

Guide Rod Type  
LEYG Series

# Model Selection



LEYG□E Series ▶ p. 533

## Moment Load Graph

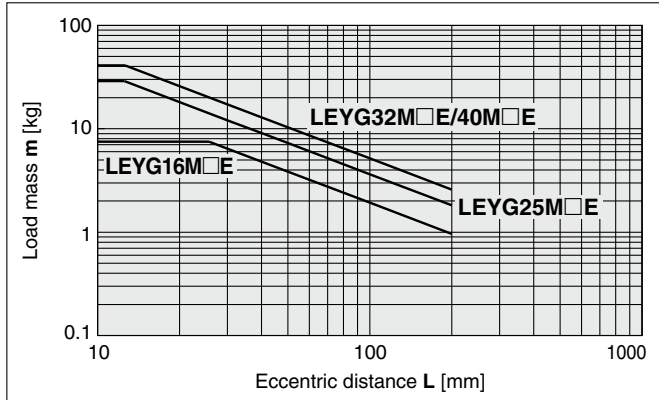
### Selection conditions

Mounting position		Vertical		Horizontal	
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.

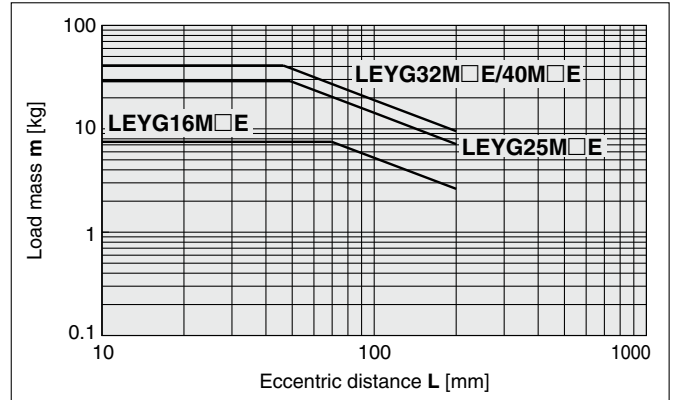
### Vertical Mounting, Sliding Bearing

#### ① 70 mm stroke or less



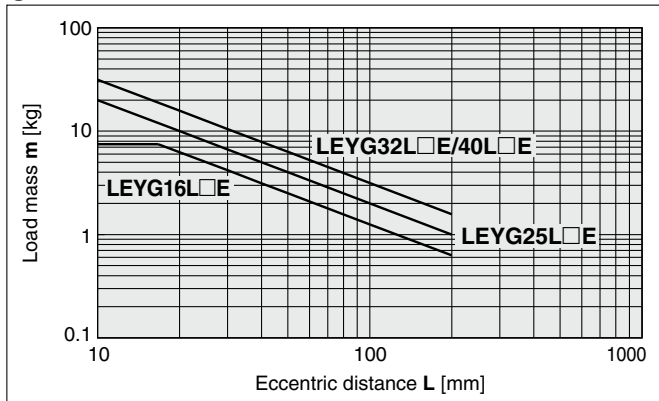
\* The limit of vertical load mass varies depending on "lead" and "speed."  
Check the "Speed-Work Load Graph" on page 509.

#### ② Over 75 mm stroke



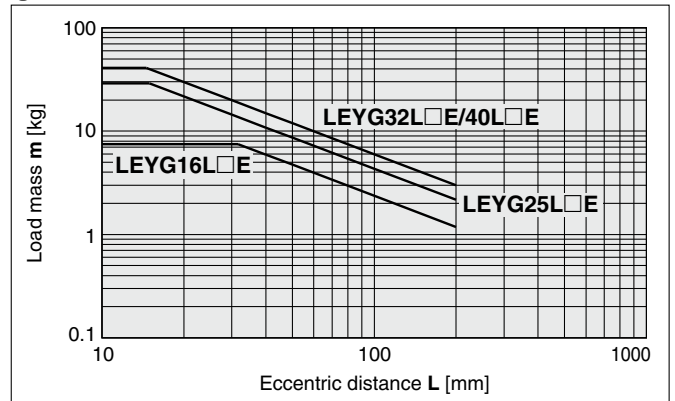
### Vertical Mounting, Ball Bushing Bearing

#### ③ 35 mm stroke or less



\* The limit of vertical load mass varies depending on "lead" and "speed."  
Check the "Speed-Work Load Graph" on page 509.

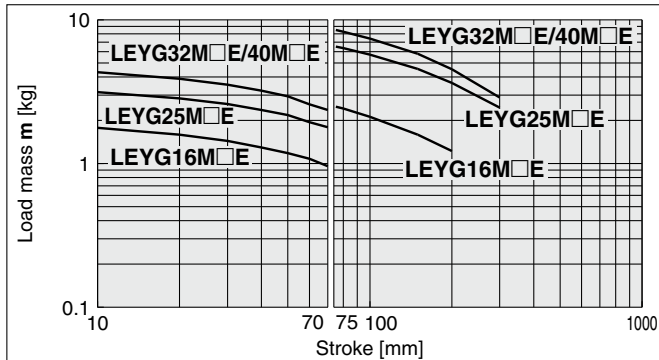
#### ④ Over 40 mm stroke



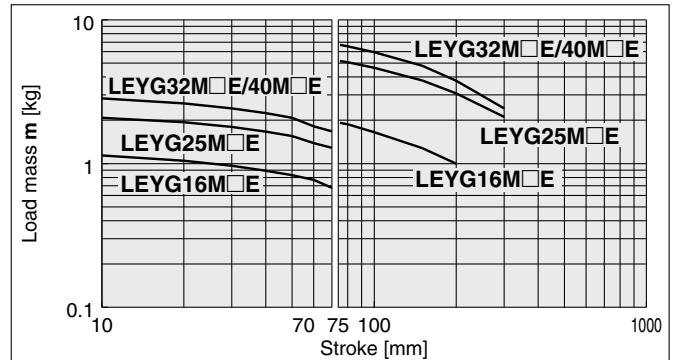
## Moment Load Graph

### Horizontal Mounting, Sliding Bearing

⑤ L = 50 mm



⑥ L = 100 mm

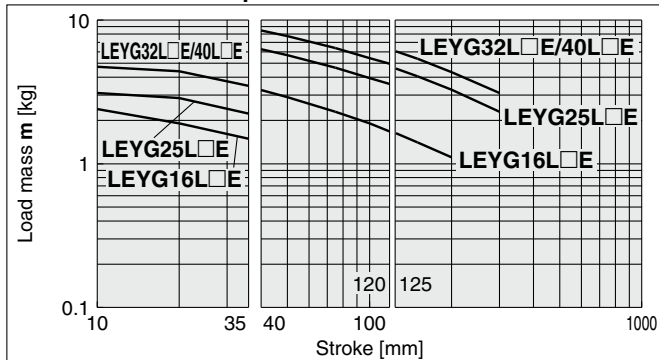


\* Set the speed to less than or equal to the values shown below.

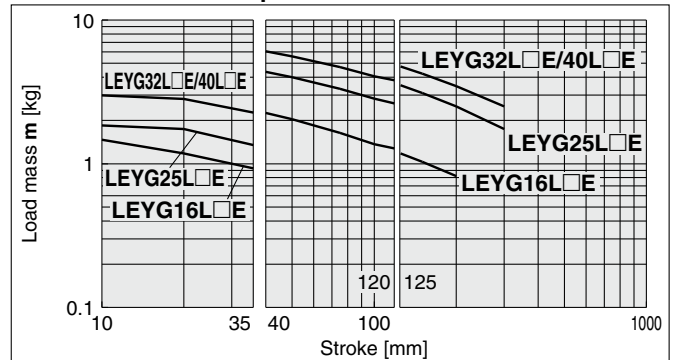
Motor type	LEYG□M□A	LEYG□M□B	LEYG□M□C
Battery-less absolute (Step motor 24 VDC)	200 mm/s	125 mm/s	75 mm/s

### Horizontal Mounting, Ball Bushing Bearing

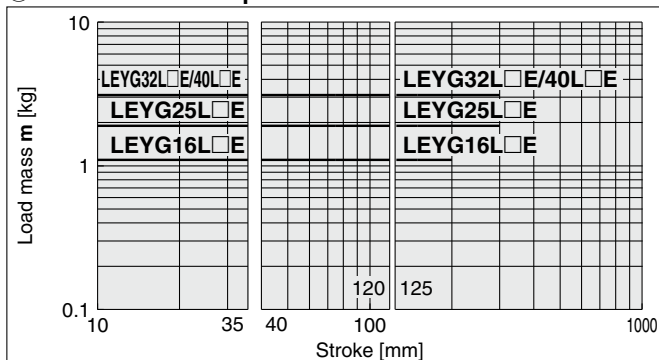
⑦ L = 50 mm Max. speed = 200 mm/s or less



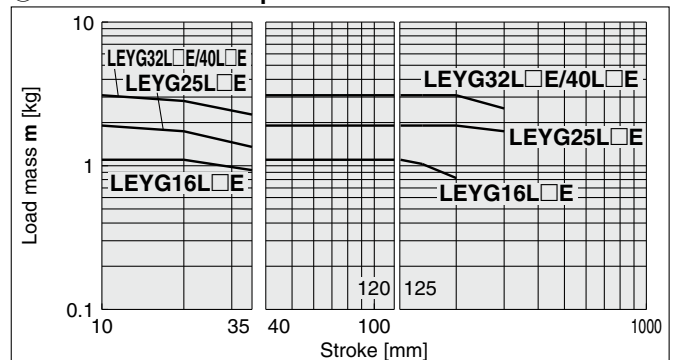
⑧ L = 100 mm Max. speed = 200 mm/s or less



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

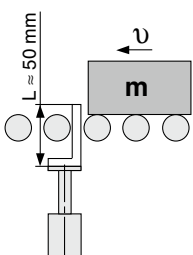


⑩ L = 100 mm Max. speed = Over 200 mm/s



## Operating Range when Used as a Stopper

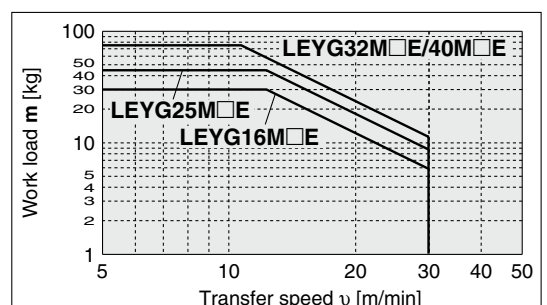
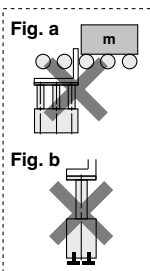
### LEYG□M (Sliding bearing)



#### ⚠ Caution

#### Handling Precautions

- \* When used as a stopper, select a model with a stroke of 30 mm or less.
- \* LEYG□L□E (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).



