Electric Actuator
Battery-less Absolute Encoder Type

RoHS

Restart from the last stop position is possible after recovery of the power supply.

Easy operation restart after recovery of the power supply

The position information is held by the encoder even when the power supply is turned off. A return to origin operation is not necessary when the power supply is recovered.

Does not require the use of batteries.

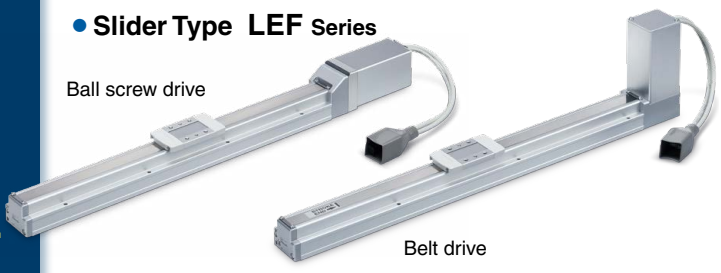
Reduced maintenance

Batteries are not used to store the position information. Therefore, there is no need to store spare batteries or replace dead batteries.

Size 16 has been added.

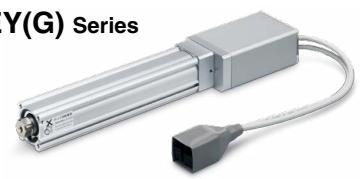
- **Slider Type LEF Series**

Ball screw drive



Belt drive

- **Rod Type LEY(G) Series**

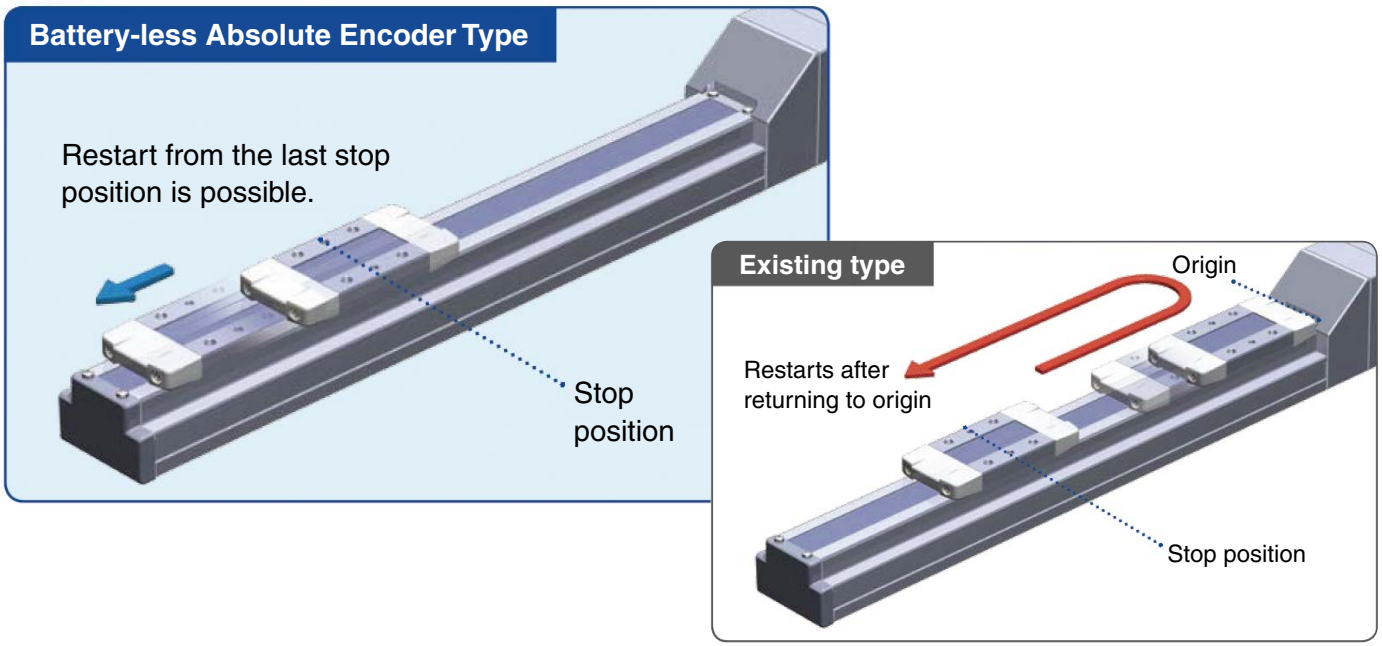


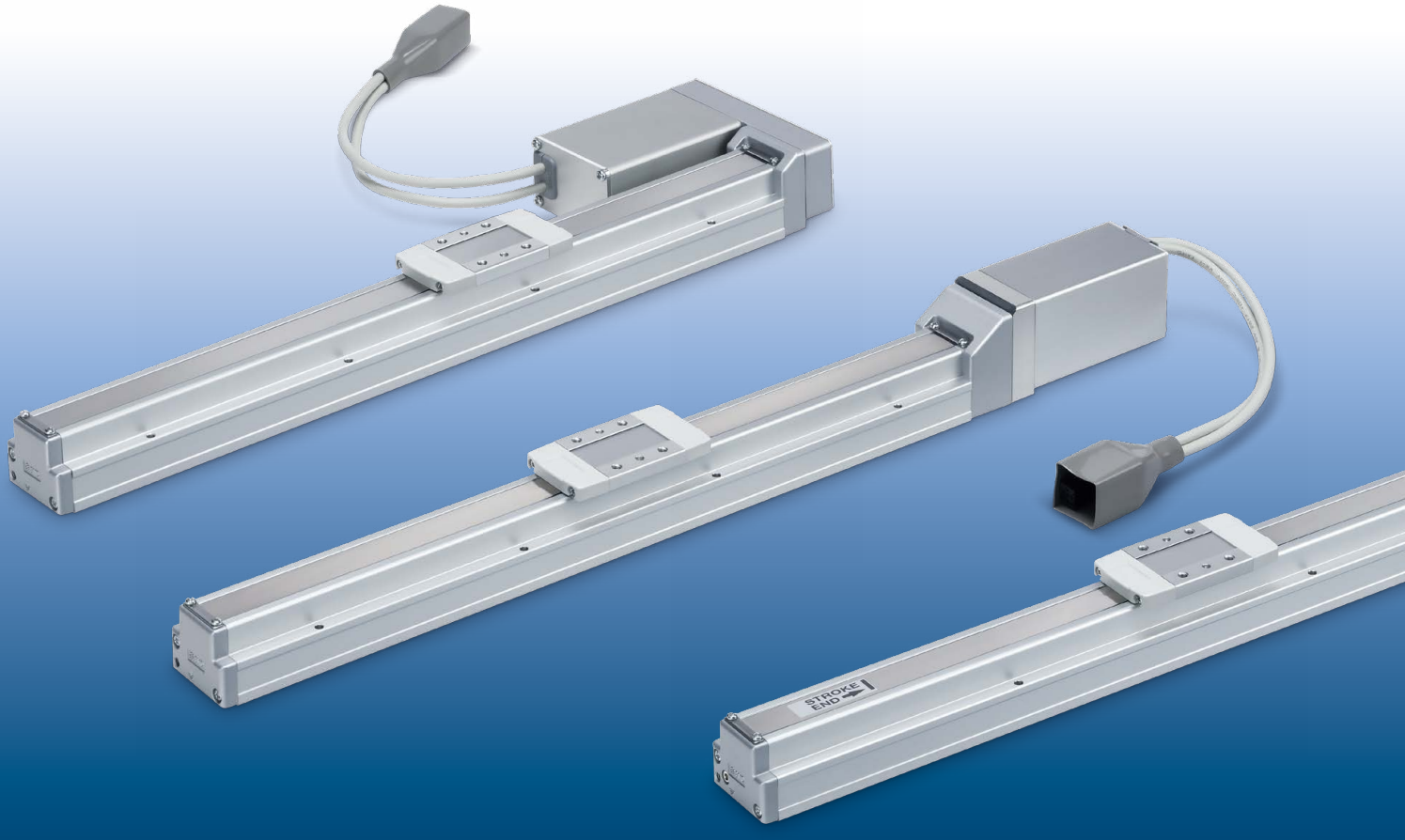
LEF□16E/LEY16E Series

SMC

Easy operation restart after recovery of the power supply

The battery-less absolute encoder mounted on the motor retains position information at all times, regardless of whether the control power supply is ON or OFF. A return to origin operation is not necessary when the power supply is recovered.





Maintenance labor can be reduced as the product does not require the use of batteries.

Batteries are not required to store the position information. Therefore, there is no need to store spare batteries or to recycle and replace dead batteries.

AC servo motor driver

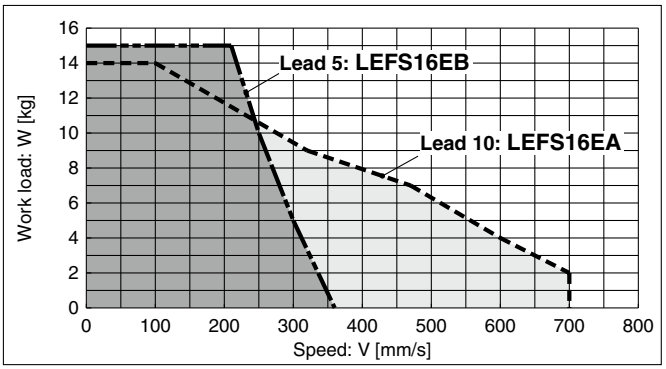
Model Selection

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

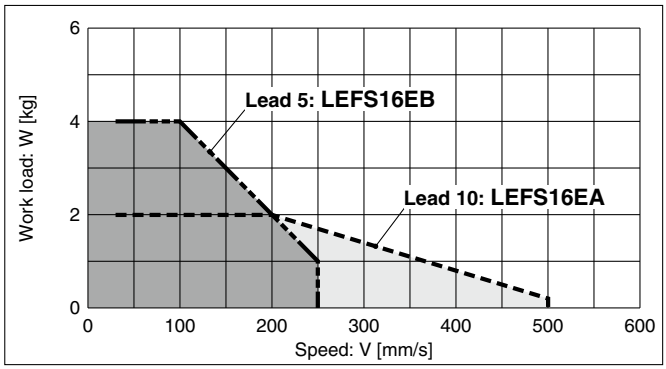
∗ The following graphs show the values when moving force is 100%.

