

Electric Actuator

LEJ Series

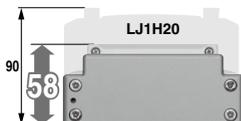
Slider Type/High Rigidity

Low-profile/Low center of gravity

RoHS

Height dimension reduced by approx. **36%** (Reduced by 32 mm)

Series	Work load [kg]	Speed [mm/s]	Motor output [W]
LEJS40	55	600	100
(Former model) LJ1H20	30	500	100



LEJS40



AC Servo Motor Type

CE **UL** US
* Refer to "How to Order"

Ball Screw Drive *LEJS Series*

Size: 40, 63 ▶ Pages 120, 130-1

Work load: **85 kg**

Positioning repeatability: ± 0.01 mm (High precision type)

Max. speed: **1800 mm/s**

Max. acceleration/deceleration: **20000 mm/s²**

*1 ISO14644-1

*2 The particle generation characteristics change depending on the suction flow rate.



Clean Room Specification ▶ Page 120

11-LEFS
ISO Class 4^{+1,2}

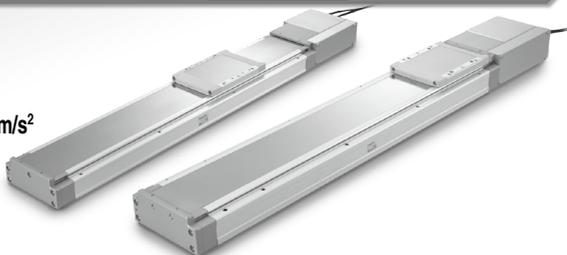
Belt Drive *LEJB Series*

Size: 40, 63 ▶ Pages 120, 130-1

Max. stroke: **3000 mm**

Max. speed: **3000 mm/s**

Max. acceleration/deceleration: **20000 mm/s²**



AC Servo Motor Driver

▶ Page 607

CE **UL** US
LISTED
* LECSST only

▶ For incremental encoder

- Pulse input type/ Positioning type *LECSA Series*



▶ For absolute encoder

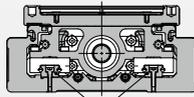
- Pulse input type *LECSB Series*
- CC-Link direct input type *LECSA Series*
- SSCNET III type *LECSS Series*
- SSCNET III/H type *LECSST Series*
- MECHATROLINK type *LECY Series*



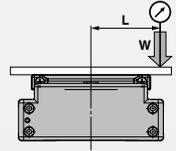
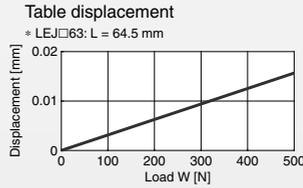
LEJ Series

●High precision/High rigidity

Double axis linear guide reduces deflection

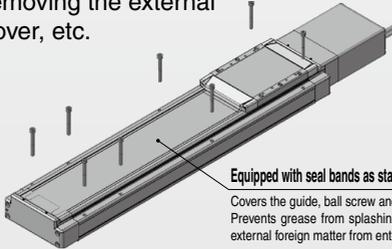


Linear guide (Double axis)



●Reduction of the installation labor

Possible to mount the main body without removing the external cover, etc.



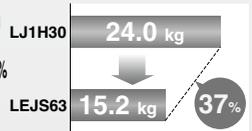
Equipped with seal bands as standard

Covers the guide, ball screw and belt. Prevents grease from splashing and external foreign matter from entering.

●Weight reduction

Weight reduced by approx. **37%**

* Stroke: 600 mm



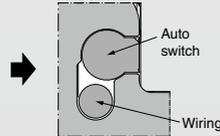
●Workpiece does not interfere with the motor

Table height > Motor height



●Solid state auto switch can be mounted (For checking the limit and intermediate signal)

- Switch wiring can be placed in the body
- A contact and B contact types available
- D-M9□W (2-color indicator), D-M9□, D-M9□E (B contact type)



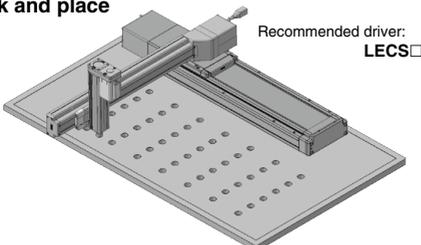
2-color indicator solid state auto switch

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



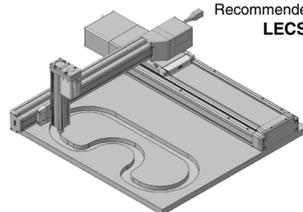
Application Examples

Pick and place



Recommended driver: **LECS□**

Glue dispensing/High speed trajectory is available

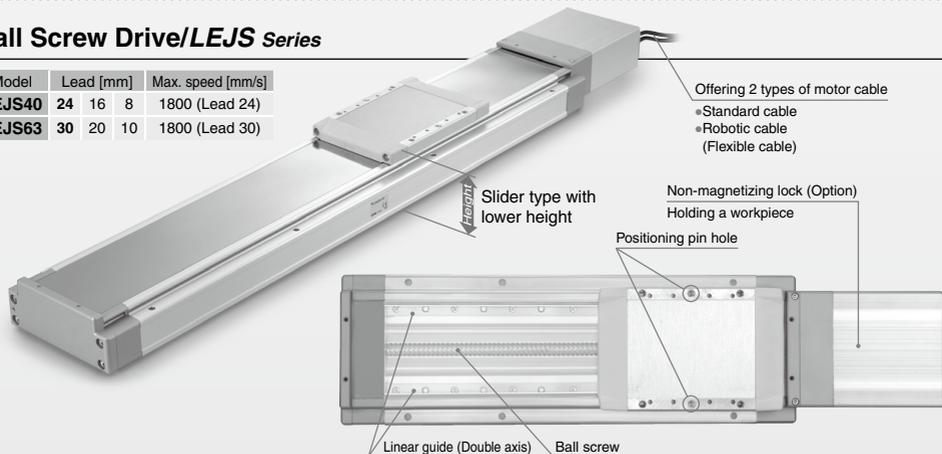


Recommended driver: **LECSS (SSCNET III)**

Electric Actuator/High Rigidity Slider Type

Ball Screw Drive/LEJS Series

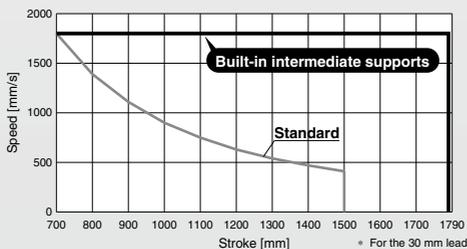
Model	Lead [mm]	Max. speed [mm/s]
LEJS40	24 16 8	1800 (Lead 24)
LEJS63	30 20 10	1800 (Lead 30)



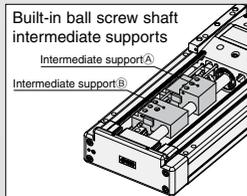
Built-in Intermediate Supports Type

Ball Screw Drive LEJS63□-□M Series

A maximum speed of 1800 mm/s* has been achieved throughout the entire stroke!



The use of intermediate supports results in reduced deflection of the ball screw when a long stroke is used.



Clean Room Specification

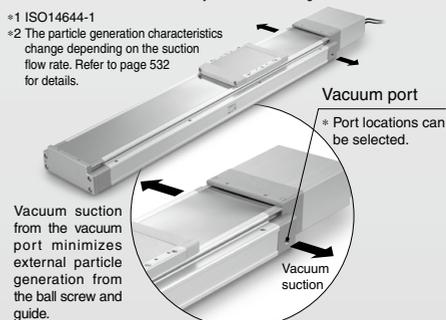
Ball Screw Drive 11-LEJS Series Size: 40, 63

ISO Class 4^{*1, *2}

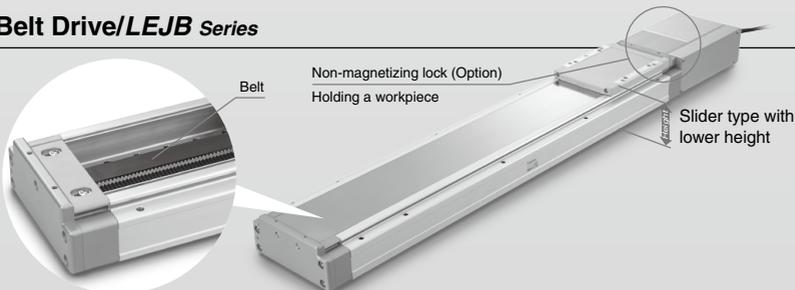
- Built-in vacuum piping
- Possible to mount the main body without removing the external cover, etc.

*1 ISO14644-1

*2 The particle generation characteristics change depending on the suction flow rate. Refer to page 532 for details.