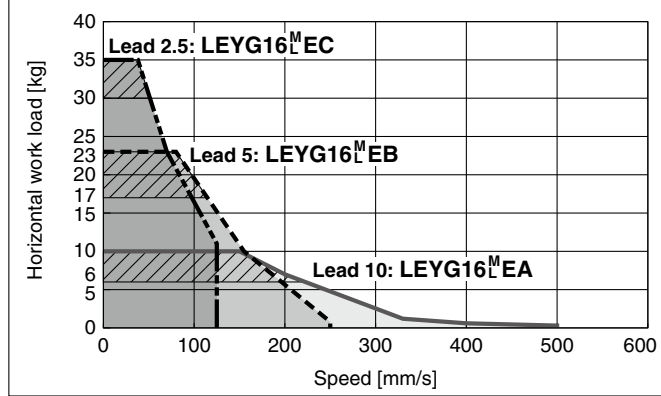
# LEYG Series

Battery-less Absolute (Step Motor 24 VDC)

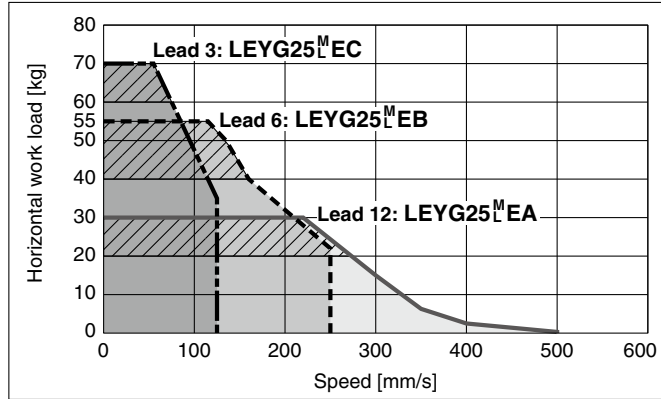
## Speed-Work Load Graph (Guide) For Battery-less Absolute (Step Motor 24 VDC)

### Horizontal

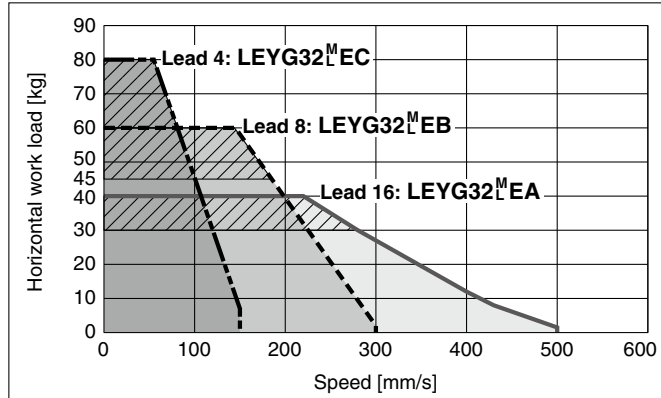
**LEYG16<sup>M</sup><sub>L</sub>□E**    ▨ for acceleration/deceleration: 2000 mm/s<sup>2</sup>



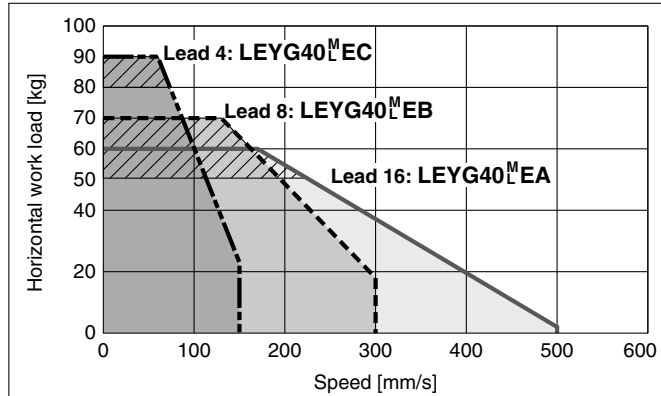
**LEYG25<sup>M</sup><sub>L</sub>□E**    ▨ for acceleration/deceleration: 2000 mm/s<sup>2</sup>



