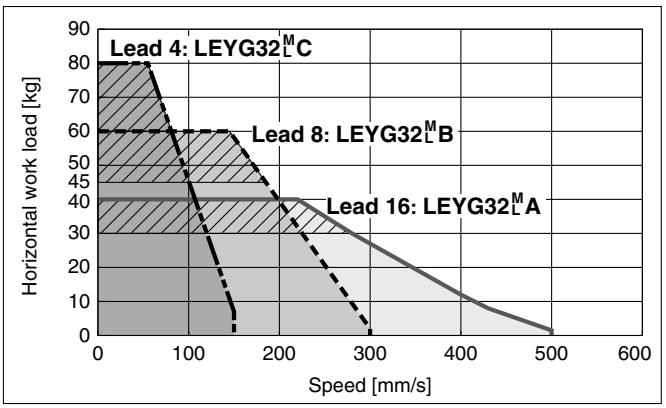
LEYG16$^{M}_{L}$□ ▨ for acceleration/deceleration: 2000 mm/s²



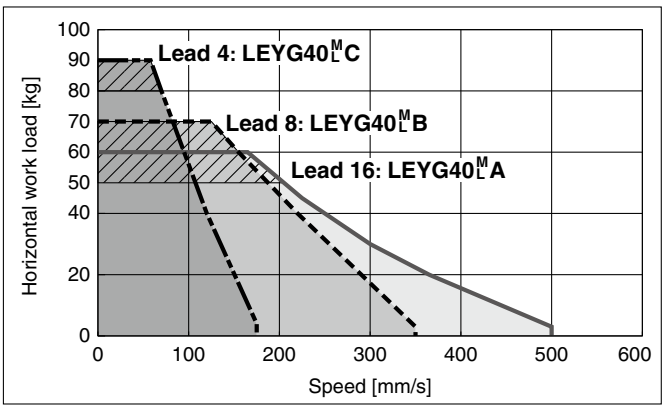
LEYG25$^{M}_{L}$□ ▨ for acceleration/deceleration: 2000 mm/s²



LEYG32$^{M}_{L}$□ ▨ for acceleration/deceleration: 2000 mm/s²

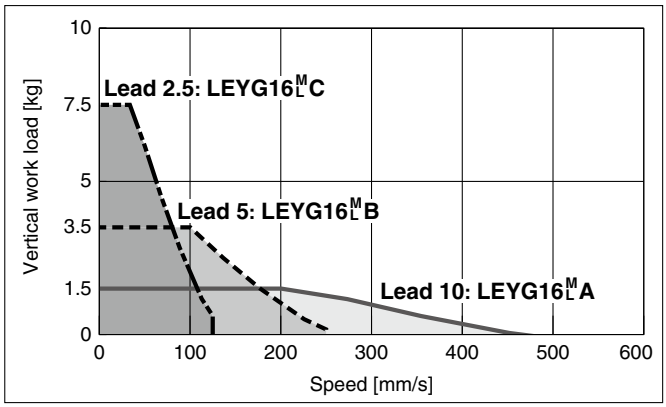


LEYG40$^{M}_{L}$□ ▨ for acceleration/deceleration: 2000 mm/s²

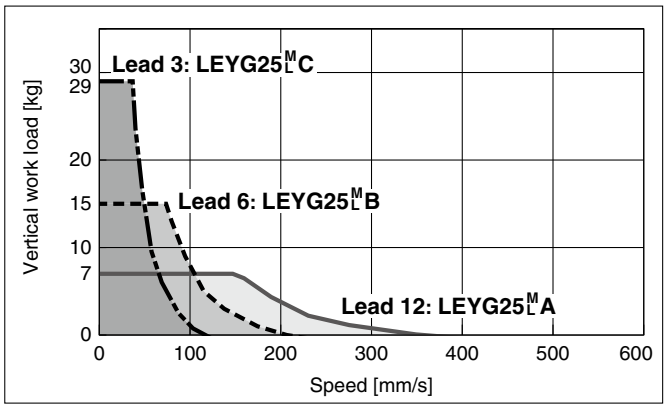


Vertical

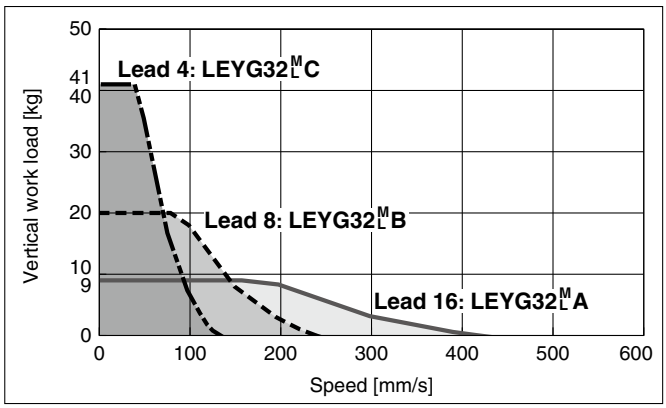
LEYG16$^{M}_{L}$□



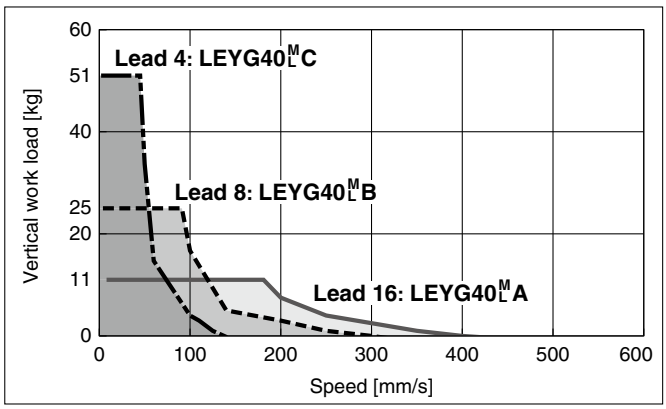
LEYG25$^{M}_{L}$□



LEYG32$^{M}_{L}$□



LEYG40$^{M}_{L}$□



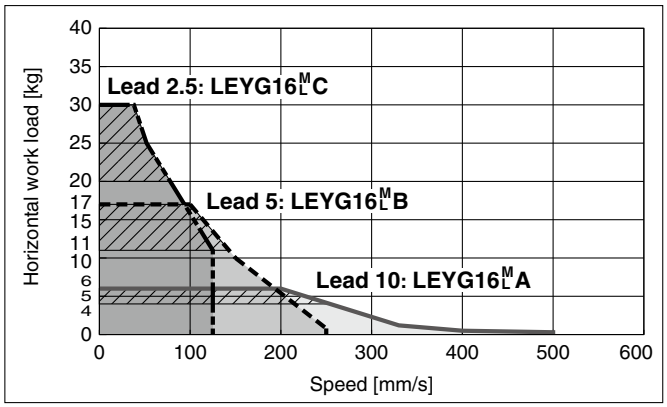
Speed–Work Load Graph (Guide) For Step Motor (Servo/24 VDC) LECPA, JXC□$^{2}_{3}$

∗ These graphs show the work load when the external guide is used together. When using the LEYG alone, refer to pages 367 and 368.

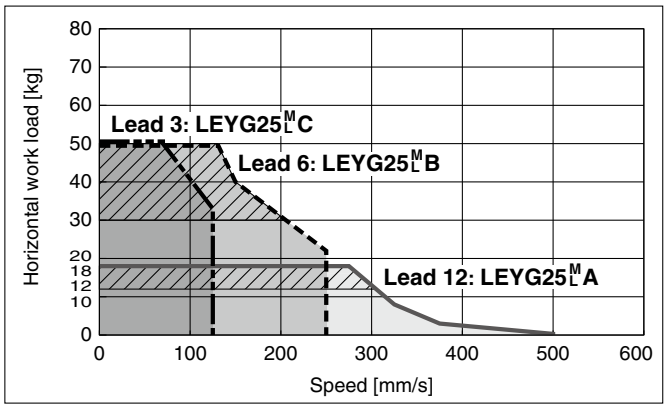
Refer to page 369 for the JXC□1, LECP1 and page 371 for the LECA6.

Horizontal

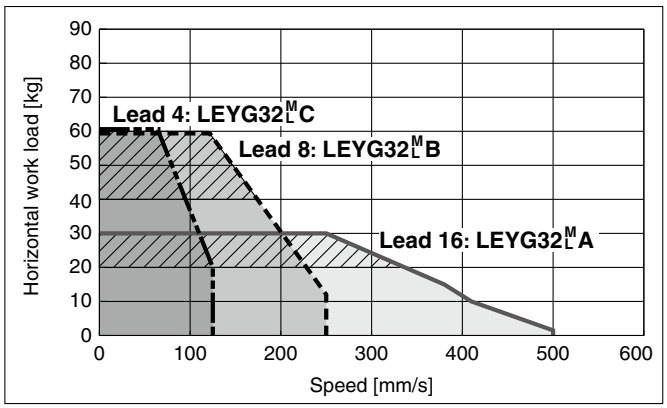
LEYG16$^{M}_{L}$□



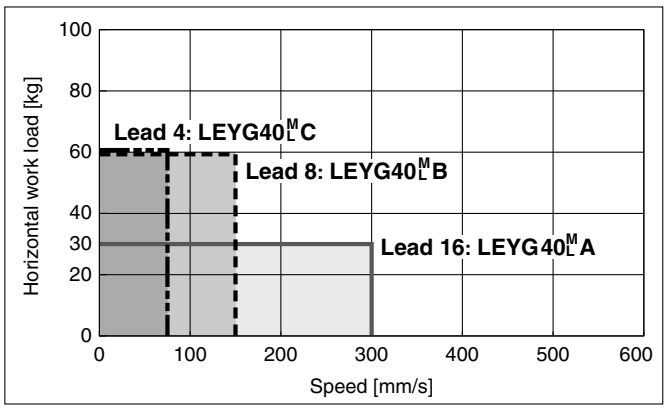
LEYG25$^{M}_{L}$□



LEYG32$^{M}_{L}$□

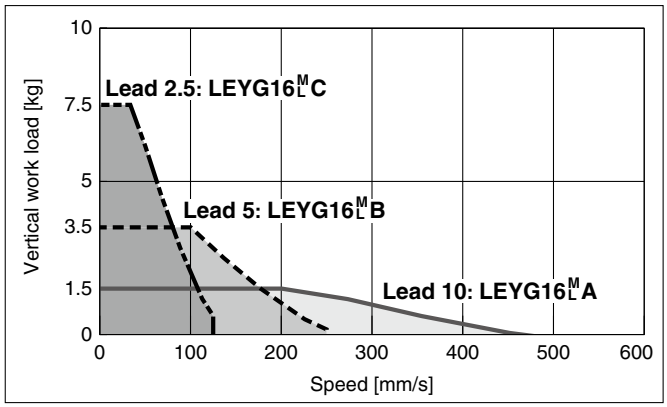


LEYG40$^{M}_{L}$□

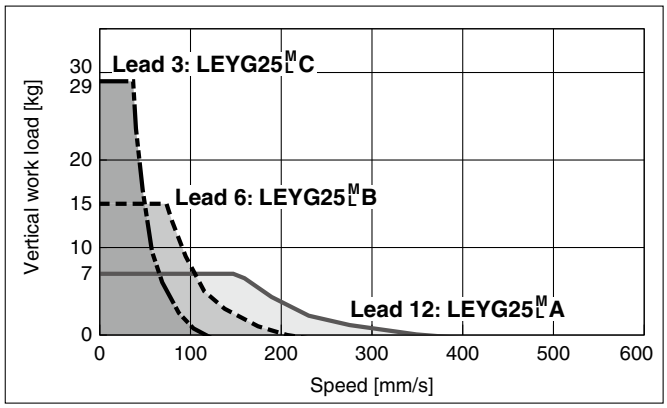


Vertical

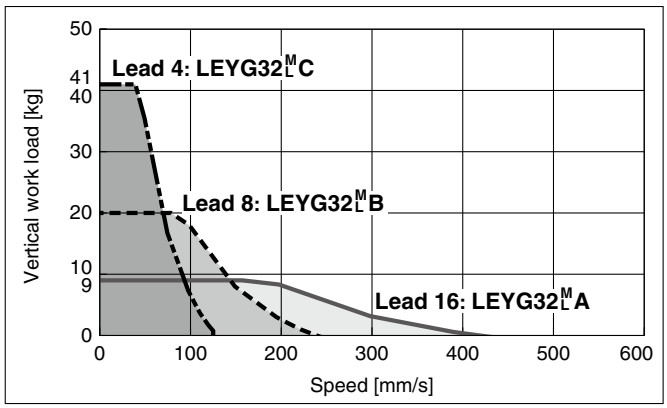
LEYG16$^{M}_{L}$□



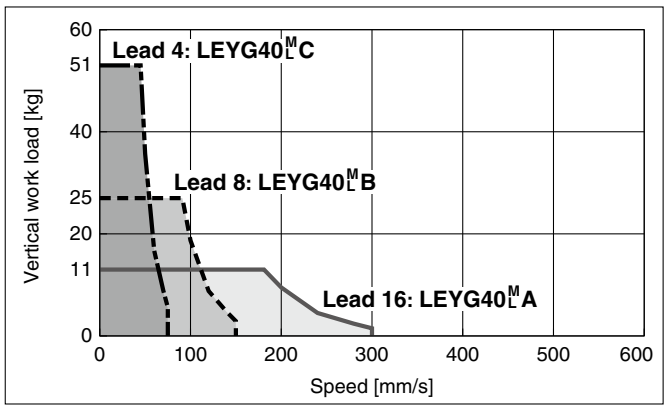
LEYG25$^{M}_{L}$□



LEYG32$^{M}_{L}$□



LEYG40$^{M}_{L}$□

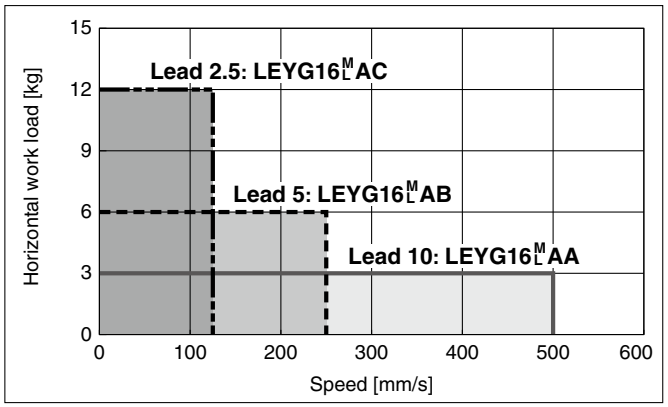


Speed–Work Load Graph (Guide)
For Servo Motor (24 VDC) LECA6

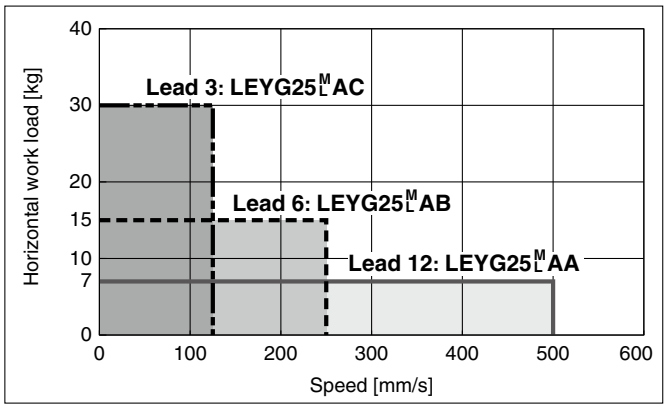
Refer to page 369 for the JXC□1, LECP1 and page 370 for the LECPA, JXC□$^{2}_{3}$.

Horizontal

LEYG16$^{M}_{L}$□A

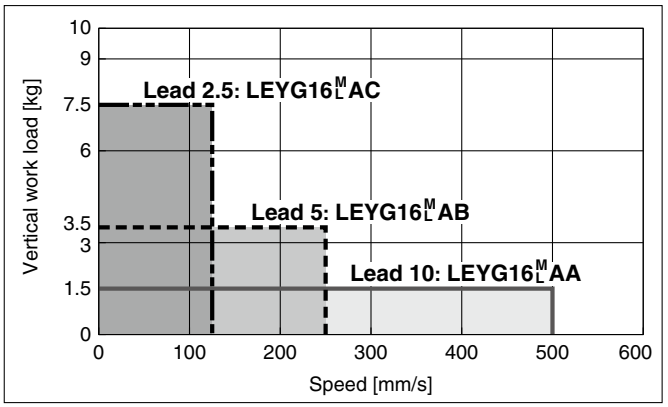


LEYG25$^{M}_{L}$□A

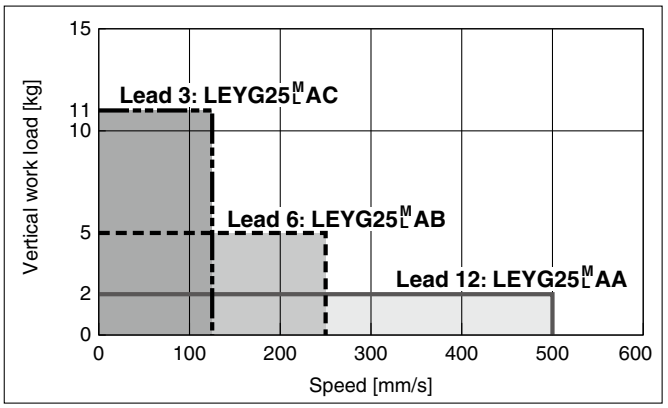


Vertical

LEYG16$^{M}_{L}$□A



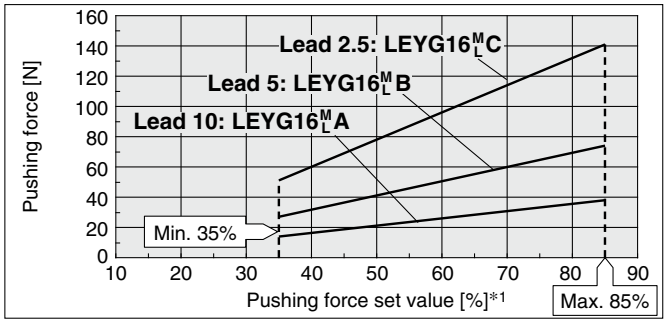
LEYG25$^{M}_{L}$□A



Force Conversion Graph (Guide)

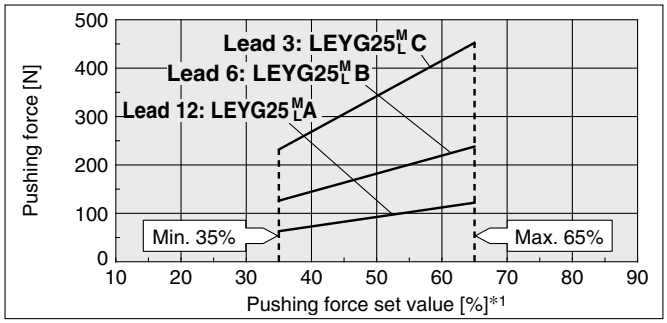
Step Motor (Servo/24 VDC)

LEYG16$^{M}_{L}$□



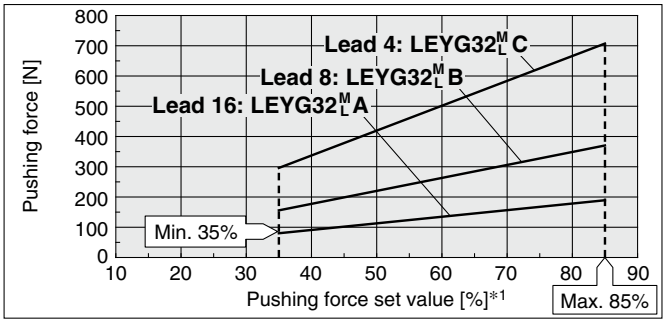
Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
25°C or less	85 or less	100	—
40°C	40 or less	100	—
	50	70	12
	70	20	1.3
	85	15	0.8

LEYG25$^{M}_{L}$□



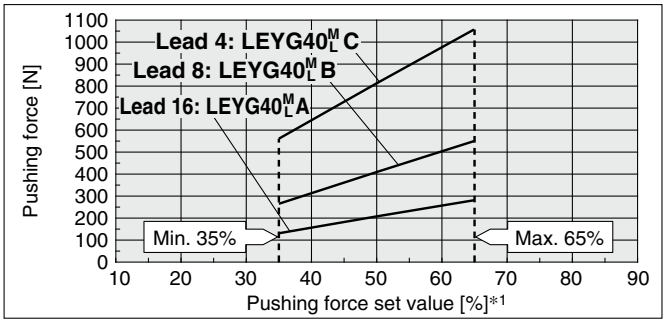
Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	65 or less	100	—

LEYG32$^{M}_{L}$□



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
25°C or less	85 or less	100	—
40°C	65 or less	100	—
	85	50	15

LEYG40$^{M}_{L}$□

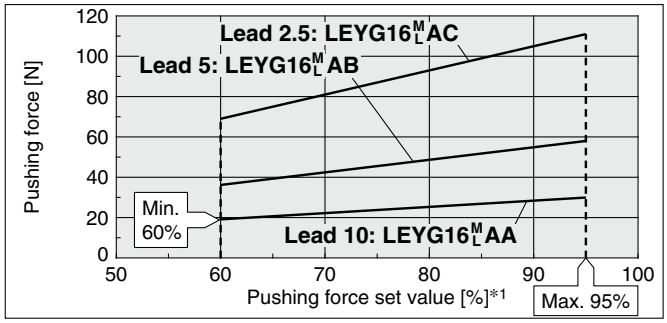


Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	65 or less	100	—

*1 Set values for the controller

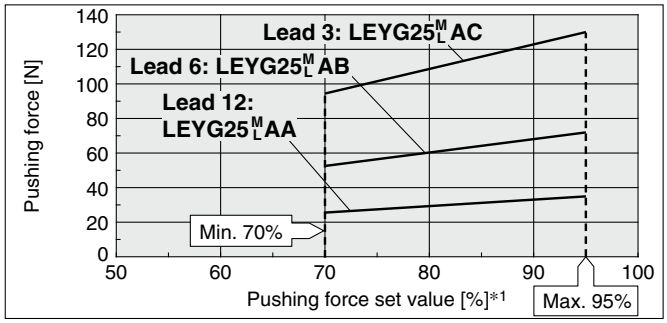
Servo Motor (24 VDC)

LEYG16$^{M}_{L}$A□



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	95 or less	100	—

LEYG25$^{M}_{L}$A□



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	95 or less	100	—

<Limit Values for Pushing Force and Trigger Level in Relation to Pushing Speed>
Without Load

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEYG16$^{M}_{L}$	A/B/C	21 to 50	60 to 85%
LEYG25$^{M}_{L}$	A/B/C	21 to 35	50 to 65%
LEYG32$^{M}_{L}$	A	24 to 30	60 to 85%
	B/C	21 to 30	
LEYG40$^{M}_{L}$	A	24 to 30	50 to 65%
	B/C	21 to 30	

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEYG16$^{M}_{L}$□A	A/B/C	21 to 50	80 to 95%
LEYG25$^{M}_{L}$□A	A/B/C	21 to 35	80 to 95%

There is a limit to the pushing force in relation to the pushing speed. If the product is operated outside of the range (low pushing force), the completion signal [INP] may be output before the pushing operation has been completed (during the moving operation).
If operating with the pushing speed below the min. speed, please check for operating problems before using the product.

<Set Values for Vertical Upward Transfer Pushing Operations>

For vertical loads (upward), set the pushing force to the max. value shown below and operate at the work load or less.

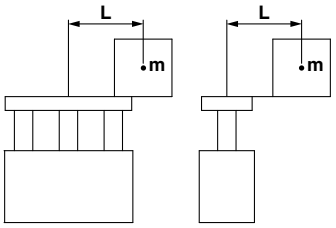
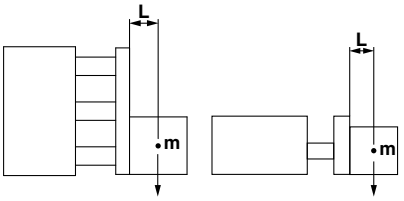
Model	LEYG16$^{M}_{L}$□			LEYG25$^{M}_{L}$□			LEYG32$^{M}_{L}$□			LEYG40$^{M}_{L}$□			LEYG16$^{M}_{L}$□A			LEYG25$^{M}_{L}$□A		
Lead	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Work load [kg]	0.5	1	2.5	1.5	4	9	2.5	7	16	5	12	26	0.5	1	2.5	0.5	1.5	4
Pushing force	85%			65%			85%			65%			95%			95%		

Model Selection

LEYG Series ▶ p. 397 LECY□ Series ▶ p. 405

Moment Load Graph

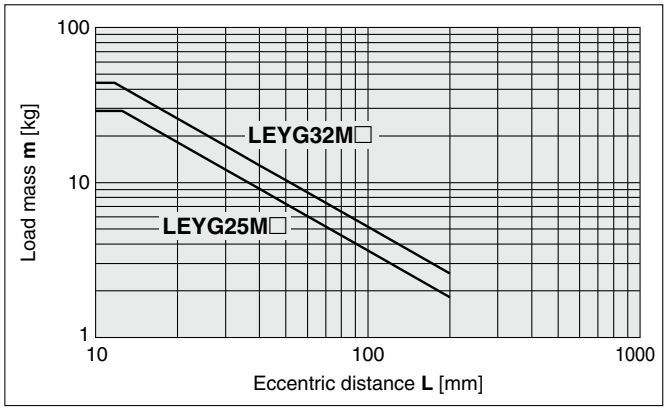
Selection conditions

		Vertical	Horizontal	
Mounting position				
Max. speed [mm/s]		"Speed–Vertical Work Load Graph"	200 or less	Over 200
Bearing	Sliding bearing	Graphs ①, ②	Graphs ⑤, ⑥*1	Graphs ⑦, ⑧
	Ball bushing bearing	Graphs ③, ④	Graphs ⑨, ⑩	Graphs ⑪, ⑫

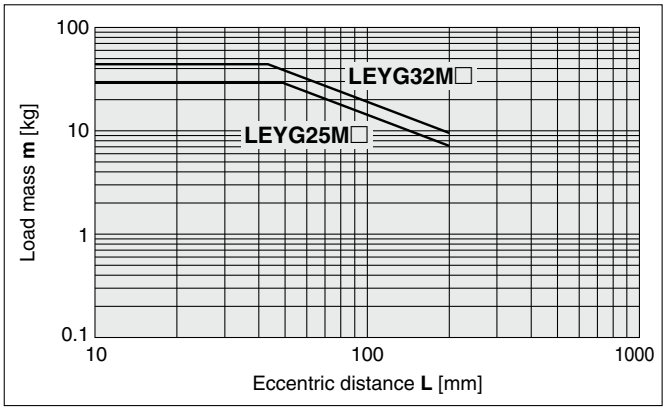
*1 For the sliding bearing type, the speed is restricted with a horizontal/moment load.