Belt Drive/LEJB Series



Electric Actuator/High Rigidity Slider Type

Series Variations



Ball Screw Drive/LEJS Series Clean room compatible^{*2}

Size	Lead [mm]	Stroke [mm] ^{*1}	Work load: Horizontal [kg]									Work load: Vertical [kg]			Speed [mm/s]								Page
			10	20	30	40	50	60	70	80	90	10	20	30	200	400	600	800	1000	1200	1400	1600	
40	8	200, 300, 400 500, 600, 700 800, 900 1000, 1200	[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								Page 120
	16		[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								
	24		[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								
63	10	300, 400, 500 600, 700, 800 900, 1000 1200, 1500	[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								Page 120
	20		[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								
	30		[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								

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

*2 Except lead 24 and 30 mm



Built-in Intermediate Supports Type

Ball Screw Drive/LEJS-M Series

Size	Lead [mm]	Stroke [mm] [*]	Work load: Horizontal [kg]									Work load: Vertical [kg]			Speed [mm/s]								Page
			10	20	30	40	50	60	70	80	90	10	20	30	200	400	600	800	1000	1200	1400	1600	
63	10	790, 890, 990 1190, 1490, 1790	[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								Page 120
	20		[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								
	30		[Bar chart showing horizontal work load capacity]									[Bar chart showing vertical work load capacity]			[Bar chart showing speed capacity]								

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



Belt Drive/LEJB Series

Size	Equivalent lead [mm]	Stroke [mm] ^{*1}	Work load: Horizontal [kg] ^{*2}						Speed [mm/s]						Page
			5	10	15	20	25	30	500	1000	1500	2000	2500	3000	
40	27	200, 300, 400, 500, 600, 700, 800 900, 1000, 1200, 1500, 2000	[Bar chart showing horizontal work load capacity]						[Bar chart showing speed capacity]						Page 120
63	42	300, 400, 500, 600, 700, 800 900, 1000, 1200, 1500, 2000, 3000	[Bar chart showing horizontal work load capacity]						[Bar chart showing speed capacity]						

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

*2 The belt drive actuator cannot be used vertically for applications.

Electric Actuator/ High Rigidity Slider Type Ball Screw Drive *LEJS Series*



AC Servo Motor

LEJS/LECS□ Series

Model Selection	Page 120
How to Order	Page 132
Specifications	Page 133
Construction	Page 134
Dimensions	Page 135

LEJS-M (Built-in Intermediate Supports Type)/

LECS□ Series

Model Selection	Page 120
How to Order	Page 136-01
Specifications	Page 136-02
Construction	Page 136-02
Dimensions	Page 136-03

LEJS/LECY□ Series

Model Selection	Page 131-1
How to Order	Page 136-1
Specifications	Page 136-2
Construction	Page 134
Dimensions	Page 136-3

LEJS-M (Built-in Intermediate Supports Type)/

LECY□ Series

Model Selection	Page 131-1
How to Order	Page 136-5
Specifications	Page 136-2
Construction	Page 134
Dimensions	Page 136-3

AC Servo Motor Driver



<i>LECSA/LECSB/LECS/LECSS Series</i>	Page 613
<i>LECS-T Series</i>	Page 613
<i>LECYM/LECYU Series</i>	Page 628-1

Electric Actuator/ High Rigidity Slider Type Ball Screw Drive *11-LEJS Series*



AC Servo Motor

Clean Room Specification

Model Selection	Page 120
Particle Generation Characteristics	Page 531
How to Order	Page 533
Specifications	Page 534
Dimensions	Page 535

Electric Actuator/ High Rigidity Slider Type Belt Drive *LEJB Series*



AC Servo Motor

LECS□ Series

Model Selection	Page 120
How to Order	Page 137
Specifications	Page 138
Construction	Page 139
Dimensions	Page 140

LECY□ Series

Model Selection	Page 131-1
How to Order	Page 141-1
Specifications	Page 141-2
Construction	Page 139
Dimensions	Page 141-3

Auto Switch	Page 142
Specific Product Precautions	Page 145

High Rigidity Slider Type

Ball Screw Drive *LEJS Series*

AC Servo Motor

LEJS/LEJS-M Series



Clean Room Specification

11-LEJS Series



Belt Drive *LEJB Series*

AC Servo Motor





Model Selection

LEJS Series ▶ Page 132 LEJS-M Series ▶ Page 136-01 LEJB Series ▶ Page 137 11-LEJS Series ▶ Page 533

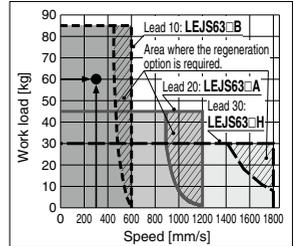
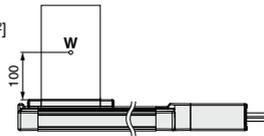
Selection Procedure



Selection Example

Operating conditions

- Work load: 60 [kg]
 - Speed: 300 [mm/s]
 - Acceleration/Deceleration: 3000 [mm/s²]
 - Stroke: 300 [mm]
 - Mounting orientation: Horizontal
 - Motor type: Incremental encoder
 - External force: 10 [N]
- Workpiece mounting condition:



<Speed-Work load graph>
(LEJS63)

Step 1 Check the speed-work load.

Select the product by referring to "Speed-Work Load Graph" (Page 121).
 Selection example) The **LEJS63S3B-300** is temporarily selected based on the graph shown on the right side.

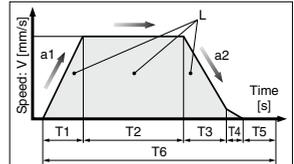
The regeneration option may be necessary.
 Refer to page 121 for "Required Conditions for Regeneration Option".

Step 2 Check the cycle time.

Refer to method 1 for a rough estimate, and method 2 for a more precise value.

Method 1: Check the cycle time graph (Pages 122, 123)

The graph is based on the maximum speed of each size.



- L : Stroke [mm]
 - V : Speed [mm/s]
 - a1 : Acceleration [mm/s²]
 - a2 : Deceleration [mm/s²]
- T1: Acceleration time [s]
Time until reaching the set speed
- T2: Constant speed time [s]
Time while the actuator is operating at a constant speed
- T3: Deceleration time [s]
Time from the beginning of the constant speed operation to stop
- T4: Settling time [s]
Time until positioning is completed
- T5: Resting time [s]
Time the product is not running
- T6: Total time [s]
Total time from T1 to T5
- Duty ratio: Ratio of T to T6
 $T \div T6 \times 100$

Method 2: Calculation

Cycle time T can be found from the following equation.

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

- T1 and T3 can be obtained by the following equation.

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

The acceleration and deceleration values have upper limits depending on the workpiece mass and the duty ratio.
 Check that they do not exceed the upper limit, by referring to "Work load-Acceleration/Deceleration Graph (Guide)" (Pages 124 to 126).

For the ball screw type, there is an upper limit of the speed depending on the stroke. Check that if it does not exceed the upper limit, by referring to the specifications (Page 133).

- T2 can be found from the following equation.

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

- T4 varies depending on the motor type and load. The value below is recommended.

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

Calculation example)

T1 to T4 can be calculated as follows.

$$T1 = V/a1 = 300/3000 = 0.1 \text{ [s]}$$

$$T3 = V/a2 = 300/3000 = 0.1 \text{ [s]}$$

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{300 - 0.5 \cdot 300 \cdot (0.1 + 0.1)}{300} = 0.90 \text{ [s]}$$

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

Therefore, the cycle time can be obtained as follows.

$$T = T1 + T2 + T3 + T4 = 0.1 + 0.90 + 0.1 + 0.05 = 1.15 \text{ [s]}$$

Step 3 Check the allowable moment.

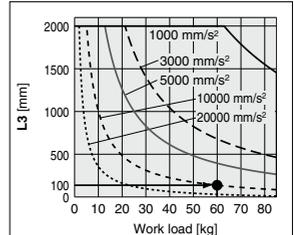
Refer to "Dynamic Allowable Moment" graphs (Pages 127 and 128).



Selection example) Select the **LEJS63S3B-300** from the graph on the right side.

Confirm that the external force is 20 [N] or less.

(The external force is the resistance due to cable duct, flexible trunking or air tubing.)