**LEYG32<sup>M</sup><sub>L</sub>□E**    ▨ for acceleration/deceleration: 2000 mm/s<sup>2</sup>

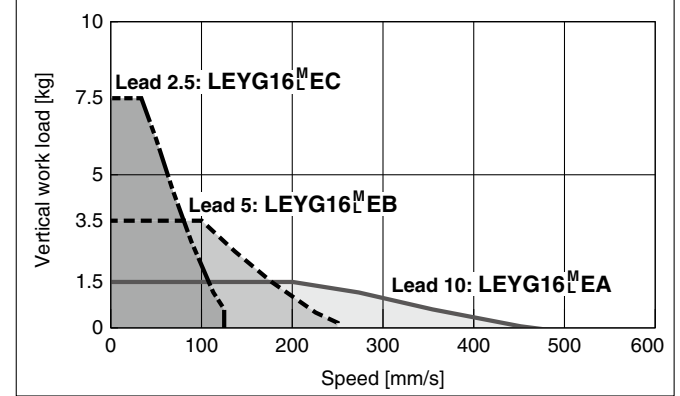


**LEYG40<sup>M</sup><sub>L</sub>□E**    ▨ for acceleration/deceleration: 2000 mm/s<sup>2</sup>

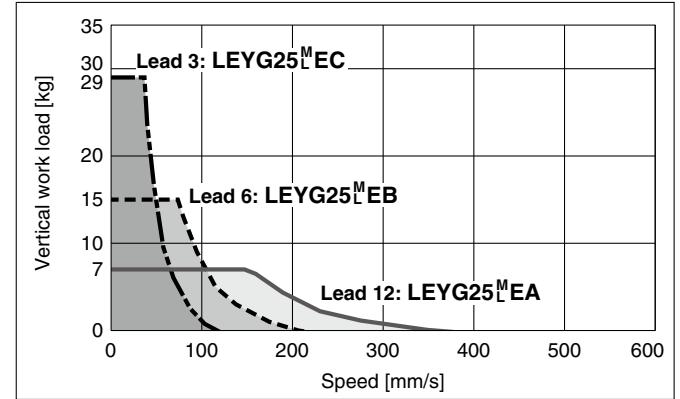


### Vertical

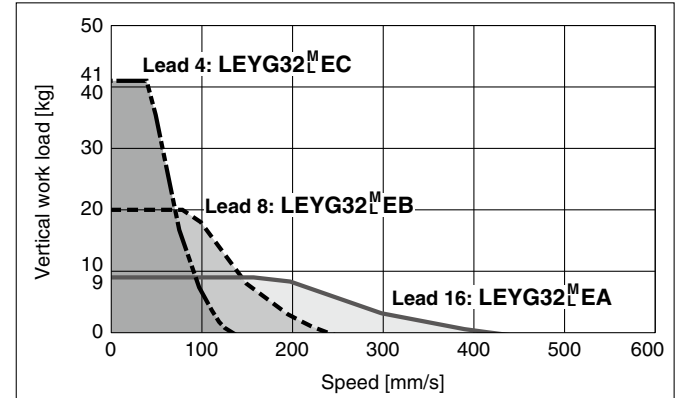
**LEYG16<sup>M</sup><sub>L</sub>□E**



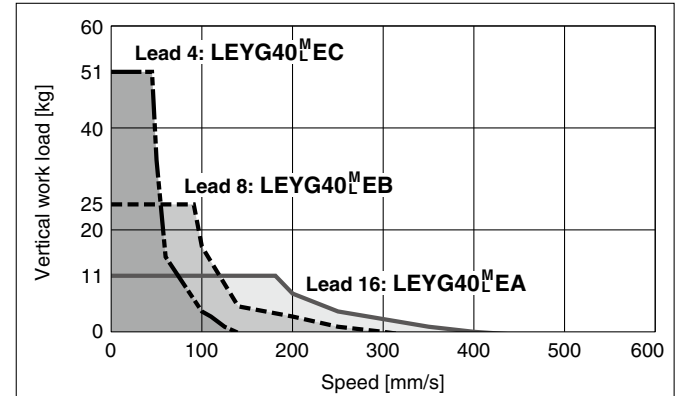
**LEYG25<sup>M</sup><sub>L</sub>□E**



**LEYG32<sup>M</sup><sub>L</sub>□E**



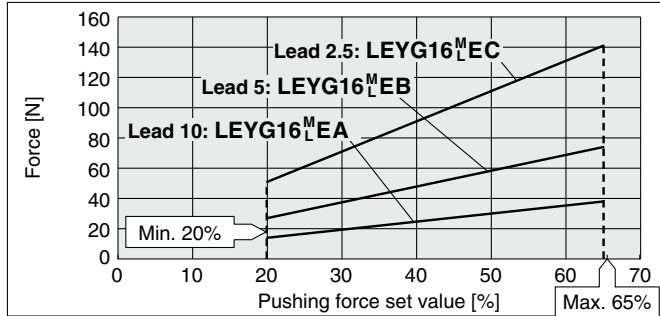
**LEYG40<sup>M</sup><sub>L</sub>□E**



## Force Conversion Graph (Guide)

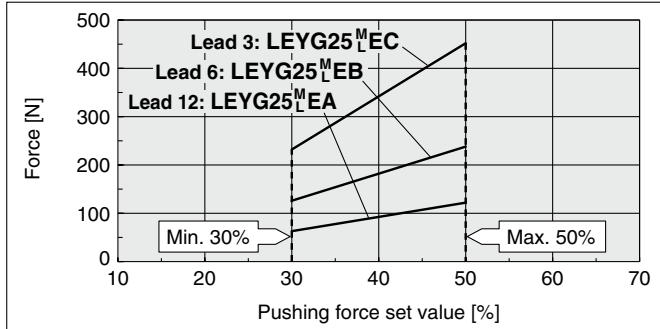
### Battery-less Absolute (Step Motor 24 VDC)

#### LEYG16<sup>M</sup><sub>L</sub>□E



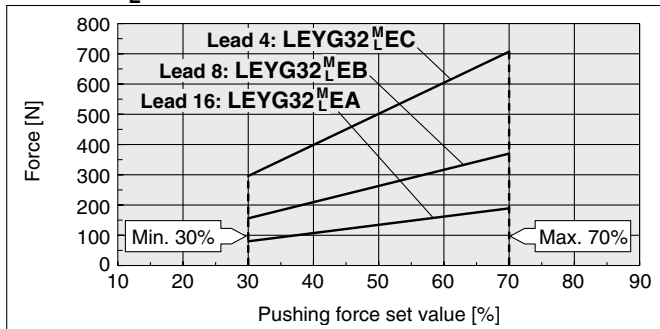
Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
30°C or less	65 or less	100	No restriction
	40 or less	100	No restriction
40°C	50	30	45 or less
	60	18	15 or less
	65	15	10 or less

#### LEYG25<sup>M</sup><sub>L</sub>□E



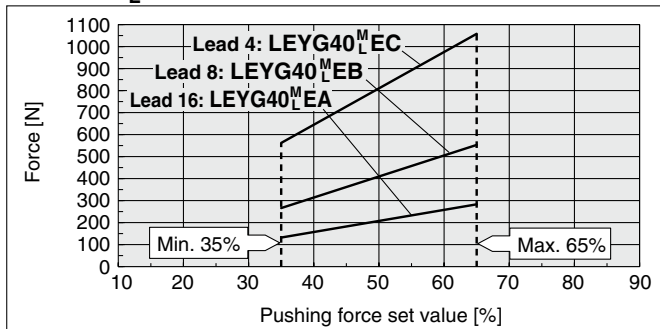
Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	50 or less	100	No restriction

#### LEYG32<sup>M</sup><sub>L</sub>□E



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	70 or less	100	No restriction

#### LEYG40<sup>M</sup><sub>L</sub>□E



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
40°C or less	65 or less	100	No restriction

### <Limit Values for Pushing Force and Trigger Level in Relation to Pushing Speed>

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEYG16 <sup>M</sup> <sub>L</sub> □E	A/B/C	21 to 50	45 to 65%
LEYG25 <sup>M</sup> <sub>L</sub> □E	A/B/C	21 to 35	40 to 50%
LEYG32 <sup>M</sup> <sub>L</sub> □E	A	24 to 30	50 to 70%
	B/C	21 to 30	
LEYG40 <sup>M</sup> <sub>L</sub> □E	A	24 to 30	50 to 65%
	B/C	21 to 30	

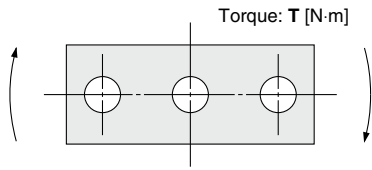
### <Set Values for Vertical Upward Transfer Pushing Operations>

Model	LEYG16 <sup>M</sup> <sub>L</sub> □E	LEYG25 <sup>M</sup> <sub>L</sub> □E	LEYG32 <sup>M</sup> <sub>L</sub> □E	LEYG40 <sup>M</sup> <sub>L</sub> □E
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	65%			50%

# LEYG Series

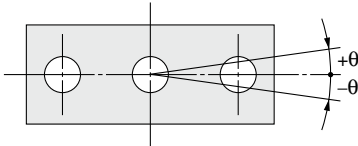
Battery-less Absolute (Step Motor 24 VDC)

## Allowable Rotational Torque of Plate: T



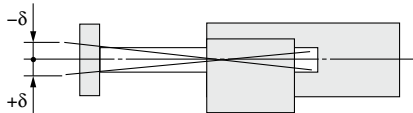
Model	Stroke [mm]					T [N-m]
	30	50	100	200	300	
LEYG16M	0.70	0.57	1.05	0.56	—	
LEYG16L	0.82	1.48	0.97	0.57	—	
LEYG25M	1.56	1.29	3.50	2.18	1.36	
LEYG25L	1.52	3.57	2.47	2.05	1.44	
LEYG32M	2.55	2.09	5.39	3.26	1.88	
LEYG32L	2.80	5.76	4.05	3.23	2.32	
LEYG40M	2.55	2.09	5.39	3.26	1.88	
LEYG40L	2.80	5.76	4.05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

## Non-rotating Accuracy of Plate: $\theta$



Size	Non-rotating accuracy $\theta$	
	LEYG□M□E	LEYG□L□E
16	0.06°	0.05°
25		0.04°
32	0.05°	
40		

## Plate Displacement: $\delta$



Model	Stroke [mm]					[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.



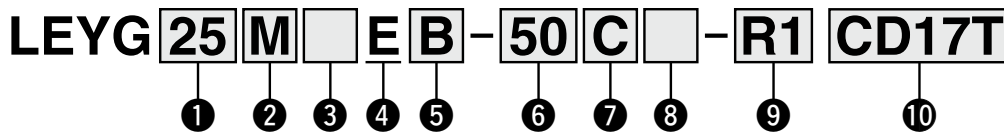
# Guide Rod Type

## LEYG Series LEYG16, 25, 32, 40



\* For details, refer to page 1343 and onward.

### How to Order



For details on controllers, refer to the next page.

#### ① Size

16
25
32
40

#### ② Bearing type\*1

<b>M</b>	Sliding bearing
<b>L</b>	Ball bushing bearing

#### ③ Motor mounting position/Motor cover direction

Symbol	Motor mounting position	Motor cover direction
<b>Nil</b>	Top side parallel	—
<b>D</b>	In-line	—*2
<b>D1</b>		Left*3
<b>D2</b>		Right*3
<b>D3</b>		Top*3
<b>D4</b>		Bottom*3

#### ④ Motor type

<b>E</b>	Battery-less absolute (Step motor 24 VDC)
----------	---

#### ⑤ Lead [mm]

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

#### ⑥ Stroke\*4 \*5 [mm]

Stroke	Note	
	Size	Applicable stroke
<b>30 to 200</b>	16	30, 50, 100, 150, 200
<b>30 to 300</b>	25/32/40	30, 50, 100, 150, 200, 250, 300

#### ⑦ Motor option\*6

<b>C</b>	With motor cover
<b>W</b>	With lock/motor cover

#### ⑧ Guide option\*7

<b>Nil</b>	Without option
<b>F</b>	With grease retaining function

#### ⑨ Actuator cable type/length

Robotic cable [m]			
<b>Nil</b>	None	<b>R8</b>	8*8
<b>R1</b>	1.5	<b>RA</b>	10*8
<b>R3</b>	3	<b>RB</b>	15*8
<b>R5</b>	5	<b>RC</b>	20*8

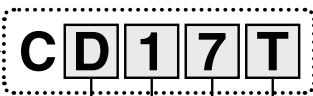
For details on auto switches, refer to pages 503 to 505.

#### 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.

## 10 Controller

Nil	Without controller
C□1□□	With controller



### Interface (Communication protocol/Input/Output)

Symbol	Type	Number of axes, Special specification	
		Standard	With STO sub-function
5	Parallel input (NPN)	●	
6	Parallel input (PNP)	●	
E	EtherCAT	●	●
9	EtherNet/IP™	●	●
P	PROFINET	●	●
D	DeviceNet®	●	
L	IO-Link	●	●
M	CC-Link	●	

### Mounting

7	Screw mounting
8*9	DIN rail

### Number of axes, Special specification

Symbol	Number of axes	Specification
1	Single axis	Standard
F	Single axis	With STO sub-function

### Communication plug connector, I/O cable\*10

Symbol	Type	Applicable interface
Nil	Without accessory	—
S	Straight type communication plug connector	DeviceNet®
T	T-branch type communication plug connector	CC-Link Ver. 1.10
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)	

- \*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 507.
- \*2 Sizes 25, 32, and 40 only
- \*3 Size 16 only
- \*4 Please contact SMC for non-standard strokes as they are produced as special orders.
- \*5 There is a limit for mounting size 16/32/40 top side parallel motor types and strokes of 50 mm or less. Refer to the dimensions.
- \*6 When "With lock/motor cover" is selected for the top side parallel motor

- type, the motor body will stick out from the end of the body for size 16 with strokes of 50 mm or less and size 40 with strokes of 30 mm or less. Check for interference with workpieces before selecting a model.
- \*7 Only available for size 25, 32, and 40 sliding bearings (Refer to the "Construction" on page 538.)
- \*8 Produced upon receipt of order
- \*9 The DIN rail is not included. It must be ordered separately.
- \*10 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/UKCA-compliant products]

EMC compliance was tested by combining the electric actuator LEY series and the controller 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.