Vertical Mounting, Sliding Bearing

① 70 mm stroke or less



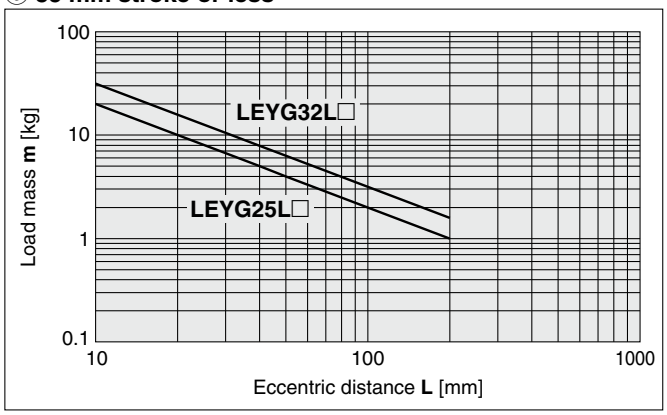
② Over 75 mm stroke



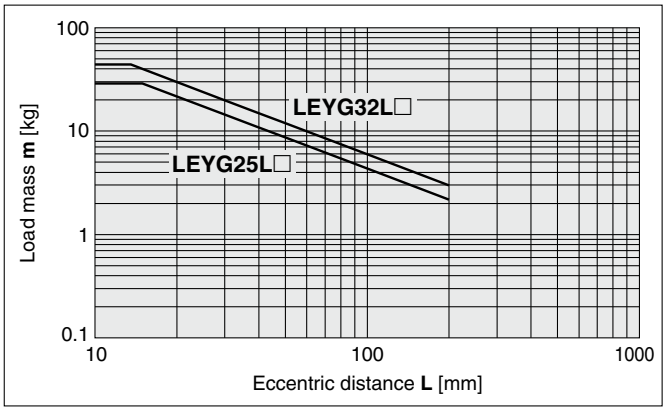
∗ The limit of vertical load mass varies depending on "lead" and "speed." Check the "Speed–Vertical Work Load Graph" on page 375.

Vertical Mounting, Ball Bushing Bearing

③ 35 mm stroke or less



④ Over 40 mm stroke

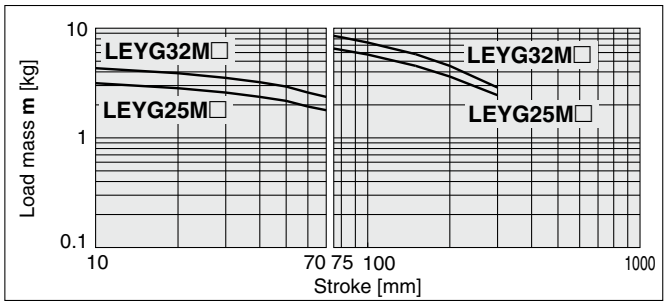


∗ The limit of vertical load mass varies depending on "lead" and "speed." Check the "Speed–Vertical Work Load Graph" on page 375.

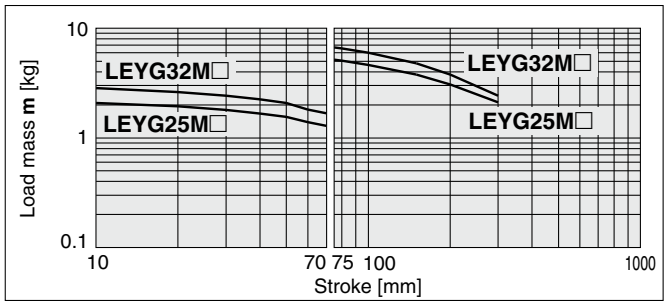
Moment Load Graph

Horizontal Mounting, Sliding Bearing

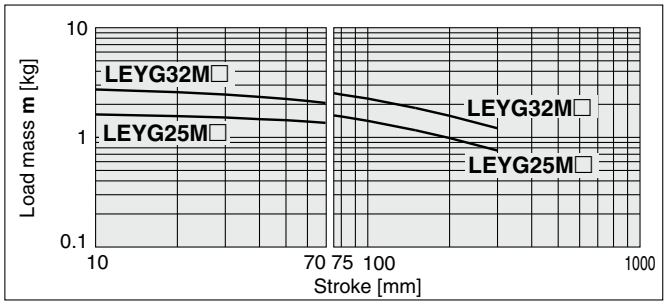
⑤ **L = 50 mm Max. speed = 200 mm/s or less**



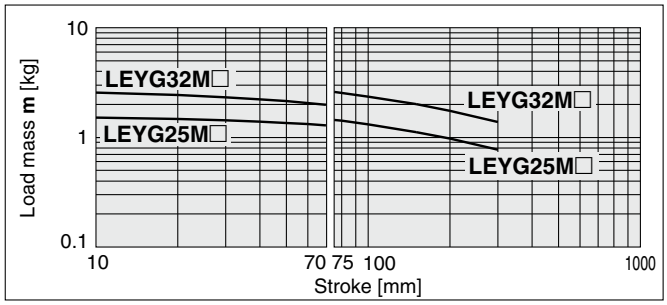
⑥ **L = 100 mm Max. speed = 200 mm/s or less**



⑦ **L = 50 mm Max. speed = Over 200 mm/s**

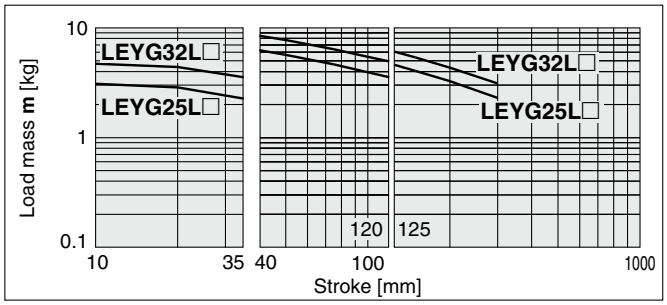


⑧ **L = 100 mm Max. speed = Over 200 mm/s**

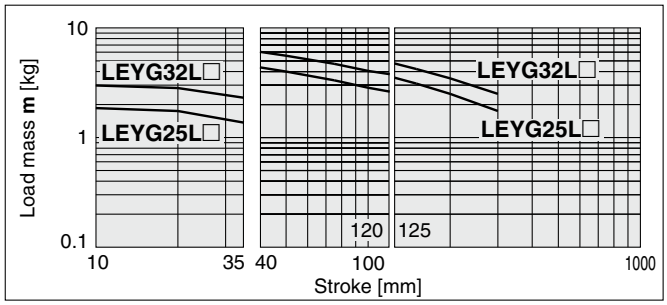


Horizontal Mounting, Ball Bushing Bearing

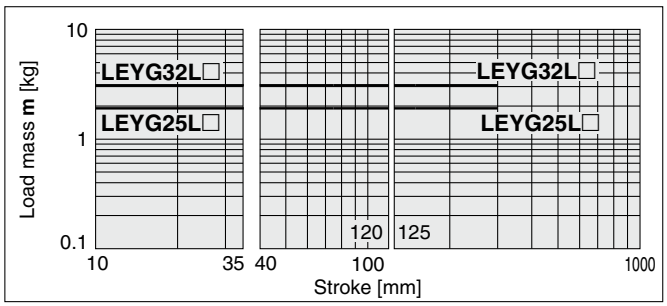
⑨ **L = 50 mm Max. speed = 200 mm/s or less**



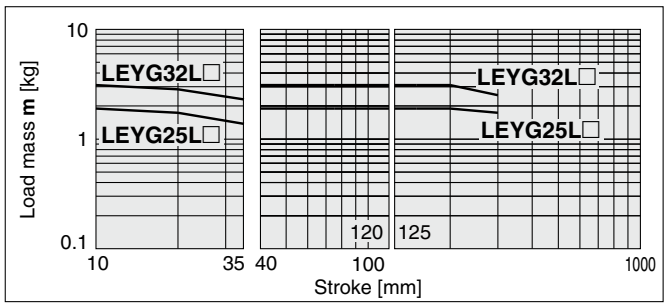
⑩ **L = 100 mm Max. speed = 200 mm/s or less**



⑪ **L = 50 mm Max. speed = Over 200 mm/s**

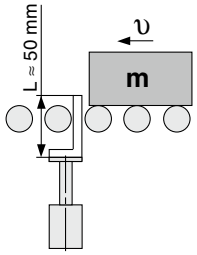


⑫ **L = 100 mm Max. speed = Over 200 mm/s**



Operating Range when Used as a Stopper

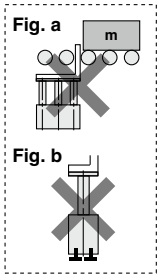
LEYG□M (Sliding bearing)

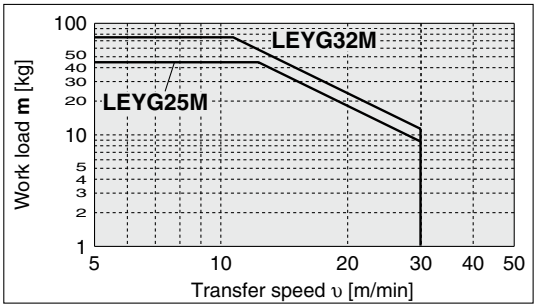


⚠Caution

Handling Precautions

* When used as a stopper, select a model with a stroke of 30 mm or less.
* LEYG□L (ball bushing bearing) cannot be used as a stopper.
* Workpiece collision in series with guide rod cannot be permitted (**Fig. a**).
* The body should not be mounted on the end. It must be mounted on the top or bottom (**Fig. b**).

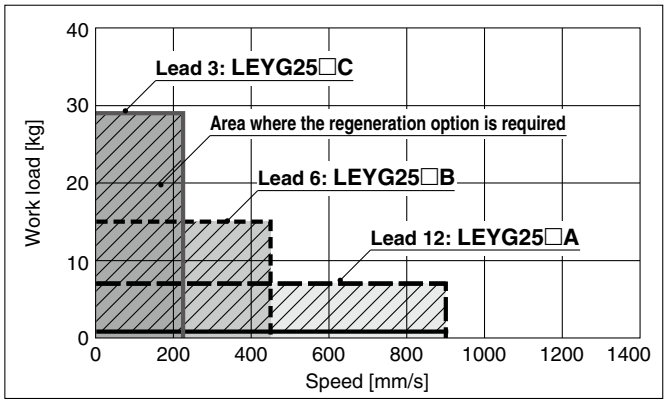




Speed–Vertical Work Load Graph/Required Conditions for "Regeneration Option"

* These graphs show the work load when the external guide is used together. When using the LEYG alone, refer to pages 373 and 374.

LEYG25□S$^{2}_{6}$/T6 (Motor mounting position: Top mounting/In-line)



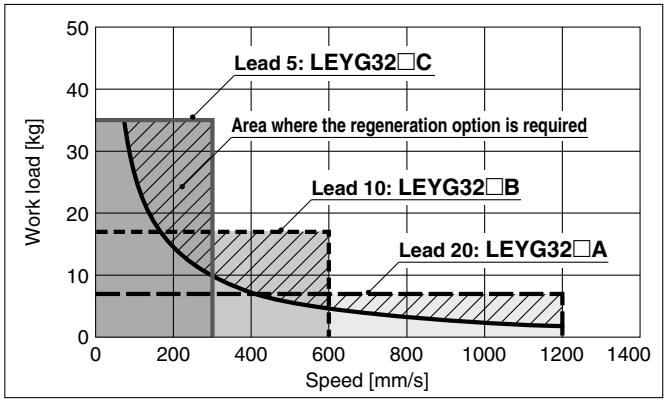
Required conditions for "Regeneration option"

* Regeneration option is required when using the product above the regeneration line in the graph. (It must be ordered separately.)

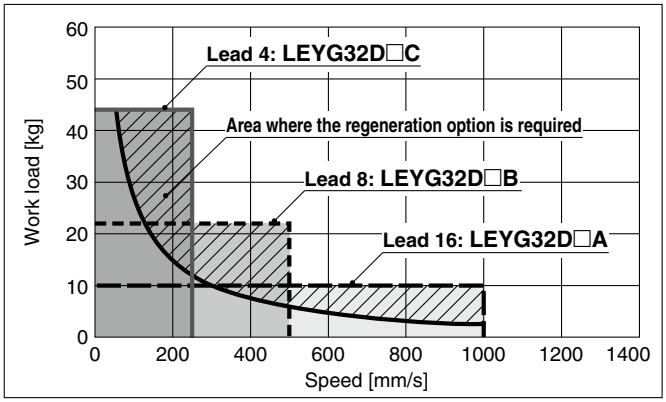
"Regeneration Option" Models

Size	Model
LEYG25□	LEC-MR-RB-032
LEYG32□	LEC-MR-RB-032

LEYG32S$^{3}_{7}$/T7 (Motor mounting position: Top mounting)



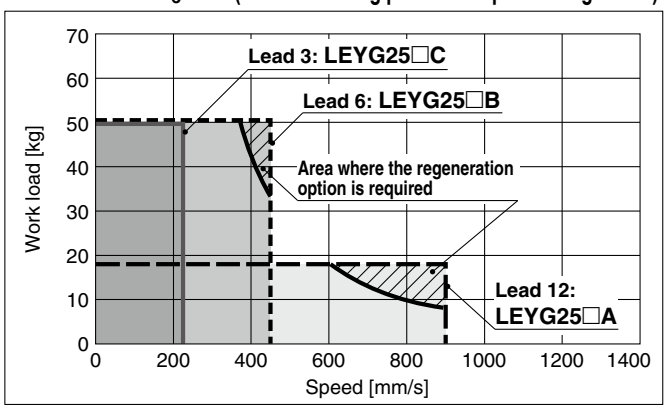
LEYG32DS$^{3}_{7}$/T7 (Motor mounting position: In-line)



Speed–Horizontal Work Load Graph/Required Conditions for "Regeneration Option"

* These graphs show the work load when the external guide is used together. When using the LEYG alone, refer to pages 373 and 374.

LEYG25□S$^{2}_{6}$/T6 (Motor mounting position: Top mounting/In-line)



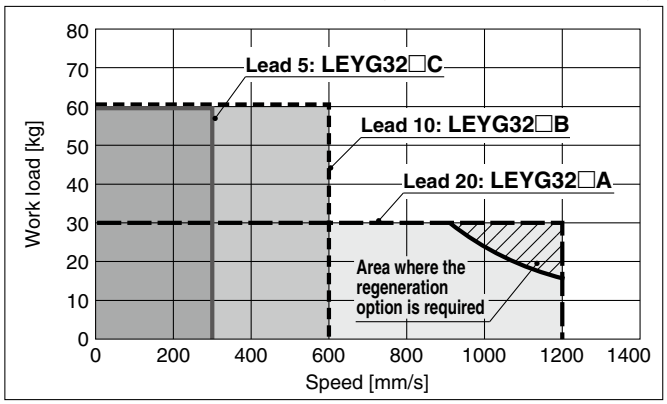
Required conditions for "Regeneration option"

* Regeneration option is required when using the product above the regeneration line in the graph. (It must be ordered separately.)

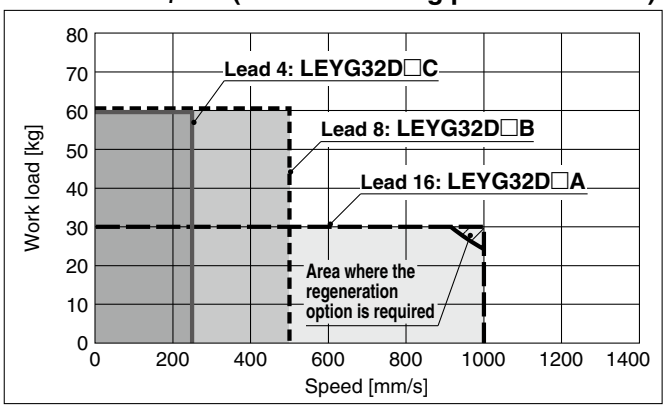
"Regeneration Option" Models

Size	Model
LEYG25□	LEC-MR-RB-032
LEYG32□	LEC-MR-RB-032

LEYG32S$^{3}_{7}$/T7 (Motor mounting position: Top mounting)

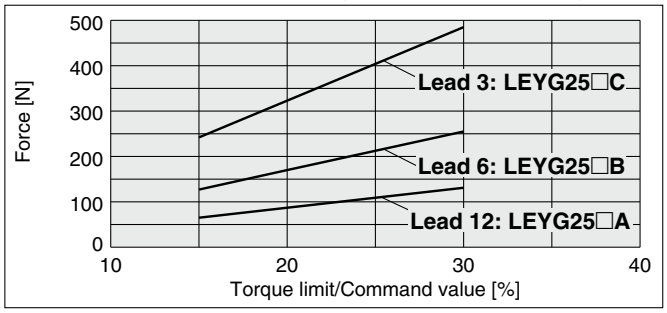


LEYG32DS$^{3}_{7}$/T7 (Motor mounting position: In-line)



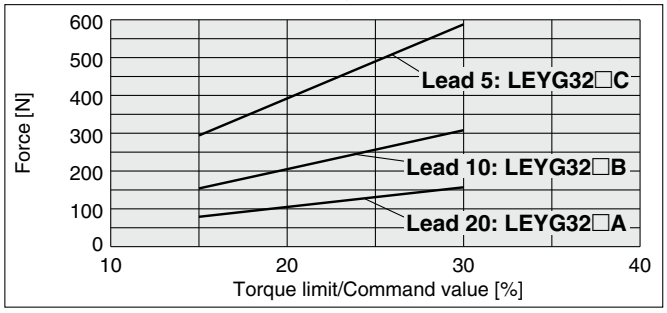
Force Conversion Graph: LECSA, LECSB, LECSC, LECSS

LEYG25□S$^{2}_{6}$ (Motor mounting position: Top mounting/In-line)



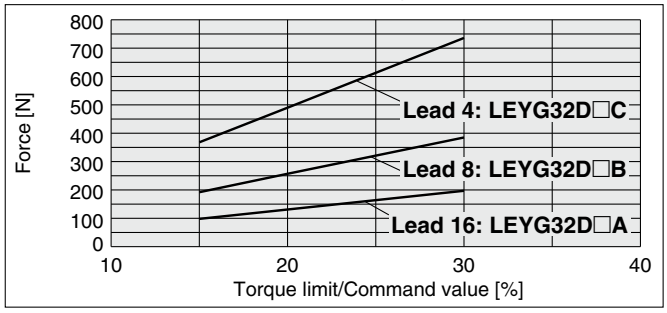
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

LEYG32S$^{3}_{7}$ (Motor mounting position: Top mounting)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

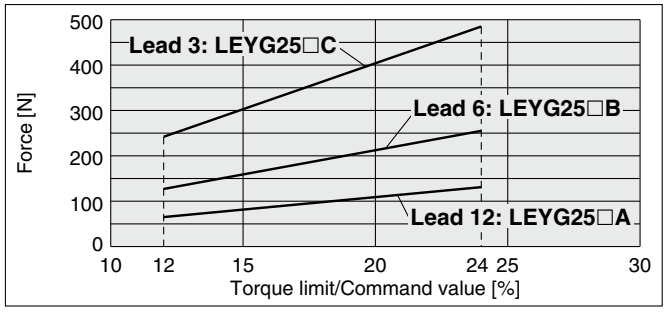
LEYG32DS$^{3}_{7}$ (Motor mounting position: In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
25 or less	100	—
30	60	1.5

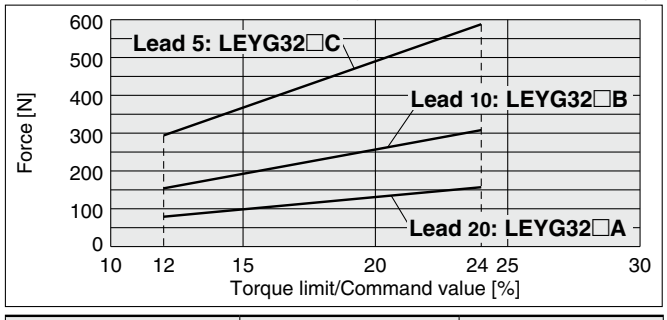
Force Conversion Graph: LECSS-T

LEYG25□T6 (Motor mounting position: Top mounting/In-line)



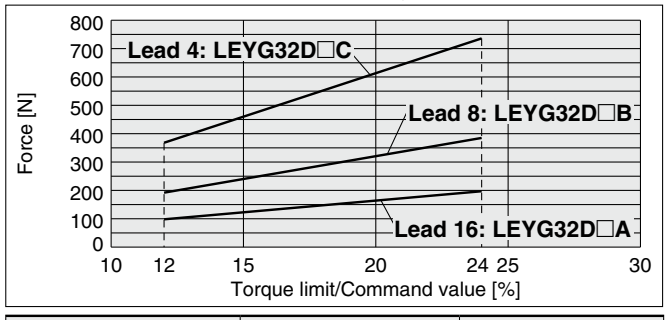
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5

LEYG32T7 (Motor mounting position: Top mounting)



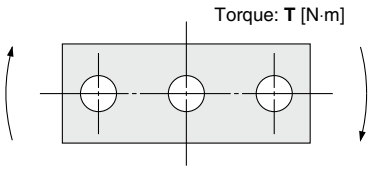
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5

LEYG32DT7 (Motor mounting position: In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
20 or less	100	—
24	60	1.5

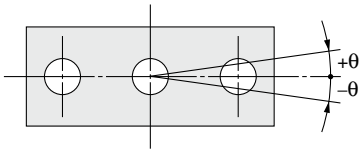
Allowable Rotational Torque of Plate



T [N·m]

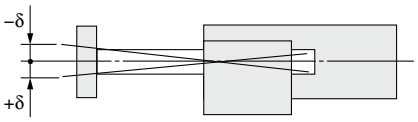
Model	Stroke [mm]				
	30	50	100	200	300
LEYG16M	0.70	0.57	1.05	0.56	—
LEYG16L	0.82	1.48	0.97	0.57	—
LEYG25M	1.56	1.29	3.50	2.18	1.36
LEYG25L	1.52	3.57	2.47	2.05	1.44
LEYG32M	2.55	2.09	5.39	3.26	1.88
LEYG32L	2.80	5.76	4.05	3.23	2.32
LEYG40M	2.55	2.09	5.39	3.26	1.88
LEYG40L	2.80	5.76	4.05	3.23	2.32

Non-rotating Accuracy of Plate



Size	Non-rotating accuracy θ	
	LEYG□M	**LEYG□L**
16	0.06°	0.05°
25		0.04°
32	0.05°	
40		

Plate Displacement (Reference Value): δ



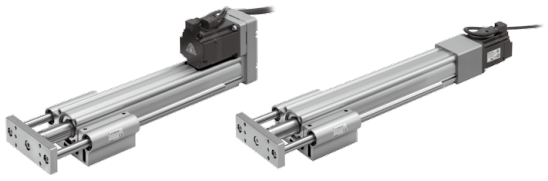
[mm]

Model	Stroke [mm]				
	30	**50**	**100**	**200**	**300**
LEYG16M	±0.20	±0.25	±0.24	±0.27	—
LEYG16L	±0.13	±0.12	±0.17	±0.19	—
LEYG25M	±0.26	±0.31	±0.25	±0.38	±0.36
LEYG25L	±0.13	±0.13	±0.17	±0.20	±0.23
LEYG32M	±0.23	±0.29	±0.23	±0.36	±0.34
LEYG32L	±0.11	±0.11	±0.15	±0.19	±0.22
LEYG40M	±0.23	±0.29	±0.23	±0.36	±0.34
LEYG40L	±0.11	±0.11	±0.15	±0.19	±0.22

∗ The values without a load are shown.