<In-line Motor Type>
LEFS16/Ball Screw Drive

Horizontal

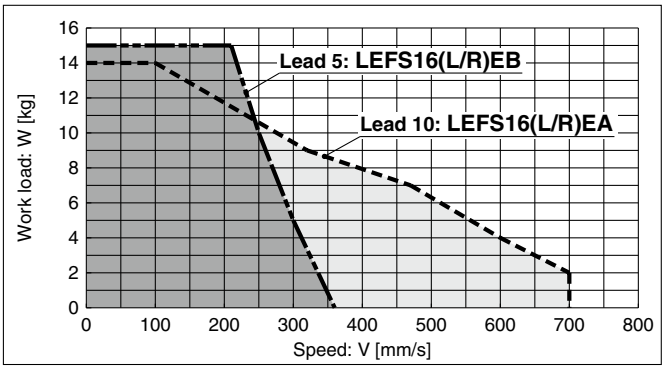


Vertical

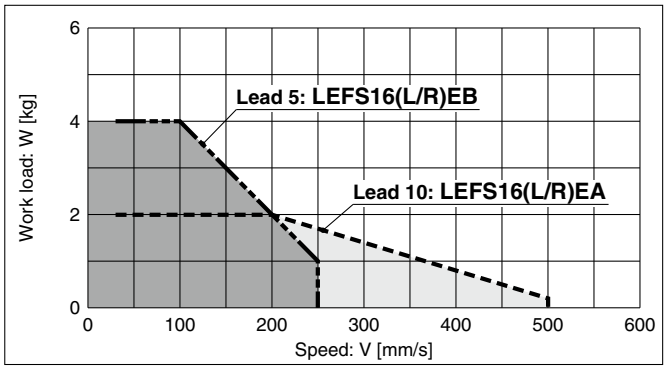


<Motor Parallel Type>
LEFS16(L/R)/Ball Screw Drive

Horizontal

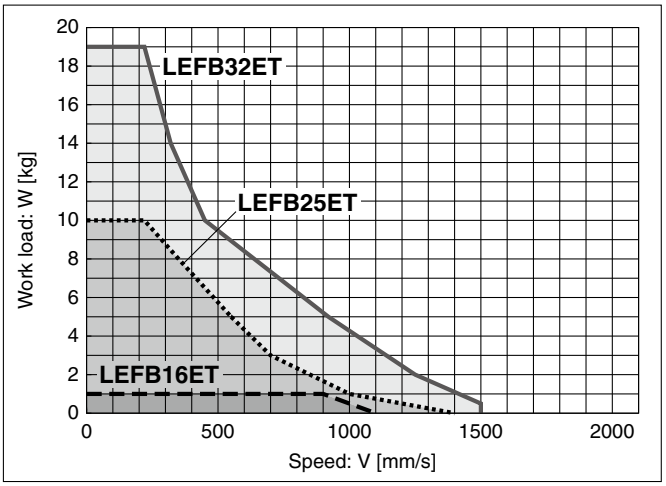


Vertical



LEFB/Belt Drive

Horizontal

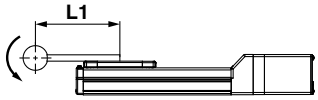


Dynamic Allowable Moment

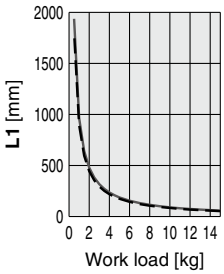
* These graphs show the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to the "Calculation of Guide Load Factor" or the Electric Actuator Model Selection Software for confirmation: https://www.smcworld.com

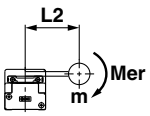
Horizontal/Bottom Acceleration/Deceleration —— 1000 mm/s² – – 3000 mm/s²

Load overhanging direction
m: Work load [kg]
Me: Allowable moment [N·m]
L: Overhang to the work load center of gravity [mm]

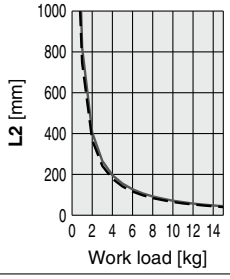


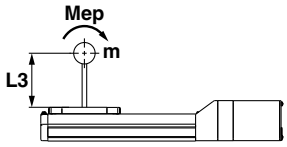
X



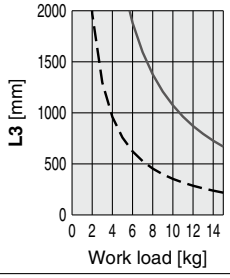


Y



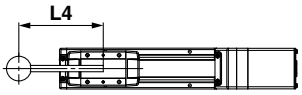


Z

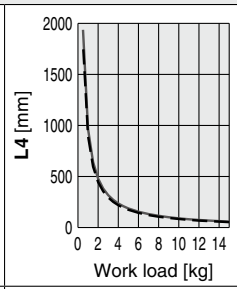


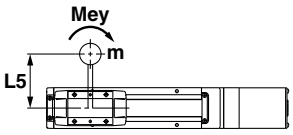
Wall Acceleration/Deceleration —— 1000 mm/s² – – 3000 mm/s²

Load overhanging direction
m: Work load [kg]
Me: Allowable moment [N·m]
L: Overhang to the work load center of gravity [mm]



X





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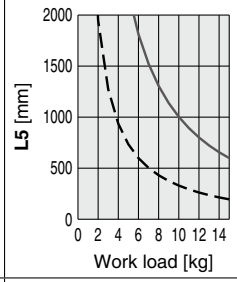
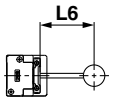
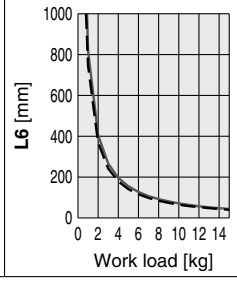


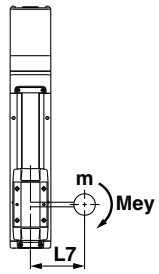


Z

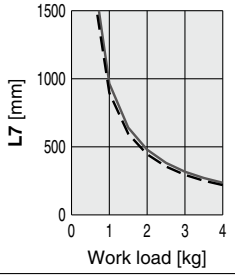


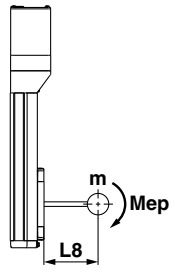
Vertical Acceleration/Deceleration —— 1000 mm/s² – – 3000 mm/s²

Load overhanging direction
m: Work load [kg]
Me: Allowable moment [N·m]
L: Overhang to the work load center of gravity [mm]

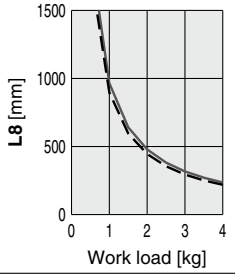


Y





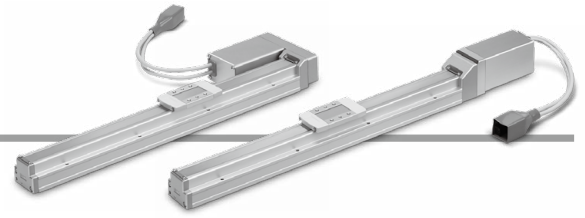
Z



Battery-less Absolute (Step Motor 24 VDC)

Battery-less Absolute Encoder Type
Slider Type/Ball Screw Drive
LEFS16E Series LEFS16

CE RoHS



How to Order

LEFS H 16 R E B – 200 ❻ N K – R1 CD17T

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

For details on controllers, refer to the next page.

❶ Accuracy

Nil	Basic type
H	High-precision type

❷ Size

16

❸ Motor mounting position

Nil	In-line
R	Right side parallel
L	Left side parallel

❹ Motor type

E	Battery-less absolute (Step motor 24 VDC)

❺ Lead [mm]

Symbol	LEFS16
H	—
A	10
B	5

❻ Stroke*1 [mm]

Stroke	Note	
	Size	Applicable stroke
50 to 500	**16**	50, 100, 150, 200, 250, 300, 350, 400, 450, 500

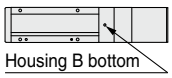
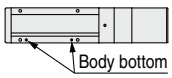
❼ Motor option

Nil	Without option
B	With lock

❽ Grease application (Seal band part)

Nil	With
N	Without (Roller specification)

❾ Positioning pin hole

Nil	Housing B bottom*2	 Housing B bottom
K	Body bottom 2 locations	 Body bottom

❿ Actuator cable type/length

Robotic cable [m]

Nil	None	**R8**	8*3
R1	1.5	**RA**	10*3
R3	3	**RB**	15*3
R5	5	**RC**	20*3

For details on auto switches, refer to the **Web Catalog**.

⓫ Controller

Nil	Without controller
C□1□□	With controller

C D 1 7 T

Interface (Communication protocol/Input/Output)

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

For single axis

Mounting

7	Screw mounting
8∗4	DIN rail

Communication plug connector, I/O cable∗5

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)	

∗1 Please consult with SMC for non-standard strokes as they are produced as special orders.
∗2 For details on the mounting method, refer to the **Web Catalog**.
∗3 Produced upon receipt of order
∗4 The DIN rail is not included. It must be ordered separately.
∗5 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]
EMC compliance was tested by combining the electric actuator LEF 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 page 39.

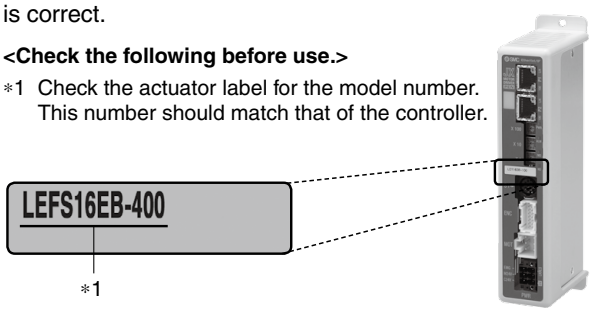
[UL-compliant products]
The JXC series controllers used in combination with electric actuators are UL certified.

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.



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

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	Step data input type
							
Series	**JXCE1**	**JXC91**	**JXCP1**	**JXCD1**	**JXCL1**	**JXCM1**	**JXC51 JXC61**
Features	EtherCAT® direct input	EtherNet/IP™ direct input	PROFINET direct input	DeviceNet™ direct input	IO-Link direct input	CC-Link direct input	Parallel I/O
Compatible motor	Battery-less absolute (Step motor 24 VDC)						
Max. number of step data	64 points						
Power supply voltage	24 VDC						

Specifications

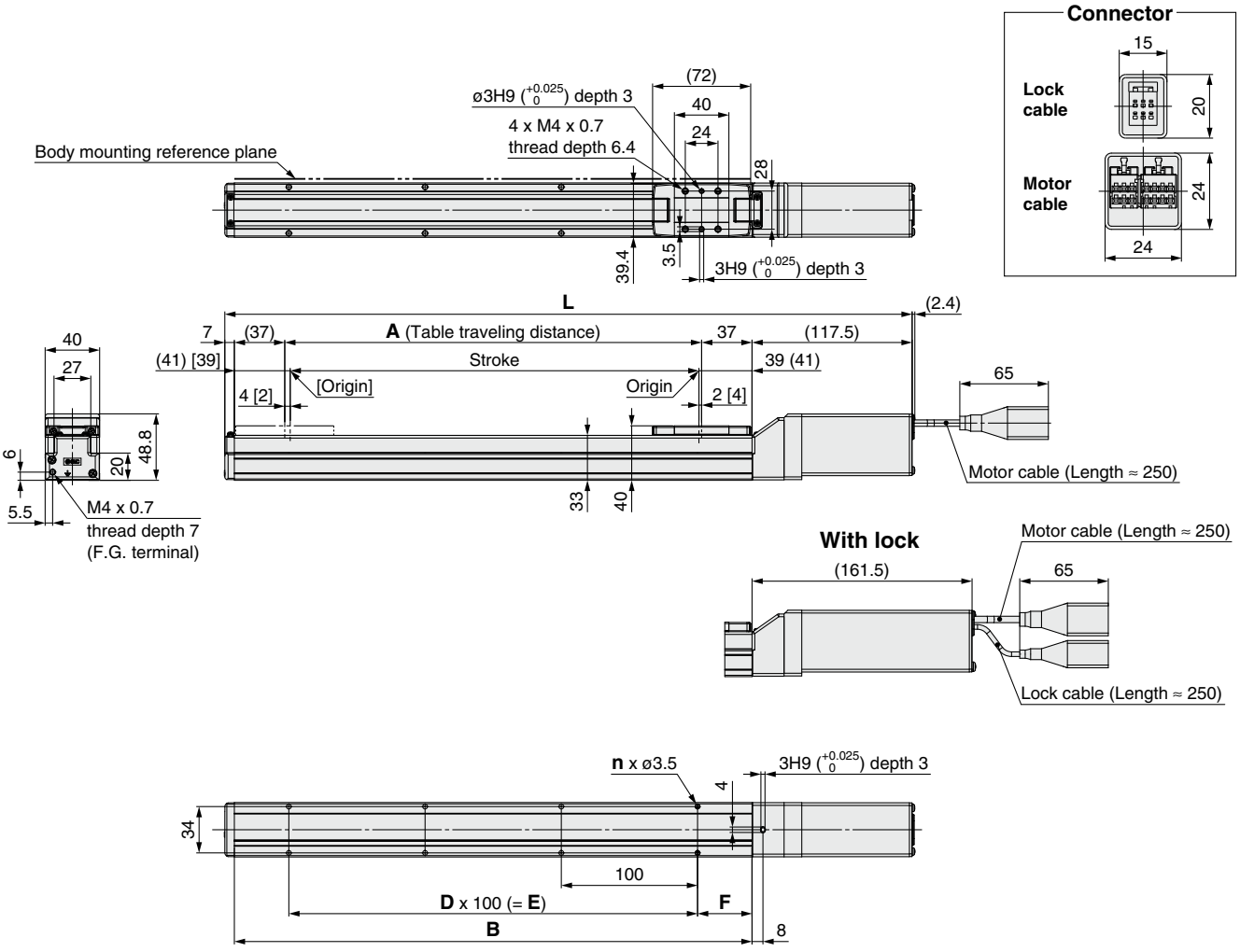
Battery-less Absolute (Step Motor 24 VDC)