### [Precautions relating to differences in controller versions]

When the JXC series is to be used in combination with the battery-less absolute encoder, use a controller that is version V3.4 or S3.4 or higher. For details, refer to pages 1077 and 1078.

### [UL certification]

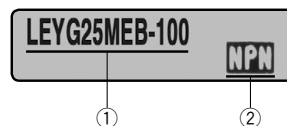
The JXC series controllers used in combination with electric actuators are UL certified.

## The actuator and controller are sold as a package.

Confirm that the combination of the controller 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.
- ② Check that the Parallel I/O configuration matches the type (NPN or PNP).



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

Type	Step data input type	EtherCAT direct input type	EtherCAT direct input type with STO sub-function	EtherNet/IP™ direct input type	EtherNet/IP™ direct input type with STO sub-function	PROFINET direct input type	PROFINET direct input type with STO sub-function	DeviceNet® direct input type	IO-Link direct input type	IO-Link direct input type with STO sub-function	CC-Link direct input type
Series	JXC51 JXC61	JXCE1	JXCEF	JXC91	JXC9F	JXCP1	JXCPF	JXCD1	JXCL1	JXCLF	JXCM1
Features	Parallel I/O	EtherCAT direct input	EtherCAT direct input with STO sub-function	EtherNet/IP™ direct input	EtherNet/IP™ direct input with STO sub-function	PROFINET direct input	PROFINET direct input with STO sub-function	DeviceNet® direct input	IO-Link direct input	IO-Link direct input with STO sub-function	CC-Link direct input
Compatible motor	Battery-less absolute (Step motor 24 VDC)										
Max. number of step data	64 points										
Power supply voltage	24 VDC										
Reference page	1017					1063					



# LEYG Series

Battery-less Absolute (Step Motor 24 VDC)

## Specifications

### Battery-less Absolute (Step Motor 24 VDC)

Model			LEYG16 <sup>M</sup> □□E			LEYG25 <sup>M</sup> □□E			LEYG32 <sup>M</sup> □□E			LEYG40 <sup>M</sup> □□E			
Work load [kg] <sup>*1</sup>	Horizontal	Acceleration/Deceleration at 3000 [mm/s <sup>2</sup> ]	6	17	30	20	40	60	30	45	60	50	60	80	
		Acceleration/Deceleration at 2000 [mm/s <sup>2</sup> ]	10	23	35	30	55	70	40	60	80	60	70	90	
	Vertical	Acceleration/Deceleration at 3000 [mm/s <sup>2</sup> ]	1.5	3.5	7.5	7	15	29	9	20	41	11	25	51	
Pushing force [N] <sup>*2 *3 *4</sup>			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] <sup>*4</sup>			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 300	6 to 150	
Max. acceleration/deceleration [mm/s <sup>2</sup> ]			3000												
Pushing speed [mm/s] <sup>*5</sup>			50 or less			35 or less			30 or less			30 or less			
Positioning repeatability [mm]			±0.02												
Lost motion [mm] <sup>*6</sup>			0.1 or less												
Screw lead [mm]			10	5	2.5	12	6	3	16	8	4	16	8	4	
Impact/Vibration resistance [m/s <sup>2</sup> ] <sup>*7</sup>			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)												
Enclosure			IP40												
Electric specifications	Motor size			□28			□42			□56.4			□56.4		
	Motor type			Battery-less absolute (Step motor 24 VDC)											
	Encoder			Battery-less absolute											
	Power supply voltage [V]			24 VDC ±10%											
Lock unit specifications	Power [W] <sup>*8 *10</sup>			Max. power 43			Max. power 48			Max. power 104			Max. power 106		
	Type <sup>*9</sup>			Non-magnetizing lock											
	Holding force [N]			20	39	78	78	157	294	108	216	421	127	265	519
	Power [W] <sup>*10</sup>			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 507 to 509.

Vertical: Speed changes according to the work load. Check the "Model Selection" on pages 507 to 509.

Set the acceleration/deceleration values to be 3000 [mm/s<sup>2</sup>] or less.

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

\*3 The pushing force values for LEYG16□□□E are 20% to 65%, for LEYG25□□□E are 30% to 50%, for LEYG32□□□E are 30% to 70%, and for LEYG40□□□E are 35% to 65%.

The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" on page 510.

\*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. For details, refer to the "Model Selection" on page 508.

\*5 The allowable speed for the pushing operation

\*6 A reference value for correcting errors 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 Indicates the max. power during operation (including the controller). This value can be used for the selection of the power supply.

\*9 With lock only

\*10 For an actuator with lock, add the power for the lock.

## Weight

### Weight: Top Side Parallel Motor Type

Series	LEYG16M□E					LEYG25M□E							LEYG32M□E						
Stroke [mm]	30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	1	1.14	1.37	1.66	1.83	1.7	1.89	2.21	2.63	2.97	3.31	3.57	2.95	3.21	3.76	4.32	4.99	5.48	5.92

Series	LEYG16L□E					LEYG25L□E							LEYG32L□E						
Stroke [mm]	30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	1.01	1.14	1.31	1.6	1.75	1.71	1.92	2.16	2.59	2.85	3.17	3.41	2.95	3.22	3.61	4.16	4.7	5.21	5.6

Series	LEYG40M□E							LEYG40L□E						
Stroke [mm]	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	3.26	3.52	4.07	4.63	5.3	5.79	6.23	3.26	3.53	3.92	4.47	5.01	5.52	5.91

### Weight: In-line Motor Type

Series	LEYG16M□E					LEYG25M□E							LEYG32M□E						
Stroke [mm]	30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	0.97	1.11	1.34	1.68	1.8	1.09	1.88	2.20	2.62	2.96	3.30	3.56	2.96	3.20	3.75	4.81	4.98	5.47	5.91

Series	LEYG16L□E					LEYG25L□E							LEYG32L□E						
Stroke [mm]	30	50	100	150	200	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	0.98	1.11	1.28	1.57	1.72	1.70	1.91	2.15	2.58	2.84	3.16	3.40	2.54	3.21	3.60	4.15	4.69	5.20	5.59

Series	LEYG40M□E							LEYG40L□E						
Stroke [mm]	30	50	100	150	200	250	300	30	50	100	150	200	250	300
Product weight [kg]	3.25	3.51	4.06	4.62	5.25	5.78	6.22	3.25	3.52	3.91	4.46	5.00	5.51	5.90

### Additional Weight

(kg)

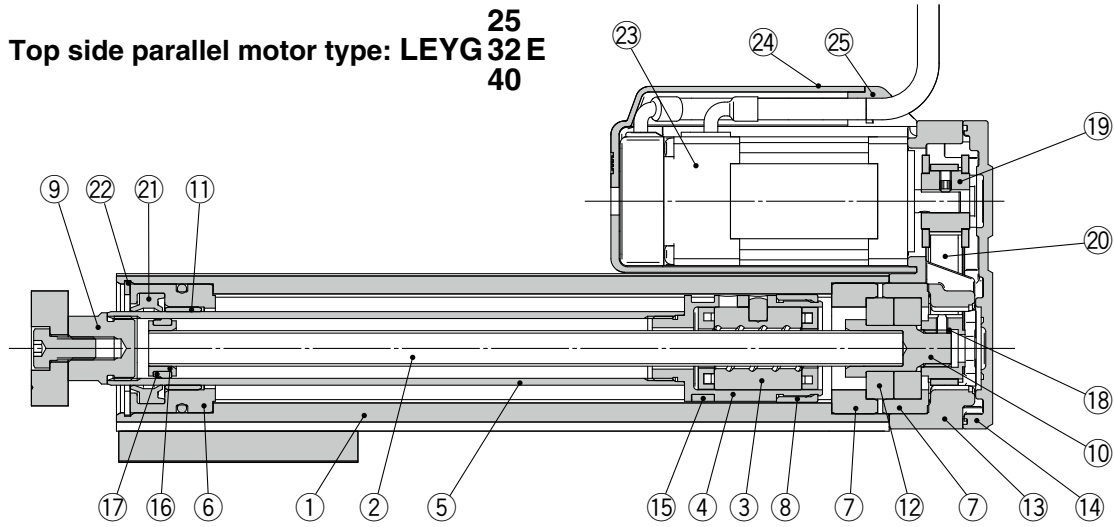
Size	16	25	32	40
Lock/Motor cover	0.16	0.29	0.57	0.57