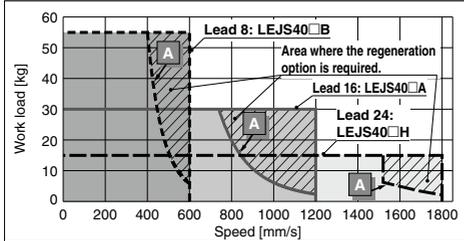


<Dynamic allowable moment>
(LEJS63)

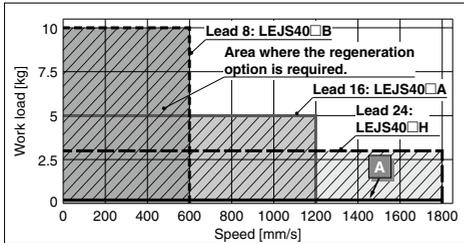
Speed-Work Load Graph/Required Conditions for "Regeneration Option"(Guide)

LEJS40/Ball Screw Drive

Horizontal

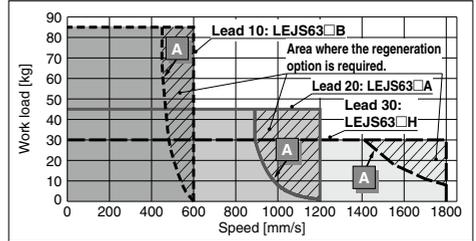


Vertical

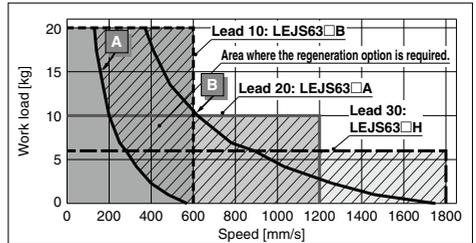


LEJS63/Ball Screw Drive

Horizontal

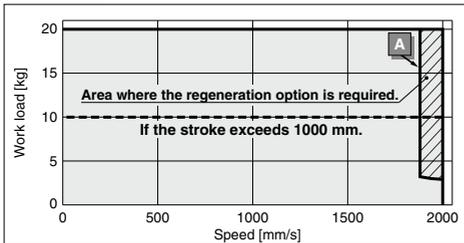


Vertical



LEJB40/Belt Drive

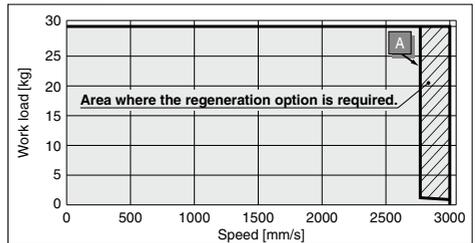
Horizontal



* When the stroke of the LEJB40 series exceeds 1000 mm, the work load is 10 kg.

LEJB63/Belt Drive

Horizontal



Required conditions for "Regeneration option"

* Regeneration option is required when using product above regeneration line in graph.
 (Order separately.)

"Regeneration Option" Models

Operating condition	Regenerative condition	Regeneration option
A	Duty ratio 100%	LEC-MR-RB-032
B		LEC-MR-RB-12

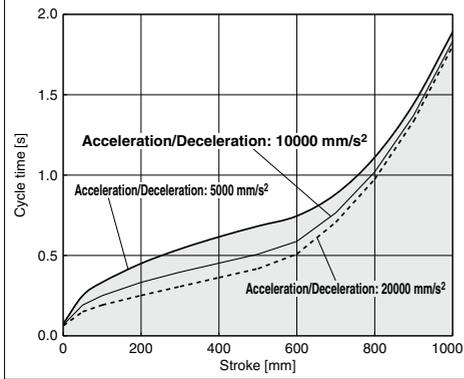
Allowable Stroke Speed

Model	AC servo motor	Lead Symbol [mm]	Stroke [mm]													
			Up to 200	Up to 300	Up to 400	Up to 500	Up to 600	Up to 700	Up to 800	Up to 900	Up to 1000	Up to 1100	Up to 1200	Up to 1300	Up to 1400	Up to 1500
LEJS40	100 W/□40	H 24					1580	1170	910	720	580	480	410	—	—	—
		A 16				1200	1050	780	600	480	390	320	270	—	—	—
		B 8				600	520	390	300	240	190	160	130	—	—	—
		(Motor rotation speed)				(4500 rpm)	(3938 rpm)	(2925 rpm)	(2250 rpm)	(1800 rpm)	(1463 rpm)	(1200 rpm)	(1013 rpm)	—	—	—
LEJS63	200 W/□60	H 30	—				1800		1390	1110	900	750	630	540	470	410
		A 20	—			1200		930	740	600	500	420	360	310	270	
		B 10	—			600		460	370	300	250	210	180	150	130	
		(Motor rotation speed)	—			(3600 rpm)		(2790 rpm)	(2220 rpm)	(1800 rpm)	(1500 rpm)	(1260 rpm)	(1080 rpm)	(930 rpm)	(810 rpm)	

Cycle Time Graph (Guide)

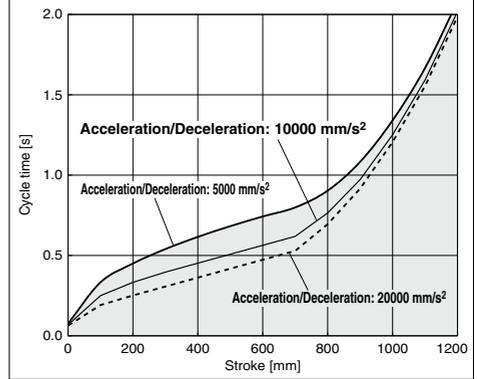
LEJS40/Ball Screw Drive

LEJS40□H

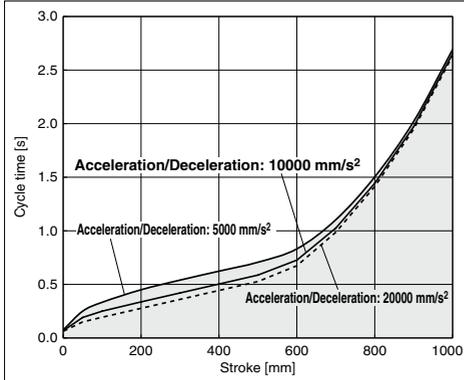


LEJS63/Ball Screw Drive

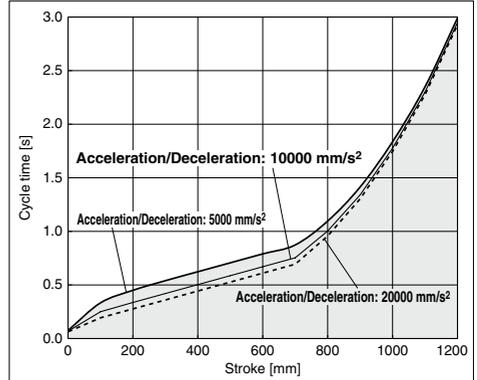
LEJS63□H



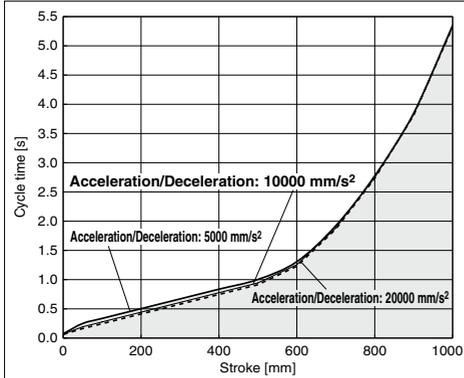
LEJS40□A



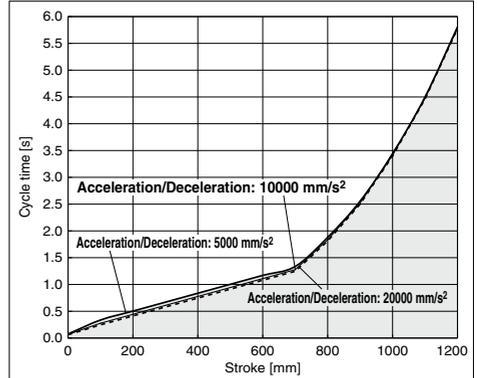
LEJS63□A



LEJS40□B



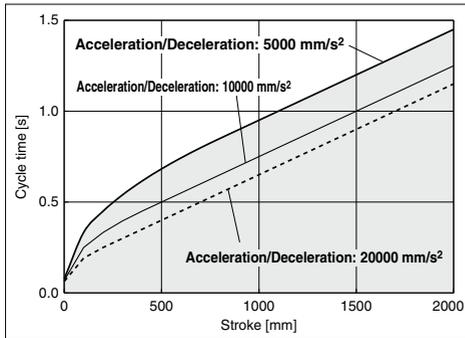
LEJS63□B



* Maximum speed/acceleration/deceleration values graph for each stroke

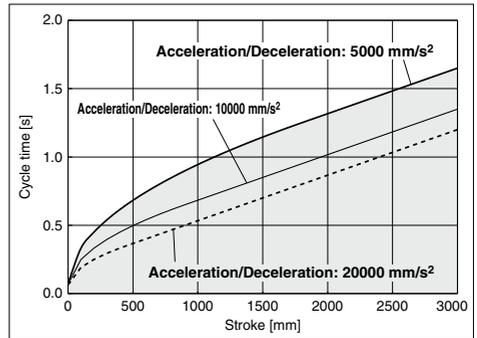
Cycle Time Graph (Guide)