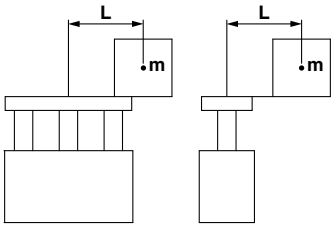
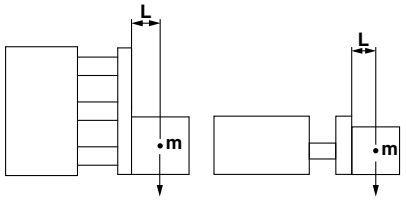
Model Selection

LEYG Series ▶ p. **405** **LECS□ Series** ▶ p. **397**



Moment Load Graph

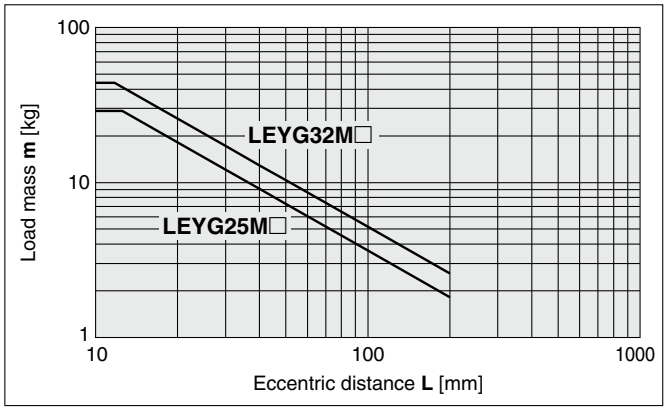
Selection conditions

		Vertical	Horizontal	
Mounting position				
Max. speed [mm/s]		"Speed–Work Load Graph"	200 or less	Over 200
Bearing	Sliding bearing	Graphs ①, ②	Graphs ⑤, ⑥*1	Graphs ⑦, ⑧
	Ball bushing bearing	Graphs ③, ④	Graphs ⑨, ⑩	Graphs ⑪, ⑫

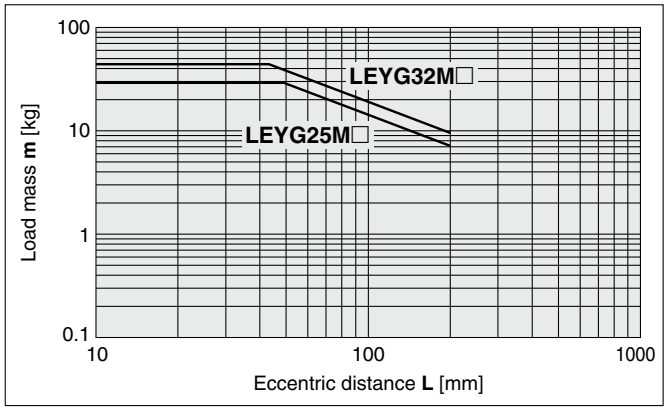
*1 For the sliding bearing type, the speed is restricted with a horizontal/moment load.

Vertical Mounting, Sliding Bearing

① 70 mm stroke or less



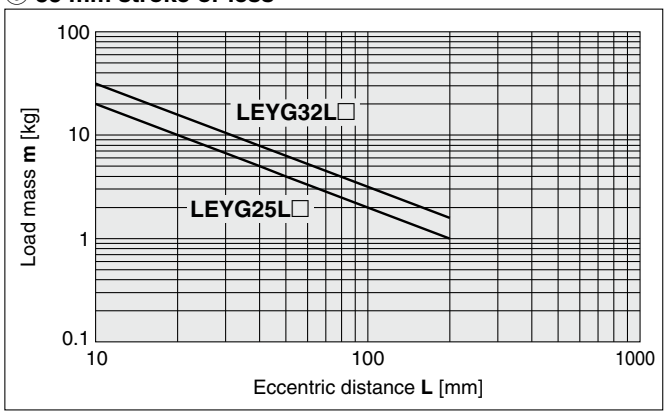
② Over 75 mm stroke



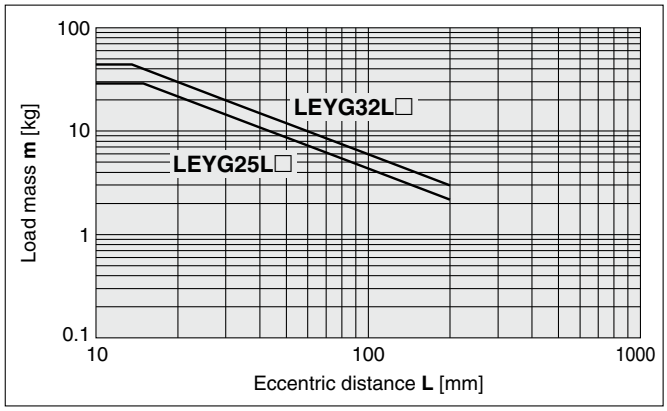
∗ The limit of vertical load mass varies depending on "lead" and "speed." Check the "Speed–Work Load Graph" on page 380.

Vertical Mounting, Ball Bushing Bearing

③ 35 mm stroke or less



④ Over 40 mm stroke

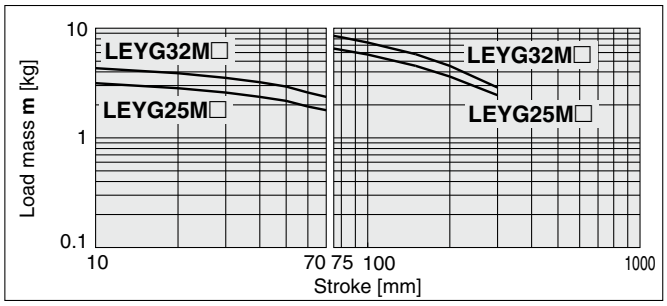


∗ The limit of vertical load mass varies depending on "lead" and "speed." Check the "Speed–Work Load Graph" on page 380.

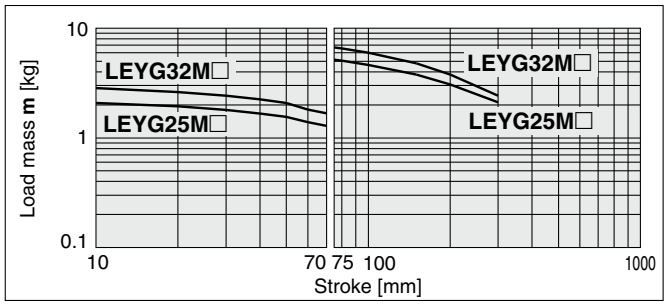
Moment Load Graph

Horizontal Mounting, Sliding Bearing

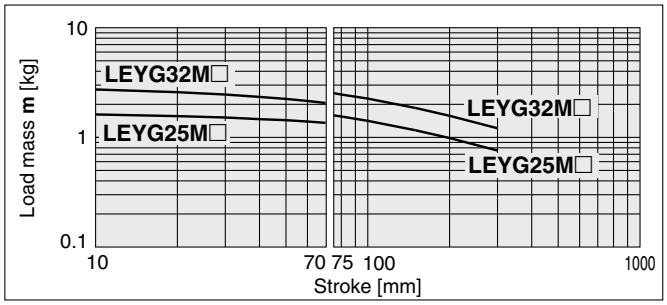
⑤ **L = 50 mm Max. speed = 200 mm/s or less**



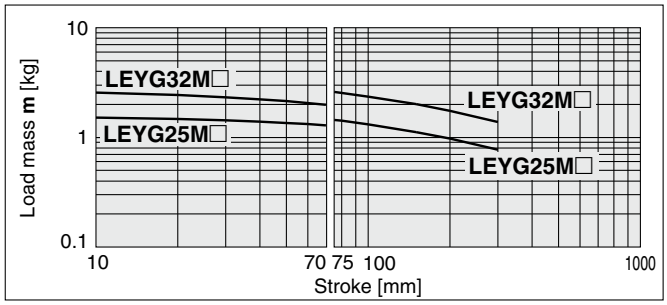
⑥ **L = 100 mm Max. speed = 200 mm/s or less**



⑦ **L = 50 mm Max. speed = Over 200 mm/s**

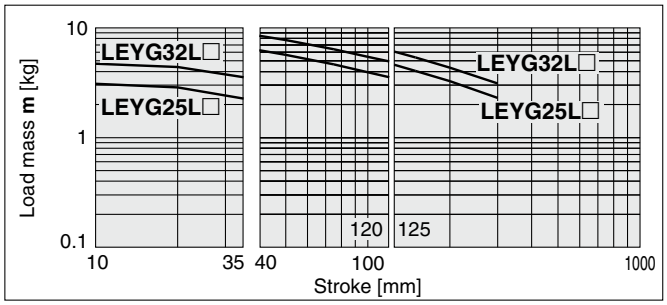


⑧ **L = 100 mm Max. speed = Over 200 mm/s**

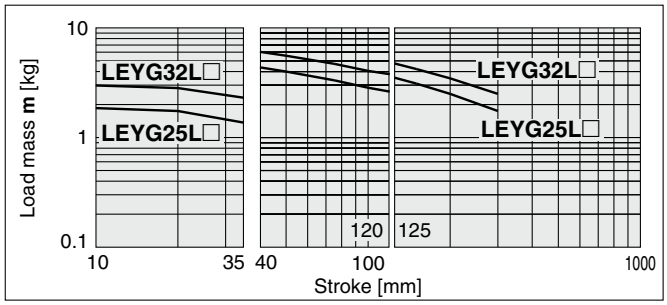


Horizontal Mounting, Ball Bushing Bearing

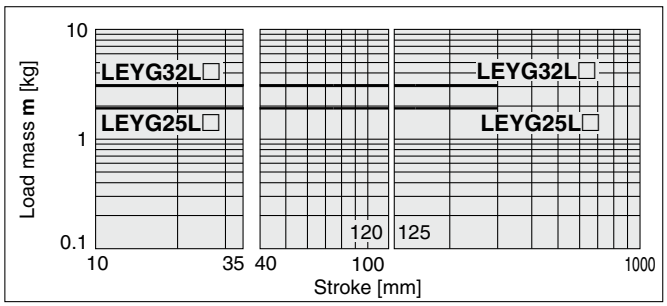
⑨ **L = 50 mm Max. speed = 200 mm/s or less**



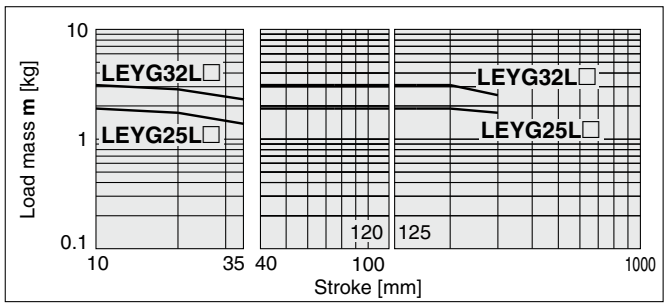
⑩ **L = 100 mm Max. speed = 200 mm/s or less**



⑪ **L = 50 mm Max. speed = Over 200 mm/s**

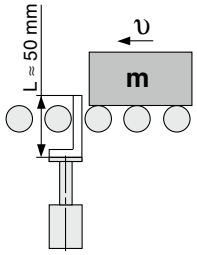


⑫ **L = 100 mm Max. speed = Over 200 mm/s**



Operating Range when Used as a Stopper

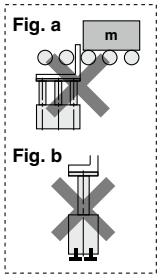
LEYG□M (Sliding bearing)

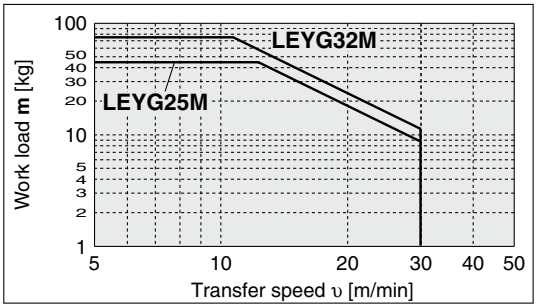


⚠Caution

Handling Precautions

* When used as a stopper, select a model with a stroke of 30 mm or less.
* LEYG□L (ball bushing bearing) cannot be used as a stopper.
* Workpiece collision in series with guide rod cannot be permitted (**Fig. a**).
* The body should not be mounted on the end. It must be mounted on the top or bottom (**Fig. b**).



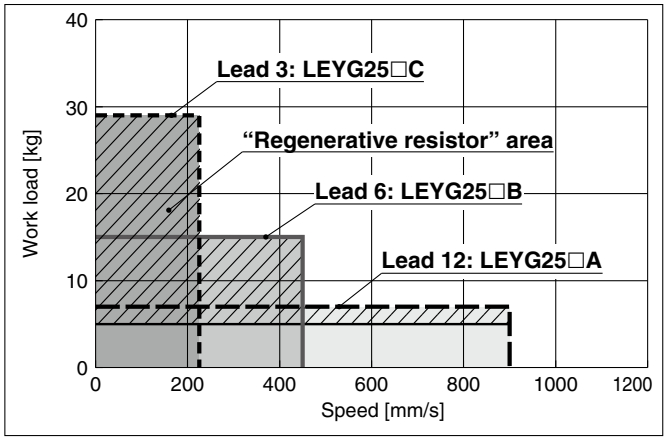


Speed–Work Load Graph/Conditions for "Regenerative Resistor" (Guide)

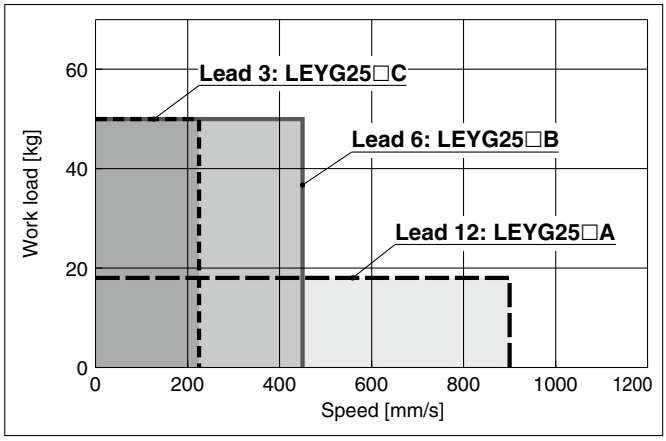
∗ These graphs show the work load when the external guide is used together. When using the LEYG alone, refer to pages 378 and 379.

LEYG25□V6 (Motor mounting position: Top mounting/In-line)

Vertical

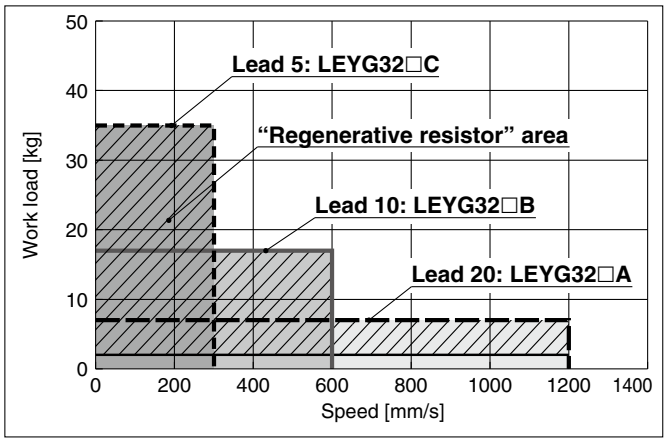


Horizontal

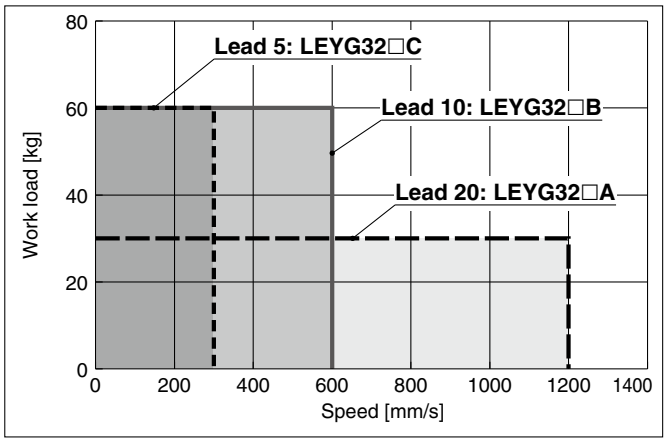


LEYG32V7 (Motor mounting position: Top mounting)

Vertical

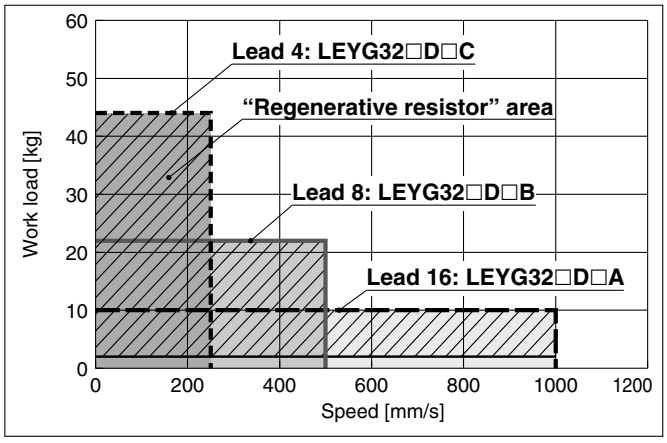


Horizontal

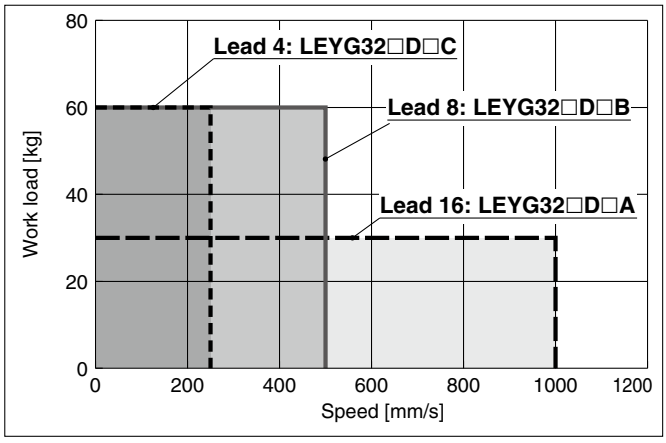


LEYG32DV7 (Motor mounting position: In-line)

Vertical



Horizontal



"Regenerative resistor" area

∗ When using the actuator in the "Regenerative resistor" area, download the "AC servo drive capacity selection program/SigmaJunmaSize+" from the SMC website. Then, calculate the necessary regenerative resistor capacity to prepare an appropriate external regenerative resistor.

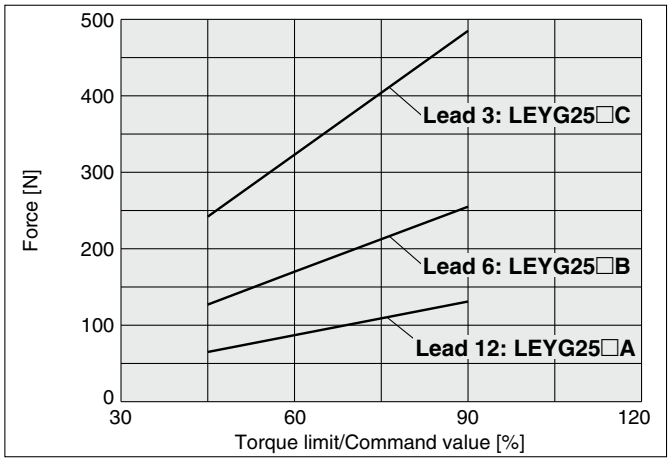
∗ Regenerative resistor should be provided by the customer.

Applicable Motors/Drivers

Model	Applicable model	
	Motor	Servopack (SMC driver)
LEYG25□	SGMJV-01A3A	SGDV-R90A11□ (LECYM2-V5) SGDV-R90A21□ (LECYU2-V5)
LEYG32□	SGMJV-02A3A	SGDV-1R6A11□ (LECYM2-V7) SGDV-1R6A21□ (LECYU2-V7)

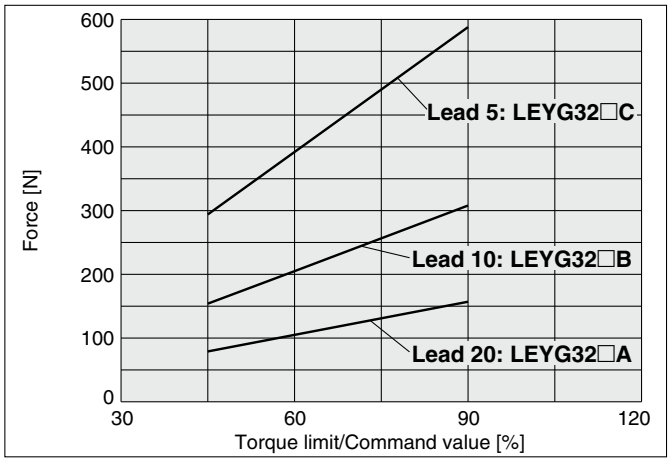
Force Conversion Graph

LEYG25□V6 (Motor mounting position: Top mounting/In-line)



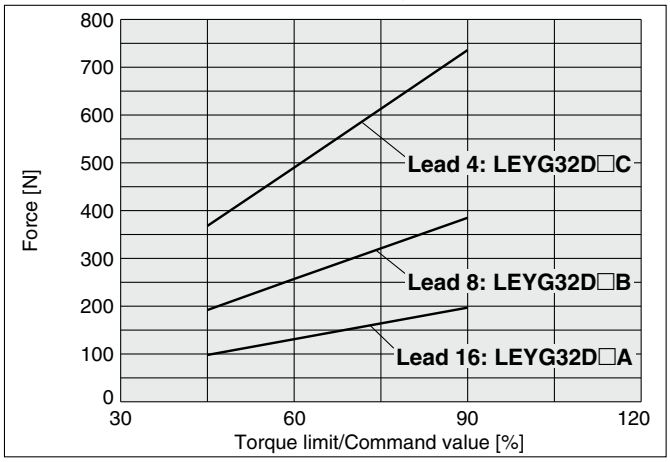
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

LEYG32□V7 (Motor mounting position: Top mounting)



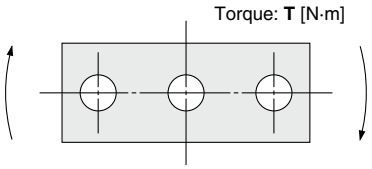
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

LEYG32DV7 (Motor mounting position: In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [min]
75 or less	100	—
90	60	1.5

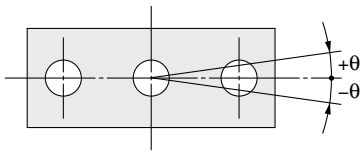
Allowable Rotational Torque of Plate: T



T [N·m]

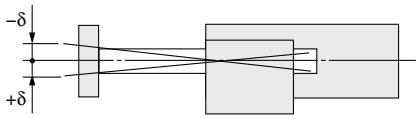
Model	Stroke [mm]				
	30	50	100	200	300
LEYG25M	1.56	1.29	3.50	2.18	1.36
LEYG25L	1.52	3.57	2.47	2.05	1.44
LEYG32M	2.55	2.09	5.39	3.26	1.88
LEYG32L	2.80	5.76	4.05	3.23	2.32

Non-rotating Accuracy of Plate: θ



Size	LEYG□M	LEYG□L
25	±0.06°	±0.04°
32	±0.05°	

Plate Displacement (Reference Value): δ



[mm]

Model	Stroke [mm]				
	30	50	100	200	300
LEYG25M	±0.26	±0.31	±0.25	±0.38	±0.36
LEYG25L	±0.13	±0.13	±0.17	±0.20	±0.23
LEYG32M	±0.23	±0.29	±0.23	±0.36	±0.34
LEYG32L	±0.11	±0.11	±0.15	±0.19	±0.22

∗ The values without a load are shown.

Step Motor (Servo/24 VDC) Servo Motor (24 VDC)

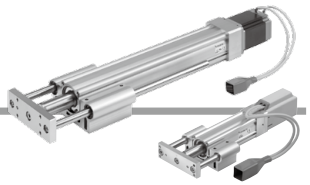
Electric Actuator Guide Rod Type

LEYG Series LEYG16, 25, 32, 40

RoHS

How to Order

Motor mounting position: Top mounting



Motor mounting position: In-line

LEYG **16** **M** **□** **□** **B** – **50** **□** **□** – **S1**

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

JXC□ Series
CD17T

LEC□ Series
AN **1** **□**

❿ ⓫ ⓬

For details on controllers, refer to page 384.

❶ Size

16
25
32
40

❷ Bearing type*1

M	Sliding bearing
L	Ball bushing bearing

❸ Motor mounting position

Nil	Top mounting
D	In-line

❹ Motor type

Symbol	Type	Applicable size			Compatible controllers/ drivers
		LEYG16	**LEYG25**	**LEYG32/40**	
Nil	Step motor (Servo/24 VDC)	●	●	●	JXCE1 JXCM1 LECP1 JXC91 JXC51 LECPA JXCP1 JXC61 JXCD1 JXCL1
A	Servo motor (24 VDC)	●	●	—	LECA6

❺ Lead [mm]

Symbol	**LEYG16**	**LEYG25**	**LEYG32/40**
A	10	12	16
B	5	6	8
C	2.5	3	4

❻ Stroke*2 *3 [mm]

30	30
to	to
300	300

* For details, refer to the applicable stroke table below.

❼ Motor option*4

Nil	Without option
C	With motor cover
B	With lock
W	With lock/motor cover

❽ Guide option*5

Nil	Without option
F	With grease retaining function

❾ Actuator cable type/length*7

Standard cable [m]

Nil	None
S1	1.5*9
S3	3*9
S5	5*9

Robotic cable [m]

R1	1.5	**RA**	10*6
R3	3	**RB**	15*6
R5	5	**RC**	20*6
R8	8*6		

Applicable Stroke Table*2

●: Standard

Model \ Stroke [mm]	**30**	**50**	**100**	**150**	**200**	**250**	**300**	Manufacturable stroke range [mm]
LEYG16	●	●	●	●	●	—	—	10 to 200
LEYG25	●	●	●	●	●	●	●	15 to 300
LEYG32/40	●	●	●	●	●	●	●	20 to 300

For auto switches, refer to pages 363 to 365.

Use of auto switches for the guide rod type LEYG series
· Auto switches must be inserted from the front side with the rod (plate) sticking out.
· Auto switches cannot be fixed with the parts hidden behind the guide attachment (the side of the rod that sticks out).
· Please consult with SMC when using auto switches on the side of the rod that sticks out, as it is produced as a special order.

JXC□ Series (For details, refer to page 385.)