# LEYG Series

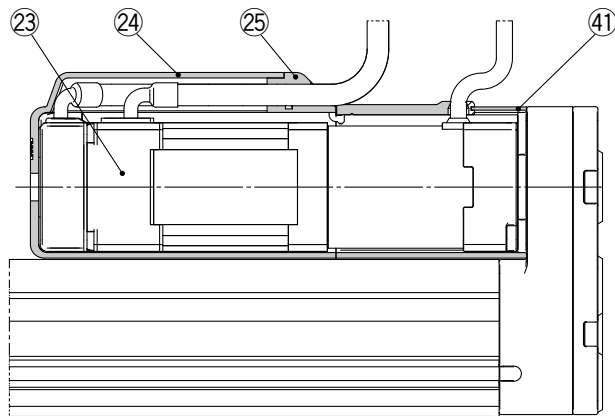
Battery-less Absolute (Step Motor 24 VDC)

## Construction

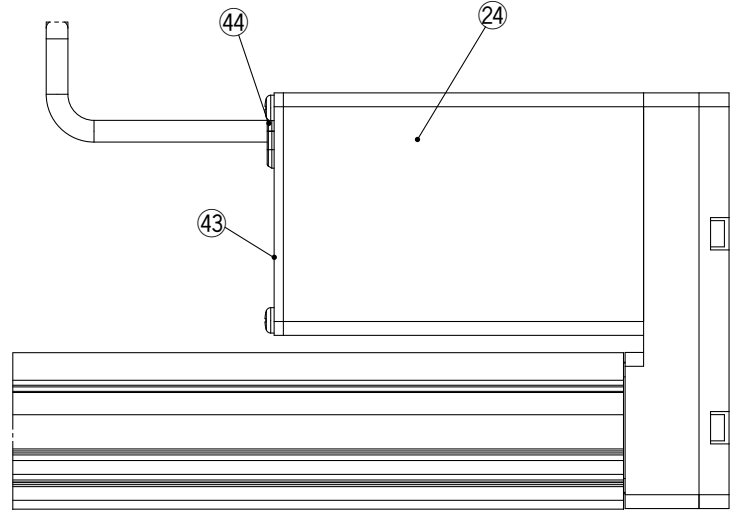
Top side parallel motor type: LEYG 32 E 40



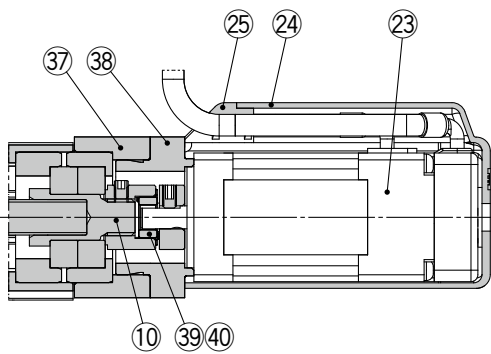
Top side parallel motor type, With lock/motor cover



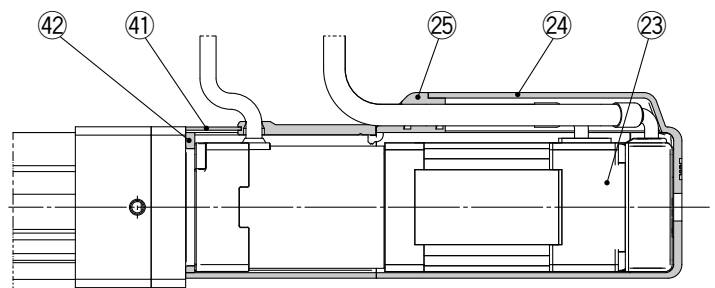
Top side parallel motor type: LEYG16E



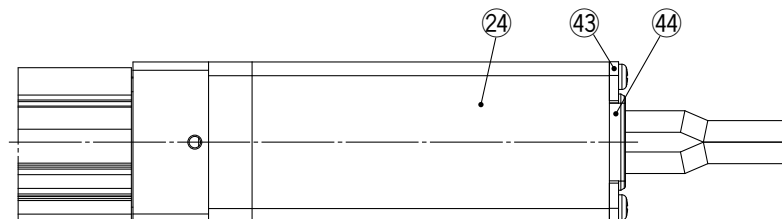
In-line motor type



In-line motor type, With lock/motor cover

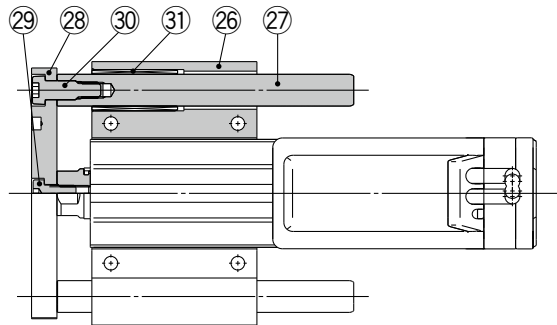


In-line motor type: LEYG16E

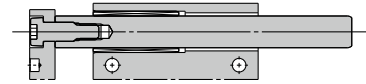


## Construction

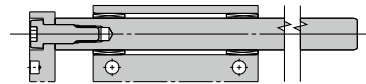
### LEYG□M



LEYG<sup>16</sup><sub>25</sub><sub>32</sub><sub>40</sub>M: 50st or less

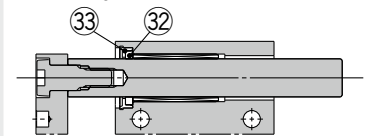


LEYG<sup>16</sup><sub>25</sub><sub>32</sub><sub>40</sub>M: Over 50st

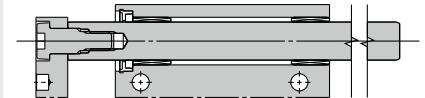


When grease retaining function selected

LEYG<sup>25</sup><sub>32</sub><sub>40</sub>M□□<sup>A</sup><sub>B</sub>-□□F: 50st or less

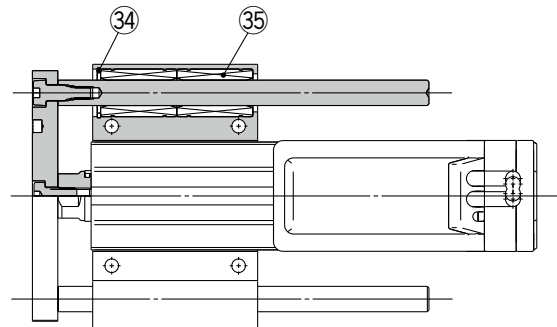


LEYG<sup>25</sup><sub>32</sub><sub>40</sub>M□□<sup>A</sup><sub>B</sub>-□□F: Over 50st



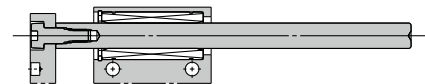
\* Felt material is inserted to retain grease at the sliding part of the sliding bearing. This lengthens the life of the sliding part, but does not guarantee it permanently.

### LEYG□L

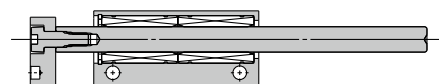


LEYG16L: 30st or less

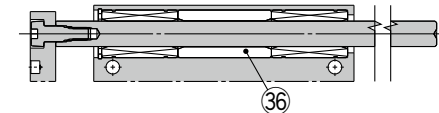
LEYG<sup>25</sup><sub>32</sub><sub>40</sub>L: 100st or less



LEYG16L: Over 30st, 100st or less



LEYG<sup>16</sup><sub>25</sub><sub>32</sub><sub>40</sub>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 coating
23	Motor	—	
24	Motor cover	Aluminum alloy Synthetic resin	Anodized/LEY16 only
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	Synthetic 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"/LEY25, 32, 40
42	Cover support	Aluminum alloy	Only "With lock/motor cover"/LEY25, 32, 40
43	End cover	Aluminum alloy	Anodized/LEY16 only
44	Rubber bushing	NBR	LEY16 only

### Replacement Parts/Belt

No.	Size	Order no.
20	16	LE-D-2-7
	25	LE-D-2-2
	32, 40	LE-D-2-3

### Replacement Parts/Grease Pack

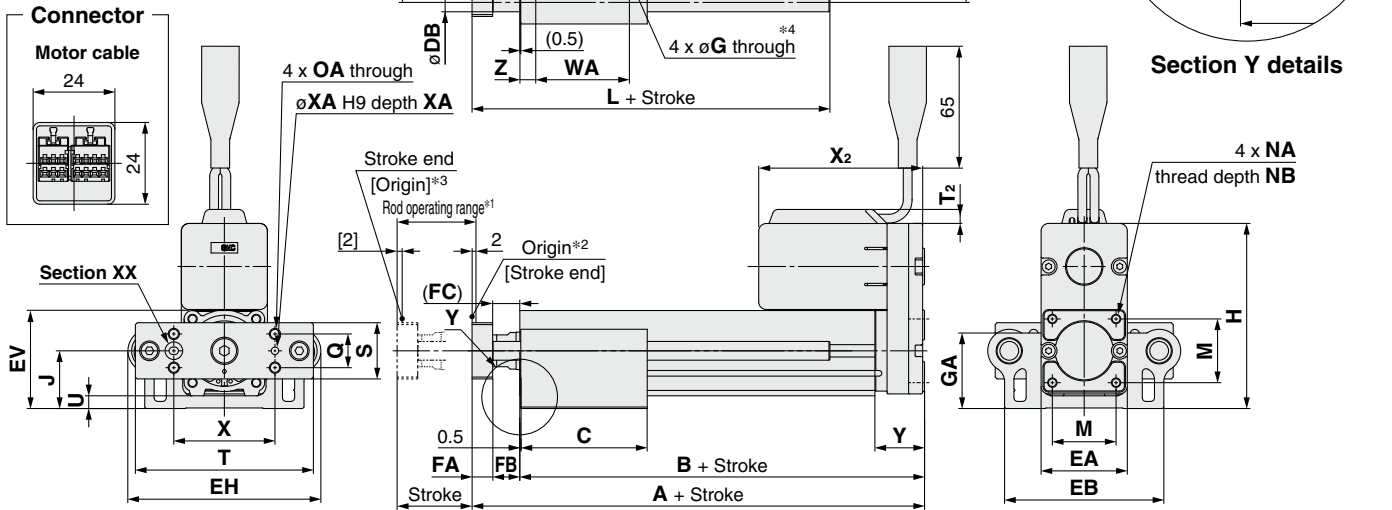
Applied portion	Order no.
Piston rod	GR-S-010 (10 g)
Guide rod	GR-S-020 (20 g)