LEJB40/Belt Drive



* Maximum speed/acceleration/deceleration values graph for each stroke

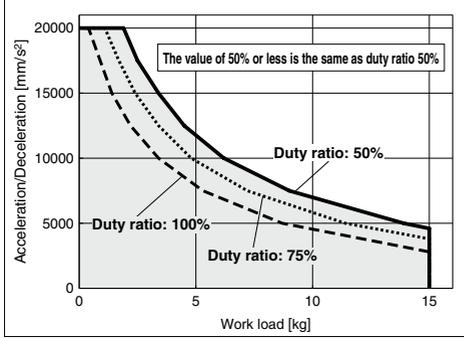
LEJB63/Belt Drive



Work Load–Acceleration/Deceleration Graph (Guide)

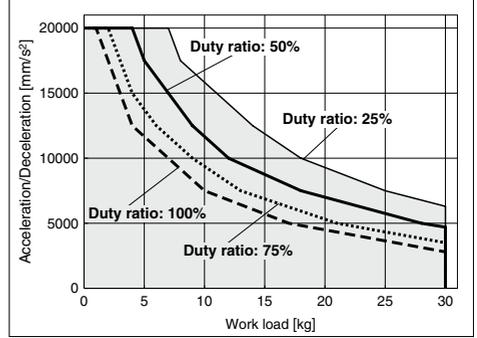
LEJS40/Ball Screw Drive: Horizontal

LEJS40□H

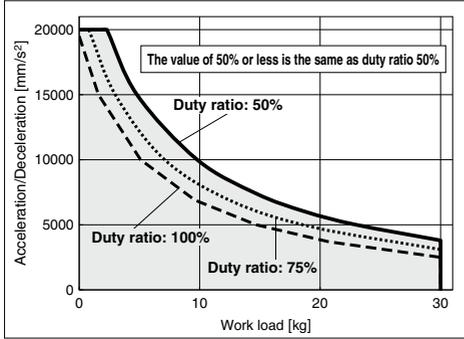


LEJS63/Ball Screw Drive: Horizontal

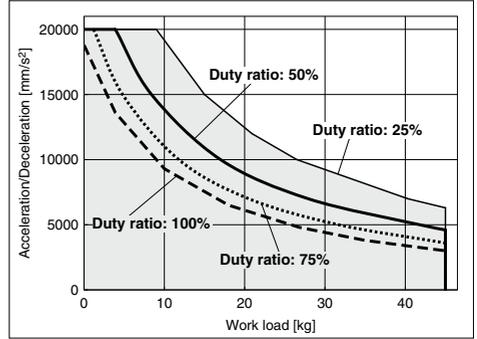
LEJS63□H



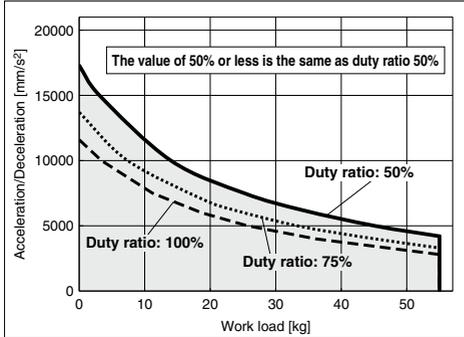
LEJS40□A



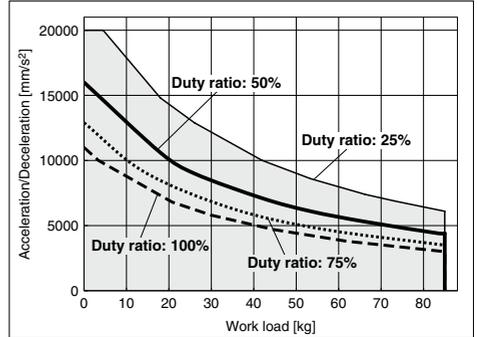
LEJS63□A



LEJS40□B



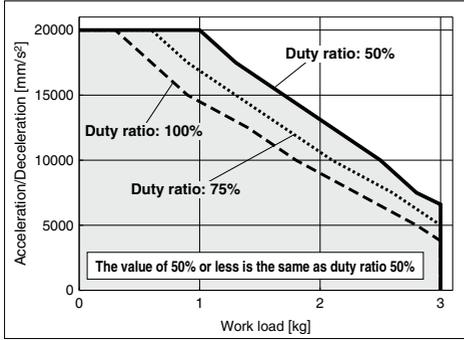
LEJS63□B



Work Load–Acceleration/Deceleration Graph (Guide)

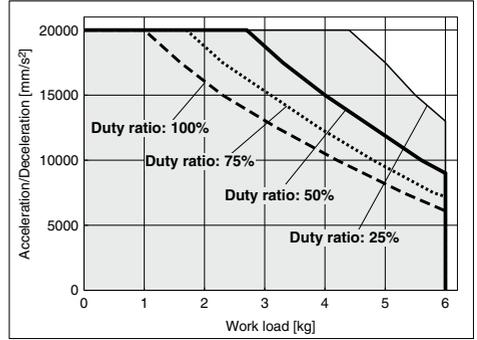
LEJS40/Ball Screw Drive: Vertical

LEJS40□H

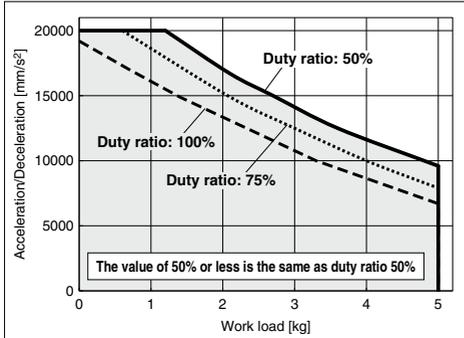


LEJS63/Ball Screw Drive: Vertical

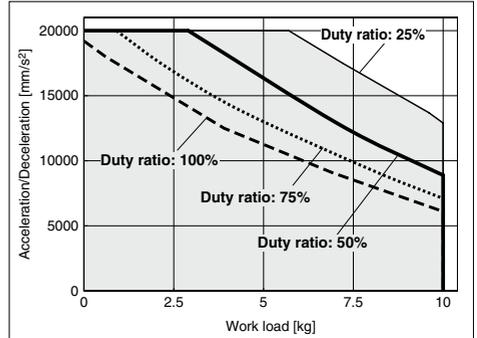
LEJS63□H



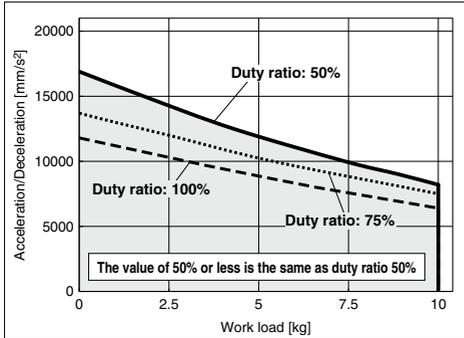
LEJS40□A



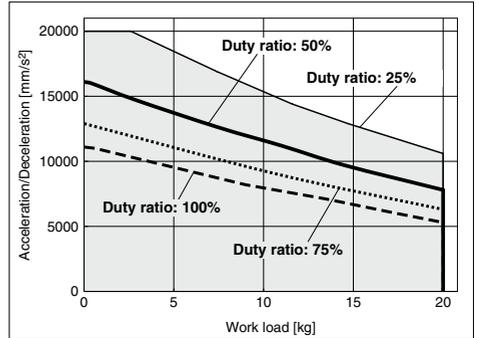
LEJS63□A



LEJS40□B

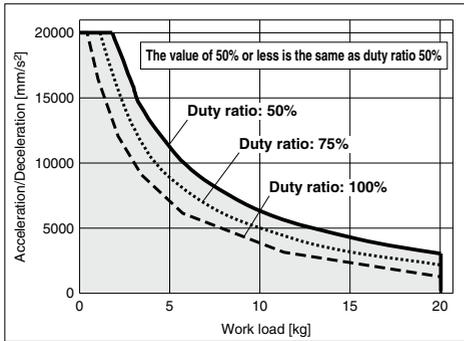


LEJS63□B

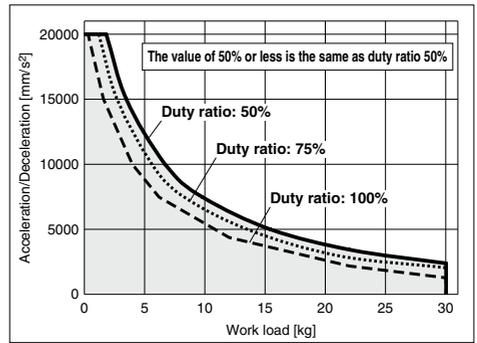


Work Load–Acceleration/Deceleration Graph (Guide)