⑩ Controller

Nil	Without controller
C□1□□	With controller

C D 1 7 T

Interface
(Communication protocol/Input/Output)

E	EtherCAT®	**L**	IO-Link
9	EtherNet/IP™	**M**	CC-Link Ver 1.10
P	PROFINET	**5**	Parallel input (NPN)
D	DeviceNet™	**6**	Parallel input (PNP)

Mounting

7	Screw mounting
8∗13	DIN rail

For single axis

Communication plug connector I/O cable∗14

Symbol	Type	Applicable interface
Nil	Without accessory	—
S	Straight type communication plug connector	DeviceNet™ CC-Link Ver 1.10
T	T-branch type communication plug connector	
1	I/O cable (1.5 m)	Parallel input (NPN) Parallel input (PNP)
3	I/O cable (3 m)	
5	I/O cable (5 m)	

LEC□ Series (For details, refer to page 385.)

AN 1 □
⑩ ⑪ ⑫

⑩ Controller/Driver type∗8

Nil	Without controller/driver	
6N	**LECA6** (Step data input type)	NPN
6P		PNP
1N	**LECP1**∗9 (Programless type)	NPN
1P		PNP
AN	**LECPA**∗9 ∗10 (Pulse input type)	NPN
AP		PNP

⑪ I/O cable length∗11

Nil	Without cable (Without communication plug connector)
1	1.5 m
3	3 m∗12
5	5 m∗12

⑫ Controller/Driver mounting

Nil	Screw mounting
D	DIN rail∗13

∗1 When [M: Sliding bearing] is selected, the maximum speed of lead [A] is 400 mm/s (at no-load, horizontal mounting). The speed is also restricted with a horizontal/moment load. Refer to the "Model Selection" on page 367.
∗2 Please consult with SMC for non-standard strokes as they are produced as special orders.
∗3 There is a limit for mounting the size 32/40 top mounting types and strokes of 50 mm or less. Refer to the dimensions.
∗4 When "With lock" or "With lock/motor cover" is selected for the top mounting type, the motor body will stick out from the end of the body for size 16/40 with strokes of 30 mm or less. Check for interference with workpieces before selecting a model.
∗5 Only available for size 25, 32, and 40 sliding bearings (Refer to the "Construction" on page 390.)
∗6 Produced upon receipt of order (Robotic cable only)
∗7 The standard cable should only be used on fixed parts.
For use on moving parts, select the robotic cable.
Refer to pages 758 and 759 if only the actuator cable is required.
∗8 For details on controllers/drivers and compatible motors, refer to the compatible controllers/drivers on the next page.
∗9 Only available for the motor type "Step motor"
∗10 When pulse signals are open collector, order the current limiting resistor (LEC-PA-R-□) on page 736 separately.
∗11 When "Without controller/driver" is selected for controller/driver types, I/O cable cannot be selected. Refer to page 713 (For LECA6), page 724 (For LECP1), or page 736 (For LECPA) if I/O cable is required.
∗12 When "Pulse input type" is selected for controller/driver types, pulse input usable only with differential. Only 1.5 m cables usable with open collector
∗13 The DIN rail is not included. It must be ordered separately.
∗14 Select "Nil" for anything other than DeviceNet™, CC-Link, or parallel input.
Select "Nil," "S," or "T" for DeviceNet™ or CC-Link.
Select "Nil," "1," "3," or "5" for parallel input.

⚠Caution

[CE-compliant products]

① EMC compliance was tested by combining the electric actuator LEY series and the controller LEC/JXC series.
The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore, compliance with 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 compliance with the EMC directive for the machinery and equipment as a whole.

② For the servo motor (24 VDC) specification, EMC compliance was tested by installing a noise filter set (LEC-NFA). Refer to page 713 for the noise filter set. Refer to the LECA series Operation Manual for installation.

[UL-compliant products (For the LEC series)]

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

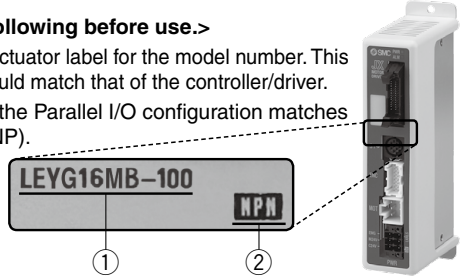
The actuator and controller/driver are sold as a package.

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

<Check the following before use.>

① Check the actuator label for the model number. This number should match that of the controller/driver.

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



∗ Refer to the Operation Manual for using the products. Please download it via our website: https://www.smcworld.com

Compatible Controllers/Drivers

Type	EtherCAT® direct input type 	EtherNet/IP™ direct input type 	PROFINET direct input type 	DeviceNet™ direct input type 	IO-Link direct input type 	CC-Link direct input type 
Series	**JXCE1**	**JXC91**	**JXCP1**	**JXCD1**	**JXCL1**	**JXCM1**
Features	EtherCAT® direct input	EtherNet/IP™ direct input	PROFINET direct input	DeviceNet™ direct input	IO-Link direct input	CC-Link direct input
Compatible motor	Step motor (Servo/24 VDC)					
Max. number of step data	64 points					
Power supply voltage	24 VDC					
Reference page	741					

Type	Step data input type 	Step data input type 	Programless type 	Pulse input type 
Series	**JXC51 JXC61**	**LECA6**	**LECP1**	**LECPA**
Features	Parallel I/O	Value (Step data) input Standard controller	Capable of setting up operation (step data) without using a PC or teaching box	Operation by pulse signals
Compatible motor	Step motor (Servo/24 VDC)	Servo motor (24 VDC)	Step motor (Servo/24 VDC)	
Max. number of step data	64 points		14 points	—
Power supply voltage	24 VDC			
Reference page	706-1	707	719	731

Specifications

Step Motor (Servo/24 VDC)

Model				LEYG16 M/L			LEYG25 M/L			LEYG32 M/L			LEYG40 M/L		
Actuator specifications	Work load [kg]*1	Horizontal (JXC□1, LECP1)	Acceleration/Deceleration at 3000 [mm/s²]	6	17	30	20	40	60	30	45	60	50	60	80
			Acceleration/Deceleration at 2000 [mm/s²]	10	23	35	30	55	70	40	60	80	60	70	90
		Horizontal (LECPA, JXC□2/3)	Acceleration/Deceleration at 3000 [mm/s²]	4	11	20	12	30	30	20	40	40	30	60	60
			Acceleration/Deceleration at 2000 [mm/s²]	6	17	30	18	50	50	30	60	60	—	—	—
		Vertical	Acceleration/Deceleration at 3000 [mm/s²]	1.5	3.5	7.5	7	15	29	9	20	41	11	25	51
	Pushing force [N]*2 *3 *4			14 to 38	27 to 74	51 to 141	63 to 122	126 to 238	232 to 452	80 to 189	156 to 370	296 to 707	132 to 283	266 to 553	562 to 1058
	Speed [mm/s]*4	JXC□1/LECP1		15 to 500	8 to 250	4 to 125	18 to 500	9 to 250	5 to 125	24 to 500	12 to 300	6 to 150	24 to 500	12 to 350	6 to 175
		LECPA/JXC□2/3									12 to 250	6 to 125	24 to 300	12 to 150	6 to 75
	Max. acceleration/deceleration [mm/s²]			3000											
	Pushing speed [mm/s]*5			50 or less			35 or less			30 or less			30 or less		
	Positioning repeatability [mm]			±0.02											
	Lost motion [mm]*6			0.1 or less											
	Screw lead [mm]			10	5	2.5	12	6	3	16	8	4	16	8	4
	Impact/Vibration resistance [m/s²]*7			50/20											
	Actuation type			Ball screw + Belt (LEYG□□), Ball screw (LEYG□□D)											
	Guide type			Sliding bearing (LEYG□M), Ball bushing bearing (LEYG□L)											
	Operating temp. range [°C]			5 to 40											
	Operating humidity range [%RH]			90 or less (No condensation)											
Electric specifications	Motor size			□28			□42			□56.4			□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]*8			23			40			50			50		
	Standby power consumption when operating [W]*9			16			15			48			48		
	Max. instantaneous power consumption [W]*10			43			48			104			106		
Lock unit specifications	Type*11			Non-magnetizing lock											
	Holding force [N]			20	39	78	78	157	294	108	216	421	127	265	519
	Power consumption [W]*12			2.9			5			5			5		
	Rated voltage [V]			24 VDC ±10%											

*1 Horizontal: An external guide is necessary to support the load (Friction coefficient of guide: 0.1 or less). The actual work load and transfer speed change according to the condition of the external guide. Also, speed changes according to the work load. Check the "Model Selection" on pages 369 and 370.
Vertical: Speed changes according to the work load. Check the "Model Selection" on pages 369 and 370.
Set the acceleration/deceleration values to be 3000 [mm/s²] or less.

*2 Pushing force accuracy is ±20% (F.S.).

*3 The pushing force values for LEYG16□□ is 35% to 85%, for LEYG25□□ is 35% to 65%, for LEYG32□□ is 35% to 85%, and for LEYG40□□ is 35% to 65%. The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" on page 372.

*4 The speed and force may change depending on the cable length, load and mounting conditions. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m. (At 15 m: Reduced by up to 20%)
When [M: Sliding bearing] is selected, the maximum speed of lead [A] is 400 mm/s (at no-load, horizontal mounting).
The speed is also restricted with a horizontal/moment load. Refer to the "Model Selection" on page 367.

*5 The allowable speed for the pushing operation

*6 A reference value for correcting an error in reciprocal operation

*7 Impact resistance: No malfunction occurred when it was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

*8 The power consumption (including the controller) is for when the actuator is operating.

*9 The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation. Except during the pushing operation

*10 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.

*11 With lock only

*12 For an actuator with lock, add the power consumption for the lock.

Specifications

Servo Motor (24 VDC)

	Model			LEYG16$^{M}_{L}$□A			LEYG25$^{M}_{L}$□A		
Actuator specifications	Work load [kg]*1	Horizontal	Acceleration/Deceleration at 3000 [mm/s²]	3	6	12	7	15	30
		Vertical	Acceleration/Deceleration at 3000 [mm/s²]	1.5	3.5	7.5	2	5	11
	Pushing force [N]*2 *3			16 to 30	30 to 58	57 to 111	18 to 35	37 to 72	66 to 130
	Speed [mm/s]			1 to 500	1 to 250	1 to 125	2 to 500	1 to 250	1 to 125
	Max. acceleration/deceleration [mm/s²]			3000					
	Pushing speed [mm/s]*4			50 or less			35 or less		
	Positioning repeatability [mm]			±0.02					
	Lost motion [mm]*5			0.1 or less					
	Screw lead [mm]			10	5	2.5	12	6	3
	Impact/Vibration resistance [m/s²]*6			50/20					
	Actuation type			Ball screw + Belt (LEYG□□), Ball screw (LEYG□□D)					
	Guide type			Sliding bearing (LEYG□M), Ball bushing bearing (LEYG□L)					
	Operating temp. range [°C]			5 to 40					
	Operating humidity range [%RH]			90 or less (No condensation)					
Electric specifications	Motor size			□28			□42		
	Motor output [W]			30			36		
	Motor type			Servo motor (24 VDC)					
	Encoder			Incremental A/B (800 pulse/rotation)/Z phase					
	Rated voltage [V]			24 VDC ±10%					
	Power consumption [W]*7			40			86		
	Standby power consumption when operating [W]*8			4 (Horizontal)/6 (Vertical)			4 (Horizontal)/12 (Vertical)		
	Max. instantaneous power consumption [W]*9			59			96		
Lock unit specifications	Type*10			Non-magnetizing lock					
	Holding force [N]			20	39	78	78	157	294
	Power consumption [W]*11			2.9			5		
	Rated voltage [V]			24 VDC ±10%					

*1 Horizontal: An external guide is necessary to support the load (Friction coefficient of guide: 0.1 or less). The actual work load and transfer speed change according to the condition of the external guide.
Vertical: Check the "Model Selection" on page 371 for details.
Set the acceleration/deceleration values to be 3000 [mm/s²] or less.
*2 Pushing force accuracy is ±20% (F.S.).
*3 The thrust setting values for LEYG16□A□ is 60% to 95% and for LEYG25□A□ is 70% to 95%. The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" on page 372.
*4 The allowable speed for the pushing operation
*5 A reference value for correcting an error in reciprocal operation
*6 Impact resistance: No malfunction occurred when it was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
*7 The power consumption (including the controller) is for when the actuator is operating.
*8 The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation. Except during the pushing operation
*9 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.
*10 With lock only
*11 For an actuator with lock, add the power consumption for the lock.

Weight

Weight: Motor Top Mounting Type

Model		LEYG16M					LEYG25M							LEYG32M						
Stroke [mm]		30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	Step motor	0.83	0.97	1.20	1.49	1.66	1.67	1.86	2.18	2.60	2.94	3.28	3.54	2.91	3.17	3.72	4.28	4.95	5.44	5.88
	Servo motor	0.83	0.97	1.20	1.49	1.66	1.63	1.82	2.14	2.56	2.90	3.24	3.50	—	—	—	—	—	—	—

Model		LEYG16L					LEYG25L							LEYG32L						
Stroke [mm]		30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	Step motor	0.84	0.97	1.14	1.43	1.58	1.68	1.89	2.13	2.56	2.82	3.14	3.38	2.91	3.18	3.57	4.12	4.66	5.17	5.56
	Servo motor	0.84	0.97	1.14	1.43	1.58	1.64	1.85	2.09	2.52	2.78	3.10	3.34	—	—	—	—	—	—	—

Model		LEYG40M							LEYG40L						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	Step motor	3.21	3.47	4.02	4.58	5.25	5.74	6.18	3.21	3.48	3.87	4.42	4.96	5.47	5.86
	Servo motor	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Weight: In-line Motor Type

Model		LEYG16M					LEYG25M							LEYG32M						
Stroke [mm]		30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	Step motor	0.83	0.97	1.20	1.49	1.66	1.66	1.85	2.17	2.59	2.93	3.27	3.53	2.90	3.16	3.71	4.27	4.94	5.43	5.87
	Servo motor	0.83	0.97	1.20	1.49	1.66	1.62	1.81	2.13	2.55	2.89	3.23	3.49	—	—	—	—	—	—	—

Model		LEYG16L					LEYG25L							LEYG32L						
Stroke [mm]		30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	Step motor	0.84	0.97	1.14	1.43	1.58	1.67	1.88	2.12	2.55	2.81	3.13	3.37	2.90	3.17	3.56	4.11	4.65	5.16	5.55
	Servo motor	0.84	0.97	1.14	1.43	1.58	1.63	1.84	2.08	2.51	2.77	3.09	3.33	—	—	—	—	—	—	—

Model		LEYG40M							LEYG40L						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	Step motor	3.20	3.46	4.01	4.57	5.24	5.73	6.17	3.20	3.47	3.86	4.41	4.95	5.46	5.85
	Servo motor	—	—	—	—	—	—	—	—	—	—	—	—	—	—

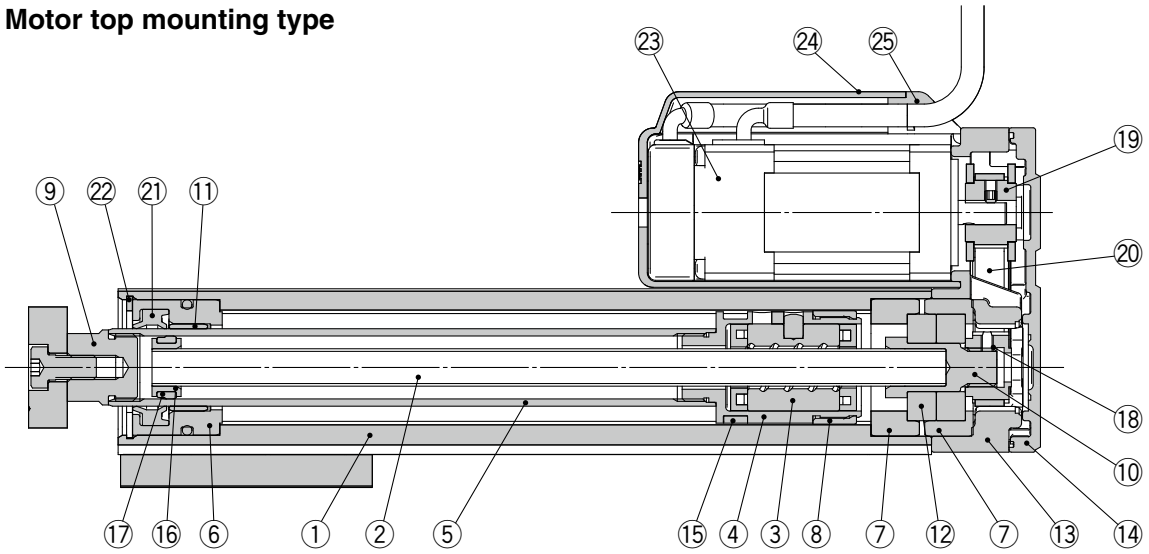
Additional Weight

[kg]

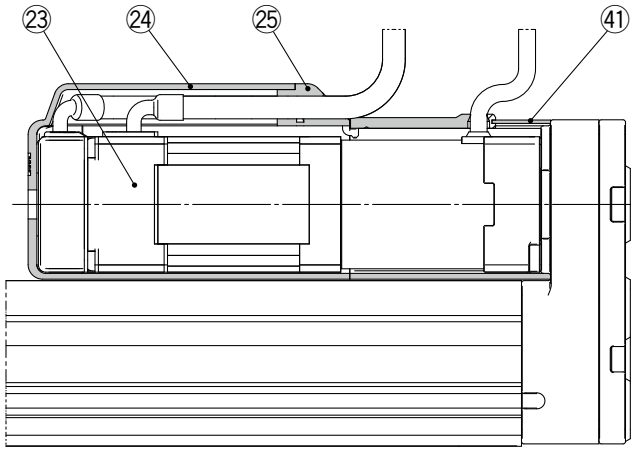
Size	16	25	32	40
Lock	0.12	0.26	0.53	0.53
Motor cover	0.02	0.03	0.04	0.05
Lock/Motor cover	0.16	0.32	0.61	0.62

Construction

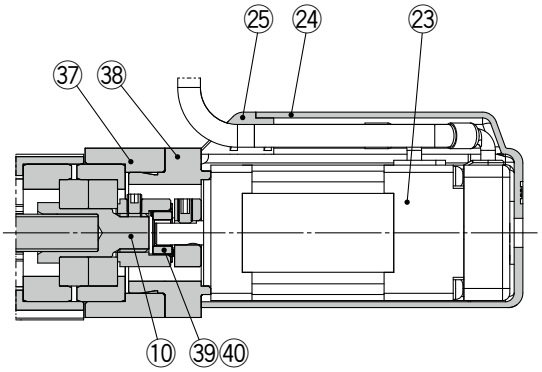
Motor top mounting type



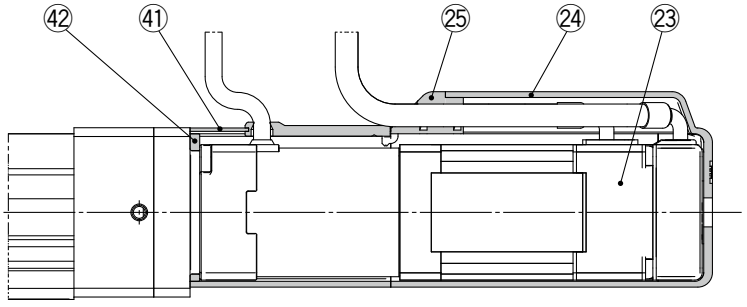
Motor top mounting type
With lock/motor cover



In-line motor type

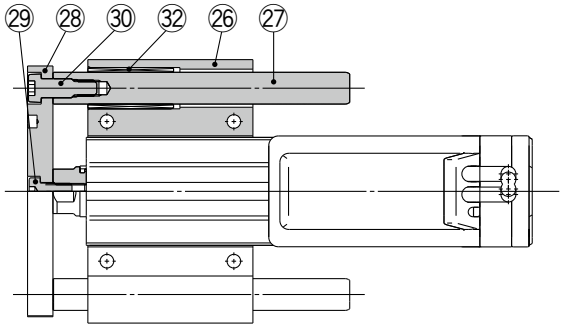


In-line motor type
With lock/motor cover

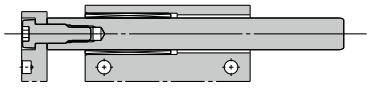


Construction

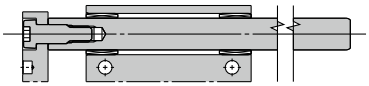
LEYG□M



LEYG$^{16}_{25}_{32}_{40}$M: 50st or less

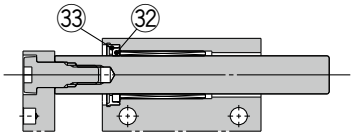


LEYG$^{16}_{25}_{32}_{40}$M: Over 50st

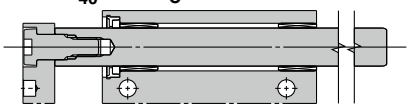


When grease retaining function selected

LEYG$^{25}_{32}_{40}$M□□$^{A}_{B}_{C}$-□□F: 50st or less

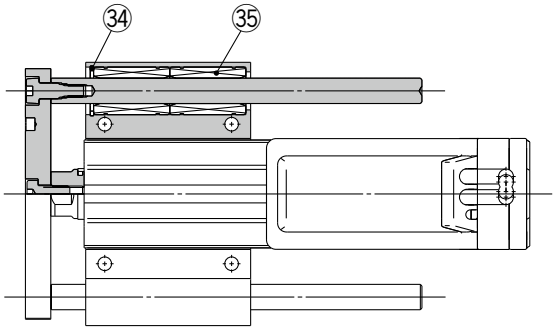


LEYG$^{25}_{32}_{40}$M□□$^{A}_{B}_{C}$-□□F: Over 50st

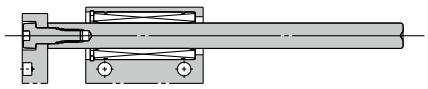


∗ Felt material is inserted to retain grease at the sliding part of the sliding bearing. This lengthens the life of the sliding part, but does not guarantee it permanently.

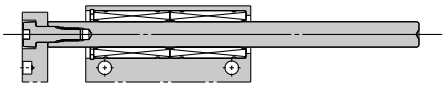
LEYG□L



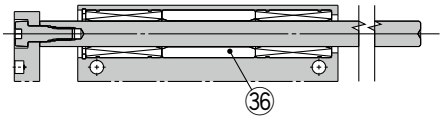
LEYG16L: 30st or less
LEYG$^{25}_{32}_{40}$L: 100st or less



LEYG16L: Over 30st, 100st or less



LEYG$^{16}_{25}_{32}_{40}$L: Over 100st



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Synthetic resin/Alloy steel	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Connected shaft**	Free cutting carbon steel	Nickel plating
11	**Bushing**	Bearing alloy	
12	**Bearing**	—	
13	**Return box**	Aluminum die-cast	Coating
14	**Return plate**	Aluminum die-cast	Coating
15	**Magnet**	—	
16	**Wear ring holder**	Stainless steel	Stroke 101 mm or more
17	**Wear ring**	Synthetic resin	Stroke 101 mm or more
18	**Screw shaft pulley**	Aluminum alloy	
19	**Motor pulley**	Aluminum alloy	
20	**Belt**	—	
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	Phosphate coated
23	**Motor**	—	
24	**Motor cover**	Synthetic resin	Only "With motor cover"
25	**Grommet**	Synthetic resin	Only "With motor cover"
26	**Guide attachment**	Aluminum alloy	Anodized
27	**Guide rod**	Carbon steel	

No.	Description	Material	Note
28	**Plate**	Aluminum alloy	Anodized
29	**Plate mounting cap screw**	Carbon steel	Nickel plating
30	**Guide cap screw**	Carbon steel	Nickel plating
31	**Sliding bearing**	Bearing alloy	
32	**Lube-retainer**	Felt	
33	**Holder**	Resin	
34	**Retaining ring**	Steel for spring	Phosphate coating
35	**Ball bushing**	—	
36	**Spacer**	Aluminum alloy	Chromating
37	**Motor block**	Aluminum alloy	Anodized
38	**Motor adapter**	Aluminum alloy	Anodized/LEY16, 25 only
39	**Hub**	Aluminum alloy	
40	**Spider**	NBR	
41	**Motor cover with lock**	Aluminum alloy	Only "With lock/motor cover"
42	**Cover support**	Aluminum alloy	Only "With lock/motor cover"

Replacement Parts/Belt

No.	Size	Order no.
20	**16**	LE-D-2-1
	25	LE-D-2-2
	32, 40	LE-D-2-3

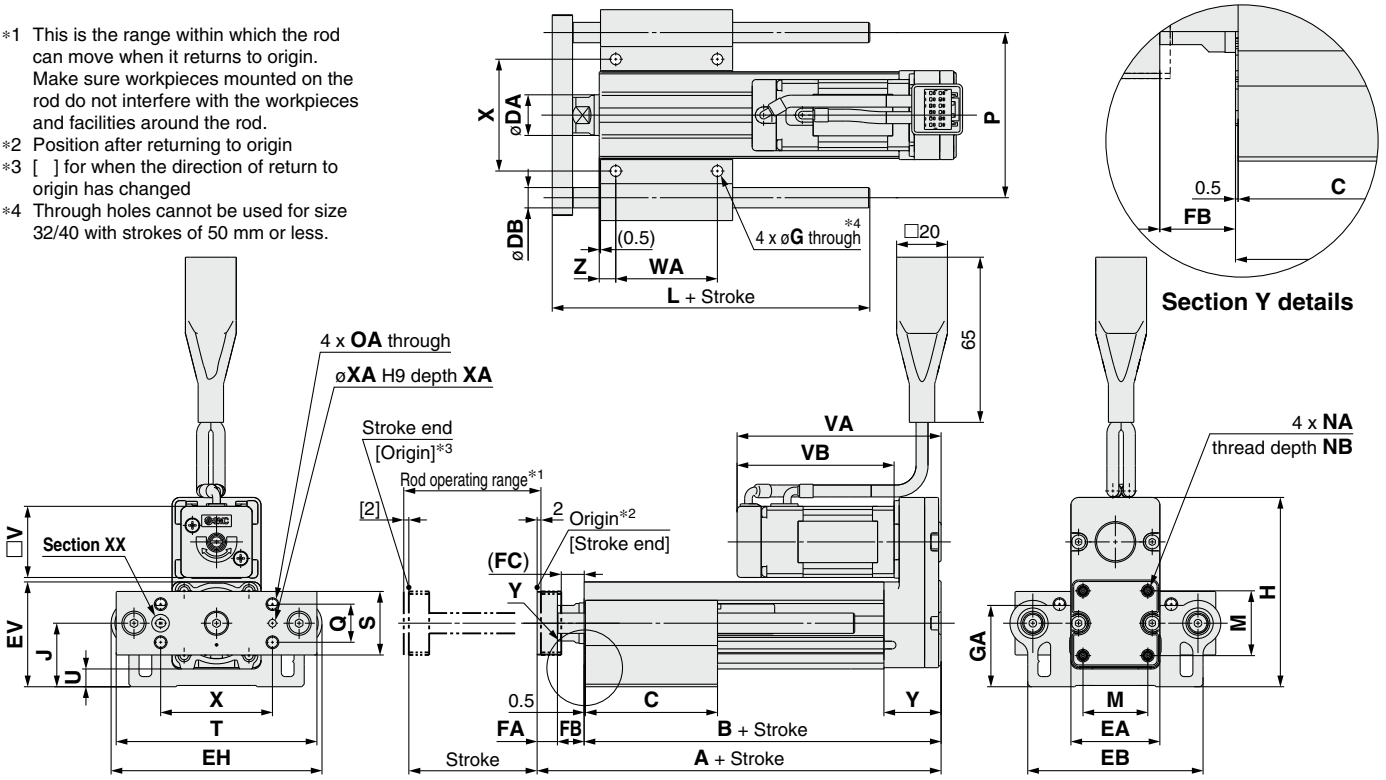
Replacement Parts/Grease Pack

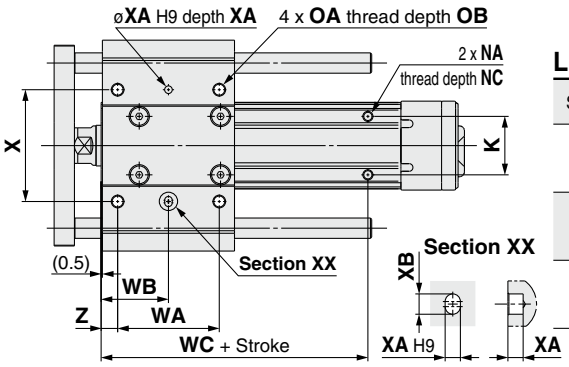
Applied portion	Order no.
Piston rod Guide rod	GR-S-010 (10 g) GR-S-020 (20 g)

∗ Apply grease on the piston rod periodically.
Grease should be applied at 1 million cycles or 200 km, whichever comes first.