Model					LEFS16	
Actuator specifications	Stroke [mm]*1				50 to 500	
	Work load [kg]*2	Horizontal			14	15
		Vertical			2	4
	Speed*2 [mm/s]	In-line	Stroke range	Up to 500	10 to 700	5 to 360
				501 to 600	—	—
				601 to 700	—	—
				701 to 800	—	—
				801 to 900	—	—
				901 to 1000	—	—
				1001 to 1100	—	—
				1101 to 1200	—	—
		Parallel	Stroke range	Up to 500	10 to 700	5 to 360
				501 to 600	—	—
				601 to 700	—	—
				701 to 800	—	—
				801 to 900	—	—
				901 to 1000	—	—
				1001 to 1100	—	—
				1101 to 1200	—	—
	Max. acceleration/deceleration [mm/s²]				3000	
	Positioning repeatability [mm]			Basic type	±0.02	
				High-precision type	±0.015 (Lead H: ±0.02)	
	Lost motion [mm]*3			Basic type	0.1 or less	
				High-precision type	0.05 or less	
	Lead [mm]				10	5
	Impact/Vibration resistance [m/s²]*4				50/20	
	Actuation type				Ball screw (LEFS□), Ball screw + Belt (LEFS□B)	
	Guide type				Linear guide	
	Operating temperature range [°C]				5 to 40	
	Operating humidity range [%RH]				90 or less (No condensation)	
Electric specifications	Motor size				□28	
	Motor type				Battery-less absolute (Step motor 24 VDC)	
	Encoder				Battery-less absolute (4096 pulse/rotation)	
	Rated voltage [V]				24 VDC ±10%	
	Power consumption [W]*5				22	
	Standby power consumption when operating [W]*6				18	
	Max. instantaneous power consumption [W]*7				51	
Lock unit specifications	Type*8				Non-magnetizing lock	
	Holding force [N]				20	39
	Power consumption [W]*9				2.9	
	Rated voltage [V]				24 VDC ±10%	

*1 Please consult with SMC for non-standard strokes as they are produced as special orders.
*2 Speed changes according to the work load. Check the "Speed–Work Load Graph (Guide)" on page 3.
Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.
*3 A reference value for correcting an error in reciprocal operation
*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 power consumption (including the controller) is for when the actuator is operating.
*6 The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation.
*7 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.
*8 With lock only
*9 For an actuator with lock, add the power consumption for the lock.

Dimensions: In-line Motor

LEFS16



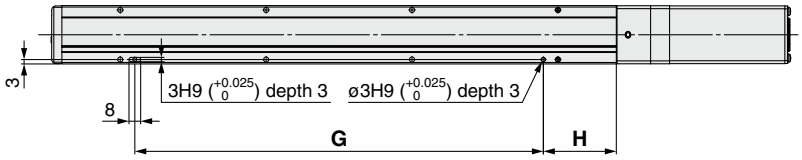
Dimensions [mm]

Stroke	L		A	B	n	D	E	F
	Without lock	With lock						
50	254.5	298.5	56	130	4	—	—	15
100	304.5	348.5	106	180				40
150	354.5	398.5	156	230				
200	404.5	448.5	206	280	6	2	200	
250	454.5	498.5	256	330				
300	504.5	548.5	306	380	8	3	300	
350	554.5	598.5	356	430				
400	604.5	648.5	406	480	10	4	400	
450	654.5	698.5	456	530				
500	704.5	748.5	506	580	12	5	500	

Dimensions: In-line Motor

LEFS16

Positioning pin hole (Option): Body bottom

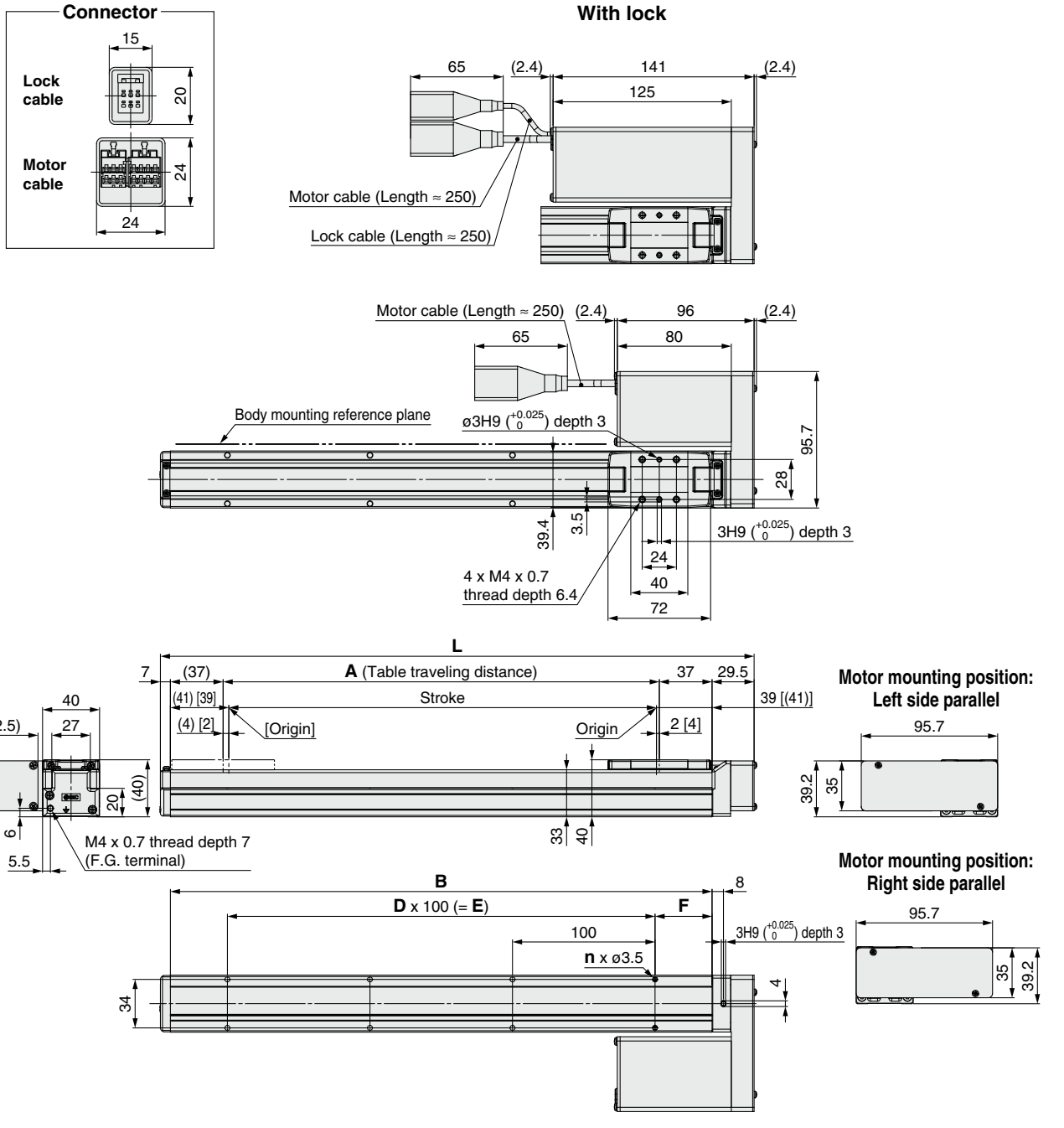


Dimensions [mm]

Stroke	Positioning pin hole: K	
	G	H
50	80	25
100		50
150		
200	180	
250		
300	280	
350		
400	380	
450		
500	480	

Dimensions: Motor Parallel

LEFS16R



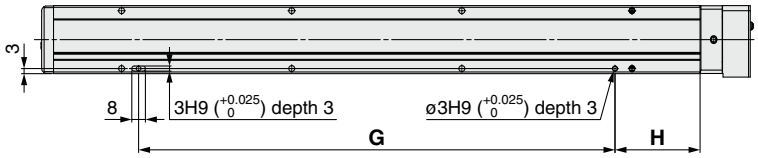
Dimensions [mm]

Stroke	L	A	B	n	D	E	F
50	166.5	56	130	4	—	—	15
100	216.5	106	180				40
150	266.5	156	230				
200	316.5	206	280	6	2	200	
250	366.5	256	330				
300	416.5	306	380	8	3	300	
350	466.5	356	430				
400	516.5	406	480	10	4	400	
450	566.5	456	530				
500	616.5	506	580	12	5	500	

Dimensions: Motor Parallel

LEFS16R

Positioning pin hole (Option): Body bottom

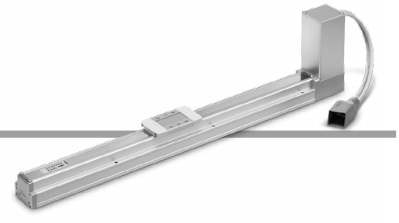


Dimensions [mm]

Stroke	Positioning pin hole: K	
	G	H
50	80	25
100		50
150		
200	180	
250		
300	280	
350		
400	380	
450		
500	480	

Battery-less Absolute (Step Motor 24 VDC)

Battery-less Absolute Encoder Type
Slider Type/Belt Drive
LEFB16E Series LEFB16



How to Order

LEFB 16 E T – 500 [ ] N K – R1 CD17T

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

For details on controllers, refer to the next page.

❶ Size

16

❷ Motor type

E	Battery-less absolute (Step motor 24 VDC)

❸ Equivalent lead [mm]

T	48

❹ Stroke*1 [mm]

Stroke	Note	
	Size	Applicable stroke
300 to 1000	**16**	300, 500, 600, 700, 800, 900, 1000

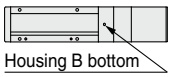
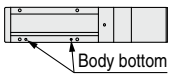
❺ Motor option

Nil	Without option
B	With lock

❻ Grease application (Seal band part)

Nil	With
N	Without (Roller specification)

❼ Positioning pin hole

Nil	Housing B bottom*2	
K	Body bottom 2 locations	

❽ Actuator cable type/length

Robotic cable [m]

Nil	None	**R8**	8*3
R1	1.5	**RA**	10*3
R3	3	**RB**	15*3
R5	5	**RC**	20*3

The belt drive actuator cannot be used for vertical applications.

For details on auto switches, refer to the **Web Catalog**.

⑨ Controller

Nil	Without controller
C□1□□	With controller

C D 1 7 T

Interface (Communication protocol/Input/Output)

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

For single axis

Mounting

7	Screw mounting
8∗4	DIN rail

Communication plug connector, I/O cable∗5

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)	

∗1 Please consult with SMC for non-standard strokes as they are produced as special orders.
∗2 For details on the mounting method, refer to the **Web Catalog**.
∗3 Produced upon receipt of order
∗4 The DIN rail is not included. It must be ordered separately.
∗5 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]
EMC compliance was tested by combining the electric actuator LEF 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 page 39.

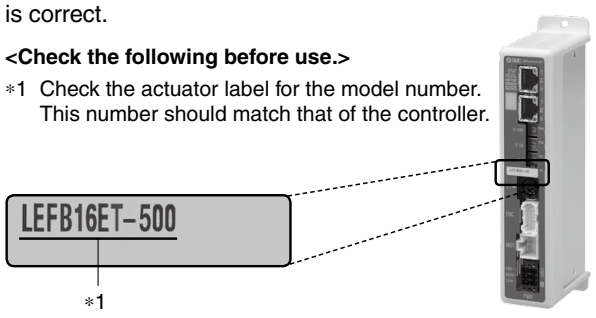
[UL-compliant products]
The JXC series controllers used in combination with electric actuators are UL certified.