LEJB40/Belt Drive: Horizontal



LEJB63/Belt Drive: Horizontal



* This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" or the Electric Actuator Selection Software for confirmation, <http://www.smworld.com>

Dynamic Allowable Moment

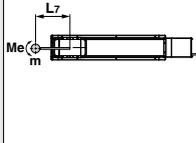
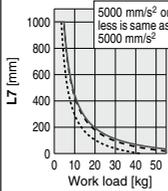
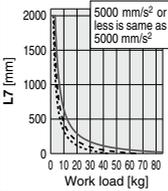
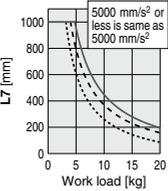
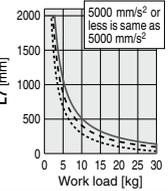
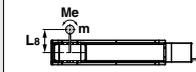
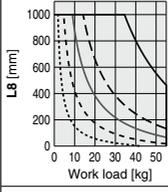
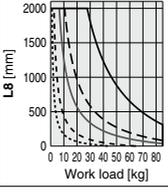
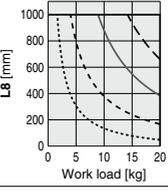
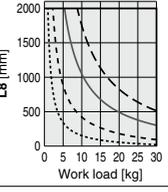
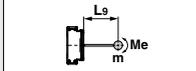
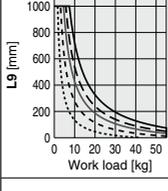
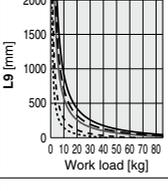
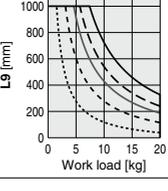
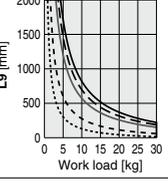
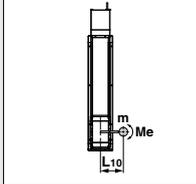
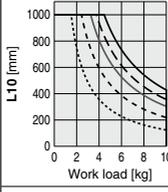
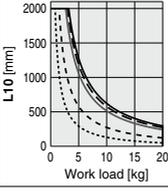
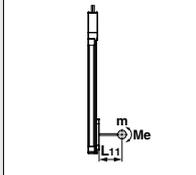
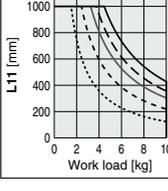
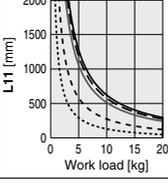
Acceleration/Deceleration ——— 1000 mm/s² - - - 3000 mm/s² ——— 5000 mm/s² - - - 10000 mm/s² 20000 mm/s²

Orientation		Model				
		LEJS40	LEJS63	LEJB40	LEJB63	
Horizontal	Load overhanging direction m : Work load [kg] Me: Dynamic allowable moment [N·m] L : Overhang to the work load center of gravity [mm]					
	Bottom					

* This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" or the Electric Actuator Selection Software for confirmation, <http://www.smcworld.com>

Dynamic Allowable Moment

Acceleration/Deceleration ——— 1000 mm/s² - - - 3000 mm/s² ——— 5000 mm/s² - - - - 10000 mm/s² ······ 20000 mm/s²

Orientation	Load overhanging direction m : Work load [kg] Me: Dynamic allowable moment [N·m] L : Overhang to the work load center of gravity [mm]	Model			
		LEJS40	LEJS63	LEJB40	LEJB63
Wall	 X				
	 Y				
	 Z				
Vertical	 Y				
	 Z				

Calculation of Guide Load Factor

- Decide operating conditions.

Model: LEJS/LEJB

Size: 40/63

Mounting orientation: Horizontal/Bottom/Wall/Vertical

Acceleration [mm/s^2]: a

Work load [kg]: m

Work load center position [mm]: $Xc/Yc/Zc$

- Select the target graph with reference to the model, size and mounting orientation.

- Based on the acceleration and work load, obtain the overhang [mm]: $Lx/Ly/Lz$ from the graph.

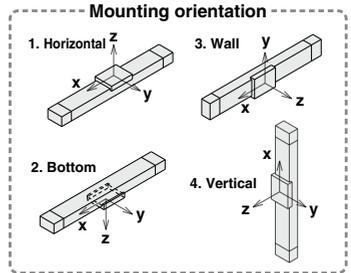
- Calculate the load factor for each direction.

$$\alpha x = Xc/Lx, \alpha y = Yc/Ly, \alpha z = Zc/Lz$$

- Confirm the total of αx , αy and αz is 1 or less.

$$\alpha x + \alpha y + \alpha z \leq 1$$

When 1 is exceeded, please consider a reduction of acceleration and work load, or a change of the work load center position and series.



Example

- Operating conditions

Model: LEJS

Size: 40

Mounting orientation: Horizontal

Acceleration [mm/s^2]: 5000

Work load [kg]: 20

Work load center position [mm]: $Xc = 0, Yc = 50, Zc = 200$

- Select the graph on page 127, top and left side first row.

- $Lx = 220 \text{ mm}, Ly = 210 \text{ mm}, Lz = 430 \text{ mm}$

- The load factor for each direction can be obtained as follows.

$$\alpha x = 0/220 = 0$$

$$\alpha y = 50/210 = 0.24$$

$$\alpha z = 200/430 = 0.47$$

- $\alpha x + \alpha y + \alpha z = 0.71 \leq 1$

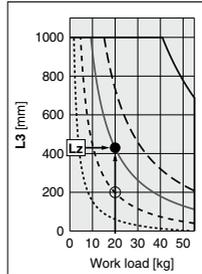
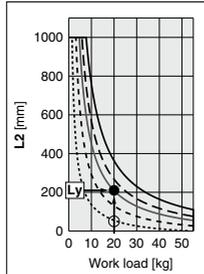
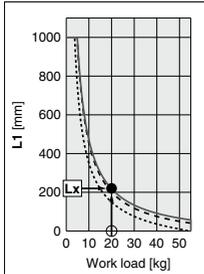
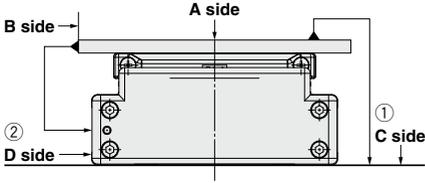


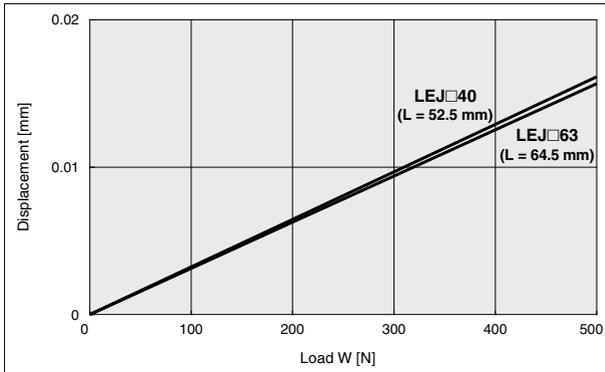
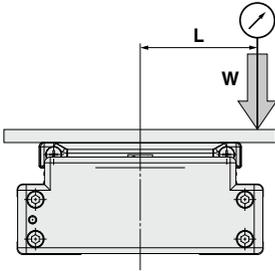
Table Accuracy (Reference Value)



Model	Traveling parallelism [mm] (Every 300 mm)	
	① C side traveling parallelism to A side	② D side traveling parallelism to B side
LEJ□40	0.05	0.03
LEJ□63	0.05	0.03

Note) Traveling parallelism does not include the mounting surface accuracy.

Table Displacement (Reference Value)



Note) This displacement is measured when a 15 mm aluminum plate is mounted and fixed on the table. (Table clearance is included.)



Model Selection

LEJS Series ▶ Page 136-1 LEJS-M Series ▶ Page 136-5 LEJB Series ▶ Page 141-1

Selection Procedure

The Cycle Time Graph, Work Load–Acceleration/Deceleration Graph, Dynamic Allowable Moment, Calculation of Guide Load Factor, and Table Accuracy/Displacement are the same as those of the LECS□ AC servo motor. For details, refer to page 122 and onwards.