Dimensions: Motor Top Mounting

∗1 This is the range within which the rod can move when it returns to origin. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
∗2 Position after returning to origin
∗3 [ ] for when the direction of return to origin has changed
∗4 Through holes cannot be used for size 32/40 with strokes of 50 mm or less.





LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range	L	DB
16	90st or less	75	8
	91st or more, 200st or less	105	
25	114st or less	91	10
	115st or more, 190st or less	115	
	191st or more, 300st or less	133	
32 40	114st or less	97.5	13
	115st or more, 190st or less	116.5	
	191st or more, 300st or less	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range	L	DB
16	64st or less	51.5	10
	65st or more, 90st or less	74.5	
	91st or more, 200st or less	105	
25	59st or less	67.5	12
	60st or more, 185st or less	100.5	
	186st or more, 300st or less	138	
32 40	54st or less	74	16
	55st or more, 180st or less	107	
	181st or more, 300st or less	144	

LEYG□M, LEYG□L Common

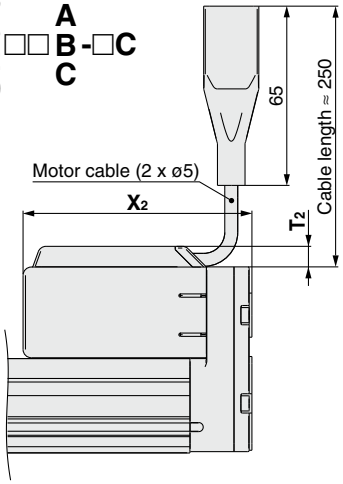
[mm]

Size	Stroke range	A	B	C	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	M	NA	NB	NC
16	39st or less	109	90.5	37	16	35	69	83	41.1	8	10.5	8.5	4.3	31.8	74.3	24.8	23	25.5	M4 x 0.7	7	5.5
	40st or more, 100st or less			52																	
	101st or more, 200st or less	129	110.5	82																	
25	39st or less	141.5	116	50	20	46	85	103	52.3	11	14.5	12.5	5.4	40.3	98.8	30.8	29	34	M5 x 0.8	8	6.5
	40st or more, 100st or less			67.5																	
	101st or more, 124st or less																				
	125st or more, 200st or less	166.5	141	84.5																	
	201st or more, 300st or less			102																	
32 40	39st or less	160.5	130	55	25	60	101	123	63.8	12	18.5	16.5	5.4	50.3	125.3	38.3	30	40	M6 x 1.0	10	8.5
	40st or more, 100st or less			68																	
	101st or more, 124st or less	190.5	160																		
	125st or more, 200st or less			85																	
	201st or more, 300st or less			102																	

Size	Stroke range	OA	OB	P	Q	S	T	U	V	Step motor VA	Step motor VB	Servo motor VA	Servo motor VB	WA	WB	WC	X	XA	XB	Y	Z
16	39st or less	M5 x 0.8	10	65	15	25	79	6.8	28	80.3	61.8	81	62.5	25	19	55	44	3	4	22.5	6.5
	40st or more, 100st or less													40	26.5						
	101st or more, 200st or less													70	41.5	75					
25	39st or less	M6 x 1.0	12	80	18	30	95	6.8	42	85.4	63.4	81.6	59.6	35	26	70	54	4	5	26.5	8.5
	40st or more, 100st or less													50	33.5						
	101st or more, 124st or less															95					
	125st or more, 200st or less													70	43.5						
	201st or more, 300st or less													85	51						
32	39st or less	M6 x 1.0	12	95	28	40	117	7.3	56.4	95.4	68.4	—	—	40	28.5	75	64	5	6	34	8.5
	40st or more, 100st or less													50	33.5						
	101st or more, 124st or less															105					
	125st or more, 200st or less													70	43.5						
	201st or more, 300st or less													85	51						
40	39st or less	M6 x 1.0	12	95	28	40	117	7.3	56.4	117.4	90.4	—	—	40	28.5	75	64	5	6	34	8.5
	40st or more, 100st or less													50	33.5						
	101st or more, 124st or less															105					
	125st or more, 200st or less													70	43.5						
	201st or more, 300st or less													85	51						

Dimensions: Motor Top Mounting

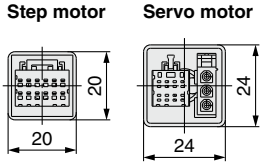
With motor cover: LEYG 16/25/32/40 □□ A/B/C -□C



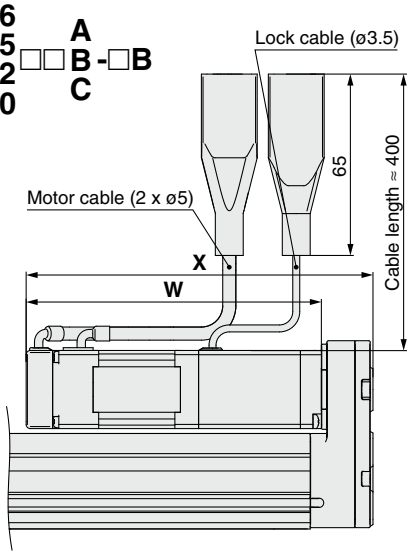
[mm]

Size	T2	X2
16	7.5	83
25	7.5	88.5
32	7.5	98.5
40	7.5	120.5

Connector



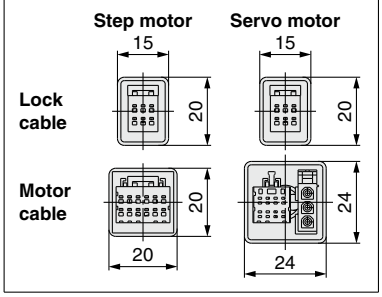
With lock: LEYG 16/25/32/40 □□ A/B/C -□B



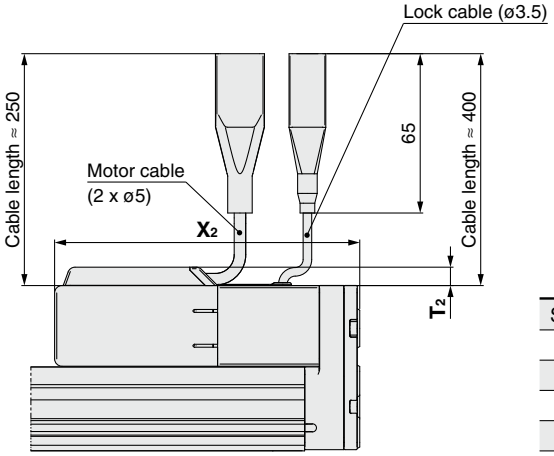
[mm]

Size	Step motor		Servo motor	
	W	X	W	X
16	103.3	121.8	104.0	122.5
25	103.9	125.9	100.1	122.1
32	111.4	138.4	—	—
40	133.4	160.4	—	—

Connector



With lock/motor cover: LEYG 16/25/32/40 □□ A/B/C -□W

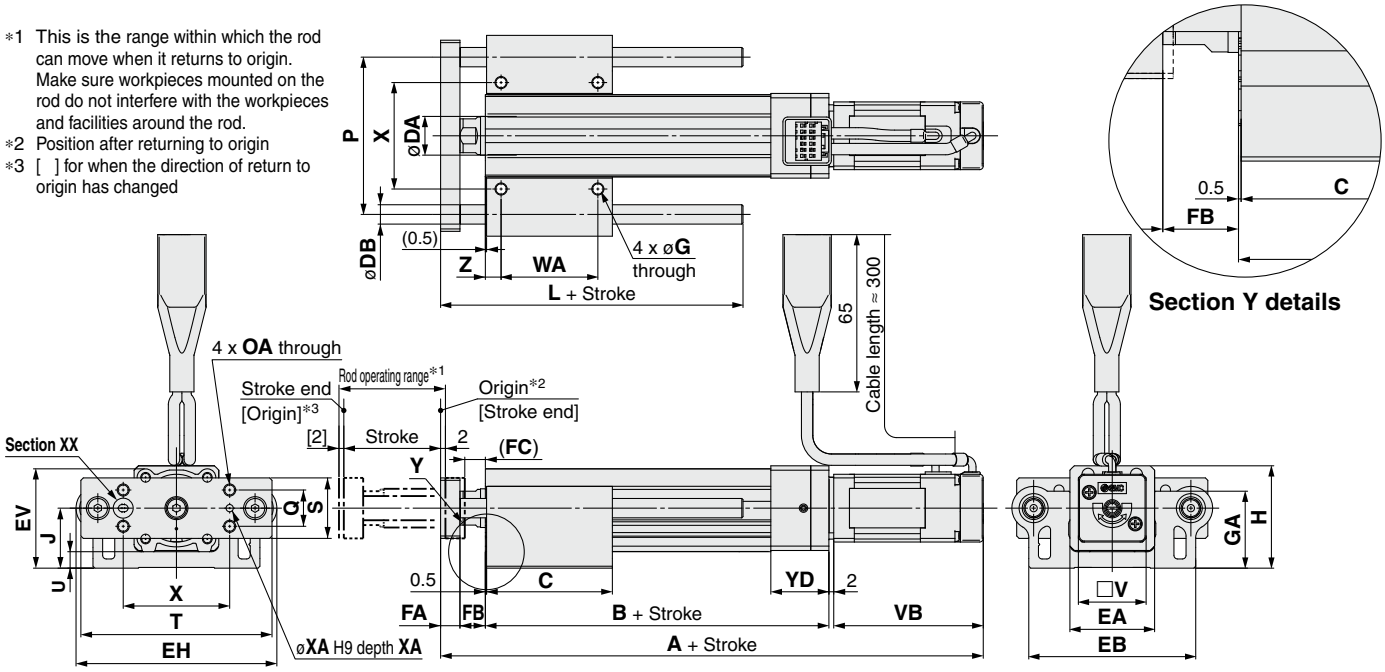


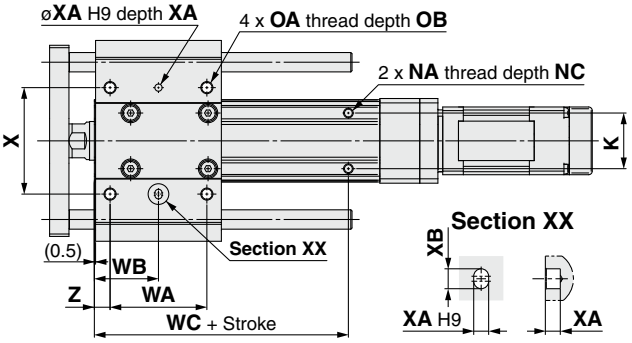
[mm]

Size	T2	X2
16	7.5	124.5
25	7.5	129
32	7.5	141.5
40	7.5	163.5

Dimensions: In-line Motor

∗1 This is the range within which the rod can move when it returns to origin. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
∗2 Position after returning to origin
∗3 [ ] for when the direction of return to origin has changed





LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range	L	DB
16	90st or less	75	8
	91st or more, 200st or less	105	
25	114st or less	91	10
	115st or more, 190st or less	115	
	191st or more, 300st or less	133	
32 40	114st or less	97.5	13
	115st or more, 190st or less	116.5	
	191st or more, 300st or less	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range	L	DB
16	64st or less	51.5	10
	65st or more, 90st or less	74.5	
	91st or more, 200st or less	105	
25	59st or less	67.5	12
	60st or more, 185st or less	100.5	
	186st or more, 300st or less	138	
32 40	54st or less	74	16
	55st or more, 180st or less	107	
	181st or more, 300st or less	144	

LEYG□M, LEYG□L Common

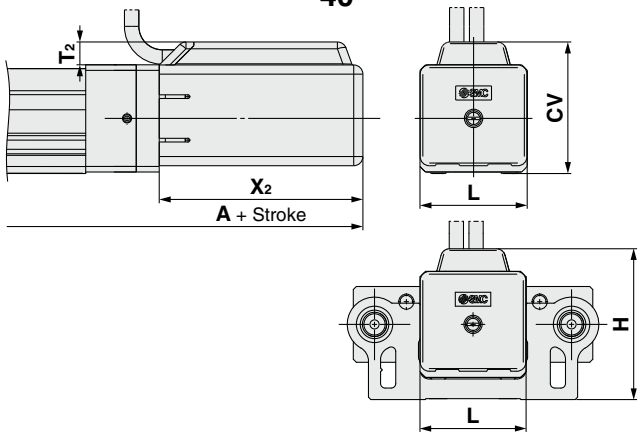
[mm]

Size	Stroke range	A: Step motor	A: Servo motor	B	C	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	NA	NC
16	39st or less	174.3	175	92	37	16	35	69	83	41.1	8	10.5	8.5	4.3	31.8	42.3	24.8	23	M4 x 0.7	5.5
	40st or more, 100st or less				52															
	101st or more, 200st or less	194.3	195	112	82															
25	39st or less	206.4	202.6	115.5	50	20	45	85	103	52.3	11	14.5	12.5	5.4	40.3	53.3	30.8	29	M5 x 0.8	6.5
	40st or more, 100st or less				67.5															
	101st or more, 124st or less	231.4	227.6	140.5																
	125st or more, 200st or less				84.5															
	201st or more, 300st or less				102															
32	39st or less	228.9	—	128	55	25	60	101	123	63.8	12	18.5	16.5	5.4	50.3	68.3	38.3	30	M6 x 1.0	8.5
	40st or more, 100st or less				68															
	101st or more, 124st or less	258.9	—	158																
	125st or more, 200st or less				85															
	201st or more, 300st or less				102															
40	39st or less	250.9	—	128	55	25	60	101	123	63.8	12	18.5	16.5	5.4	50.3	68.3	38.3	30	M6 x 1.0	8.5
	40st or more, 100st or less				68															
	101st or more, 124st or less	280.9	—	158																
	125st or more, 200st or less				85															
	201st or more, 300st or less				102															

Size	Stroke range	OA	OB	P	Q	S	T	U	V	VB: Step motor	VB: Servo motor	WA	WB	WC	X	XA	XB	YD	Z
16	39st or less	M5 x 0.8	10	65	15	25	79	6.8	28	61.8	62.5	25	19	55	44	3	4	24	6.5
	40st or more, 100st or less											40	26.5						
	101st or more, 200st or less											70	41.5	75					
25	39st or less	M6 x 1.0	12	80	18	30	95	6.8	42	63.4	59.6	35	26	70	54	4	5	26	8.5
	40st or more, 100st or less											50	33.5						
	101st or more, 124st or less													95					
	125st or more, 200st or less											70	43.5						
	201st or more, 300st or less											85	51						
32	39st or less	M6 x 1.0	12	95	28	40	117	7.3	56.4	68.4	—	40	28.5	75	64	5	6	32	8.5
	40st or more, 100st or less											50	33.5						
	101st or more, 124st or less													105					
	125st or more, 200st or less											70	43.5						
	201st or more, 300st or less											85	51						
40	39st or less	M6 x 1.0	12	95	28	40	117	7.3	56.4	90.4	—	40	28.5	75	64	5	6	32	8.5
	40st or more, 100st or less											50	33.5						
	101st or more, 124st or less													105					
	125st or more, 200st or less											70	43.5						
	201st or more, 300st or less											85	51						

Dimensions: In-line Motor

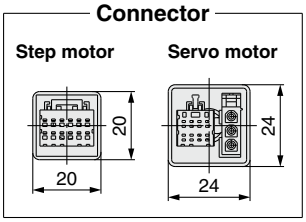
With motor cover: LEYG 16/25/32/40 □D□ A/B/C -□C



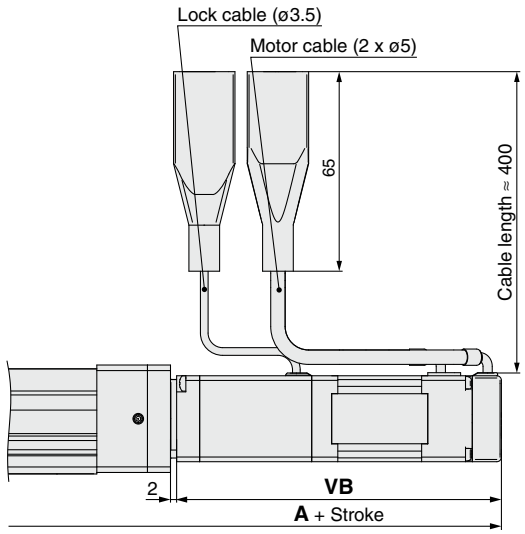
[mm]

Size	Stroke range	A	T2	X2	L	H	CV
16	100st or less	177	7.5	66.5	35	49.8	43
	101st or more, 200st or less	197					
25	100st or less	209.5	7.5	68.5	46	61.3	54.5
	101st or more, 300st or less	234.5					
32	100st or less	232	7.5	73.5	60	75.8	68.5
	101st or more, 300st or less	262					
40	100st or less	254	7.5	95.5	60	75.8	68.5
	101st or more, 300st or less	284					

Connector



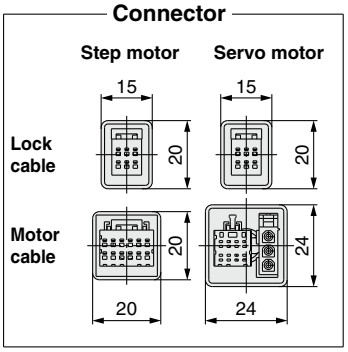
With lock: LEYG 16/25/32/40 □D□ A/B/C -□B



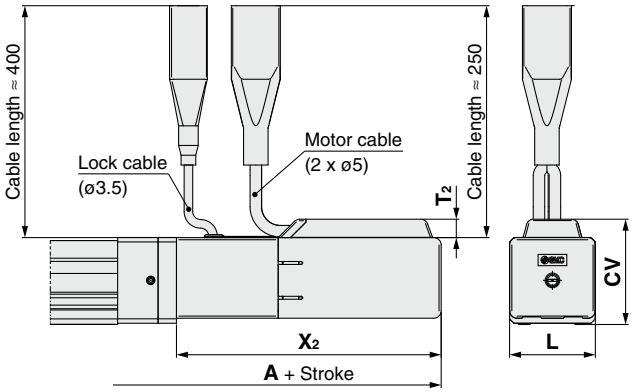
[mm]

Size	Stroke range	Step motor A	Servo motor A	Step motor VB	Servo motor VB
16	100st or less	215.8	216.5	103.3	104
	101st or more, 200st or less	235.8	236.5		
25	100st or less	246.9	243.1	103.9	100.1
	101st or more, 300st or less	271.9	268.1		
32	100st or less	271.9	—	111.4	—
	101st or more, 300st or less	301.9	—		
40	100st or less	293.9	—	133.4	—
	101st or more, 300st or less	323.9	—		

Connector



With lock/motor cover: LEYG 16/25/32/40 D□ A/B/C -□W



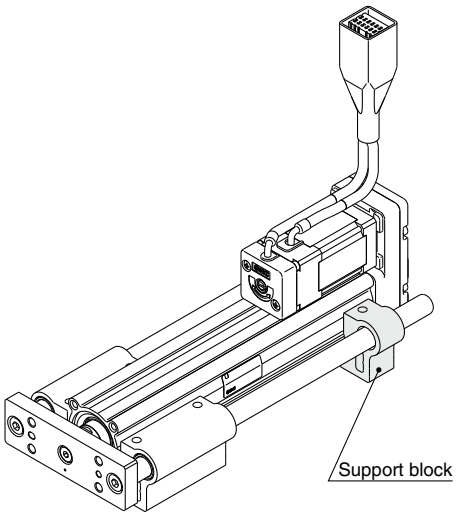
[mm]

Size	Stroke range	A	T2	X2	L	H	CV
16	100st or less	218.5	7.5	108	35	49.8	43
	101st or more, 300st or less	238.5					
25	100st or less	250	7.5	109	46	61.3	54.4
	101st or more, 300st or less	275					
32	100st or less	275	7.5	116.5	60	75.8	68.5
	101st or more, 300st or less	305					
40	100st or less	297	7.5	138.5	60	75.8	68.5
	101st or more, 300st or less	327					

Support Block

●Guide for support block application

When the stroke exceeds 100 mm and the mounting orientation is horizontal, the body will be bent. Mounting the support block is recommended. (Please order it separately from the models shown below.)

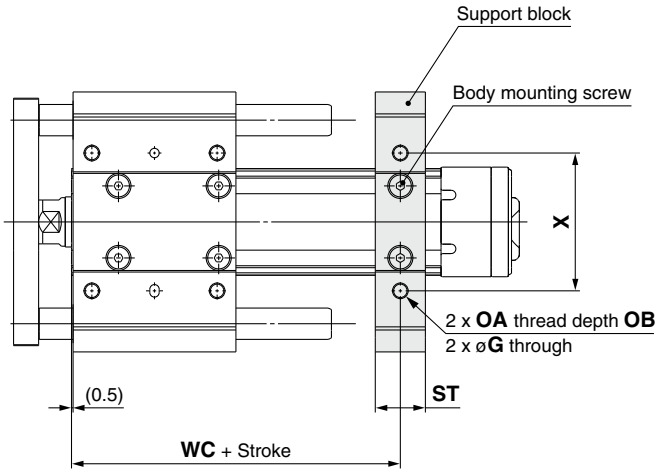


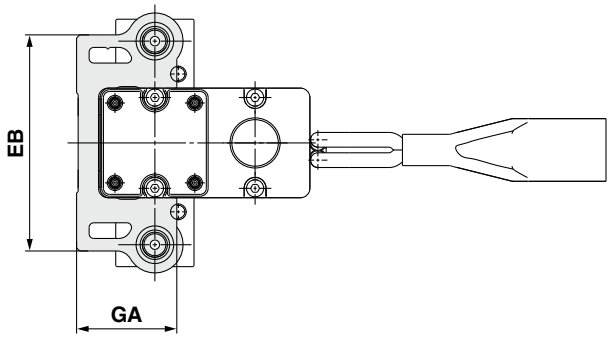
Support Block Model

LEYG-S016

●**Size**

016	For size 16
025	For size 25
032	For size 32, 40





⚠Caution

Do not install the body using only a support block.
The support block should be used only for support.

[mm]

Size	Model	Stroke range	EB	G	GA	OA	OB	ST	WC	X
16	**LEYG-S016**	100st or less	69	4.3	31.8	M5 x 0.8	10	16	55	44
		101st or more, 200st or less							75	
25	**LEYG-S025**	100st or less	85	5.4	40.3	M6 x 1.0	12	20	70	54
		101st or more, 300st or less							95	
32 40	**LEYG-S032**	100st or less	101	(5.4)	(50.3)	M6 x 1.0	12	22	75	64
		101st or more, 300st or less							105	

∗ Two body mounting screws are included with the support block.
∗ The through holes of the LEYG-S032 cannot be used for the motor top mounting type. Use taps on the bottom.