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.



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

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	Step data input type
							
Series	**JXCE1**	**JXC91**	**JXCP1**	**JXCD1**	**JXCL1**	**JXCM1**	**JXC51 JXC61**
Features	EtherCAT® direct input	EtherNet/IP™ direct input	PROFINET direct input	DeviceNet™ direct input	IO-Link direct input	CC-Link direct input	Parallel I/O
Compatible motor	Battery-less absolute (Step motor 24 VDC)						
Max. number of step data	64 points						
Power supply voltage	24 VDC						

Specifications

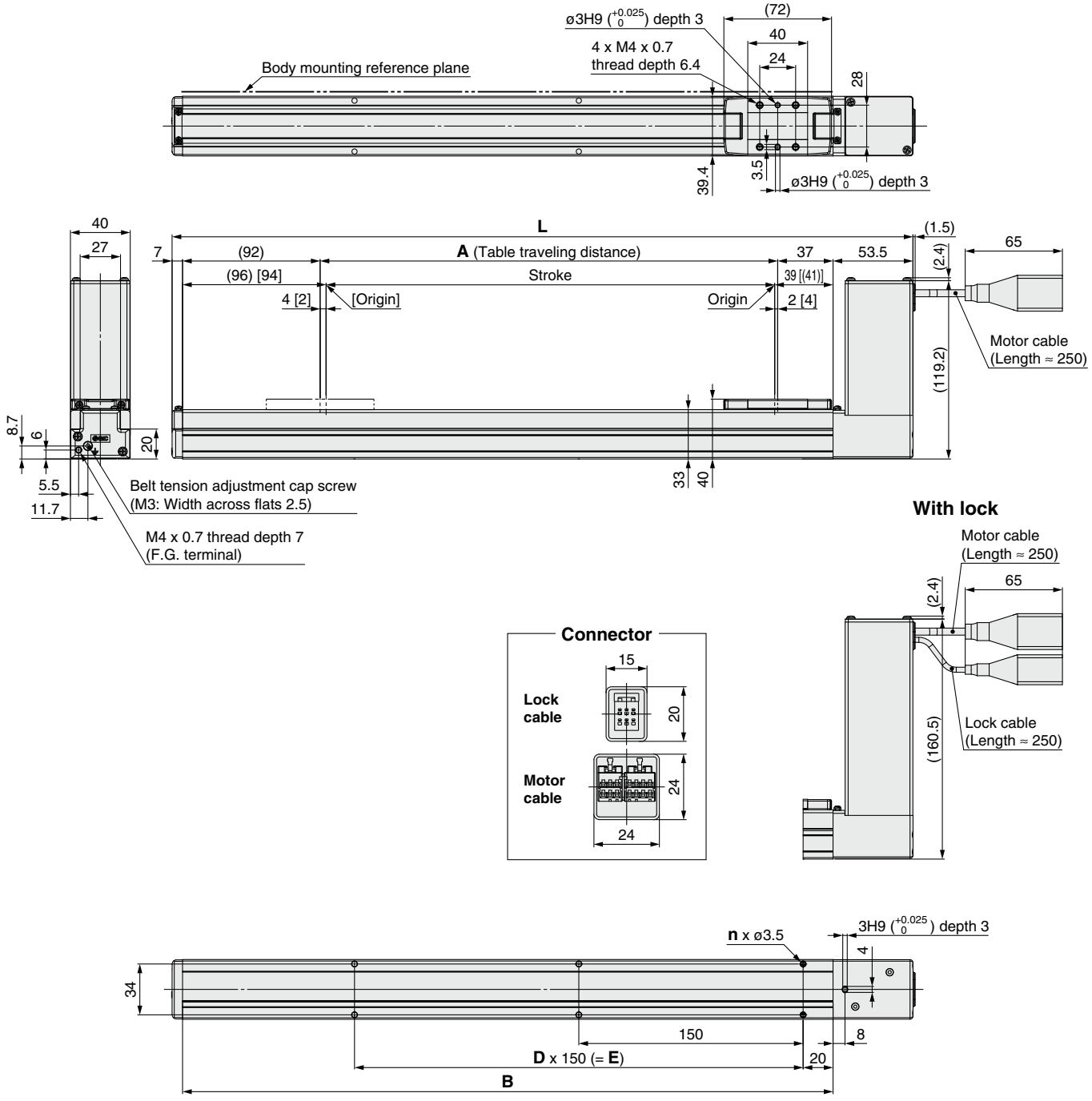
Battery-less Absolute (Step Motor 24 VDC)

Model			LEFB16
Actuator specifications	Stroke [mm]*1		300, 500, 600, 700 800, 900, 1000
	Work load [kg]*2	Horizontal	1
	Speed [mm/s]*2		48 to 1100
	Max. acceleration/deceleration [mm/s²]		3000
	Positioning repeatability [mm]		±0.08
	Lost motion [mm]*3		0.1 or less
	Equivalent lead [mm]		48
	Impact/Vibration resistance [m/s²]*4		50/20
	Actuation type		Belt
	Guide type		Linear guide
	Operating temperature range [°C]		5 to 40
	Operating humidity range [%RH]		90 or less (No condensation)
Electric specifications	Motor size		□28
	Motor type		Battery-less absolute (Step motor 24 VDC)
	Encoder		Battery-less absolute (4096 pulse/rotation)
	Rated voltage [V]		24 VDC ±10%
	Power consumption [W]*5		24
	Standby power consumption when operating [W]*6		18
	Max. instantaneous power consumption [W]*7		51
Lock unit specifications	Type*8		Non-magnetizing lock
	Holding force [N]		4
	Power consumption [W]*9		2.9
	Rated voltage [V]		24 VDC ±10%

*1 Please consult with SMC for non-standard strokes as they are produced as special orders.
*2 Speed changes according to the controller/driver type and work load. Check the "Speed–Work Load Graph (Guide)" on page 3. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m. Cannot be used for vertical applications
*3 A reference value for correcting an error in reciprocal operation
*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 power consumption (including the controller) is for when the actuator is operating.
*6 The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation.
*7 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.
*8 With lock only
*9 For an actuator with lock, add the power consumption for the lock.

Dimensions: Belt Drive

LEFB16



Dimensions [mm]

Stroke	L	A	B	n	D	E
300	495	306	435	6	2	300
500	695	506	635	10	4	600
600	795	606	735			
700	895	706	835	12	5	750
800	995	806	935	14	6	900
900	1095	906	1035			
1000	1195	1006	1135	16	7	1050

Dimensions: Belt Drive

LEFB16

Positioning pin hole (Option): Body bottom

Dimensions [mm]

Stroke	Positioning pin hole: K G
300	280
500	580
600	
700	730
800	880
900	
1000	1030

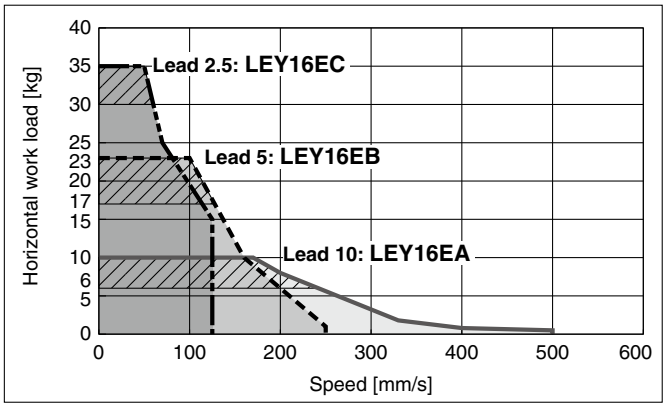
LEY16E Series
Model Selection

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

Items not listed are the same as those of the standard product. For details, refer to the **Web Catalog**.

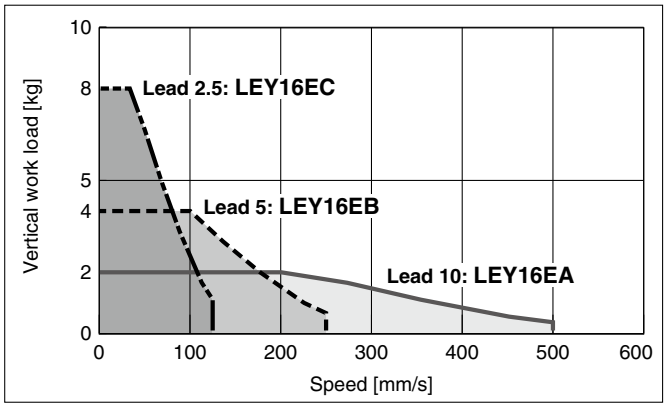
Horizontal

LEY16□E



Vertical

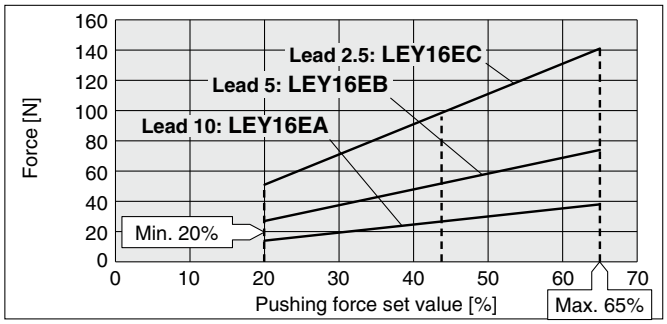
LEY16□E



Force Conversion Graph (Guide)

Battery-less Absolute (Step Motor 24 VDC)

LEY16□E



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
30°C or less	65 or less	100	—
40°C	40 or less	100	—
	50	30	45 or less
	60	18	15 or less
	65	15	10 or less

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

Model	Lead	Pushing speed [mm/s]	Pushing force (Setting input value)
LEY16□E	A/B/C	21 to 50	45 to 65%

<Set Values for Vertical Upward Transfer Pushing Operations>

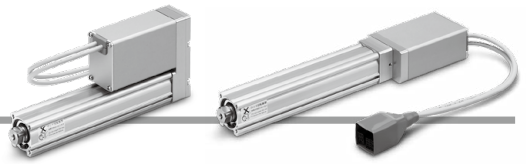
Model	LEY16□E		
Lead	**A**	**B**	**C**
Work load [kg]	1	1.5	3
Pushing force	65%		

Battery-less Absolute (Step Motor 24 VDC)

Battery-less Absolute Encoder Type
Rod Type
LEY16E Series LEY16

RoHS

How to Order



Motor mounting position: Top

Motor mounting position: In-line

LEY 16 ❶ E ❷ B ❸ – 30 ❹ C ❺ ❻ ❼ – R1 ❽ CD17T ❾

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❿ For details on controllers, refer to the next page.

❶ Size

16

❷ Motor mounting position/Motor cover direction

Symbol	Motor mounting position	Motor cover direction
Nil	Top mounting	—
D1	In-line	Left
D2		Right
D3		Top
D4		Bottom

❸ Motor type

E	Battery-less absolute (Step motor 24 VDC)

❹ Lead [mm]

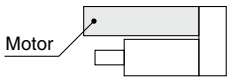
Symbol	LEY16
A	10
B	5
C	2.5

❺ Stroke*1 [mm]

Stroke	Note	
	Size	Applicable stroke
30 to 300	**16**	30, 50, 100, 150, 200, 250, 300

❻ Motor option*2

C	With motor cover
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	In-line
Nil	Ends tapped/ Body bottom tapped	●	●
L	Foot	●	—
F	Rod flange	●*5	●
G	Head flange	●	—
D	Double clevis*4	●	—

❾ Actuator cable type/length

Robotic cable [m]

Nil	None	**R8**	8*6
R1	1.5	**RA**	10*6
R3	3	**RB**	15*6
R5	5	**RC**	20*6

⑩ Controller

Nil	Without controller
C□1□□	With controller

C D 1 7 T

Interface (Communication protocol/Input/Output)

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

For single axis

Mounting

7	Screw mounting
8∗7	DIN rail

Communication plug connector, I/O cable∗8

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)	

∗1 Please consult with SMC for non-standard strokes as they are produced as special orders.
∗2 When "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 with strokes of 50 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 mounting of the double clevis type, use the actuator within the following stroke range.
· LEY16: 100 or less
∗5 The rod flange type is not available for the LEY16 with strokes of 50 mm or less and motor option "With lock/motor cover."
∗6 Produced upon receipt of order
∗7 The DIN rail is not included. It must be ordered separately.
∗8 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]
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 page 39.