# LEYG Series

Battery-less Absolute (Step Motor 24 VDC)

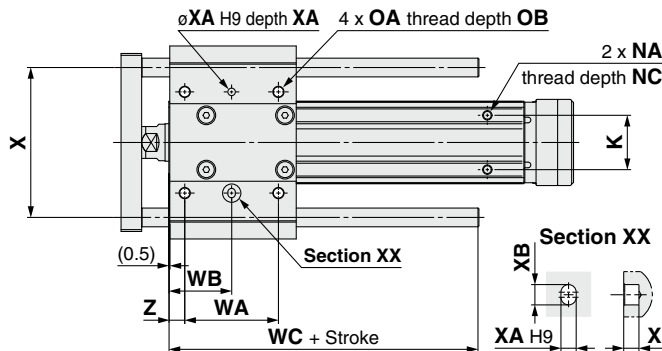
## Dimensions: Top Side Parallel Motor

- \*1 This is the range within which the rod can move when it returns to origin.  
Make sure that workpieces mounted on the rod do not interfere with other workpieces or the 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	30 to 90	75	8
	95 to 100	95	
	105 to 200	105	
25	30 to 110	91	10
	115 to 190	115	
	195 to 300	133	
32	30 to 110	97.5	13
	115 to 190	116.5	
40	195 to 300	134	



LEYG□M (Sliding bearing) [mm]

Size	Stroke range	L	DB
16	30 to 60	51.5	10
	65 to 90	74.5	
	95 to 100	95	
	105 to 200	105	
25	30 to 55	67.5	12
	60 to 185	100.5	
	190 to 300	138	
32	30 to 50	74	16
	55 to 180	107	
	185 to 300	144	

LEYG□M, LEYG□L Common

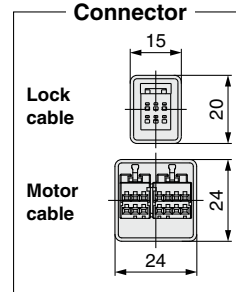
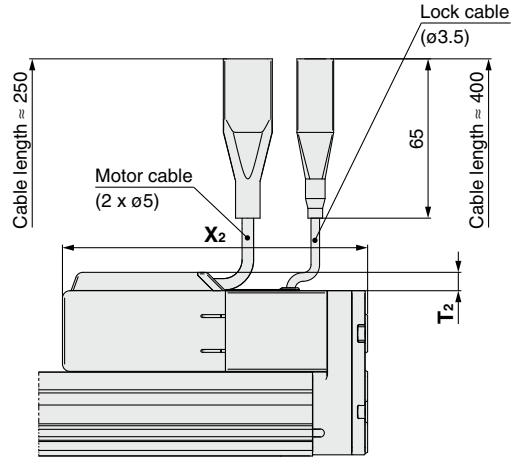
Size	Stroke range	A	B	C	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	M	NA	NB	NC
16	30 to 35	109	90.5	37	16	35	69	83	41.1	8	10.5	8.5	4.3	31.8	97.3	24.8	23	25.5	M4 x 0.7	7	5.5
	52																				
	82																				
25	30 to 35	141.5	116	50	20	46	85	103	52.3	11	14.5	12.5	5.4	40.3	98.8	30.8	29	34	M5 x 0.8	8	6.5
	67.5																				
	84.5																				
	102																				
	102																				
32	30 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
	68																				
	85																				
	102																				
40	30 to 35	190.5	160	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
	68																				
	85																				
	102																				
	102																				

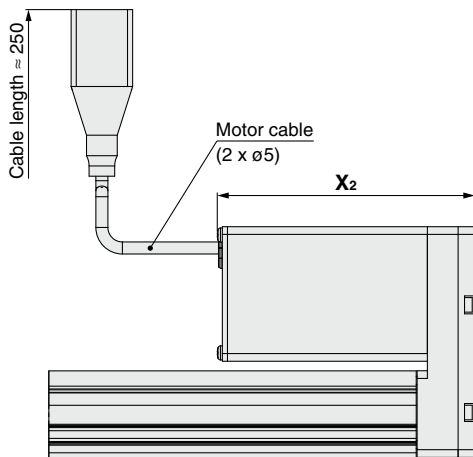
Size	Stroke range	OA	OB	P	Q	S	T	T <sub>2</sub>	U	WA	WB	WC	X <sub>2</sub>		X	XA	XB	Y	Z
													With motor cover	With lock/motor cover					
16	30 to 35	M5 x 0.8	10	65	15	25	79	—	6.8	25	19	55	100.5	145.5	44	3	4	22.5	6.5
	40									26.5									
	70									41.5									
25	30 to 35	M6 x 1.0	12	80	18	30	95	7.5	6.8	35	26	70	88.5	129	54	4	5	26.5	8.5
	40									33.5									
	50									33.5									
	70									43.5									
	85									51									
32	30 to 35	M6 x 1.0	12	95	28	40	117	8.5	7.3	40	28.5	75	98.5	141.5	64	5	6	34	8.5
	40									33.5									
	70									43.5									
	85									51									
40	30 to 35	M6 x 1.0	12	95	28	40	117	8.5	7.3	40	28.5	75	120.5	163.5	64	5	6	34	8.5
	40									28.5									
	50									33.5									
	70									43.5									
	85									51									

**Dimensions: Top Side Parallel Motor**

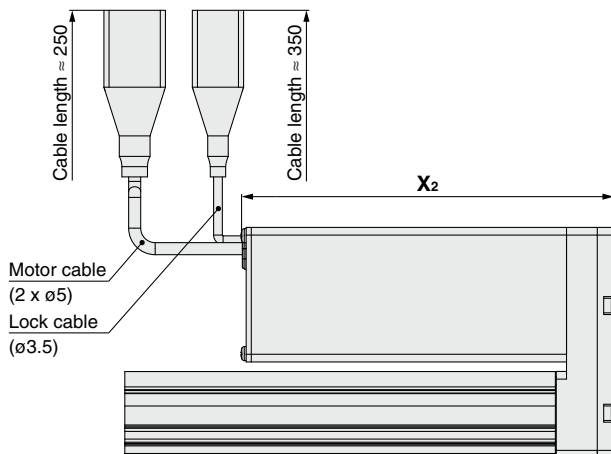
With lock/motor cover: LEYG32E <sup>A</sup>□ <sup>B</sup>□ <sup>C</sup>□W  
 25  
 40



With motor cover: LEYG16EB <sup>A</sup>□ <sup>C</sup>□



With lock/motor cover: LEYG16EB <sup>A</sup>□ <sup>C</sup>□W



# LEYG Series

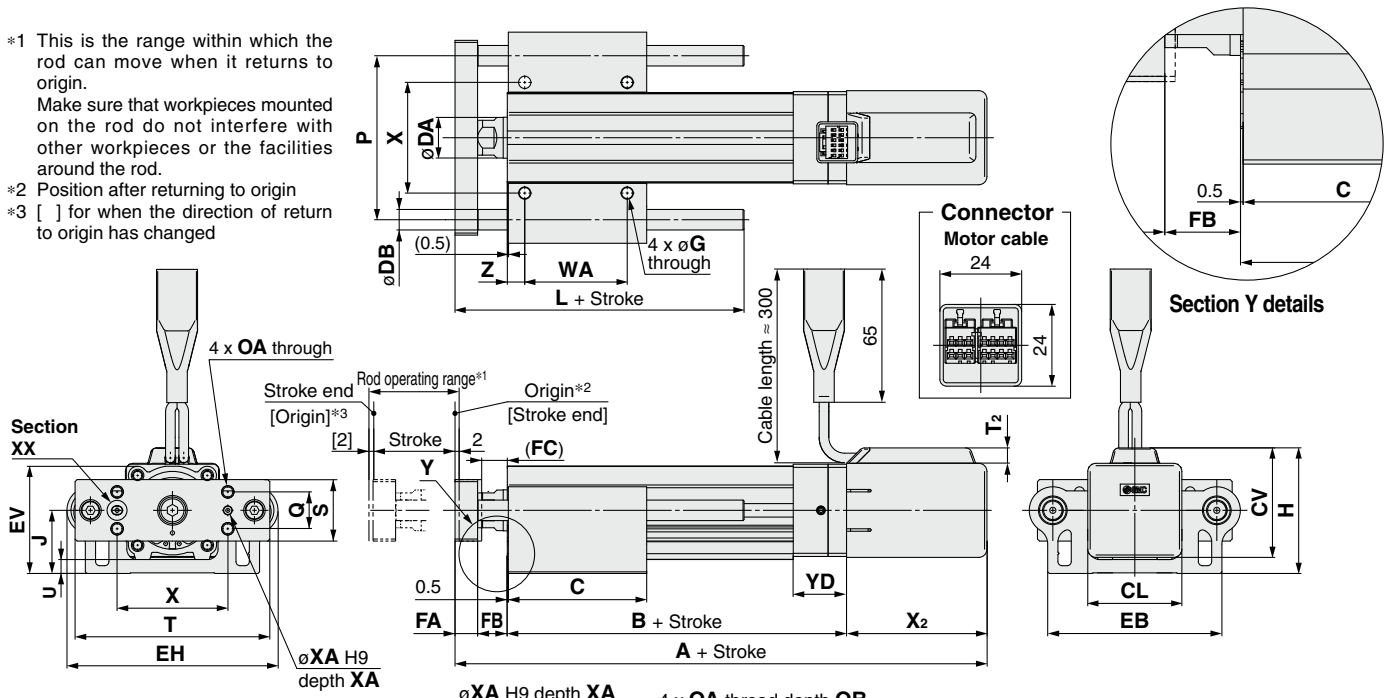
Battery-less Absolute (Step Motor 24 VDC)

## Dimensions: In-line Motor

\*1 This is the range within which the rod can move when it returns to origin.  
Make sure that workpieces mounted on the rod do not interfere with other workpieces or the facilities around the rod.