Electric Actuator Guide Rod Type

LEYG Series LEYG25, 32

CE cULus * Refer to tables ❺ and ⓬ below. RoHS

LECY□ Series ▶ p. 405 Motorless Type ▶ p. 921

How to Order

LEY H G 25 M □ S2 B – 100 □ □ – S 2 A1 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❶ Accuracy

Nil	Basic type
H	High-precision type

❷ Size

25
32

❸ Bearing type

M	Sliding bearing
L	Ball bushing bearing

❹ Motor mounting position

Nil	Top mounting
D	In-line

❺ Motor type*1

Symbol	Type	Output [W]	Actuator size	Compatible drivers*3	UL-compliant
S2*1	AC servo motor (Incremental encoder)	100	25	LECSA□-S1	●
S3		200	32	LECSA□-S3	●
S6*1	AC servo motor (Absolute encoder)	100	25	LECSB□-S5 LECSC□-S5 LECSS□-S5	—
S7		200	32	LECSB□-S7 LECSC□-S7 LECSS□-S7	—
T6*2	AC servo motor (Absolute encoder)	100	25	LECSB2-T5 LECSC2-T5 LECSN2-T5-□	—
				LECSS2-T5	●
T7		200	32	LECSB2-T7 LECSC2-T7 LECSN2-T7-□	—
				LECSS2-T7	●

*1 For motor type S2 and S6, the compatible driver part number suffixes are S1 and S5 respectively.
*2 For motor type T6, the compatible driver part number is LECS□2-T5.
*3 For details on the driver, refer to page 764.

❻ Lead [mm]

Symbol	LEYG25	LEYG32*1
A	12	16 (20)
B	6	8 (10)
C	3	4 (5)

*1 The values shown in ( ) are the leads for the size 32 top mounting type. (Equivalent leads which include the pulley ratio [1.25:1])

❼ Stroke [mm]

30	30
to	to
300	300

* For details, refer to the applicable stroke table below.
* There is a limit for mounting the size 32 top mounting type and strokes of 50 mm or less. Refer to the dimensions.

❽ Motor option

Nil	Without option
B	With lock

❾ Guide option

Nil	Without option
F	With grease retaining function

* Only available for size 25 and 32 sliding bearings (Refer to the "Construction" on page 400.)

❿ Cable type*1 *2

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

*1 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)
*2 Standard cable entry direction is
・Top mounting: (A) Axis side
・In-line: (B) Counter axis side
(Refer to page 796 for details.)

⓫ Cable length*1 [m]

Nil	Without cable
2	2
5	5
A	10

*1 The length of the motor, encoder, and lock cables are the same.

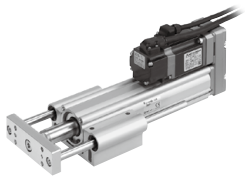
Applicable Stroke Table

●: Standard

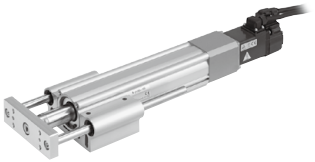
Model \ Stroke [mm]	30	50	100	150	200	250	300	Manufacturable stroke range
LEYG25	●	●	●	●	●	●	●	15 to 300
LEYG32	●	●	●	●	●	●	●	20 to 300

* Please consult with SMC for non-standard strokes as they are produced as special orders.

For auto switches, refer to pages 363 to 365.



Motor mounting position: Top mounting



Motor mounting position: In-line

⑫ Driver type*1

	Compatible drivers	Power supply voltage [V]	UL-compliant
Nil	Without driver	—	—
A1	LECSA1-S□	100 to 120	●
A2	LECSA2-S□	200 to 230	●
B1	LECSB1-S□	100 to 120	—
B2	LECSB2-S□	200 to 230	—
	LECSB2-T□	200 to 240	●
C1	LECSC1-S□	100 to 120	—
C2	LECSC2-S□	200 to 230	—
	LECSC2-T□		●
S1	LECSS1-S□	100 to 120	—
S2	LECSS2-S□	200 to 230	—
	LECSS2-T□	200 to 240	●
N2	LECSN2-T□	200 to 240	●
92	LECSN2-T□-9	200 to 240	—
E2	LECSN2-T□-E	200 to 240	—
P2	LECSN2-T□-P	200 to 240	—

*1 When a driver type is selected, a cable is included. Select the cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2: Standard cable (2 m)
Nil: Without cable and driver

⑬ I/O cable length [m]*1

Nil	Without cable
H	Without cable (Connector only)
1	1.5

*1 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 797 if I/O cable is required. (Options are shown on page 797.)

Use of auto switches for the guide rod type LEYG series
- Auto switches must be inserted from the front side with the rod (plate) sticking out.
- Auto switches cannot be fixed with the parts hidden behind the guide attachment (the side of the rod that sticks out).
- Please consult with SMC when using auto switches on the side of the rod that sticks out, as it is produced as a special order.

Compatible Drivers

Driver type	**Pulse input type /Positioning type**	**Pulse input type**	**CC-Link direct input type**	**SSCNET Ⅲ type**	**Pulse input type**	**CC-Link direct input type**	**SSCNET Ⅲ/H type**	**Network card type**
								
Series	**LECSA**	**LECSB**	**LECSC**	**LECSS**	**LECSB-T**	**LECSC-T**	**LECSS-T**	**LECSN-T**
Number of point tables*1	Up to 7	—	Up to 255 (2 stations occupied)	—	Up to 255	Up to 255 (2 stations occupied)	—	Up to 255
Pulse input	○	○	—	—	○	—	—	—
Applicable network	—	—	CC-Link	SSCNET Ⅲ	—	CC-Link	SSCNET Ⅲ/H	PROFINET EtherCAT® EtherNet/IP™
Control encoder	Incremental 17-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder	Absolute 22-bit encoder
Communication function	USB communication	USB communication, RS422 communication		USB communication	USB communication, RS422 communication		USB communication	USB communication
Power supply voltage [V]	100 to 120 VAC (50/60 Hz) 200 to 230 VAC (50/60 Hz)				200 to 240 VAC (50/60 Hz)	200 to 230 VAC (50/60 Hz)	200 to 240 VAC (50/60 Hz)	200 to 240 VAC (50/60 Hz)
Reference page	777							

*1 The LECSN-T only supports PROFINET and EtherCAT®.

Specifications

Model			LEYG25□S$^{2}_{6}$/T6 (Top mounting) LEYG25□DS$^{2}_{6}$/T6 (In-line)			LEYG32□S$^{3}_{7}$/T7 (Top mounting)			LEYG32□DS$^{3}_{7}$/T7 (In-line)		
Actuator specifications	Work load [kg]	Horizontal*1	18	50	50	30	60	60	30	60	60
		Vertical	7	15	29	7	17	35	10	22	44
	Force [N]*2 (Set value: 15 to 30%)*11		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max. speed [mm/s]		900	450	225	1200	600	300	1000	500	250
	Pushing speed [mm/s²]*3		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s²]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02								
		High-precision type	±0.01								
	Lost motion*4 [mm]	Basic type	0.1 or less								
		High-precision type	0.05 or less								
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s²]*5		50/20			50/20					
	Actuation type		Ball screw + Belt [1:1]/Ball screw			Ball screw + Belt [1.25:1]			Ball screw		
	Guide type		Sliding bearing (LEYG□M), Ball bushing bearing (LEYG□L)								
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Regeneration option		May be required depending on speed and work load (Refer to page 375.)								
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (100/200 VAC)			AC servo motor (100/200 VAC)					
	Encoder*12		Motor type S2, S3: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7: Absolute 18-bit encoder (Resolution: 262144 p/rev) Motor type T6, T7: Absolute 22-bit encoder (Resolution: 4194304 p/rev) (For LECSB-T□, LECSS-T□) Motor type T6, T7: Absolute 18-bit encoder (Resolution: 262144 p/rev) (For LECSC-T□)								
	Power consumption [W]*6	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W]*7	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W]*8		445			724			724		
Lock unit specifications	Type*9		Non-magnetizing lock			Non-magnetizing lock					
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption at 20°C [W]*10		6.3			7.9			7.9		
	Rated voltage [V]		24 VDC$^{0}_{-10\%}$								

*1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.
*2 The force setting range (set values for the driver) for the force control with the torque control mode. Set it while referencing the "Force Conversion Graph" on page 376. When the control equivalent to the pushing operation of the JXC51/61 series controller is performed, select the LECSS, LECSS-T or LECSB2-T driver.
The point table no. input method is used for the LECSB2-T. When selecting the LECSS or LECSS2-T, combine it with a Simple Motion module (manufactured by Mitsubishi Electric Corporation) which has a pushing operation function.
*3 The allowable collision speed for collision with the workpiece with the torque control mode
*4 A reference value for correcting an error in reciprocal operation
*5 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
*6 The power consumption (including the driver) is for when the actuator is operating.
*7 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during operation.
*8 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
*9 Only when motor option "With lock" is selected
*10 For an actuator with lock, add the power consumption for the lock.
*11 For motor types T6 and T7, the set value is 12 to 24%.
*12 For motor types T6 and T7, the resolution will change depending on the driver type.

Weight

Weight: Motor Top Mounting Type

[kg]

Series		LEYG25MS$^{2}_{6}$/T6							LEYG32MS$^{3}_{7}$/T7						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Incremental encoder	1.80	1.99	2.31	2.73	3.07	3.41	3.67	3.24	3.50	4.05	4.80	5.35	5.83	6.28
	Absolute encoder [S$^{5}_{7}$]	1.86	2.05	2.37	2.79	3.13	3.47	3.73	3.18	3.44	3.99	4.74	5.29	5.77	6.22
	Absolute encoder [T$^{5}_{7}$]	1.8	2.0	2.4	2.8	3.1	3.5	3.7	3.2	3.4	4.0	4.7	5.3	5.7	6.2

Series		LEYG25LS$^{2}_{6}$/T6							LEYG32LS$^{3}_{7}$/T7						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Incremental encoder	1.81	2.02	2.26	2.69	2.95	3.27	3.51	3.24	3.51	3.9	4.64	5.06	5.56	5.96
	Absolute encoder [S$^{5}_{7}$]	1.87	2.08	2.32	2.75	3.01	3.33	3.57	3.18	3.45	3.84	4.58	5.00	5.50	5.90
	Absolute encoder [T$^{5}_{7}$]	1.9	2.1	2.3	2.7	3.0	3.3	3.6	3.2	3.4	3.8	4.6	5.0	5.5	5.9

Weight: In-line Motor Type

[kg]

Series		LEYG25MDS$^{2}_{6}$/T6							LEYG32MDS$^{3}_{7}$/T7						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Incremental encoder	1.83	2.02	2.34	2.76	3.10	3.44	3.70	3.26	3.52	4.07	4.82	5.37	5.85	6.30
	Absolute encoder [S$^{5}_{7}$]	1.89	2.08	2.40	2.82	3.16	3.50	3.76	3.20	3.46	4.01	4.76	5.31	5.79	6.24
	Absolute encoder [T$^{5}_{7}$]	1.9	2.1	2.4	2.8	3.1	3.5	3.7	3.2	3.4	4.0	4.7	5.3	5.8	6.2

Series		LEYG25LDS$^{2}_{6}$/T6							LEYG32LDS$^{3}_{7}$/T7						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Incremental encoder	1.84	2.05	2.29	2.72	2.98	3.30	3.54	3.26	3.53	3.92	4.66	5.08	5.58	5.98
	Absolute encoder [S$^{5}_{7}$]	1.90	2.11	2.35	2.78	3.04	3.36	3.60	3.20	3.47	3.86	4.60	5.02	5.52	5.92
	Absolute encoder [T$^{5}_{7}$]	1.9	2.1	2.3	2.8	3.0	3.3	3.6	3.2	3.4	3.8	4.6	5.0	5.5	5.9

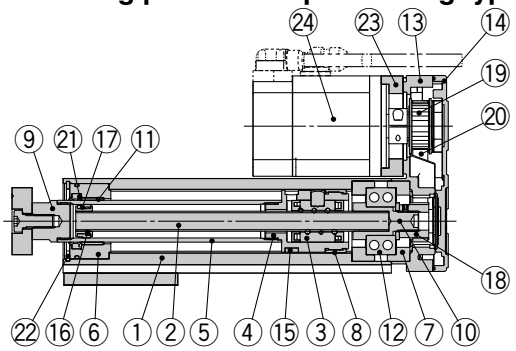
Additional Weight

[kg]

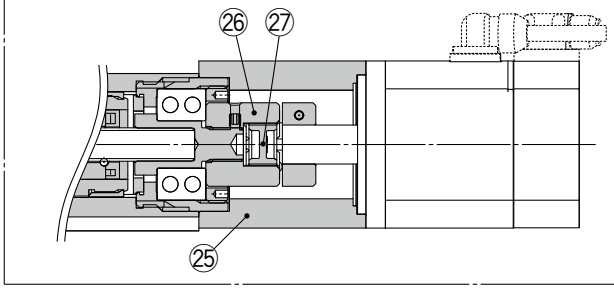
Size		25	32
Lock	Incremental encoder	0.20	0.40
	Absolute encoder [S$^{5}_{7}$]	0.30	0.66
	Absolute encoder [T$^{5}_{7}$]	0.3	0.7

Construction

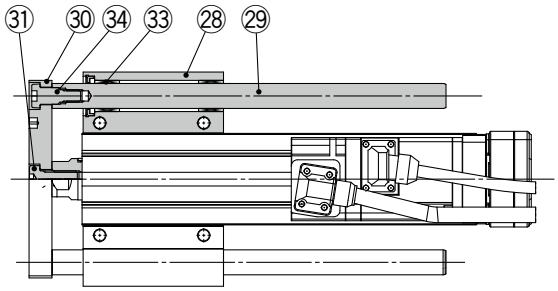
Motor mounting position: Top mounting type



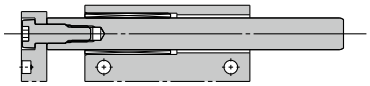
Motor mounting position: In-line type



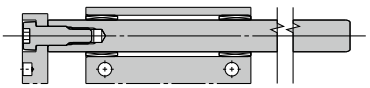
LEYG□M



LEYG25/32M: 50st or less

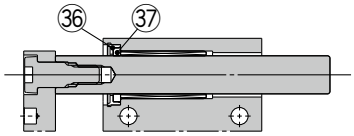


LEYG25/32M: Over 50st

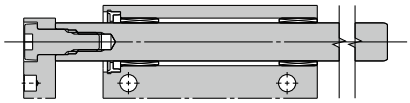


When grease retaining function selected

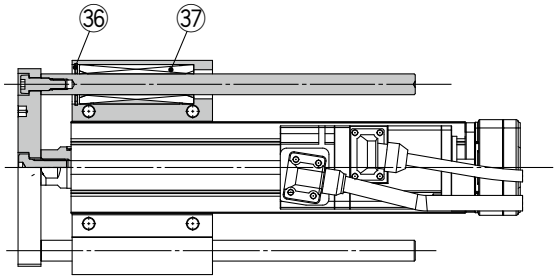
LEYG25/32M: 50st or less



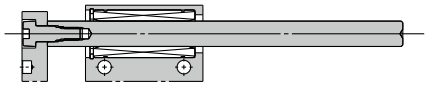
LEYG25/32M: Over 50st



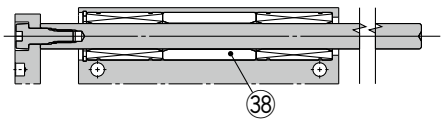
LEYG□L



LEYG25/32L: 100st or less



LEYG25/32L: Over 100st



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Synthetic resin/Alloy steel	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Connected shaft**	Free cutting carbon steel	Nickel plating
11	**Bushing**	Bearing alloy	
12	**Bearing**	—	
13	**Return box**	Aluminum die-cast	Coating
14	**Return plate**	Aluminum die-cast	Coating
15	**Magnet**	—	
16	**Wear ring holder**	Stainless steel	Stroke 101 mm or more
17	**Wear ring**	Synthetic resin	Stroke 101 mm or more
18	**Screw shaft pulley**	Aluminum alloy	
19	**Motor pulley**	Aluminum alloy	
20	**Belt**	—	
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	Phosphate coating
23	**Motor adapter**	Aluminum alloy	Coating
24	**Motor**	—	
25	**Motor block**	Aluminum alloy	Coating
26	**Hub**	Aluminum alloy	
27	**Spider**	Urethane	
28	**Guide attachment**	Aluminum alloy	Anodized
29	**Guide rod**	Carbon steel	
30	**Plate**	Aluminum alloy	Anodized
31	**Plate mounting cap screw**	Carbon steel	Nickel plating
32	**Guide cap screw**	Carbon steel	Nickel plating
33	**Sliding bearing**	Bearing alloy	
34	**Felt**	Felt	
35	**Holder**	Synthetic resin	
36	**Retaining ring**	Steel for spring	Phosphate coating
37	**Ball bushing**	—	
38	**Spacer**	Aluminum alloy	Chromating

Support Block

Size	Order no.
25	LEYG-S025
32	LEYG-S032

∗ Two body mounting screws are included with the support block.

Replacement Parts/Belt

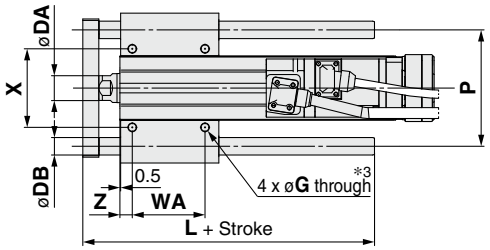
Size	Order no.
25	LE-D-2-2
32	LE-D-2-4

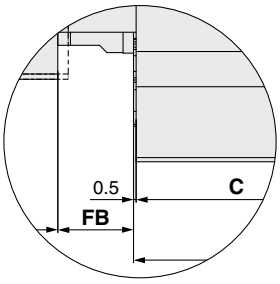
Replacement Parts/Grease Pack

Applied portion	Order no.
Piston rod Guide rod	GR-S-010 (10 g) GR-S-020 (20 g)

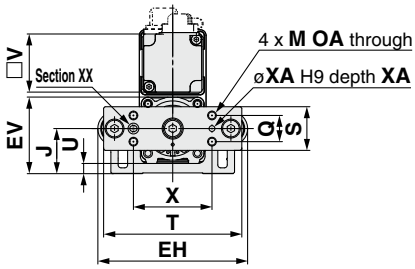
∗ Apply grease on the piston rod periodically.
Grease should be applied at 1 million cycles or 200 km, whichever comes first.

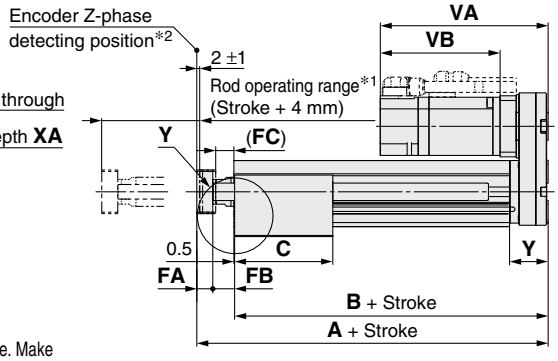
Dimensions: Motor Top Mounting

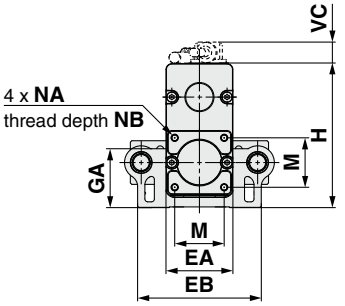




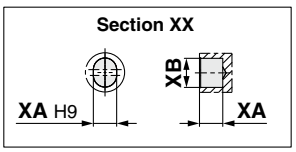
Section Y details

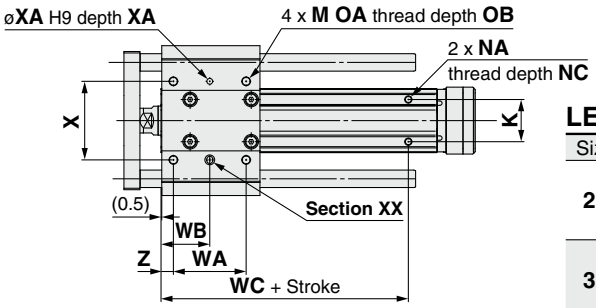






*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 The Z-phase first detecting position from the stroke end of the motor side
*3 Through holes cannot be used for size 32 with strokes of 50 mm or less.





LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range [mm]	L	DB
25	Up to 114	91	10
	115 to 190	115	
	191 to 300	133	
32	Up to 114	97.5	13
	115 to 190	116.5	
	191 to 300	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range [mm]	L	DB
25	Up to 59	67.5	12
	60 to 185	100.5	
	186 to 300	138	
32	Up to 59	74	16
	60 to 185	107	
	186 to 300	144	

LEYG□M, LEYG□L Common

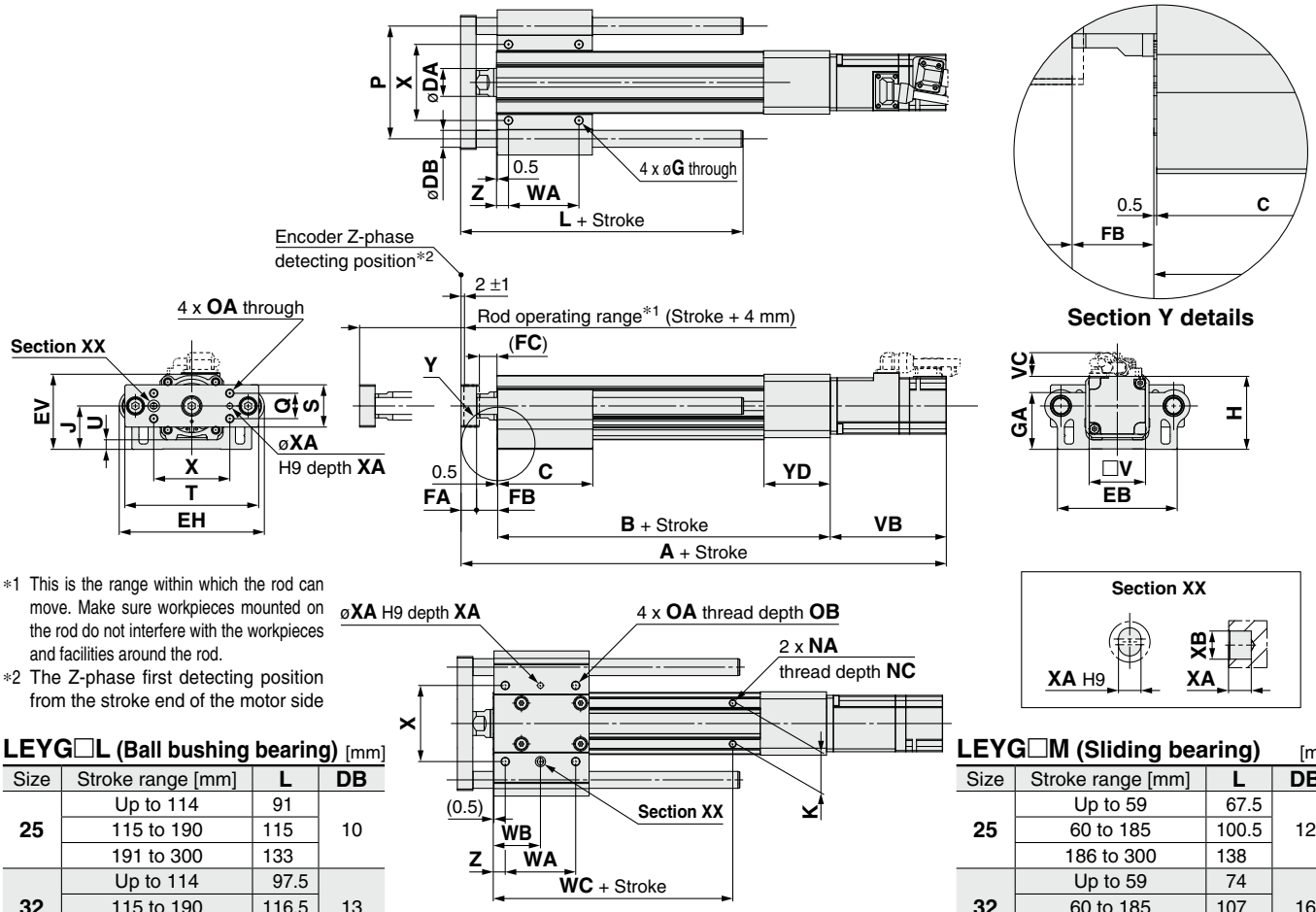
[mm]

Size	Stroke range [mm]	A	B	C	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	M	NA	NB	NC
25	Up to 39	141.5	116	50	20	46	85	103	52.3	11	14.5	12.5	5.4	40.3	98.8	30.8	29	34	M5 x 0.8	8	6.5
	40 to 100			67.5																	
	101 to 124	166.5	141																		
	125 to 200			84.5																	
	201 to 300			102																	
32	Up to 39	160.5	130	55	25	60	101	123	63.8	12	18.5	16.5	5.4	50.3	125.3	38.3	30	40	M6 x 1.0	10	8.5
	40 to 100			68																	
	101 to 124	190.5	160																		
	125 to 200			85																	
	201 to 300			102																	

Size	Stroke range [mm]	OA	OB	P	Q	S	T	U	V	WA	WB	WC	X	XA	XB	Y	Z
25	Up to 39	M6 x 1.0	12	80	18	30	95	6.8	40	35	26	70	54	4	5	26.5	8.5
	40 to 100									50	33.5						
	101 to 124											95					
	125 to 200									70	43.5						
	201 to 300									85	51						
32	Up to 39	M6 x 1.0	12	95	28	40	117	7.3	60	40	28.5	75	64	5	6	34	8.5
	40 to 100									50	33.5						
	101 to 124											105					
	125 to 200									70	43.5						
	201 to 300									85	51						

Size	Incremental encoder						Absolute encoder [S6/S7]						Absolute encoder [T6/T7]					
	Without lock			With lock			Without lock			With lock			Without lock			With lock		
	VA	VB	VC	VA	VB	VC	VA	VB	VC	VA	VB	VC	VA	VB	VC	VA	VB	VC
25	120	87	14.1	156.9	123.9	15.8	115.4	82.4	14.1	156.5	123.5	15.8	115.4	82.4	14.1	156	123	15.8
32	128.2	88.2	17.1	156.8	116.8	17.1	116.6	76.6	17.1	156.1	116.1	17.1	116.6	76.6	17.1	153.4	113.4	17.1

Dimensions: In-line Motor



*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.