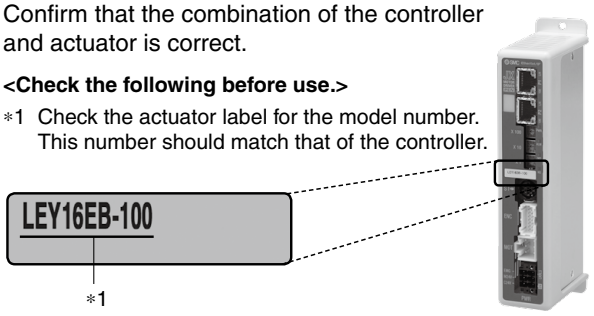
[UL-compliant products]
The JXC series controllers used in combination with electric actuators are UL certified.

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.



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

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	Step data input type
							
Series	**JXCE1**	**JXC91**	**JXCP1**	**JXCD1**	**JXCL1**	**JXCM1**	**JXC51 JXC61**
Features	EtherCAT® direct input	EtherNet/IP™ direct input	PROFINET direct input	DeviceNet™ direct input	IO-Link direct input	CC-Link direct input	Parallel I/O
Compatible motor	Battery-less absolute (Step motor 24 VDC)						
Max. number of step data	64 points						
Power supply voltage	24 VDC						

Specifications

Battery-less Absolute (Step Motor 24 VDC)

Model				LEY16□E		
Actuator specifications	Work load [kg]*1	Horizontal	(3000 [mm/s²])	6	17	30
			(2000 [mm/s²])	10	23	35
		Vertical	(3000 [mm/s²])	2	4	8
	Pushing force [N]*2*3*4			14 to 38	27 to 74	51 to 141
	Speed [mm/s]*4			15 to 500	8 to 250	4 to 125
	Max. acceleration/deceleration [mm/s²]			3000		
	Pushing speed [mm/s]*5			50 or less		
	Positioning repeatability [mm]			±0.02		
	Lost motion [mm]*6			0.1 or less		
	Screw lead [mm]			10	5	2.5
	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		
	Motor type			Battery-less absolute (Step motor 24 VDC)		
	Encoder			Battery-less absolute (4096 pulse/rotation)		
	Rated voltage [V]			24 VDC ±10%		
	Power consumption [W]*8			23		
	Standby power consumption when operating [W]*9			16		
	Max. instantaneous power consumption [W]*10			43		
Lock unit specifications	Type*11			Non-magnetizing lock		
	Holding force [N]			20	39	78
	Power consumption [W]*12			2.9		
	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 page 18.
Vertical: Speed changes according to the work load. Check the "Model Selection" on page 18.
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□E are 20% to 65%.
The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" in the **Web Catalog**.

*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 operations. 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

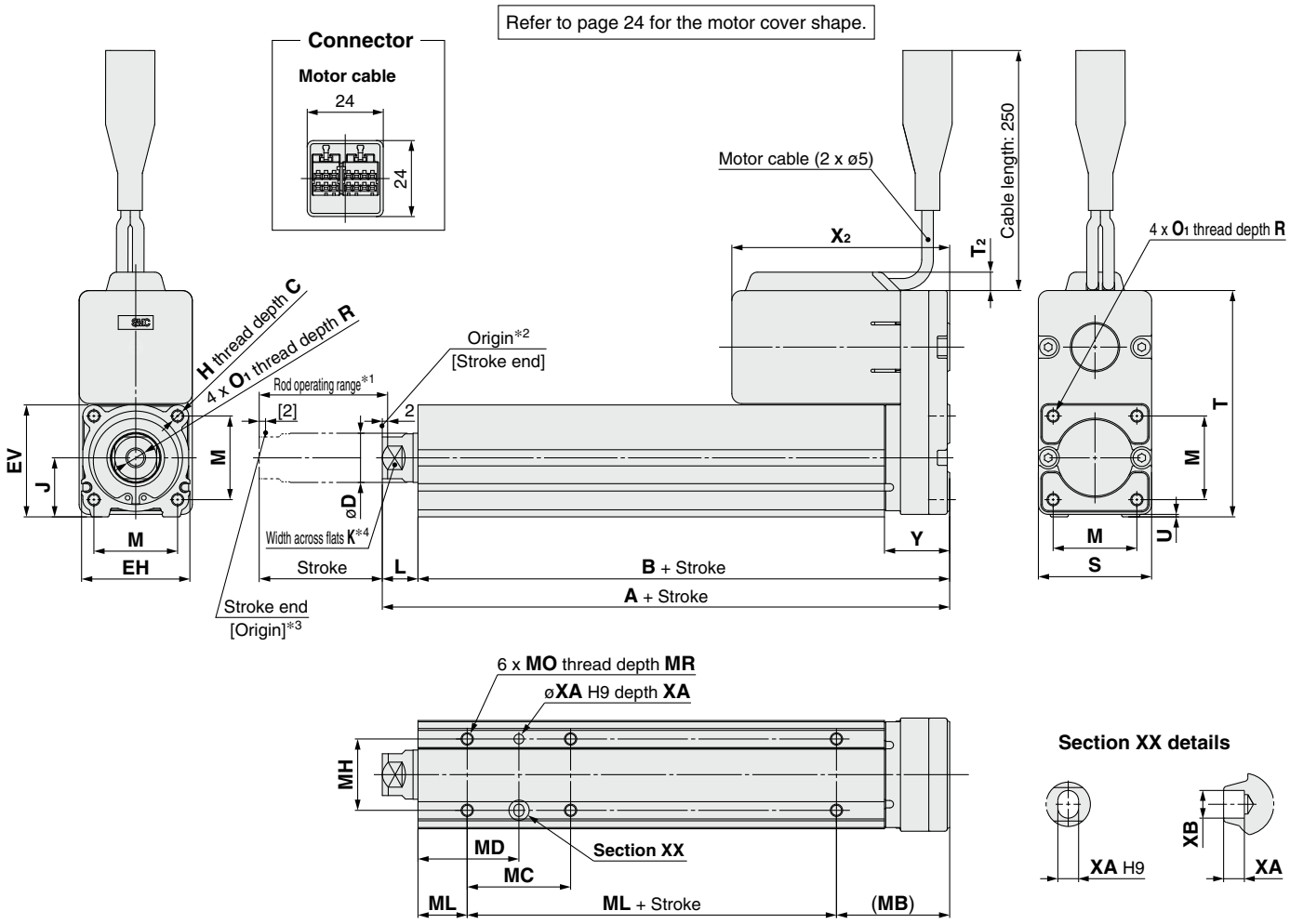
*10 The maximum instantaneous power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.

*11 With lock only

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

LEYG16E Series	LEY16E Series	LEFB16E Series	LEFS16E Series

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 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	T_2	U	V	X_2 Without lock	X_2 With lock	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	90.5	—	0.5	28	100.5	145.5	22.5
	101 to 300	121	110.5																			

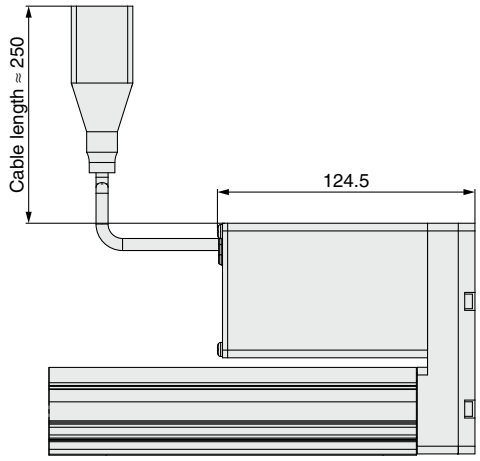
Body Bottom Tapped

[mm]

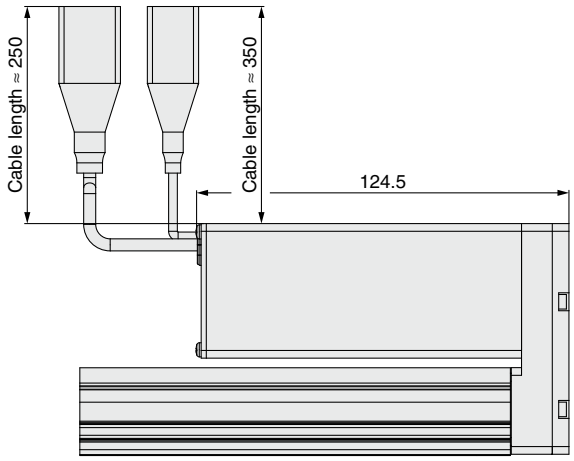
Size	Stroke range [mm]	MA	MB	MC	MD	MH	ML	MO	MR	XA	XB
16	10 to 35	15	35.5	17	23.5	23	40	M4 x 0.7	5.5	3	4
	40 to 100			32	31						
	105 to 300			62	46		60				

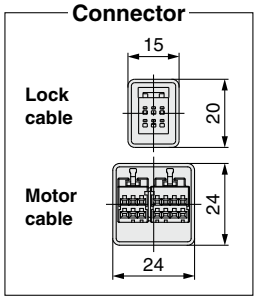
Dimensions: Motor Top Mounting

With motor cover: LEY16E$^{A}_{B}$-□$^{C}_{C}$



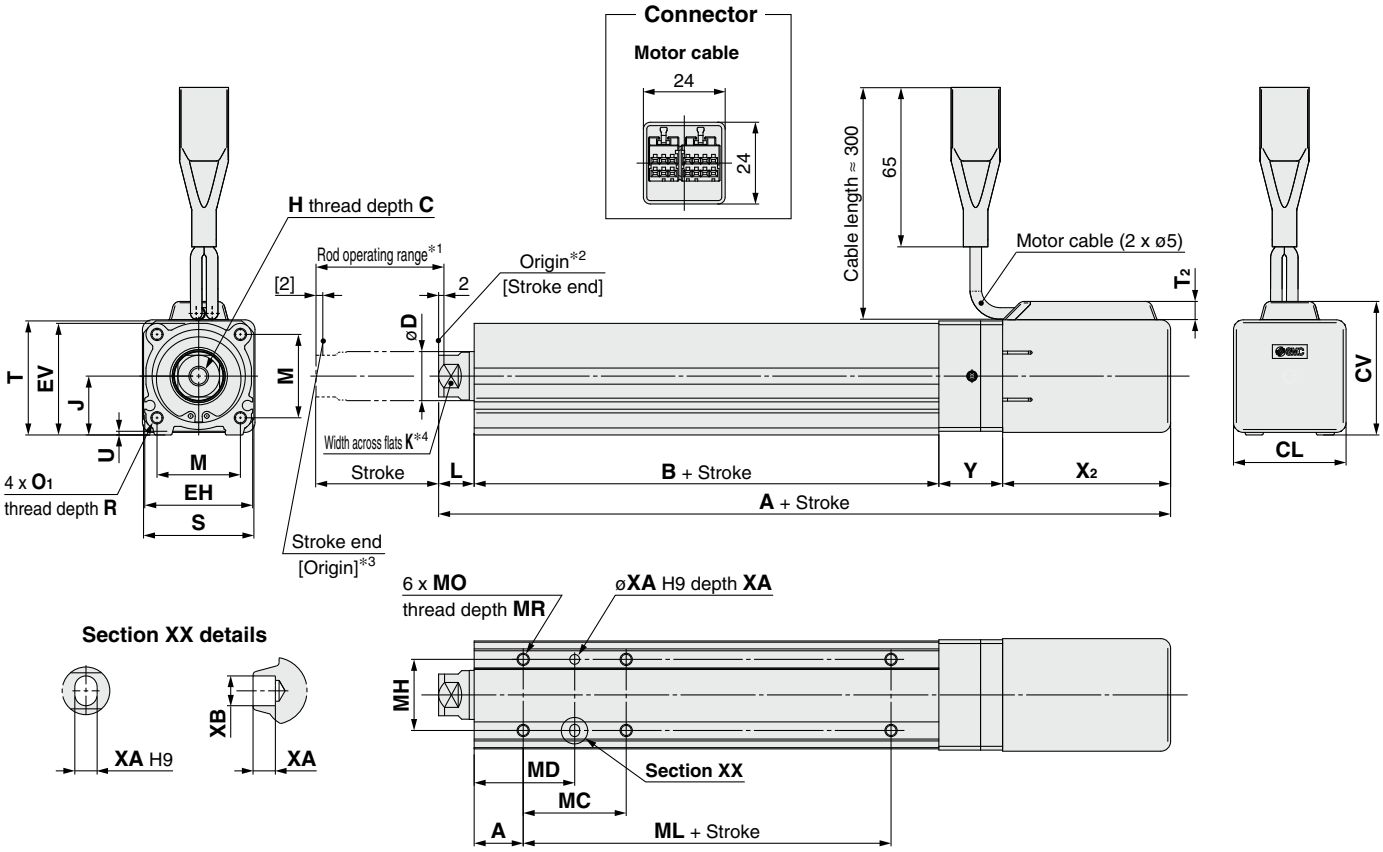
With lock/motor cover: LEY16E$^{A}_{B}$-□W$^{C}_{C}$





Dimensions: In-line Motor

Refer to page 26 for the motor cover shape.