Selection Example

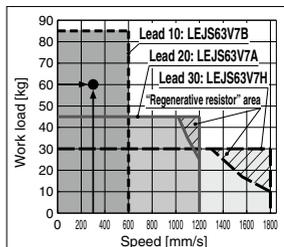
Operating conditions

- Work load: 60 [kg]
 - Speed: 300 [mm/s]
 - Acceleration/Deceleration: 3000 [mm/s²]
 - Stroke: 300 [mm]
 - Mounting orientation: Horizontal
 - External force: 10 [N]
- Workpiece mounting condition:
-

Step 1 Check the speed-work load.

Select the product by referring to "Speed-Work Load Graph" (Page 131-2). Selection example) The **LEJS63V7B-300** is temporarily selected based on the graph shown on the right side.

The regenerative resistor may be necessary.
 Refer to page 131-2 for "Conditions for Regenerative Resistor (Guide)".



<Speed-Work load graph>
(LEJS63)

Step 2 Check the cycle time.

Refer to method 1 for a rough estimate, and method 2 for a more precise value.

Method 1: Check the cycle time graph (Pages 122 and 123)

The graph is based on the maximum speed of each size.

Method 2: Calculation

Cycle time T can be found from the following equation.

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

- T1 and T3 can be obtained by the following equation.

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

The acceleration and deceleration values have upper limits depending on the workpiece mass and the duty ratio.

Check that they do not exceed the upper limit, by referring to "Work load–Acceleration/Deceleration Graph (Guide)" (Pages 124 to 126).

For the ball screw type, there is an upper limit of the speed depending on the stroke. Check that if it does not exceed the upper limit, by referring to the specifications (Page 136-2).

- T2 can be found from the following equation.

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

- T4 varies depending on the motor type and load. The value below is recommended.

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

Calculation example)

T1 to T4 can be calculated as follows.

$$T1 = V/a1 = 300/3000 = 0.1 \text{ [s]}$$

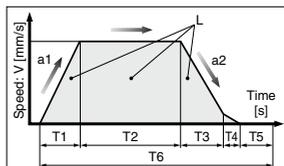
$$T3 = V/a2 = 300/3000 = 0.1 \text{ [s]}$$

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{300 - 0.5 \cdot 300 \cdot (0.1 + 0.1)}{300} = 0.90 \text{ [s]}$$

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

Therefore, the cycle time can be obtained as follows.

$$T = T1 + T2 + T3 + T4 = 0.1 + 0.90 + 0.1 + 0.05 = 1.15 \text{ [s]}$$



- L : Stroke [mm]
- V : Speed [mm/s]
- a1 : Acceleration [mm/s²]
- a2 : Deceleration [mm/s²]

- T1: Acceleration time [s]
Time until reaching the set speed
- T2: Constant speed time [s]
Time while the actuator is operating at a constant speed
- T3: Deceleration time [s]
Time from the beginning of the constant speed operation to stop
- T4: Settling time [s]
Time until positioning is completed
- T5: Resting time [s]
Time the product is not running
- T6: Total time [s]
Total time from T1 to T5

Duty ratio: Ratio of T to T6
 $T \div T6 \times 100$

Step 3 Check the allowable moment.

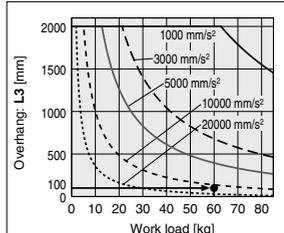
Refer to "Dynamic Allowable Moment" graphs (Pages 127 and 128).



Selection example) Select the **LEJS63V7B-300** from the graph on the right side.

Confirm that the external force is 20 [N] or less.

(The external force is the resistance due to cable duct, flexible trunking or air tubing.)

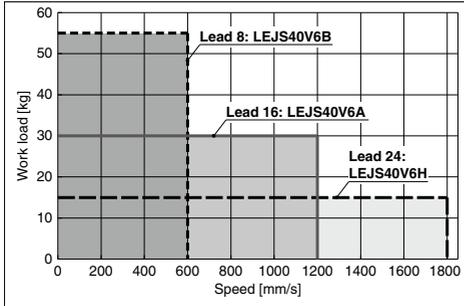


<Dynamic allowable moment>
(LEJS63)

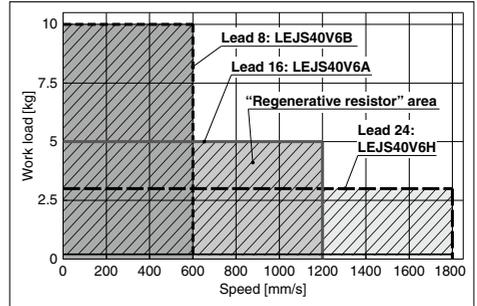
Speed–Work Load Graph/Conditions for “Regenerative Resistor” (Guide)

LEJS40V6□/Ball Screw Drive

Horizontal

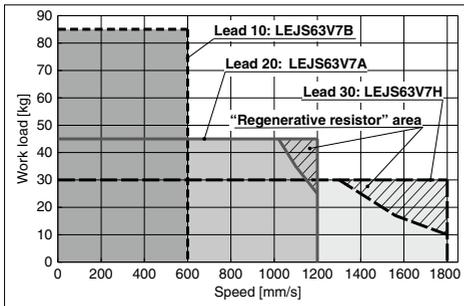


Vertical

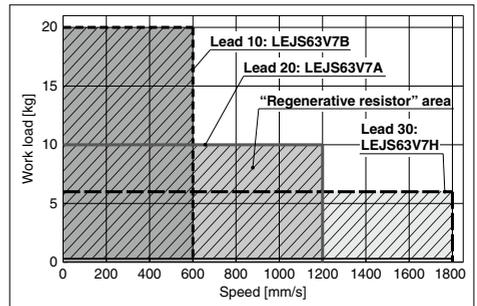


LEJS63V7□/Ball Screw Drive

Horizontal

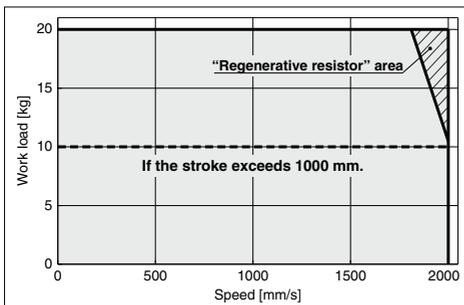


Vertical



LEJB40V6T/Belt Drive

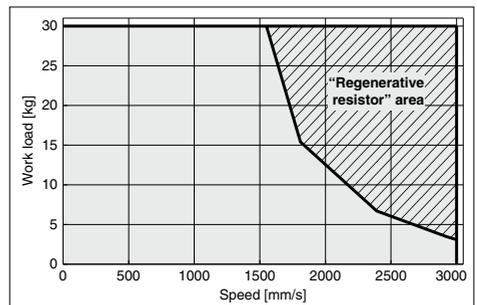
Horizontal



* When the stroke of the LEJB40 series exceeds 1000 mm, the work load is 10 kg.

LEJB63V7T/Belt Drive

Horizontal



“Regenerative resistor” area

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

* Regenerative resistor should be provided by the customer.

Applicable Motor/Driver

Model	Applicable model	
	Motor	Servopack (SMC driver)
LEJ□40□	SGMJV-01A3A	SGDV-R90A11□ (LECYM2-V5) SGDV-R90A21□ (LECYU2-V5)
LEJ□63□	SGMJV-02A3A	SGDV-1R6A11□ (LECYM2-V7) SGDV-1R6A21□ (LECYU2-V7)

Electric Actuator/High Rigidity Slider Type Ball Screw Drive

LEJS Series



Clean Room Specification ▶ Page 533

Secondary Battery Compatible ▶ Page 541

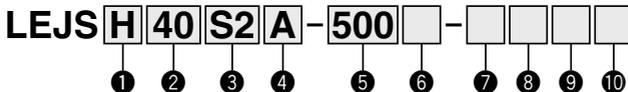
Motorless Type ▶ Page 834



LECY □ Series ▶ Page 628-1

* See tables 3 and 9 below.

How to Order



1 Accuracy

Nil	Basic type
H	High precision type

2 Size

40
63

3 Motor type

Symbol	Type	Output [W]	Actuator size	Compatible driver	UL-compliant		
S2 ^{*1}	AC servo motor (Incremental encoder)	100	40	LECSA□-S1	—		
S3	AC servo motor (Incremental encoder)	200	63	LECSA□-S3	—		
S6 ^{*1}	AC servo motor (Absolute encoder)	100	40	LECSB□-S5 LECSS□-S5 LECSS□-S5	—		
S7	AC servo motor (Absolute encoder)	200	63	LECSB□-S7 LECSS□-S7 LECSS□-S7	—		
T6 ^{*2, *3}	AC servo motor (Absolute encoder)	100	40	LECSB2-T5	—		
T7 ^{*3}				200	63	LECSS2-T5	● ^{*3}
						LECSS2-T7	—

*1 For motor type S2 and S6, the compatible driver part number suffixes are S1 and S5 respectively.