\*2 Position after returning to origin

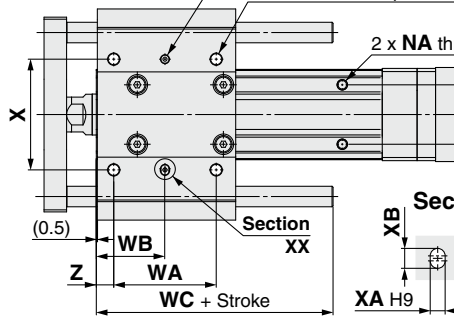
\*3 [ ] for when the direction of return to origin has changed



LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range	L	DB
16	30 to 90	75	8
	95 to 100	95	
	105 to 200	105	
25	30 to 110	91	10
	115 to 190	115	
	195 to 300	133	
32	30 to 110	97.5	13
	115 to 190	116.5	
40	195 to 300	134	

LEYG□M (Sliding bearing) [mm]



LEYG□M (Sliding bearing) [mm]

Size	Stroke range	L	DB
16	30 to 60	51.5	10
	65 to 90	74.5	
	95 to 100	95	
	105 to 200	105	
25	30 to 55	67.5	12
	60 to 185	100.5	
	190 to 300	138	
32	30 to 50	74	16
	55 to 180	107	
40	185 to 300	144	

LEYG□M, LEYG□L Common

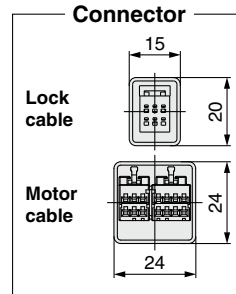
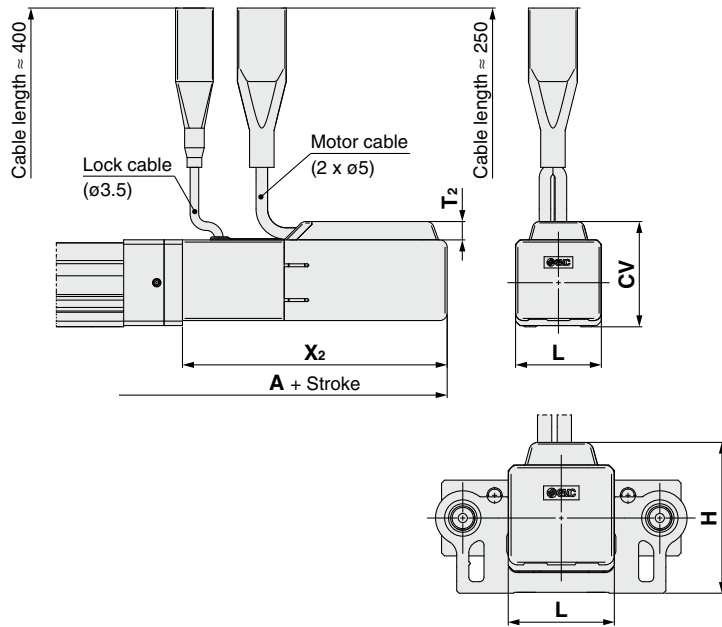
Size	Stroke range	A		B	C	CL	CV	DA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	NA	NC
		Without lock	With lock																		
16	30 to 35	194.5	239.5	94	37	—	—	16	69	83	41.1	8	10.5	8.5	4.3	31.8	*1	24.8	23	M4 x 0.7	5.5
	40 to 100	214.5	259.5	114	52																
	105 to 200	214.5	259.5	114	82																
25	30 to 35	209.5	250	115.5	50																
	40 to 100	209.5	250	115.5	67.5	46	54.5	20	85	103	52.3	11	14.5	12.5	5.4	40.3	61.3	30.8	29	M5 x 0.8	6.5
	105 to 120	234.5	275	140.5	84.5																
	125 to 200	234.5	275	140.5	102																
32	30 to 35	232	275	128	55																
	40 to 100	232	275	128	68	60	68.5	25	101	123	63.8	12	18.5	16.5	5.4	50.3	75.8	38.3	30	M6 x 1.0	8.5
	105 to 120	262	305	158	85																
	125 to 200	262	305	158	102																
40	30 to 35	254	297	128	55																
	40 to 100	254	297	128	68	60	68.5	25	101	123	63.8	12	18.5	16.5	5.4	50.3	75.8	38.3	30	M6 x 1.0	8.5
	105 to 120	284	327	158	85																
	125 to 200	284	327	158	102																

Size	Stroke range	OA	OB	P	Q	S	T	T <sub>2</sub>	U	WA	WB	WC	X	X <sub>2</sub>		XA	XB	YD	Z
														With motor cover	With lock/motor cover				
16	30 to 35	M5 x 0.8	10	65	15	25	79	—	6.8	25	19	55	44	82	127	3	4	24	6.5
	40 to 100									40	26.5	75							
	105 to 200									70	41.5	75							
25	30 to 35	M6 x 1.0	12	80	18	30	95	7.5	6.8	35	26	70	54	68.5	109	4	5	26	8.5
	40 to 100									50	33.5	75							
	105 to 120									70	43.5	95							
	125 to 200									85	51	95							
32	30 to 35	M6 x 1.0	12	95	28	40	117	8.5	7.3	40	28.5	75	64	73.5	116.5	5	6	32	8.5
	40 to 100									50	33.5	75							
	105 to 120									70	43.5	105							
	125 to 200									85	51	105							
40	30 to 35	M6 x 1.0	12	95	28	40	117	8.5	7.3	40	28.5	75	64	95.5	138.5	5	6	32	8.5
	40 to 100									50	33.5	75							
	105 to 120									70	43.5	105							
	125 to 200									85	51	105							

\*1 Refer to page 542.

## Dimensions: In-line Motor

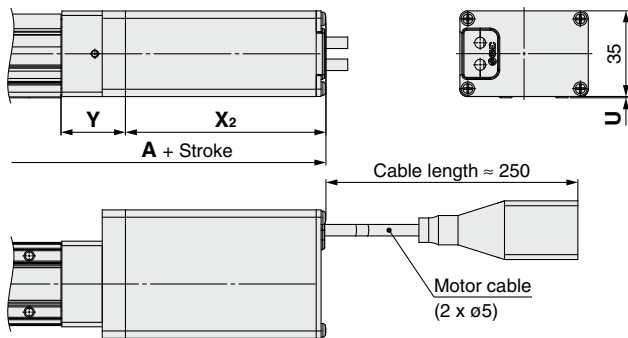
With lock/motor cover: LEYG32DE□B-□W  
 25 A  
 40 C



Size	Stroke range	T <sub>2</sub>	X <sub>2</sub>	L	H	CV
16	Up to 100	7.5	108	35	42.3 <sup>*1</sup>	—
	105 to 200					
25	Up to 100	7.5	109	46	61.3	54.4
	105 to 300					
32	Up to 100	7.5	116.5	60	75.8	68.5
	105 to 300					
40	Up to 100	7.5	138.5	60	75.8	68.5
	105 to 300					

\*1 Refer to the table below.

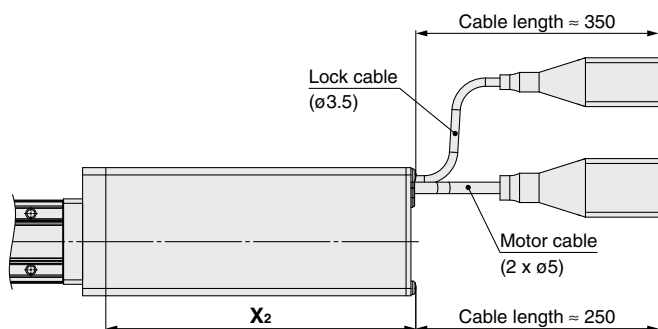
With motor cover: LEYG16D□EB-□C  
 A  
 C



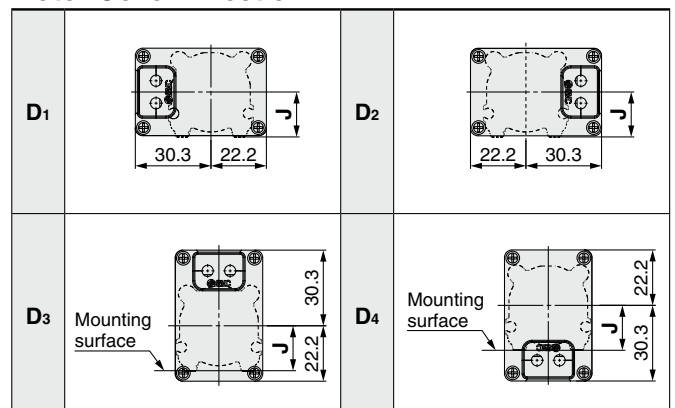
### H Dimensions (Size 16)