∗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.
∗5 Refer to page 26 for motor cover dimensions.

[mm]

Size	Stroke range [mm]	A		B	C	CL	CV	D	EH	EV	H	J	K	L	M	O1	R	S	T	T2	U	X2		Y
		Without lock	With lock																			Without lock	With lock	
16	30 to 100	186.5	231.5	94	10	—	—*5	16	34	34.3	M5 x 0.8	18	14	10.5	25.5	M4 x 0.7	7	35*5	35.5	—	0.5	82	127	26
	105 to 300	206.5	251.5	114																				

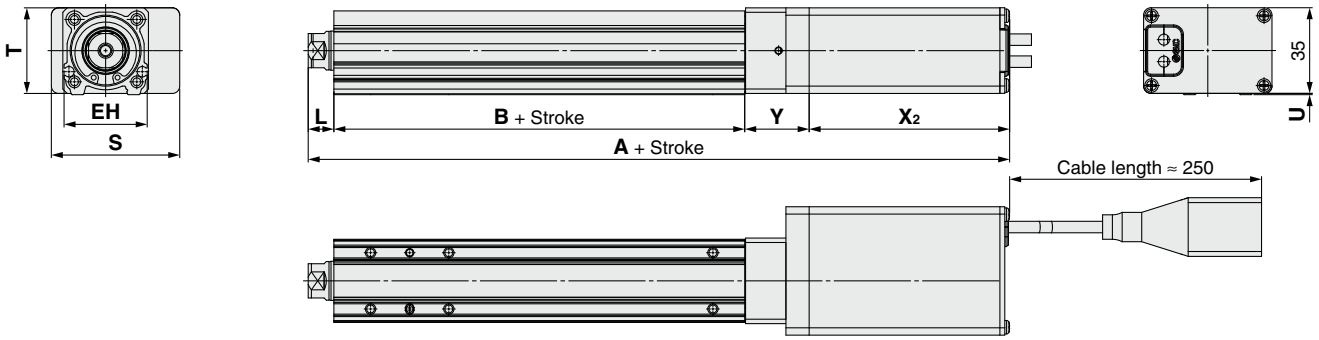
Body Bottom Tapped

[mm]

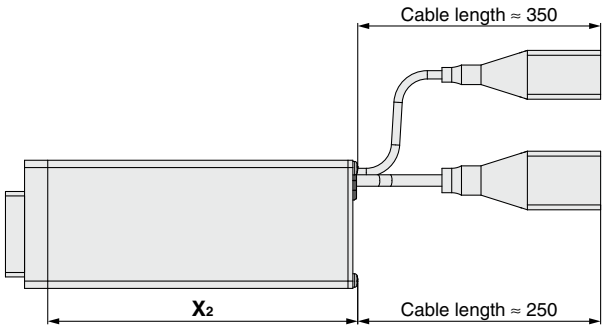
Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
16	10 to 35	15	17	23.5	23	40	M4 x 0.7	5.5	3	4
	40 to 100		32	31						
	105 to 300		62	46		60				

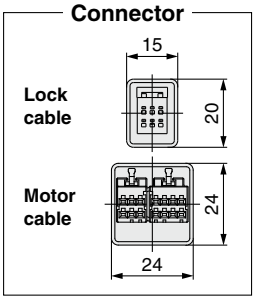
Dimensions: In-line Motor

With motor cover: LEY16D□EB$^{A}_{C}$-□C

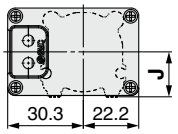
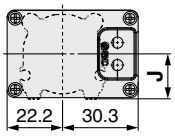
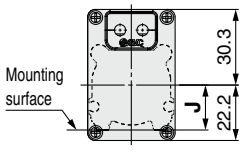
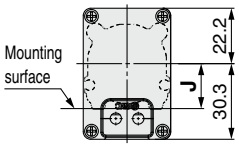


With lock/motor cover: LEY16D□EB$^{A}_{C}$-□W





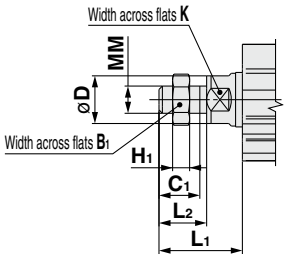
Motor Cover Direction

D1		**D2**	Cable: Right 
D3	Cable: Top 	**D4**	Cable: Bottom 

Motor cover direction	CV
D1	35.5
D2	35.5
D3	48.3
D4	40.2

Dimensions

End male thread: LEY16□$^{A}_{B}$-□□M$^{}_{C}$



[mm]

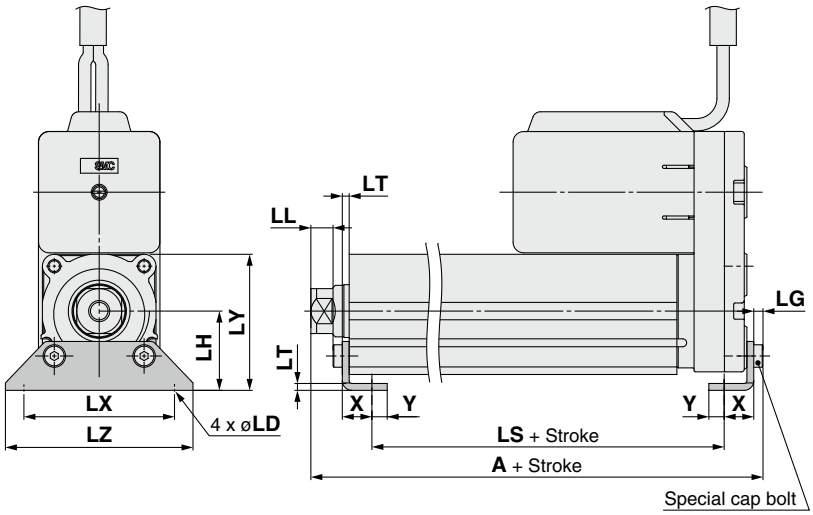
Size	B_1	C_1	øD	H_1	K	L_1	L_2	MM
16	13	12	16	5	14	24.5	14	M8 x 1.25

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

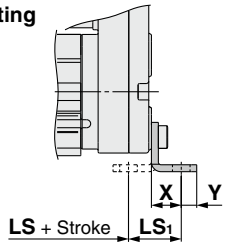
∗ Refer to the **Web Catalog** for details on the rod end nut and mounting bracket.
∗ Refer to the "Handling" precautions in the **Web Catalog** when mounting end brackets such as knuckle joint or workpieces.

Foot: LEY16□□$^{A}_{B}$-□□□L$^{}_{C}$

Refer to page 24 for the motor cover shape.



Outward mounting



Included parts
· Foot bracket
· Body mounting bolt

Foot

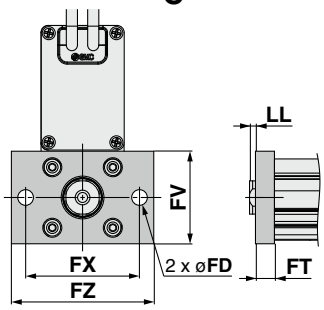
[mm]

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											

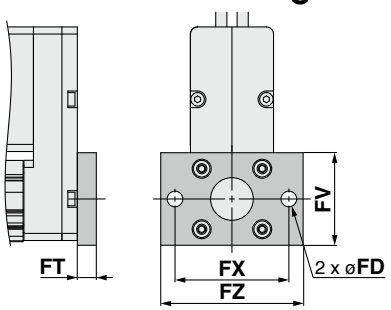
Material: Carbon steel (Chromating)
∗ The A measurement is when the unit is in the original position. At this position, 2 mm at the end.

Dimensions

Rod flange: LEY16EB-□□□F



Head flange: LEY16EB-□□□G



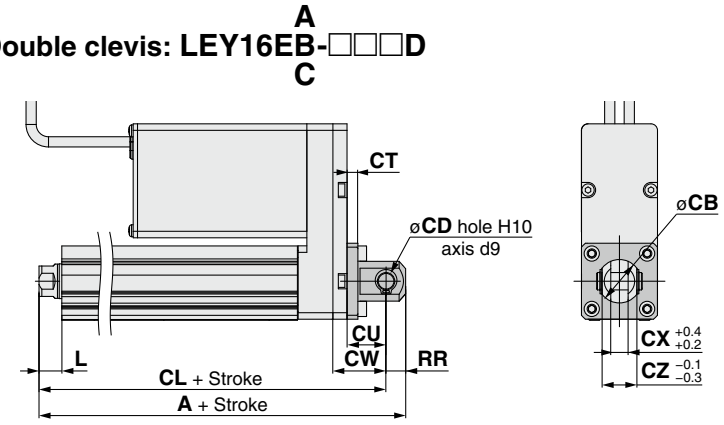
Included parts
· Flange
· Body mounting bolt

Rod/Head Flange [mm]

Size	FD	FT	FV	FX	FZ	LL	M
16	6.6	8	39	48	60	2.5	—

Material: Carbon steel (Nickel plating)

Double clevis: LEY16EB-□□□D



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

∗ Refer to the **Web Catalog** 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

Size	Stroke range [mm]	CU	CW	CX	CZ	L	RR
16	10 to 100	12	18	8	16	10.5	9

Material: Cast iron (Coating)

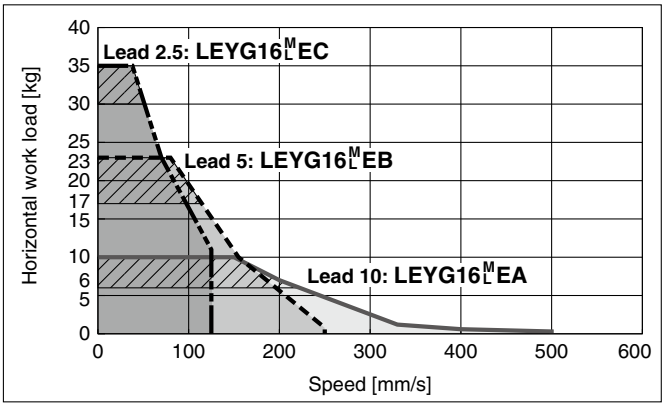
∗ The A and CL measurements are when the unit is in the original position. At this position, 2 mm at the end.