*2 For motor type T6, the compatible driver part number suffix is T5.

*3 The only compatible drivers compliant with UL standards are the LECS2-T5 and LECS2-T7.

Applicable Stroke Table^{*5}

Model	Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500
LEJS40		●	●	●	●	●	●	●	●	●	●	—
LEJS63		—	●	●	●	●	●	●	●	●	●	●

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

4 Lead [mm]

Symbol	LEJS40	LEJS63
H	24	30
A	16	20
B	8	10

5 Stroke [mm]^{*4}

200	*4 Refer to the applicable stroke table for details.
to	
1500	

6 Motor option

Nil	Without option
B	With lock

7 Cable type^{*6, *7, *8}

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

*7 The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)

*8 Standard cable entry direction is "A" Axis side". (Refer to page 623 for details.)

8 Cable length [m]^{*9}

Nil	Without cable
2	2
5	5
A	10

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

9 Driver type^{*6}

	Compatible driver	Power supply voltage [V]	UL-compliant
Nil	Without driver	—	—
A1	LECSA1-S□	100 to 120	—
A2	LECSA2-S□	200 to 230	—
B1	LECSB1-S□	100 to 120	—
B2	LECSB2-S□	200 to 230	—
C1	LECS1-S□	100 to 120	—
C2	LECS2-S□	200 to 230	—
S1	LECSS1-S□	100 to 120	—
S2	LECSS2-S□	200 to 230	—
	LECSS2-T□	200 to 240	●

10 I/O cable length [m]^{*10}

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

*10 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 624 if I/O cable is required. (Options are shown on page 624.)

*6 When the driver type is selected, the cable is included. Select cable type and cable length. Example)

S2S2: Standard cable (2 m) + Driver (LECSS2)

S2 : Standard cable (2 m)

Nil : Without cable and driver

For auto switches, refer to pages 142 to 144.

Compatible Driver

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

Specifications

AC Servo Motor (100/200 W)

Model		LEJS40S ² /T6				LEJS63S ³ /T7			
Actuator specifications	Stroke [mm] <small>Note 1)</small>	200, 300, 400, 500, 600, 700, 800 900, 1000, 1200				300, 400, 500, 600, 700, 800, 900 1000, 1200, 1500			
	Work load [kg] <small>Note 2)</small>	Horizontal	15	30	55	30	45	85	
		Vertical	3	5	10	6	10	20	
	Speed <small>Note 3)</small> [mm/s]	Stroke range	Up to 500	1800	1200	600	1800	1200	600
			501 to 600	1580	1050	520	1800	1200	600
			601 to 700	1170	780	390	1800	1200	600
			701 to 800	910	600	300	1390	930	460
			801 to 900	720	480	240	1110	740	370
			901 to 1000	580	390	190	900	600	300
			1001 to 1100	480	320	160	750	500	250
			1101 to 1200	410	270	130	630	420	210
			1201 to 1300	—	—	—	540	360	180
			1301 to 1400	—	—	—	470	310	150
	1401 to 1500	—	—	—	410	270	130		
	Max. acceleration/deceleration [mm/s ²]	20000 (Refer to pages 124 and 125 for limit according to work load and duty ratio.)							
Positioning repeatability [mm]	Basic type	±0.02							
	High precision type	±0.01							
Lost motion [mm] <small>Note 4)</small>	Basic type	0.1 or less							
	High precision type	0.05 or less							
Lead [mm]		24	16	8	30	20	10		
Impact/Vibration resistance [m/s ²] <small>Note 5)</small>		50/20							
Actuation type		Ball screw							
Guide type		Linear guide							
Operating temperature range [°C]		5 to 40							
Operating humidity range [%RH]		90 or less (No condensation)							
Regeneration option		May be required depending on speed and work load. (Refer to page 121.)							
Motor output [W]/Size [mm]		100□140			200□160				
Motor type		AC servo motor (100/200 VAC)							
Encoder <small>Note 14)</small>		Motor type S2, S3: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7: Absolute 18-bit encoder (Resolution: 262144 p/rev) Motor type T6, T7: Absolute 22-bit encoder (Resolution: 4194304 p/rev) (For LECSB-T□, LECSB-T□) Motor type T6, T7: Absolute 18-bit encoder (Resolution: 262144 p/rev) (For LECSB-T□)							
Power consumption [W] <small>Note 6)</small>	Horizontal	65			80				
	Vertical	165			235				
Standby power consumption when operating [W] <small>Note 7)</small>	Horizontal	2			2				
	Vertical	10			12				
Max. instantaneous power consumption [W] <small>Note 8)</small>		445			725				
Type <small>Note 9)</small>		Non-magnetizing lock							
Holding force [N]		67	101	203	220	330	660		
Power consumption at 20°C [W] <small>Note 10)</small>		6.3				7.9			
Rated voltage [V]		24 VDC ⁰ _{-10%}							

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.

Note 2) For details, refer to "Speed-Work Load Graph (Guide)" on page 121.

Note 3) The allowable speed changes according to the stroke.

Note 4) A reference value for correcting an error in reciprocal operation.

Note 5) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)

Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)

Note 6) The power consumption (including the driver) is for when the actuator is operating.

Note 7) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.

Note 8) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.

Note 9) Only when motor option "With lock" is selected.

Note 10) For an actuator with lock, add the power consumption for the lock.

Note 11) Sensor magnet position is located in the table center. For detailed dimensions, refer to "Auto Switch Mounting Position" on page 142.

Note 12) Do not allow collisions at either end of the table traveling distance. Additionally, when running the positioning operation, do not set within 2 mm of both ends.

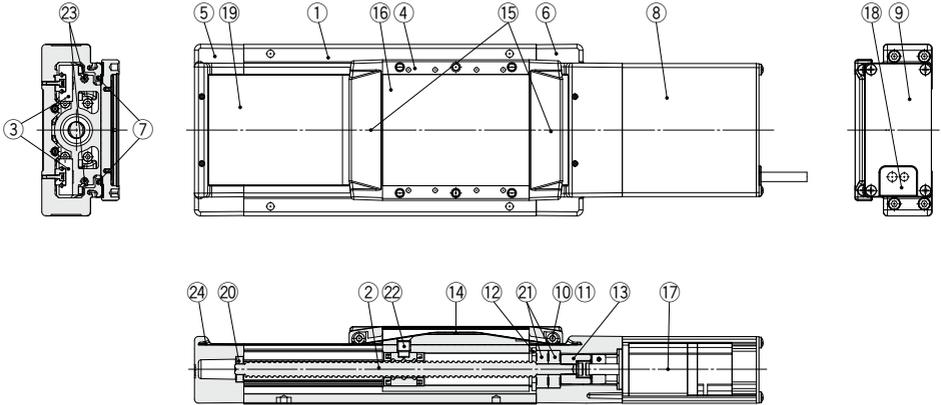
Note 13) For the manufacture of intermediate strokes, please contact SMC. (LEJS40/Manufacturable stroke range: 200 to 1200 mm, LEJS63/Manufacturable stroke range: 300 to 1500 mm)

Note 14) The resolution will change depending on the driver type.

Weight

Model	LEJS40									
Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200
Product weight [kg]	5.6	6.4	7.1	7.9	8.7	9.4	10.2	11.0	11.7	13.3
Additional weight with lock [kg]	S2: 0.2/S6: 0.3/T6: 0.2									
Model	LEJS63									
Stroke [mm]	300	400	500	600	700	800	900	1000	1200	1500
Product weight [kg]	11.4	12.7	13.9	15.2	16.4	17.7	18.9	20.1	22.6	26.4
Additional weight with lock [kg]	S3: 0.4/S7: 0.7/T7: 0.4									