Motor cover direction	H
D <sub>1</sub>	42.3
D <sub>2</sub>	42.3
D <sub>3</sub>	55.1
D <sub>4</sub>	47

With lock/motor cover: LEYG16D□EB-□W  
 A  
 C



### Motor Cover Direction





# LEYG Series

Battery-less Absolute (Step Motor 24 VDC)

## Support Block

### ● Guide for support block application

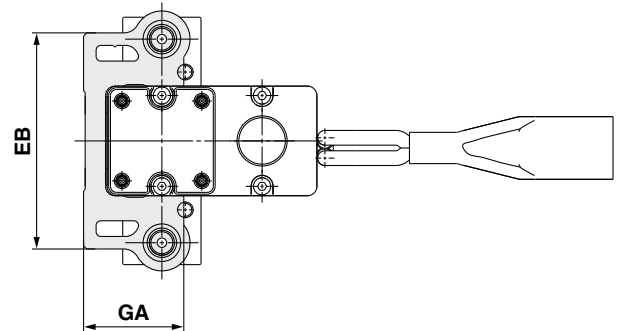
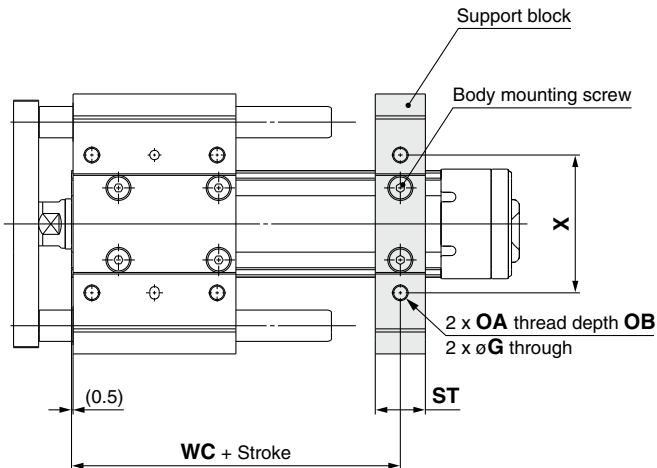
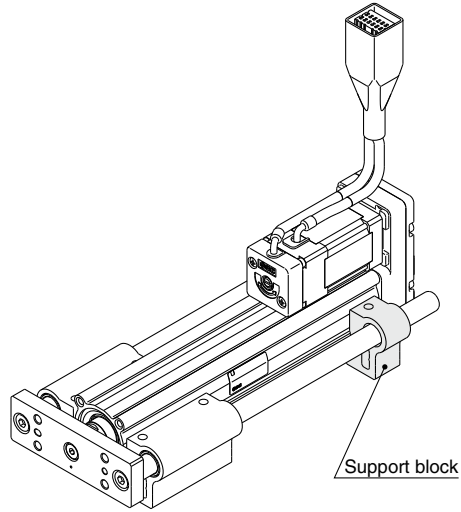
When the stroke exceeds 100 mm and the mounting orientation is horizontal, the body will be bent. Mounting the support block is recommended. (Please order it separately from the models shown below.)

### Support Block Model

## LEYG-S 016

#### ● Size

<b>016</b>	For size 16
<b>025</b>	For size 25
<b>032</b>	For sizes 32, 40



### ⚠ Caution

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

Size	Model	Stroke range	EB	G	GA	OA	OB	ST	WC	X
16	LEYG-S016	Up to 100	69	4.3	31.8	M5 x 0.8	10	16	55	44
		105 to 200							75	
25	LEYG-S025	Up to 100	85	5.4	40.3	M6 x 1.0	12	20	70	54
		105 to 300							95	
32 40	LEYG-S032	Up 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 top side parallel motor type. Use taps on the bottom.





# LEY/LEYG Series

## Battery-less Absolute Encoder Type Specific Product Precautions

Be sure to read this before handling the products. Refer to page 1351 for safety instructions and pages 1352 to 1357 for electric actuator precautions.

### Handling

#### Caution

##### 1. Absolute encoder ID mismatch error at the first connection

In the following cases, an "ID mismatch error" alarm occurs after the power is turned ON. Perform a return to origin operation after resetting the alarm before use.

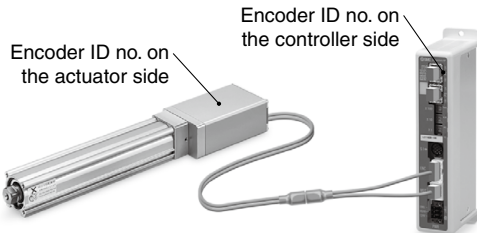
- When an electric actuator is connected and the power is turned ON for the first time after purchase\*1
- When the actuator or motor is replaced
- When the controller is replaced

\*1 If you have purchased an electric actuator and controller with the set part number, the pairing may have already been completed and the alarm may not be generated.

##### "ID mismatch error"

Operation is enabled by matching the encoder ID on the electric actuator side with the ID registered in the controller. This alarm occurs when the encoder ID is different from the registered contents of the controller. By resetting this alarm, the encoder ID is registered (paired) to the controller again.

When a controller is changed after pairing is completed				
	Encoder ID no. (* Numbers below are examples.)			
Actuator	17623	17623	17623	17623
Controller	17623	17699	17699	17623
ID mismatch error occurred?	No	Yes	Error reset ⇒ No	

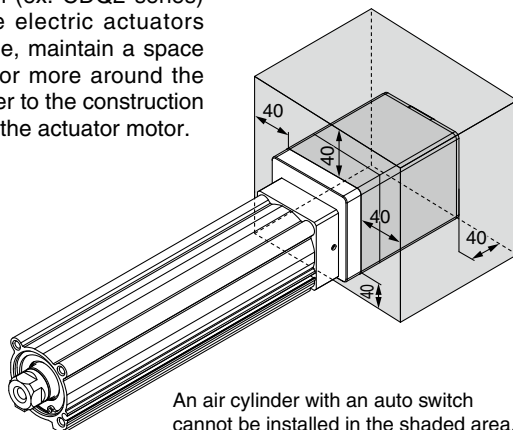


The ID number is automatically checked when the control power supply is turned ON. An error is output if the ID number does not match.

##### 2. In environments where strong magnetic fields are present, use may be limited.

A magnetic sensor is used in the encoder. Therefore, if the actuator motor is used in an environment where strong magnetic fields are present, malfunction or failure may occur. Do not expose the actuator motor to magnetic fields with a magnetic flux density of 1 mT or more.

When installing an electric actuator and an air cylinder with an auto switch (ex. CDQ2 series) or multiple electric actuators side by side, maintain a space of 40 mm or more around the motor. Refer to the construction drawing of the actuator motor.



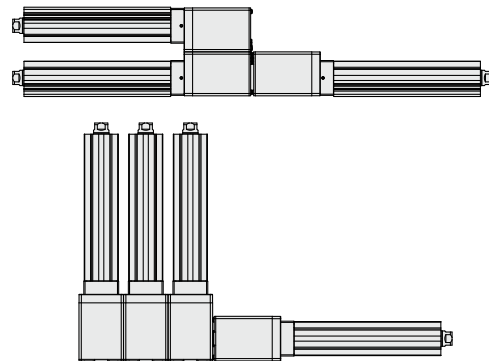
An air cylinder with an auto switch cannot be installed in the shaded area.

##### • When lining up actuators

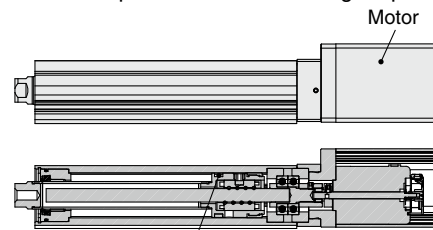
SMC actuators can be used with their motors adjacent to each other. However, for actuators with a built-in auto switch magnet, maintain a space of 40 mm or more between the motors and the position where the magnet passes.

For the LEY series, the magnet is in the piston portion. (Refer to the construction drawings in the catalog for details.)

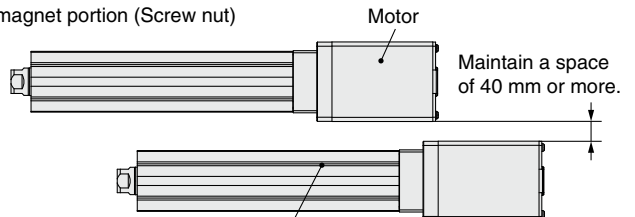
○ Can be used with their motors adjacent to each other



✗ Do not allow the motors to be in close proximity to the position where the magnet passes.



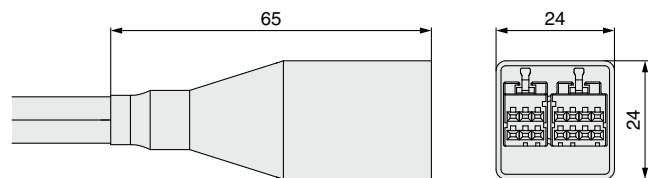
Electric actuator built-in magnet portion (Screw nut)



Electric actuator built-in magnet portion (Table unit)

##### 3. The connector size of the motor cable is different from that of the electric actuator with an incremental encoder.

The motor cable connector of an electric actuator with a battery-less absolute encoder is different from that of an electric actuator with an incremental encoder. As the connector cover dimensions are different, take the dimensions below into consideration during the design process.



Battery-less absolute encoder connector cover dimensions