Model Selection

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

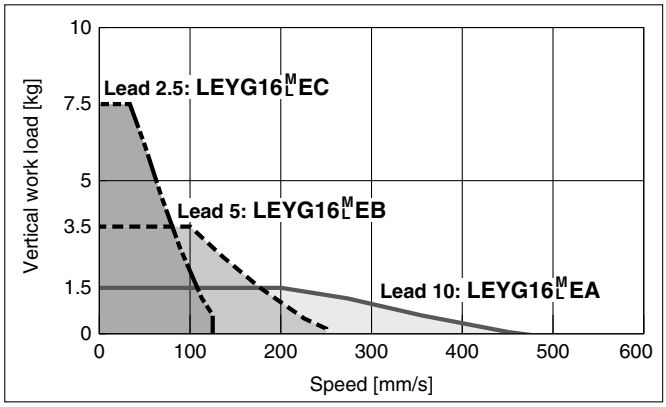
Horizontal

LEYG16$^{M}_{L}$□E



Vertical

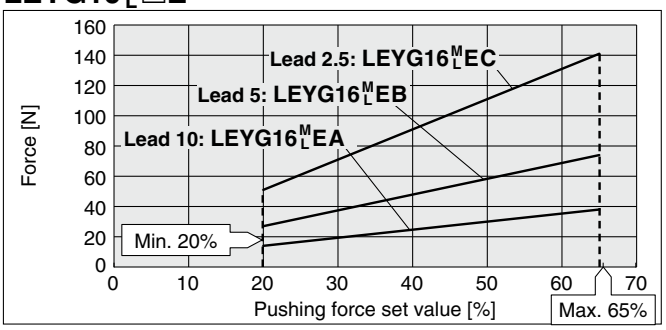
LEYG16$^{M}_{L}$□E



Force Conversion Graph (Guide)

Battery-less Absolute (Step Motor 24 VDC)

LEYG16$^{M}_{L}$□E



Ambient temperature	Pushing force set value [%]	Duty ratio [%]	Continuous pushing time [min]
30°C or less	65 or less	100	—
40°C	40 or less	100	—
	50	30	45 or less
	60	18	15 or less
	65	15	10 or less

<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$^{M}_{L}$□E	A/B/C	21 to 50	45 to 65%

<Set Values for Vertical Upward Transfer Pushing Operations>

Model	LEYG16$^{M}_{L}$□E		
Lead	**A**	**B**	**C**
Work load [kg]	0.5	1	2.5
Pushing force	65%		

Battery-less Absolute Encoder Type
Guide Rod Type
LEYG16E Series LEYG16

CE RoHS

How to Order

LEYG 16 M ☐ E B – 50 C ☐ – R1 CD17T

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

For details on controllers, refer to the next page.

❶ Size

16

❷ Bearing type*1

M	Sliding bearing
L	Ball bushing bearing

❸ Motor mounting position/Motor cover direction

Symbol	Motor mounting position	Motor cover direction
Nil	Top mounting	—
D1	In-line	Left
D2		Right
D3		Top
D4		Bottom

❹ Motor type

E	Battery-less absolute (Step motor 24 VDC)

❺ Lead [mm]

Symbol	LEYG16
A	10
B	5
C	2.5

❻ Stroke*2 *3 [mm]

Stroke	Note	
	Size	Applicable stroke
30 to 200	16	30, 50, 100, 150, 200

❼ Motor option*4

C	With motor cover
W	With lock/motor cover

❽ Guide option

Nil	Without option
F	With grease retaining function

❾ Actuator cable type/length

Robotic cable [m]

Nil	None	**R8**	8*5
R1	1.5	**RA**	10*5
R3	3	**RB**	15*5
R5	5	**RC**	20*5

For details on auto switches, refer to the Web Catalog.

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

C D 1 7 T

Interface (Communication protocol/Input/Output)

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

For single axis

Mounting

7	Screw mounting
8∗6	DIN rail

Communication plug connector, I/O cable∗7

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)	

∗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" in the **Web Catalog**.
∗2 Please consult with SMC for non-standard strokes as they are produced as special orders.
∗3 There is a limit for mounting size 16 top mounting types and strokes of 50 mm or less. Refer to the dimensions.
∗4 When "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 with strokes of 50 mm or less. Check for interference with workpieces before selecting a model.
∗5 Produced upon receipt of order
∗6 The DIN rail is not included. It must be ordered separately.
∗7 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]
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.

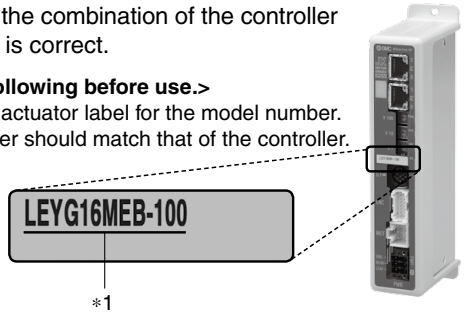
[Precautions relating to differences in controller versions]
When the JXC series is to be used in combination with the battery-less absolute encoder, use a controller that is version V3.4 or S3.4 or higher. For details, refer to page 39.

[UL-compliant products]
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.



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

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	Step data input type
							
Series	**JXCE1**	**JXC91**	**JXCP1**	**JXCD1**	**JXCL1**	**JXCM1**	**JXC51 JXC61**
Features	EtherCAT® direct input	EtherNet/IP™ direct input	PROFINET direct input	DeviceNet™ direct input	IO-Link direct input	CC-Link direct input	Parallel I/O
Compatible motor	Battery-less absolute (Step motor 24 VDC)						
Max. number of step data	64 points						
Power supply voltage	24 VDC						

Specifications

Battery-less Absolute (Step Motor 24 VDC)

Model				LEYG16$^{M}_{L}$□E		
Actuator specifications	Work load [kg]*1	Horizontal	Acceleration/Deceleration at 3000 [mm/s²]	6	17	30
			Acceleration/Deceleration at 2000 [mm/s²]	10	23	35
		Vertical	Acceleration/Deceleration at 3000 [mm/s²]	1.5	3.5	7.5
	Pushing force [N]*2*3*4			14 to 38	27 to 74	51 to 141
	Speed [mm/s]*4			15 to 500	8 to 250	4 to 125
	Max. acceleration/deceleration [mm/s²]			3000		
	Pushing speed [mm/s]*5			50 or less		
	Positioning repeatability [mm]			±0.02		
	Lost motion [mm]*6			0.1 or less		
	Screw lead [mm]			10	5	2.5
	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		
	Motor type			Battery-less absolute (Step motor 24 VDC)		
	Encoder			Battery-less absolute (4096 pulse/rotation)		
	Rated voltage [V]			24 VDC ±10%		
	Power consumption [W]*8			23		
	Standby power consumption when operating [W]*9			16		
	Max. instantaneous power consumption [W]*10			43		
Lock unit specifications	Type*11			Non-magnetizing lock		
	Holding force [N]			20	39	78
	Power consumption [W]*12			2.9		
	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 page 30.
Vertical: Speed changes according to the work load. Check the "Model Selection" on page 30.
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 LEYG□□E are 20% to 65%.
The pushing force values change according to the duty ratio and pushing speed. Check the "Model Selection" in the **Web Catalog**.

*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" in the **Web Catalog**.

*5 The allowable speed for pushing operations

*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

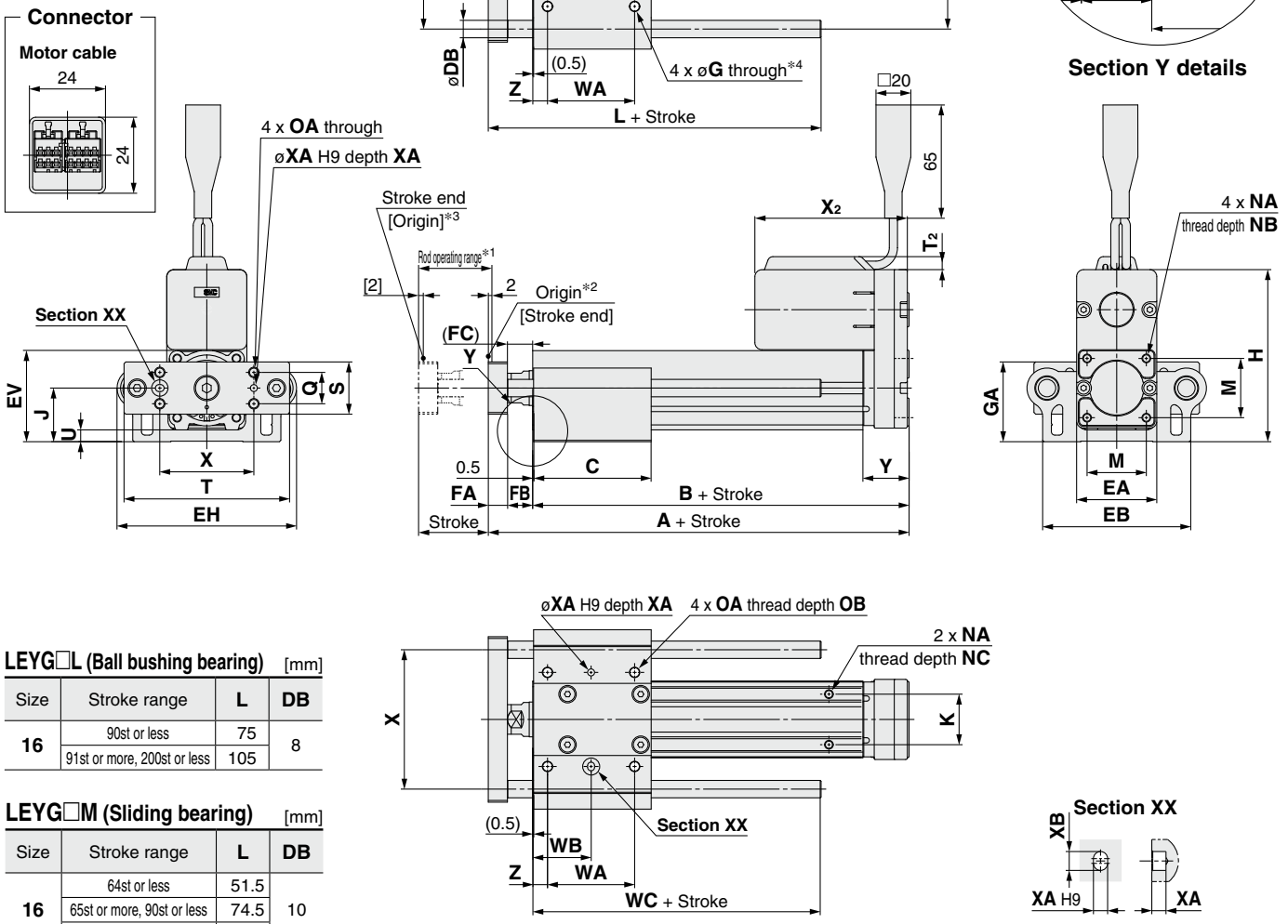
*12 For an actuator with lock, add the power consumption for the lock.

LEYG16E Series	LEY16E Series	LEFB16E Series	LEFS16E Series

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.

Refer to page 36 for the motor cover shape.



LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range	L	DB
16	90st or less	75	8
	91st or more, 200st or less	105	

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	

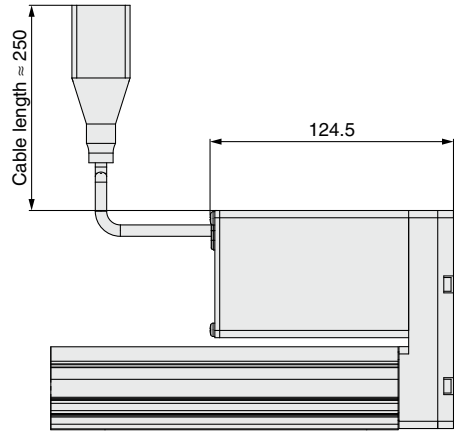
LEYG□M, LEYG□L Common [mm]

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	97.3	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																	

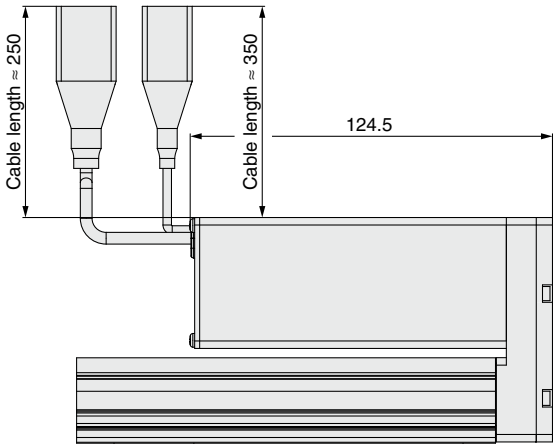
Size	Stroke range	OA	OB	P	Q	S	T	T2	U	WA	WB	WC	X2		X	XA	XB	Y	Z
													Without lock	With lock					
16	39st or less	M5 x 0.8	10	65	15	25	79	—	6.8	25	19	55	100.5	145.5	44	3	4	22.5	6.5
	40st or more, 100st or less									40	26.5								
	101st or more, 200st or less									70	41.5	75							

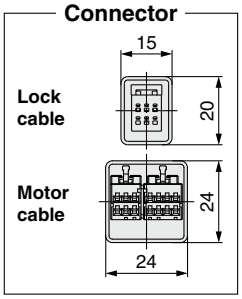
Dimensions: Motor Top Mounting

With motor cover: LEYG16E$\square^{A}_{B}$-$\square^{}_{C}$



With lock/motor cover: LEYG16E$\square^{A}_{B}$-$\square^{}_{C}$W

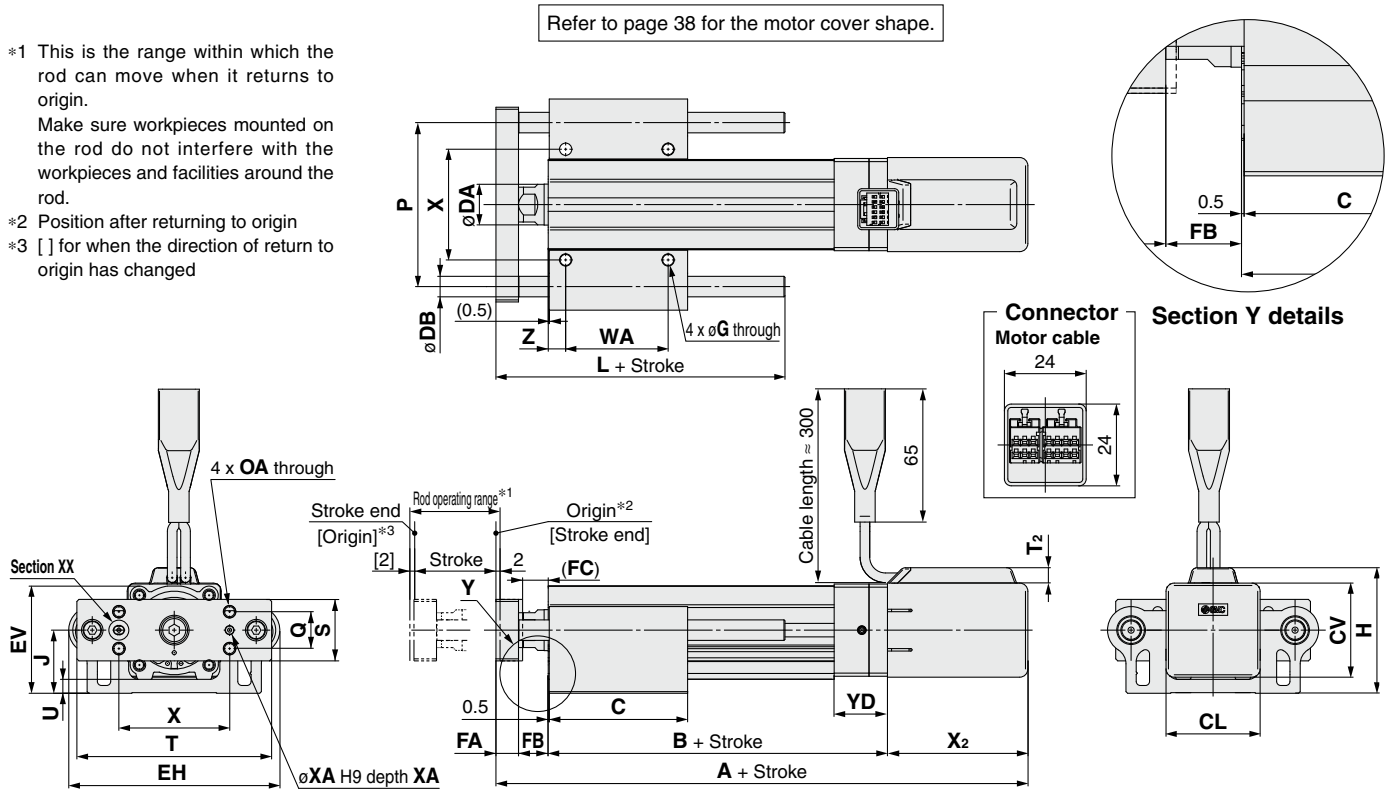


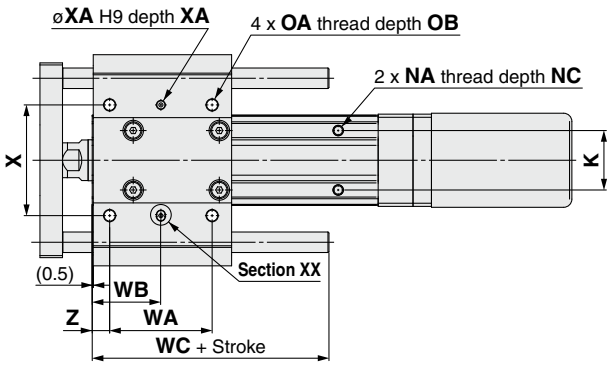


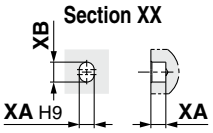
Dimensions: In-line Motor

∗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

Refer to page 38 for the motor cover shape.







LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range	L	DB
16	90st or less	75	8
	91st or more, 200st or less	105	

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	

LEYG□M, LEYG□L Common [mm]

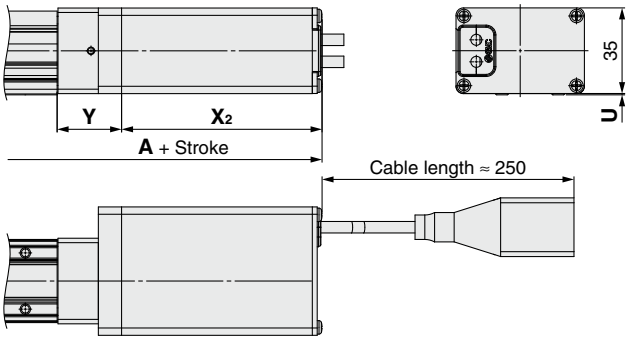
Size	Stroke range	A		B	C	CL	CV	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	NA	NC
		Without lock	With lock																			
16	39st or less	194.5	239.5	92	37	—	—	16	35	69	83	41.1	8	10.5	8.5	4.3	31.8	42.3∗1	24.8	23	M4 x 0.7	5.5
	40st or more, 100st or less				52																	
	101st or more, 200st or less	214.5	259.5	112	82																	

Size	Stroke range	OA	OB	P	Q	S	T	T2	U	V	WA	WB	WC	X	X2		XA	XB	YD	Z
															Without lock	With lock				
16	39st or less	M5 x 0.8	10	65	15	25	79	—	6.8	28	25	19	55	44	82	127	3	4	24	6.5
	40st or more, 100st or less										40	26.5								
	101st or more, 200st or less										70	41.5	75							

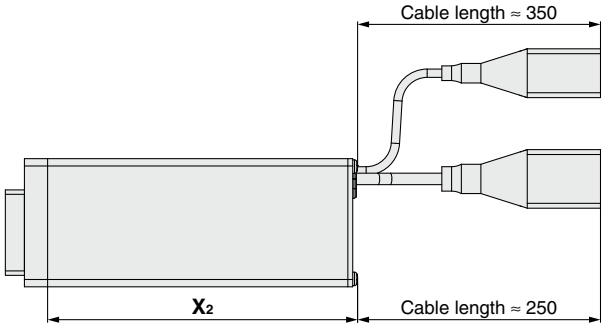
∗1 Refer to page 38.

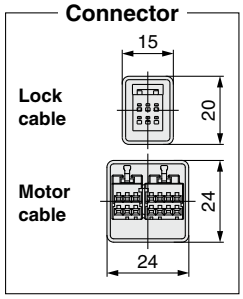
Dimensions: In-line Motor

With motor cover: LEYG16D□EA/B/C-C

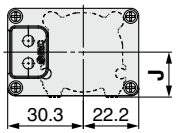
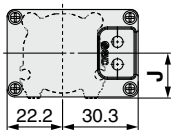
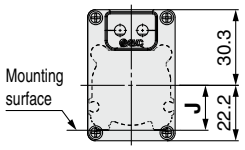
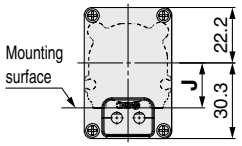


With lock/motor cover: LEYG16D□EA/B/C-W





Motor Cover Direction

D1		D2	Cable: Right 
D3	Cable: Top 	D4	Cable: Bottom 

H Dimensions

Motor cover direction	H
D1	42.3
D2	42.3
D3	55.1
D4	47

JXCE1/91/P1/D1/L1/M1/51/61 Series
Precautions Relating to Differences in Controller Versions

As the controller version of the JXC series differs, the internal parameters are not compatible.

■ If using the JXC□1□-BC or JXC□1□-BC-E, please use the latest version of the JXC-BCW (parameter writing tool).

■ There are currently 3 versions available: version 1 products (V1.□ or S1.□), version 2 products (V2.□ or S2.□), and version 3 products (V3.□ or S3.□). Keep in mind that in order to write a backup file (.bkp) to another controller with the JXC-BCW, it needs to be the same version as the controller that created the file. (For example, a backup file created by a version 1 product can only be written to another version 1 product, and so on.) A backup file for the electric actuator with battery-less absolute encoder can only be written between version 3.4 or higher product (the backup file of version 2 or earlier products cannot be written).

Identifying Version Symbols

JXC□1 Series Version V3.□ or S3.□ Products

XR V3.0

Applicable models

JXC91□ Series

XR S3.0 T1.0

Applicable models

JXCD1□ Series
JXCE1□ Series
JXCP1□ Series
JXCL1□ Series
JXCM1□ Series
JXC51/61□ Series

JXC□1 Series Version V2.□ or S2.□ Products

WP V2.1

Applicable models

JXC91□ Series

WP S2.2 T1.1

Applicable models

JXCD1□ Series
JXCE1□ Series
JXCP1□ Series
JXCL1□ Series

JXC□1 Series Version V1.□ or S1.□ Products

XR V1.0

Applicable models

JXC91□ Series

XR S1.0 T1.0

Applicable models

JXCD1□ Series
JXCE1□ Series
JXCP1□ Series
JXCL1□ Series

Blank Controller Versions and Applicable Actuator Sizes

■ The applicable electric actuator size range differs depending on the controller version.
Be sure to confirm the controller version before using a blank controller.

Blank Controller Versions/Applicable Actuator Sizes

Blank controller		Applicable electric actuator size			
Series	Controller version	LEFS□E	LEFB□E	LEY□E	LEYG□E
JXC91□ series JXCD1□ series JXCE1□ series JXCP1□ series JXCL1□ series	Version 3.4 (V3.4, S3.4) or higher	25, 32, 40	25, 32, 40	25, 32, 40	25, 32, 40
	Version 3.6 (V3.6, S3.6) or higher	16	16	16	16
JXCM1□ series JXC51/61 series	Version 3.4 (V3.4, S3.4) or higher	25, 32, 40	25, 32, 40	25, 32, 40	25, 32, 40
	Version 3.5 (V3.5, S3.5) or higher	16	16	16	16

Electric Actuator
Battery-less
Absolute Encoder Type

⚠ Safety Instructions	Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.