*2 The Z-phase first detecting position from the stroke end of the motor side

LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range [mm]	L	DB
25	Up to 114	91	10
	115 to 190	115	
	191 to 300	133	
32	Up to 114	97.5	13
	115 to 190	116.5	
	191 to 300	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range [mm]	L	DB
25	Up to 59	67.5	12
	60 to 185	100.5	
	186 to 300	138	
32	Up to 59	74	16
	60 to 185	107	
	186 to 300	144	

LEYG□M, LEYG□L Common [mm]

Size	Stroke range [mm]	B	C	DA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	NA	NC
25	Up to 39	136.5	50	20	85	103	52.3	11	14.5	12.5	5.4	40.3	53.3	30.8	29	M5 x 0.8	6.5
	40 to 100		67.5														
	101 to 124	161.5															
	125 to 200		84.5														
	201 to 300		102														
32	Up to 39	156	55	25	101	123	63.8	12	18.5	16.5	5.4	50.3	68.3	38.3	30	M6 x 1.0	8.5
	40 to 100		68														
	101 to 124	186															
	125 to 200		85														
	201 to 300		102														

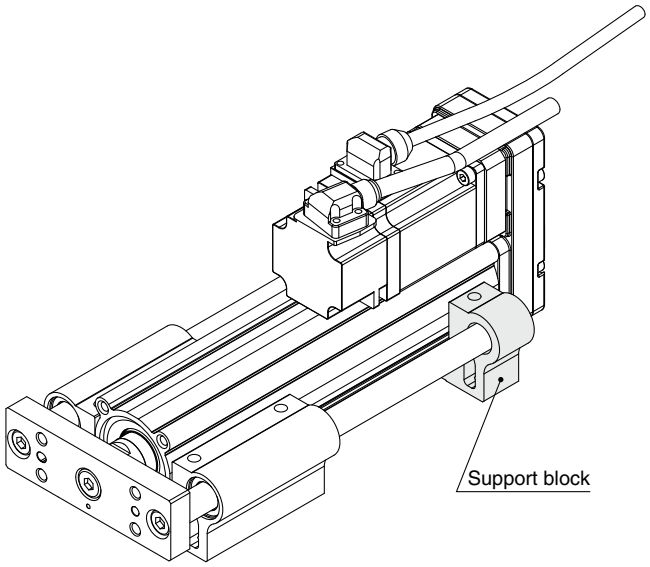
Size	Stroke range [mm]	OA	OB	P	Q	S	T	U	V	WA	WB	WC	X	XA	XB	YD	Z
25	Up to 39	M6 x 1.0	12	80	18	30	95	6.8	40	35	26	70	54	4	5	47	8.5
	40 to 100									50	33.5						
	101 to 124											95					
	125 to 200									70	43.5						
	201 to 300									85	51						
32	Up to 39	M6 x 1.0	12	95	28	40	117	7.3	60	40	28.5	75	64	5	6	60	8.5
	40 to 100									50	33.5						
	101 to 124											105					
	125 to 200									70	43.5						
	201 to 300									85	51						

Size	Stroke range [mm]	Incremental encoder						Absolute encoder [S6/S7]						Absolute encoder [T6/T7]					
		Without lock			With lock			Without lock			With lock			Without lock			With lock		
		A	VB	VC	A	VB	VC	A	VB	VC	A	VB	VC	A	VB	VC	A	VB	VC
25	15 to 100	249	87	14.6	285.9	123.9	16.3	244.4	82.4	14.6	285.5	123.5	16.3	244.4	82.4	14.6	285	123	16.3
	105 to 300	274			310.9			269.4			310.5			269.4			310		
32	15 to 100	274.7	88.2	17.1	303.3	116.8	17.1	263.1	76.6	17.1	302.6	116.1	17.1	263.1	76.6	17.1	299.9	113.4	17.1
	105 to 300	304.7			333.3			293.1			332.6			293.1			329.9		

Support Block

● Guide for support block application

When the stroke exceeds 100 mm and the mounting orientation is horizontal, the body will be bent. Mounting the support block is recommended. (Please order it separately from the models shown below.)

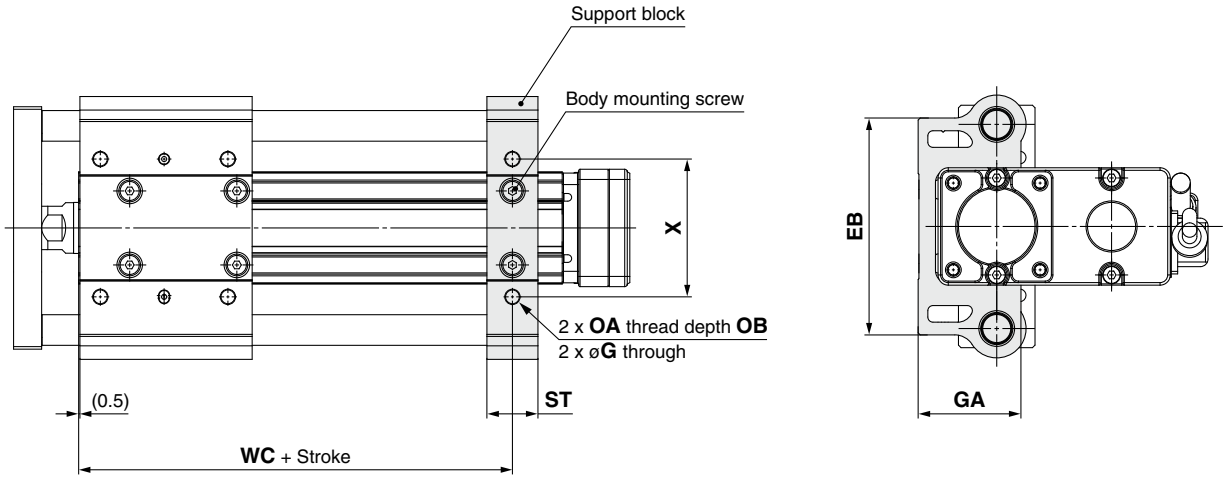


Support Block Model

LEYG-S025

● **Size**

025	For size 25
032	For size 32



⚠Caution

Do not install the body using only a support block.
The support block should be used only for support.

[mm]

Size	Model	Stroke range	EB	G	GA	OA	OB	ST	WC	X
25	**LEYG-S025**	100st or less	85	5.4	40.3	M6 x 1.0	12	20	70	54
		101st or more, 300st or less							95	
32	**LEYG-S032**	100st or less	101	(5.4)	(50.3)	M6 x 1.0	12	22	75	64
		101st or more, 300st or less							105	

∗ Two body mounting screws are included with the support block.
∗ The through holes of the LEYG-S032 cannot be used for the motor top mounting type. Use taps on the bottom.

Electric Actuator Guide Rod Type

LEYG Series LEYG25, 32

LECS□ Series ▶p. 397 Motorless Type ▶p. 921

How to Order

LEY H G 25 M □ V6 B – 200 □ □ – S 3 M2 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❶ Accuracy

Nil	Basic type
H	High-precision type

❷ Size

25	
32	

❸ Bearing type

M	Sliding bearing
L	Ball bushing bearing

❹ Motor mounting position

Nil	Top mounting
D	In-line

❺ Motor type

Symbol	Type	Output [W]	Actuator size	Compatible drivers
V6∗1	AC servo motor (Absolute encoder)	100	25	LECYM2-V5 LECYU2-V5
V7		200	32	LECYM2-V7 LECYU2-V7

∗1 For motor type V6, the compatible driver part number suffix is V5.

❻ Lead [mm]

Symbol	LEYG25	LEYG32∗1
A	12	16 (20)
B	6	8 (10)
C	3	4 (5)

∗1 The values shown in ( ) are the leads for the top mounting type. (Equivalent leads which include the pulley ratio [1.25:1])

❼ Stroke [mm]

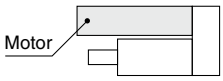
30	30
to	to
300	300

∗ For details, refer to the applicable stroke table below.
∗ There is a limit for mounting the size 32 top mounting type and strokes of 50 mm or less. Refer to the dimensions.

❽ Motor option

Nil	Without option
B	With lock

∗ When "With lock" is selected for the top mounting type, the motor body will stick out from the end of the body for size 25 with strokes of 30 mm or less. Check for interference with workpieces before selecting a model.



❾ Guide option

Nil	Without option
F	With grease retaining function

∗ Only available for the sliding bearing

❿ Cable type∗1

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

∗1 The motor and encoder cables are included. The motor cable for lock option is included when the motor with lock option is selected.

⓫ Cable length [m]∗1

Nil	Without cable
3	3
5	5
A	10
C	20

∗1 The length of the motor and encoder cables are the same. (For with lock)

Applicable Stroke Table ●: Standard

Model \ Stroke [mm]	30	50	100	150	200	250	300	Manufacturable stroke range
LEYG25	●	●	●	●	●	●	●	15 to 300
LEYG32	●	●	●	●	●	●	●	20 to 300

∗ Please consult with SMC for non-standard strokes as they are produced as special orders.

For auto switches, refer to pages 363 to 365.

Motor mounting position: Top mounting

Motor mounting position: In-line

⓬ Driver type

	Compatible drivers	Power supply voltage [V]
Nil	Without driver	—
M2	LECYM2-V□	200 to 230
U2	LECYU2-V□	200 to 230

∗ When a driver type is selected, a cable is included. Select the cable type and cable length.

⓭ I/O cable length [m]∗1

Nil	Without cable
H	Without cable (Connector only)
1	1.5

∗1 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 808 if I/O cable is required. (Options are shown on page 808.)

Use of auto switches for the guide rod type LEYG series
· Auto switches must be inserted from the front side with the rod (plate) sticking out.
· Auto switches cannot be fixed with the parts hidden behind the guide attachment (the side of the rod that sticks out).
· Please consult with SMC when using auto switches on the side of the rod that sticks out, as it is produced as a special order.

Compatible Drivers

Driver type	MECHATROLINK-Ⅱ type 	MECHATROLINK-Ⅲ type 
Series	**LECYM**	**LECYU**
Applicable network	MECHATROLINK-Ⅱ	MECHATROLINK-Ⅲ
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	801	

Specifications

Model			LEYG25$^{M}_{L}$V6 (Top mounting) LEYG25$^{M}_{L}$DV6 (In-line)			LEYG32$^{M}_{L}$V7 (Top mounting)			LEYG32$^{M}_{L}$DV7 (In-line)		
Actuator specifications	Work load [kg]	Horizontal*1	18	50	50	30	60	60	30	60	60
		Vertical	7	15	29	7	17	35	10	22	44
	Force [N]*2 (Set value: 45 to 90%)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max. speed [mm/s]		900	450	225	1200	600	300	1000	500	250
	Pushing speed [mm/s]*3		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s²]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02			±0.02					
		High-precision type	±0.01			±0.01					
	Lost motion [mm]	Basic type	0.1 or less			0.1 or less					
		High-precision type	0.05 or less			0.05 or less					
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s²]*4		50/20			50/20					
	Actuation type		Ball screw + Belt [1:1]/Ball screw			Ball screw + Belt [1:1.25]			Ball screw		
	Guide type		Sliding bearing (LEYG□M), Ball bushing bearing (LEYG□L)								
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Conditions for*5 "Regenerative resistor" [kg]	Horizontal	Not required			Not required					
		Vertical	5 or more			2 or more					
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (200 VAC)			AC servo motor (200 VAC)					
	Encoder		Absolute 20-bit encoder (Resolution: 1048576 p/rev)								
	Power consumption [W]*6	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W]*7	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W]*8		445			724			724		
Lock unit specifications	Type*9		Non-magnetizing lock			Non-magnetizing lock					
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption at 20°C [W]*10		5.5			6			6		
	Rated voltage [V]		24 VDC $^{+10\%}_{0}$								

∗1 This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.
∗2 The force setting range (set values for the driver) for the force control with the torque control mode
Set it while referencing the "Force Conversion Graph" on page 381.
∗3 The allowable collision speed for collision with the workpiece with the torque control mode
∗4 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)
∗5 The work load conditions which require the "Regenerative resistor" when operating at the maximum speed (Duty ratio: 100%)
Order the regenerative resistor separately. For details, refer to the "Conditions for Regenerative Resistor (Guide)" on page 380.
∗6 The power consumption (including the driver) is for when the actuator is operating.
∗7 The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during operation.
∗8 The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
∗9 Only when motor option "With lock" is selected
∗10 For an actuator with lock, add the power consumption for the lock.

Weight

Product Weight: Motor Top Mounting Type

[kg]

Series	LEYG25MV6							LEYG32MV7						
Stroke [mm]	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Weight [kg]	1.7	1.9	2.2	2.6	3.0	3.3	3.6	3.1	3.4	4.0	4.7	5.3	5.7	6.2

Series	LEYG25LV6							LEYG32LV7						
Stroke [mm]	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Weight [kg]	1.7	1.9	2.2	2.6	2.9	3.2	3.4	3.1	3.4	3.8	4.5	5.0	5.5	5.9

Product Weight: In-line Motor Type

[kg]

Series	LEYG25MDV6							LEYG32MDV7						
Stroke [mm]	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Weight [kg]	1.7	1.9	2.2	2.6	3.0	3.3	3.6	3.2	3.4	4.0	4.7	5.3	5.8	6.2

Series	LEYG25LDV6							LEYG32LDV7						
Stroke [mm]	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Weight [kg]	1.7	2.0	2.2	2.6	2.9	3.2	3.4	3.2	3.4	3.8	4.6	5.0	5.5	5.9

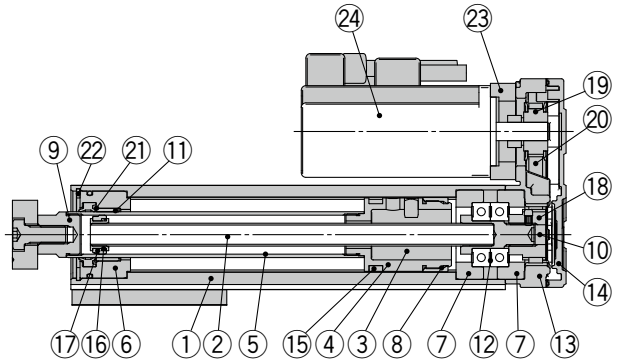
Additional Weight

[kg]

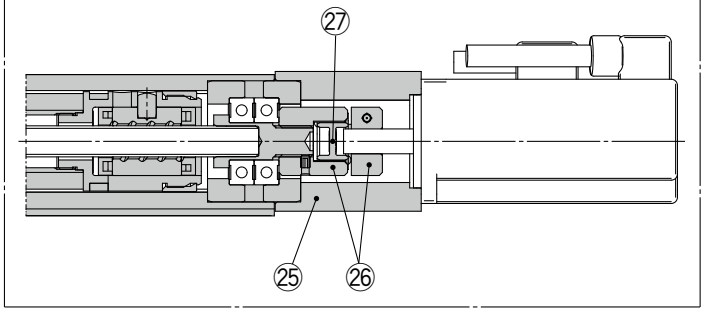
Size	25	32
Lock	0.3	0.6

Construction

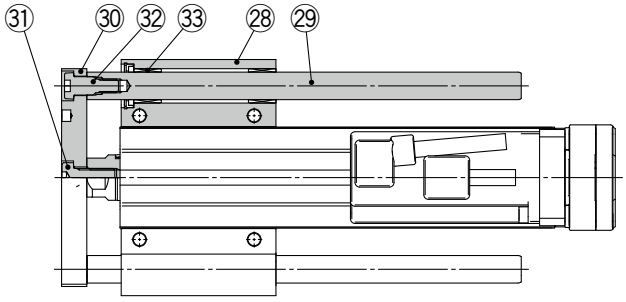
Motor mounting position: Top mounting type



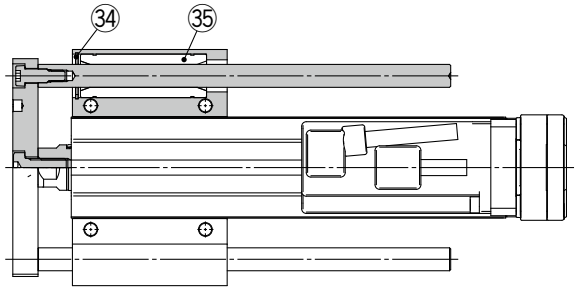
Motor mounting position: In-line type



LEYG□M



LEYG□L



Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	—	
4	**Piston**	Aluminum alloy	
5	**Piston rod**	Stainless steel	Hard chrome plating
6	**Rod cover**	Aluminum alloy	
7	**Bearing holder**	Aluminum alloy	
8	**Rotation stopper**	Synthetic resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Connected shaft**	Free cutting carbon steel	Nickel plating
11	**Bushing**	Bearing alloy	
12	**Bearing**	—	
13	**Return box**	Aluminum die-cast	Coating
14	**Return plate**	Aluminum die-cast	Coating
15	**Magnet**	—	
16	**Wear ring holder**	Stainless steel	Stroke 101 mm or more
17	**Wear ring**	Synthetic resin	Stroke 101 mm or more
18	**Screw shaft pulley**	Aluminum alloy	

No.	Description	Material	Note
19	**Motor pulley**	Aluminum alloy	
20	**Belt**	—	
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	Phosphate coating
23	**Motor adapter**	Aluminum alloy	Coating
24	**Motor**	—	
25	**Motor block**	Aluminum alloy	Coating
26	**Hub**	Aluminum alloy	
27	**Spider**	Urethane	
28	**Guide attachment**	Aluminum alloy	Anodized
29	**Guide rod**	Carbon steel	
30	**Plate**	Aluminum alloy	Anodized
31	**Plate mounting cap screw**	Carbon steel	Nickel plating
32	**Guide cap screw**	Carbon steel	Nickel plating
33	**Sliding bearing**	Bearing alloy	
34	**Retaining ring**	Steel for spring	Phosphate coating
35	**Ball bushing**	—	

Support Block

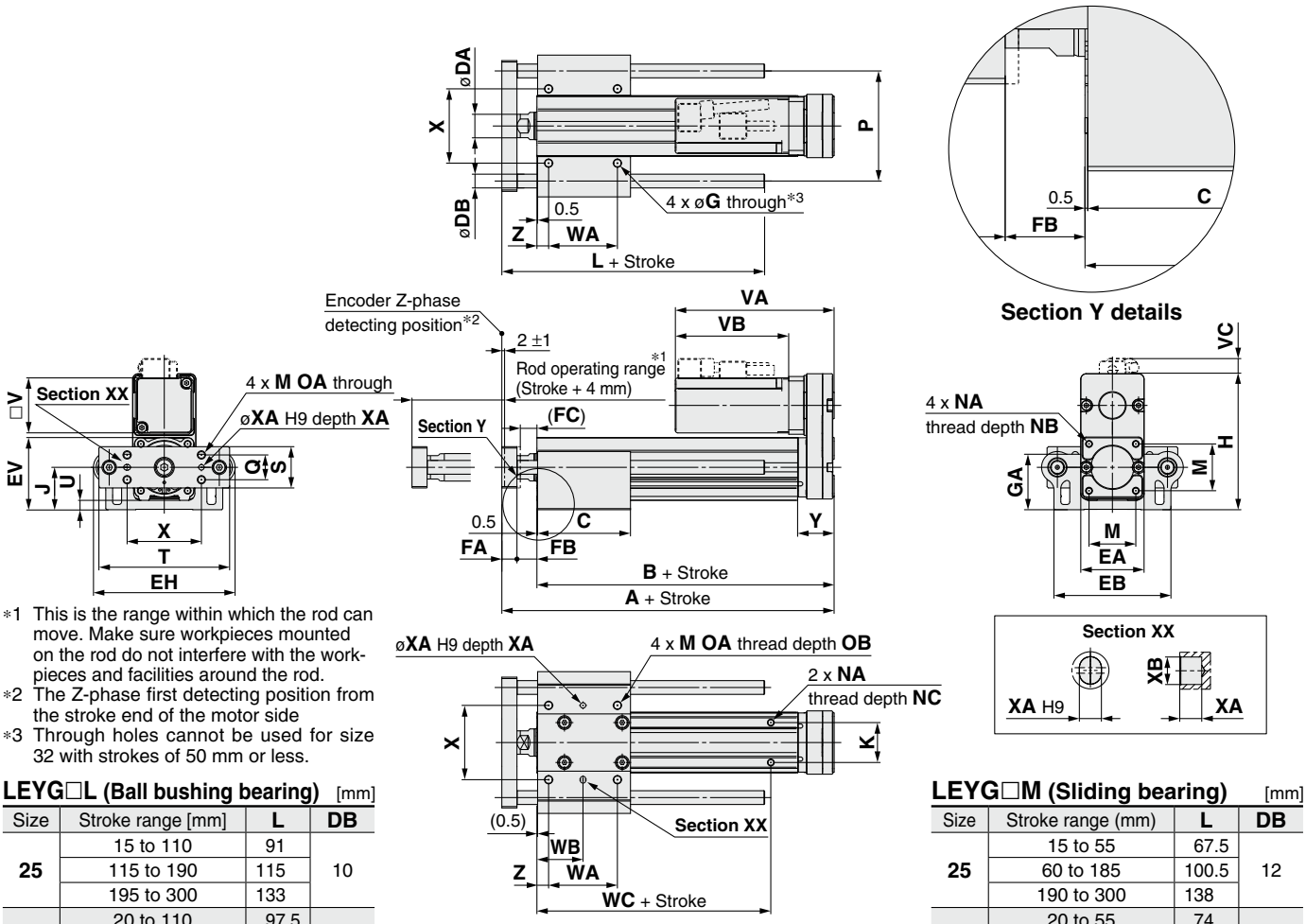
Size	Order no.
25	LEYG-S025
32	LEYG-S032

* Two body mounting screws are included with the support block.

Replacement Parts/Belt

Size	Order no.
25	LE-D-2-2
32	LE-D-2-4

Dimensions: Motor Top Mounting



∗1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
∗2 The Z-phase first detecting position from the stroke end of the motor side
∗3 Through holes cannot be used for size 32 with strokes of 50 mm or less.

LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 110	91	10
	115 to 190	115	
	195 to 300	133	
32	20 to 110	97.5	13
	115 to 190	116.5	
	195 to 300	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range (mm)	L	DB
25	15 to 55	67.5	12
	60 to 185	100.5	
	190 to 300	138	
32	20 to 55	74	16
	60 to 185	107	
	190 to 300	144	

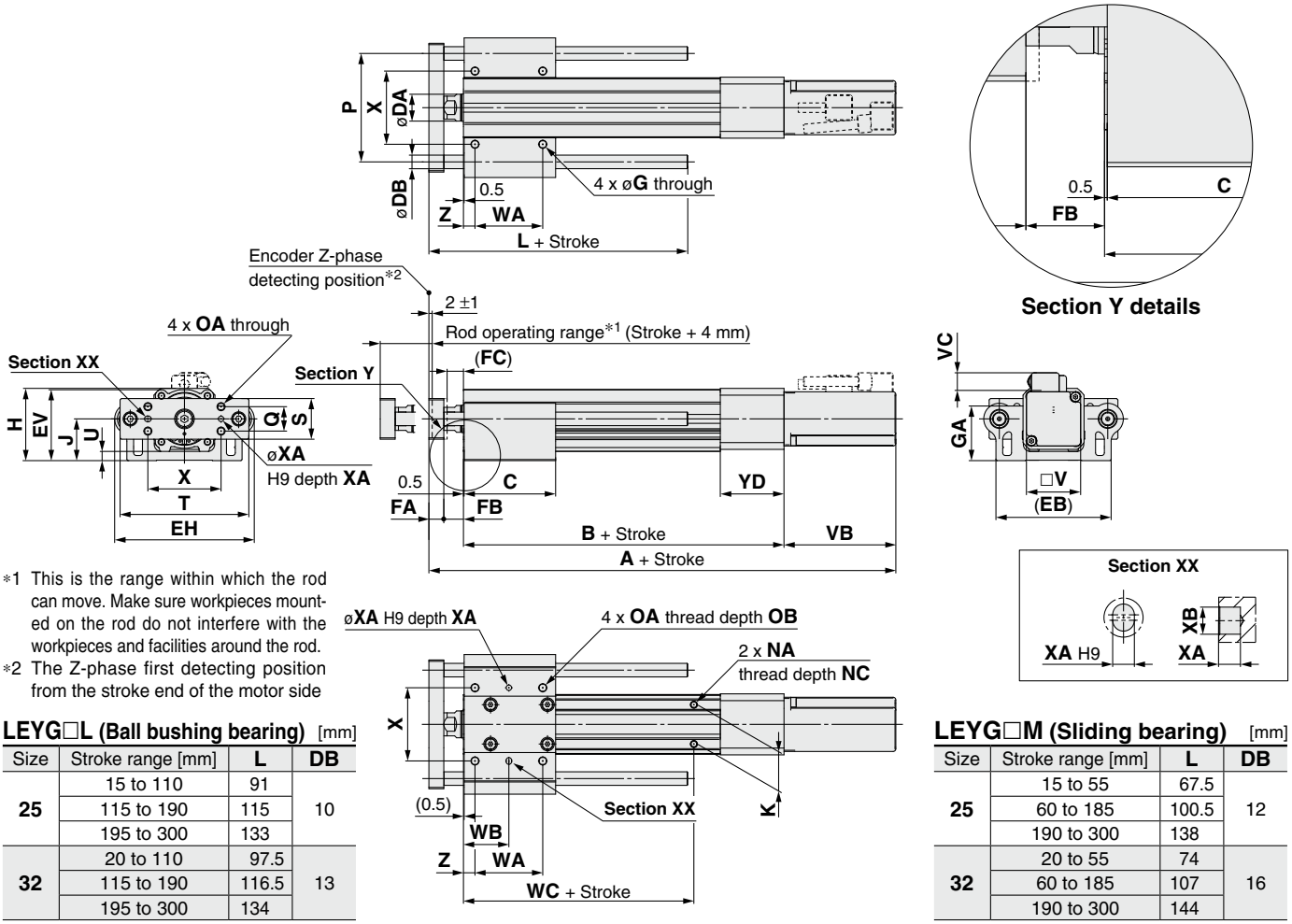
LEYG□M, LEYG□L Common [mm]

Size	Stroke range [mm]	A	B	C	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	M	NA	NB	NC
25	15 to 35	141.5	116	50	20	46	85	103	52.3	11	14.5	12.5	5.4	40.3	98.8	30.8	29	34	M5 x 0.8	8	6.5
	40 to 100			67.5																	
	105 to 120	166.5	141																		
	125 to 200			84.5																	
	205 to 300			102																	
32	20 to 35	160.5	130	55	25	60	101	123	63.8	12	18.5	16.5	5.4	50.3	125.3	38.3	30	40	M6 x 1.0	10	8.5
	40 to 100			68																	
	105 to 120	190.5	160																		
	125 to 200			85																	
	205 to 300			102																	

Size	Stroke range [mm]	OA	OB	P	Q	S	T	U	V	WA	WB	WC	X	XA	XB	Y	Z
25	15 to 35	M6 x 1.0	12	80	18	30	95	6.8	40	35	26	70	54	4	5	26.5	8.5
	40 to 100									50	33.5						
	105 to 120											95					
	125 to 200									70	43.5						
	205 to 300									85	51						
32	20 to 35	M6 x 1.0	12	95	28	40	117	7.3	60	40	28.5	75	64	5	6	34	8.5
	40 to 100									50	33.5						
	105 to 120											105					
	125 to 200									70	43.5						
	205 to 300									85	51						

Size	Without lock			With lock		
	VA	VB	VC	VA	VB	VC
25	115.5	82.5	11	160.5	127.5	11
32	120	80	14	160	120	14

Dimensions: In-line Motor



*1 This is the range within which the rod can move. Make sure workpieces mounted on the rod do not interfere with the workpieces and facilities around the rod.
*2 The Z-phase first detecting position from the stroke end of the motor side

LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 110	91	10
	115 to 190	115	
	195 to 300	133	
32	20 to 110	97.5	13
	115 to 190	116.5	
	195 to 300	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 55	67.5	12
	60 to 185	100.5	
	190 to 300	138	
32	20 to 55	74	16
	60 to 185	107	
	190 to 300	144	

LEYG□M, LEYG□L Common [mm]

Size	Stroke range [mm]	B	C	DA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	NA	NC
25	15 to 35	136.5	50	20	85	103	52.3	11	14.5	12.5	5.4	40.3	53.3	30.8	29	M5 x 0.8	6.5
	40 to 100		67.5														
	105 to 120	161.5															
	125 to 200		84.5														
	205 to 300		102														
32	20 to 35	156	55	25	101	123	63.8	12	18.5	16.5	5.4	50.3	68.3	38.3	30	M6 x 1.0	8.5
	40 to 100		68														
	105 to 120	186															
	125 to 200		85														
	205 to 300		102														

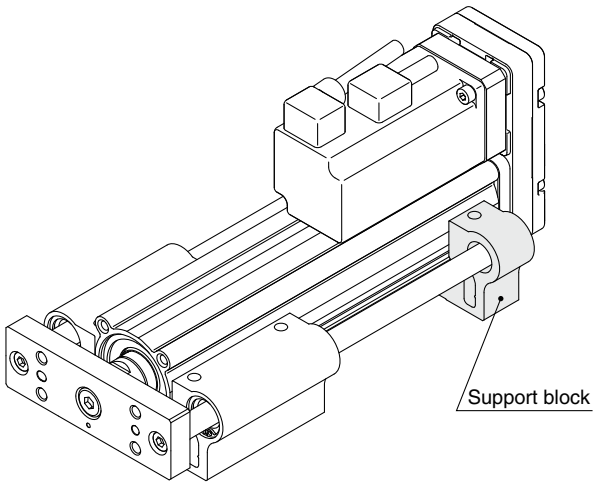
Size	Stroke range [mm]	OA	OB	P	Q	S	T	U	V	WA	WB	WC	X	XA	XB	YD	Z
25	15 to 35	M6 x 1.0	12	80	18	30	95	6.8	40	35	26	70	54	4	5	47	8.5
	40 to 100									50	33.5						
	105 to 120											95					
	125 to 200									70	43.5						
	205 to 300									85	51						
32	20 to 35	M6 x 1.0	12	95	28	40	117	7.3	60	40	28.5	75	64	5	6	60	8.5
	40 to 100									50	33.5						
	105 to 120											105					
	125 to 200									70	43.5						
	205 to 300									85	51						

Size	Stroke range [mm]	Without lock			With lock		
		A	VB	VC	A	VB	VC
25	15 to 100	255.5	82.5	11.5	300.5	127.5	11.5
	105 to 300	280.5			325.5		
32	15 to 100	266.5	80	14	306.5	120	14
	105 to 300	296.5			336.5		

Support Block

● Guide for support block application

When the stroke exceeds 100 mm and the mounting orientation is horizontal, the body will be bent. Mounting the support block is recommended. (Please order it separately from the models shown below.)

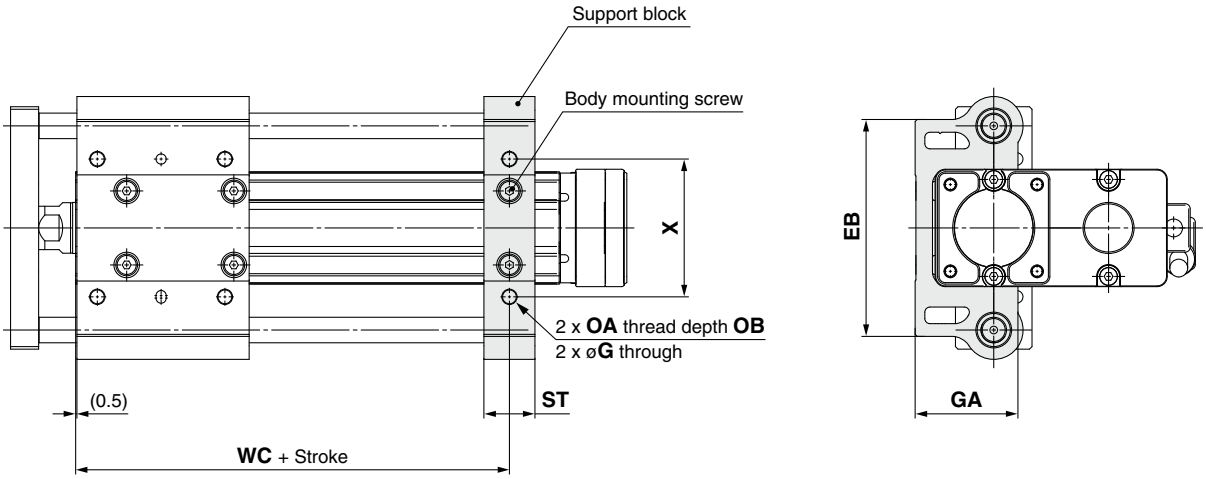


Support Block Model

LEYG-S025

● **Size**

025	For size 25
032	For size 32



⚠Caution

Do not install the body using only a support block.
The support block should be used only for support.

[mm]

Size	Model	Stroke range	EB	G	GA	OA	OB	ST	WC	X
25	**LEYG-S025**	15 to 100	85	5.4	40.3	M6 x 1.0	12	20	70	54
		105 to 300							95	
32	**LEYG-S032**	20 to 100	101	5.4	50.3	M6 x 1.0	12	22	75	64
		105 to 300							105	

* Two body mounting screws are included with the support block.
* The through holes of the LEYG-S032 cannot be used for the motor top mounting type. Use taps on the bottom.

LEY/LEYG Series
Specific Product Precautions 1

Be sure to read this before handling the products. Refer to page 984 for safety instructions, pages 985 to 990 for electric actuator precautions, and pages 991 to 1000 for auto switch precautions.

Design / Selection

⚠Warning

1. Do not apply a load in excess of the specification limits.

Select a suitable actuator by work load and allowable lateral load on the rod end. If a load in excess of the specification limits is applied to the piston rod, the generation of play in the piston rod sliding parts, reduced accuracy, etc., may occur and adversely affect the operation and service life of the product.

2. Do not use the product in applications where excessive external force or impact force is applied to it.

Failure to do so may result in a malfunction.

3. When used as a stopper, select the LEYG series "Sliding bearing" for strokes of 30 mm or less.

4. When used as a stopper, fix the main body with a guide attachment ("Top mounting" or "Bottom mounting").

If the end of the actuator is used to fix the main body (end mounting), the excessive load acts on the actuator, which may adversely affect the operation and service life of the product.

Handling

⚠Caution

1. INP output signal

1) Positioning operation
When the product comes within the set range of the step data [In position], the INP output signal will turn ON.
Initial value: Set to [0.50] or higher.

2) Pushing operation
When the effective force exceeds the step data [Trigger LV], the INP output signal will turn ON.
Use the product within the specified range of the [Pushing force] and [Trigger LV].

a) To ensure that the actuator pushes the workpieces with the set [Pushing force], it is recommended that the [Trigger LV] be set to the same value as the [Pushing force].

b) When the [Pushing force] and the [Trigger LV] are set below the specified range, the INP output signal will turn ON from the pushing start position.

<Limit Values for Pushing Force and Trigger Level in Relation to Pushing Speed>
Without Load

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEY□16□	A/B/C	21 to 50	60 to 85%
LEY□25□	A/B/C	21 to 35	50 to 65%
LEY□32□	A	24 to 30	60 to 85%
	B/C	21 to 30	
LEY□40□	A	24 to 30	50 to 65%
	B/C	21 to 30	

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEY□16□A	A/B/C	21 to 50	80 to 95%
LEY□25□A	A/B/C	21 to 35	80 to 95%

There is a limit to the pushing force in relation to the pushing speed. If the product is operated outside of the range (low pushing force), the completion signal [INP] may be output before the pushing operation has been completed (during the moving operation).
If operating with the pushing speed below the min. speed, please check for operating problems before using the product.

Handling

⚠Caution

<Set Values for Vertical Upward Transfer Pushing Operations>
For vertical loads (upward), set the pushing force to the max. value shown below and operate at the work load or less.

Model	LEY16□			LEY25□			LEY32□			LEY40□		
Lead	A	B	C	A	B	C	A	B	C	A	B	C
Work load [kg]	1	1.5	3	2.5	5	10	4.5	9	18	7	14	28
Pushing force	85%			65%			85%			65%		

Model	LEY16□A			LEY25□A		
Lead	A	B	C	A	B	C
Work load [kg]	1	1.5	3	1.2	2.5	5
Pushing force	95%			95%		

Model	LEYG16$^{M}_{L}$□			LEYG25$^{M}_{L}$□			LEYG32$^{M}_{L}$□			LEYG40$^{M}_{L}$□		
Lead	A	B	C	A	B	C	A	B	C	A	B	C
Work load [kg]	0.5	1	2.5	1.5	4	9	2.5	7	16	5	12	26
Pushing force	85%			65%			85%			65%		

Model	LEYG16$^{M}_{L}$□A			LEYG25$^{M}_{L}$□A		
Lead	A	B	C	A	B	C
Work load [kg]	0.5	1	2.5	0.5	1.5	4
Pushing force	95%			95%		

2. To conduct a pushing operation, be sure to set the product to [Pushing operation].

Also, refrain from bumping the workpiece during a positioning operation or when in the range of the positioning operation. Failure to do so may result in a malfunction.

3. Use the product within the specified pushing speed range for the pushing operation.

Failure to do so may result in damage or malfunction.

4. The moving force should be the initial value (LEY16□/25□/32□/40□: 100%, LEY16A□: 150%, and LEY25A□: 200%).

If the moving force is set below the initial value, it may cause the generation of an alarm.

5. The actual speed of this actuator is affected by the load.

Check the model selection section of the catalog.

6. 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 the detected motor torque.

7. For pushing operations, set the product to a position at least 2 mm away from a workpiece. (This position is referred to as the pushing start position.)

The following alarms may be generated and operation may become unstable if setting is not done correctly.

a. "Posn failed"
The product cannot reach the pushing start position due to variations in the target positions.

b. "Pushing ALM"
The product is pushed back from the pushing start position after starting to push.

LEY/LEYG Series
Specific Product Precautions 2

Be sure to read this before handling the products. Refer to page 984 for safety instructions, pages 985 to 990 for electric actuator precautions, and pages 991 to 1000 for auto switch precautions.

Handling

⚠Caution

8. Do not scratch or dent the sliding parts of the piston rod by bumping them or placing objects on them.

The piston rod and guide rod are manufactured to precise tolerances, so even a slight deformation may result in a malfunction.

9. When an external guide is used, connect it in such a way that no impact or load is applied to it.

Use a freely moving connector (such as a floating joint).

10. Do not operate by fixing the piston rod and moving the actuator body.

Excessive load will be applied to the piston rod, resulting in damage to the actuator and a reduced service life of the product.

11. When an actuator is operated with one end fixed and the other free (ends tapped or flange), a bending moment may act on the actuator due to vibration generated at the stroke end, which can damage the actuator. In such cases, install a mounting bracket to suppress the vibration of the actuator body or reduce the speed so that the actuator does not vibrate at the stroke end.

Also, use a mounting bracket when moving the actuator body or when a long stroke actuator is mounted horizontally and fixed at one end.

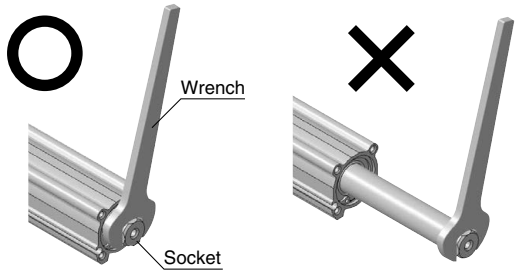
12. Avoid using the electric actuator in such a way that rotational torque would be applied to the piston rod.

Failure to do so may result in the deformation of the non-rotating guide, abnormal auto switch responses, play in the internal guide, or an increase in the sliding resistance.

Refer to the table below for the approximate values of the allowable range of rotational torque.

Allowable rotational torque [N·m] or less	LEY16□□	LEY25□□	LEY32/40□□	LEY63
	0.8	1.1	1.4	2.8

When screwing a bracket or nut into the piston rod end, hold the flats of the end of the "socket" with a wrench (the piston rod should be fully retracted). Do not apply tightening torque to the non-rotating mechanism.



13. When rotational torque is applied to the end of the plate, use it within the allowable range. [LEYG series]

Failure to do so may result in the deformation of the guide rod and bushing, play in the guide, or an increase in the sliding resistance.

14. For pushing operations, use the product within the duty ratio range below.

The duty ratio is a ratio of the operation time in one cycle.

• Step motor (Servo/24 VDC)

LEY16□

Pushing force [%]	Ambient temperature: 25°C or less		Ambient temperature: 40°C	
	Duty ratio [%]	Continuous pushing time [min]	Duty ratio [%]	Continuous pushing time [min]
40 or less	100	—	100	—
50			70	12
70			20	1.3
85			15	0.8

LEY25□/40□

Pushing force [%]	Ambient temperature: 25°C or less		Ambient temperature: 40°C	
	Duty ratio [%]	Continuous pushing time [min]	Duty ratio [%]	Continuous pushing time [min]
65 or less	100	—	100	—

LEY32□

Pushing force [%]	Ambient temperature: 25°C or less		Ambient temperature: 40°C	
	Duty ratio [%]	Continuous pushing time [min]	Duty ratio [%]	Continuous pushing time [min]
65 or less	100	—	100	—
85			50	15

• Servo motor (24 VDC)

LEY16A□

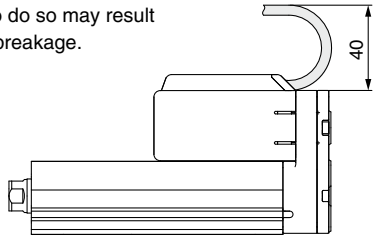
Pushing force [%]	Ambient temperature: 25°C or less		Ambient temperature: 40°C	
	Duty ratio [%]	Continuous pushing time [min]	Duty ratio [%]	Continuous pushing time [min]
95 or less	100	—	100	—

LEY25A□

Pushing force [%]	Ambient temperature: 25°C or less		Ambient temperature: 40°C	
	Duty ratio [%]	Continuous pushing time [min]	Duty ratio [%]	Continuous pushing time [min]
95 or less	100	—	100	—

15. When mounting the product, secure a space of 40 mm or more to allow for bends in the cable.

∗ Failure to do so may result in cable breakage.



16. When mounting a bolt, workpiece, or jig, hold the flats of the piston rod end with a wrench so that the piston rod does not rotate. The bolt should be tightened within the specified torque range.

Failure to do so may result in abnormal auto switch responses, play in the internal guide, or an increase in the sliding resistance.

LEY/LEYG Series
Specific Product Precautions 3

Be sure to read this before handling the products. Refer to page 984 for safety instructions, pages 985 to 990 for electric actuator precautions, and pages 991 to 1000 for auto switch precautions.

Handling

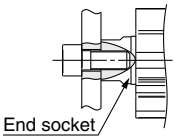
⚠Caution

17. When mounting the product and/or a workpiece, tighten the mounting screws within the specified torque range.

Tightening the screws with a higher torque than recommended may result in a malfunction, while tightening with a lower torque can result in the displacement of the mounting position or, in extreme conditions, the actuator could become detached from its mounting position.

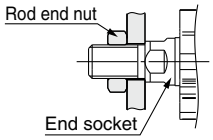
<LEY series>

Workpiece fixed/Rod end female thread

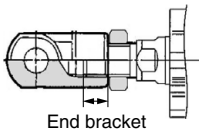


Model	Screw size	Max. tightening torque [N·m]	Max. screw-in depth [mm]	End socket width across flats [mm]
LEY16	M5 x 0.8	3.0	10	14
LEY25	M8 x 1.25	12.5	13	17
LEY32/40	M8 x 1.25	12.5	13	22
LEY63	M16 x 2	106	21	36

Workpiece fixed/Rod end male thread (When "Rod end male thread" is selected)



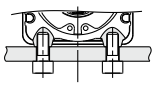
Model	Thread size	Max. tightening torque [N·m]	Effective thread length [mm]	End socket width across flats [mm]
LEY16	M8 x 1.25	12.5	12	14
LEY25	M14 x 1.5	65.0	20.5	17
LEY32/40	M14 x 1.5	65.0	20.5	22
LEY63	M18 x 1.5	97.0	26	36



Model	Rod end nut		End bracket
	Width across flats [mm]	Length [mm]	screw-in depth [mm]
LEY16	13	5	5 or more
LEY25	22	8	8 or more
LEY32/40	22	8	8 or more
LEY63	27	11	18

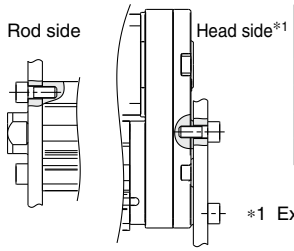
∗ The rod end nut is an accessary.

Body fixed/Body bottom tapped type (When "Body bottom tapped" is selected)



Model	Screw size	Max. tightening torque [N·m]	Max. screw-in depth [mm]
LEY16	M4 x 0.7	1.5	5.5
LEY25	M5 x 0.8	3.0	6.5
LEY32/40	M6 x 1.0	5.2	8.8
LEY63	M8 x 1.25	12.5	10

Body fixed/Rod side/Head side tapped type

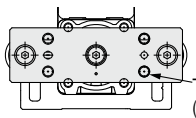


Model	Screw size	Max. tightening torque [N·m]	Max. screw-in depth [mm]
LEY16	M4 x 0.7	1.5	7
LEY25	M5 x 0.8	3.0	8
LEY32/40	M6 x 1.0	5.2	10
LEY63	M8 x 1.25	12.5	16

∗1 Excludes the LEY□D

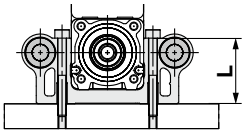
<LEYG series>

Workpiece fixed/Plate tapped type



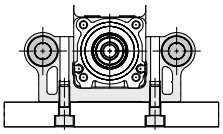
Model	Screw size	Max. tightening torque [N·m]	Max. screw-in depth [mm]
LEYG16$^{M}_{L}$	M5 x 0.8	3.0	8
LEYG25$^{M}_{L}$	M6 x 1.0	5.2	11
LEYG$^{32M}_{40L}$	M6 x 1.0	5.2	12

Body fixed/Top mounting



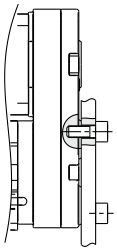
Model	Screw size	Max. tightening torque [N·m]	Length: L [mm]
LEYG16$^{M}_{L}$	M4 x 0.7	1.5	32
LEYG25$^{M}_{L}$	M5 x 0.8	3.0	40.3
LEYG$^{32M}_{40L}$	M5 x 0.8	3.0	50.3

Body fixed/Bottom mounting



Model	Screw size	Max. tightening torque [N·m]	Max. screw-in depth [mm]
LEYG16$^{M}_{L}$	M5 x 0.8	3.0	10
LEYG25$^{M}_{L}$	M6 x 1.0	5.2	12
LEYG$^{32M}_{40L}$	M6 x 1.0	5.2	12

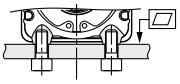
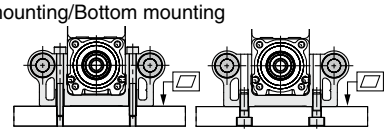
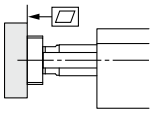
Body fixed/Head side tapped type



Model	Screw size	Max. tightening torque [N·m]	Max. screw-in depth [mm]
LEYG16$^{M}_{L}$	M4 x 0.7	1.5	7
LEYG25$^{M}_{L}$	M5 x 0.8	3.0	8
LEYG$^{32M}_{40L}$	M6 x 1.0	5.2	10

18. Keep the flatness of the mounting surface within the following ranges when mounting the actuator body and workpiece.

Mounting the product on an uneven workpiece or base may result in an increase in the sliding resistance.

Model	Mounting position	Flatness
LEY□	Body/Body bottom 	0.1 mm or less
LEYG□	Top mounting/Bottom mounting 	0.02 mm or less
	Workpiece/Plate mounting 	0.02 mm or less

19. When using auto switches with the guide rod type LEYG series, the following limits apply. Please consider the following before selecting the product.

- Auto switches must be inserted from the front side with the rod (plate) sticking out.
- Auto switches with perpendicular electrical entries cannot be used.
- Auto switches cannot be fixed with the parts hidden behind the guide attachment (the side of the rod that sticks out).
- Please consult with SMC when using auto switches on the side of the rod that sticks out.

LEY/LEYG Series
Specific Product Precautions 4

Be sure to read this before handling the products. Refer to page 984 for safety instructions, pages 985 to 990 for electric actuator precautions, and pages 991 to 1000 for auto switch precautions.

Handling

⚠Caution

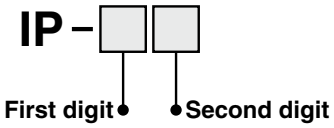
20. When using the product with the IP65 or equivalent specifications, be sure to mount the tubing to the vent hole, and then place the end of the tubing in an area where it is not exposed to dust or water. When the actuator is used without mounting the fitting and tubing to the vent hole, water or dust may enter the inside of the actuator, resulting in a malfunction.

21. When fluctuations in the load are caused during operation, malfunction, noise, or alarm generation may occur. (In the case of the AC servo motor)

The gain tuning may not be suitable for fluctuating loads.

Adjust the gain properly by following the instructions in the driver manual.

Enclosure



• First Digit:
Degree of protection against solid foreign objects

0	Not protected
1	Protected against solid foreign objects of 50 mmø and larger
2	Protected against solid foreign objects of 12 mmø and larger
3	Protected against solid foreign objects of 2.5 mmø and larger
4	Protected against solid foreign objects of 1.0 mmø and larger
5	Dust protected
6	Dust-tight

• Second Digit:
Degree of protection against water

0	Not protected	—
1	Protected against vertically falling water droplets	Dripproof type 1
2	Protected against vertically falling water droplets when enclosure is tilted up to 15°	Dripproof type 2
3	Protected against rainfall when enclosure is tilted up to 60°	Rainproof type
4	Protected against splashing water	Splashproof type
5	Protected against water jets	Water-jet-proof type
6	Protected against powerful water jets	Powerful water-jet-proof type
7	Protected against the effects of temporary immersion in water	Immersible type
8	Protected against the effects of continuous immersion in water	Submersible type

Example) IP65: Dust-tight, Water-jet-proof type
"Water-jet-proof" means that no water enters the equipment that could hinder it from operating normally when water is applied for 3 minutes in the prescribed manner. Take appropriate protective measures as the device is not usable in environments where droplets of water are splashed constantly.

Maintenance

⚠Warning

1. Ensure that the power supply is stopped and the workpiece is removed before starting maintenance work or replacing the product.

• Maintenance frequency

Perform maintenance according to the table below.

Frequency	Appearance check	Belt check
Inspection before daily operation	○	—
Inspection every 6 months/ 250 km/5 million cycles*1	○	○

*1 Select whichever comes first.

• Items for visual appearance check

1. Loose set screws, Abnormal amount of dirt, etc.
2. Check for visible damage, Check of cable joint
3. Vibration, Noise

• Items for belt check

Stop operation immediately and replace the belt when any of the following occur. In addition, 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 coming off and the fiber has become whitish, Lines of fibers have become unclear

b. Peeling off or wearing of the side of the belt
Belt corner has become rounded and frayed threads stick out

c. Belt is partially cut
Belt is partially cut, Foreign matter caught in the teeth of other parts is causing damage

d. A vertical line on belt teeth is visible
Damage which is made when the belt runs on the flange

e. Rubber back of the belt is softened and sticky

f. Cracks on the back of the belt are visible