Construction



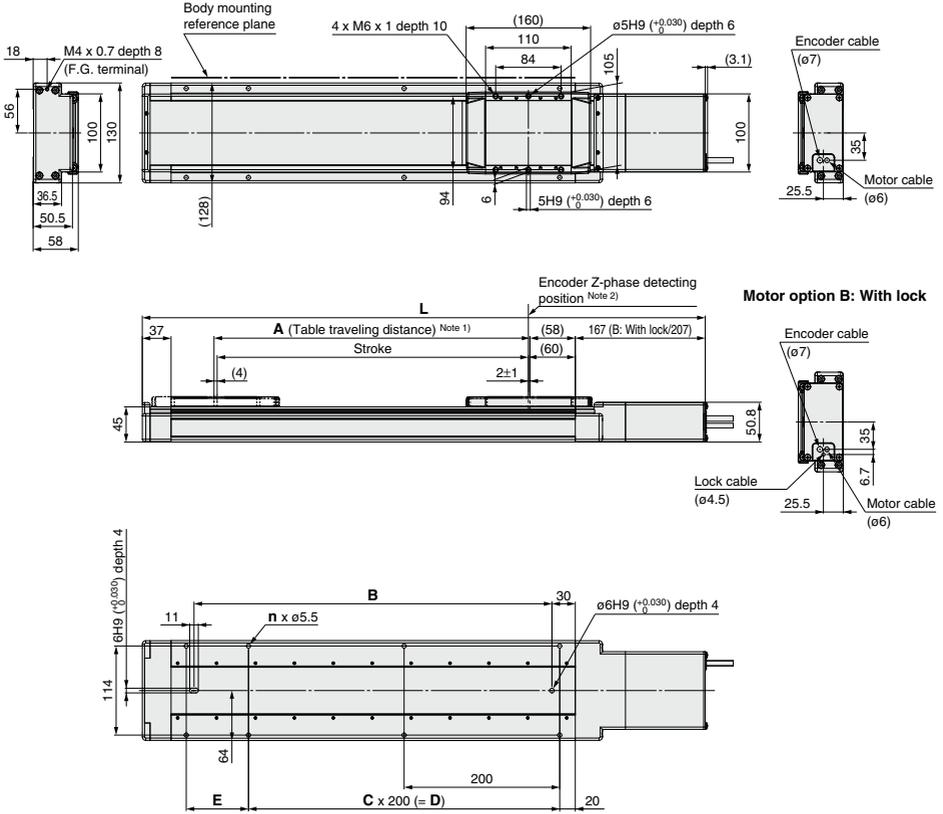
Component Parts

No	Description	Material	Note
1	Body	Aluminum alloy	Anodized
2	Ball screw assembly	—	
3	Linear guide assembly	—	
4	Table	Aluminum alloy	Anodized
5	Housing A	Aluminum alloy	Coating
6	Housing B	Aluminum alloy	Coating
7	Seal magnet	—	
8	Motor cover	Aluminum alloy	Anodized
9	End cover A	Aluminum alloy	Anodized
10	Roller shaft	Stainless steel	
11	Roller	Synthetic resin	
12	Bearing stopper	Carbon steel	

No	Description	Material	Note
13	Coupling	—	
14	Table cap	Synthetic resin	
15	Seal band holder	Synthetic resin	
16	Blanking plate	Aluminum alloy	Anodized
17	Motor	—	
18	Grommet	NBR	
19	Dust seal band	Stainless steel	
20	Bearing	—	
21	Bearing	—	
22	Nut fixing pin	Carbon steel	
23	Magnet	—	
24	Seal band stopper	Stainless steel	

Dimensions: Ball Screw Drive

LEJS40



Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

Note 2) The Z-phase first detecting position from the stroke end of the motor side.

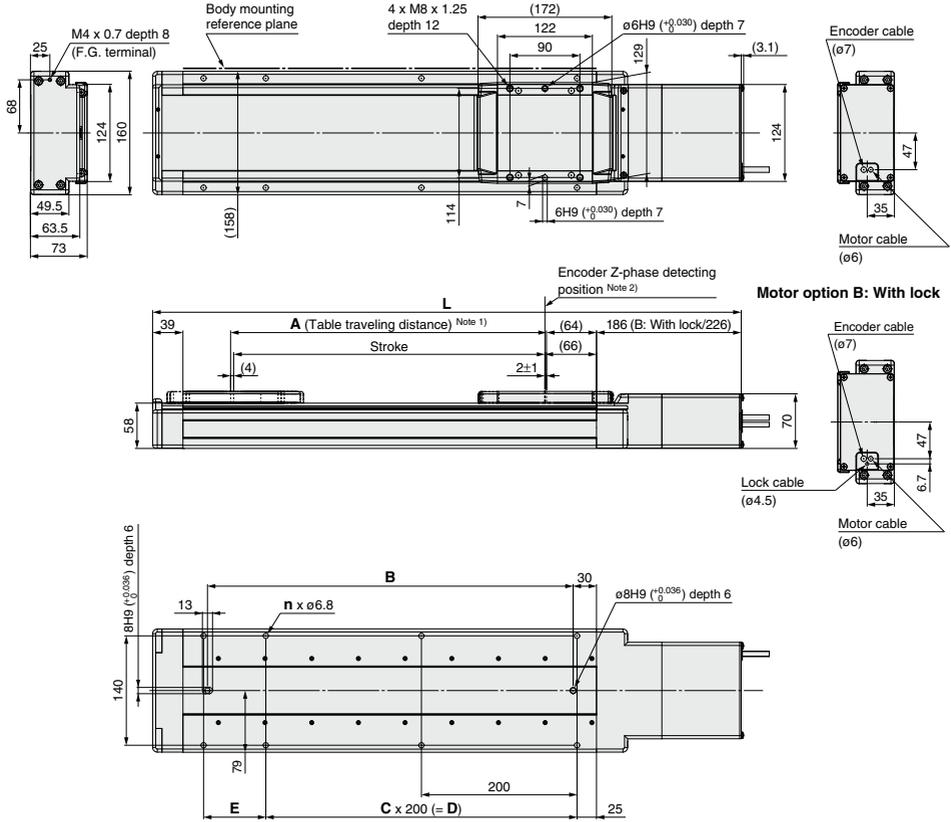
Note 3) Auto switch magnet is located in the table center.

Model	L		A	B	n	C	D	E
	Without lock	With lock						
LEJS40□□-200□-□□□□	523.5	563.5	206	260	6	1	200	80
LEJS40□□-300□-□□□□	623.5	663.5	306	360	6	1	200	180
LEJS40□□-400□-□□□□	723.5	763.5	406	460	8	2	400	80
LEJS40□□-500□-□□□□	823.5	863.5	506	560	8	2	400	180
LEJS40□□-600□-□□□□	923.5	963.5	606	660	10	3	600	80
LEJS40□□-700□-□□□□	1023.5	1063.5	706	760	10	3	600	180
LEJS40□□-800□-□□□□	1123.5	1163.5	806	860	12	4	800	80
LEJS40□□-900□-□□□□	1223.5	1263.5	906	960	12	4	800	180
LEJS40□□-1000□-□□□□	1323.5	1363.5	1006	1060	14	5	1000	80
LEJS40□□-1200□-□□□□	1523.5	1563.5	1206	1260	16	6	1200	80

[mm]

Dimensions: Ball Screw Drive

LEJS63



Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

Note 2) The Z-phase first detecting position from the stroke end of the motor side.

Note 3) Auto switch magnet is located in the table center.

Model	L		A	B	n	C	D	E
	Without lock	With lock						
LEJS63□□□-300□-□□□□	656.5	696.5	306	370	6	1	200	180
LEJS63□□□-400□-□□□□	756.5	796.5	406	470	8	2	400	80
LEJS63□□□-500□-□□□□	856.5	896.5	506	570	8	2	400	180
LEJS63□□□-600□-□□□□	956.5	996.5	606	670	10	3	600	80
LEJS63□□□-700□-□□□□	1056.5	1096.5	706	770	10	3	600	180
LEJS63□□□-800□-□□□□	1156.5	1196.5	806	870	12	4	800	80
LEJS63□□□-900□-□□□□	1256.5	1296.5	906	970	12	4	800	180
LEJS63□□□-1000□-□□□□	1356.5	1396.5	1006	1070	14	5	1000	80
LEJS63□□□-1200□-□□□□	1556.5	1596.5	1206	1270	16	6	1200	80
LEJS63□□□-1500□-□□□□	1856.5	1896.5	1506	1570	18	7	1400	180

Built-in Intermediate Supports Type

These specifications enable the maximum speed to be realized throughout the entire stroke.

Electric Actuator/High Rigidity Slider Type Ball Screw Drive LEJS63□-□M Series



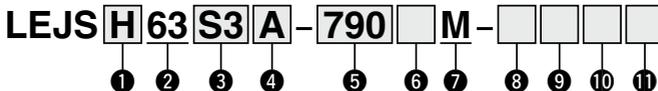
* See tables 6 and 10 below.



Please contact SMC for clean room specification and the models compatible with secondary batteries.

LECY□ Series ▶ Page 628-1 Motorless Type ▶ Page 834

How to Order



1 Accuracy

Nil	Basic type
H	High-precision type

2 Size

63

4 Lead [mm]

H	30
A	20
B	10

3 Motor type

Symbol	Type	Output [W]	Actuator size	Compatible driver	UL-compliant
S3	AC servo motor (Incremental encoder)	200	63	LECSA□-S3	—
S7	AC servo motor (Absolute encoder)	200	63	LECSB□-S7 LECS□-S7 LECSS□-S7	—
T7 *1	AC servo motor (Absolute encoder)	200	63	LECSB2-T7 LECS2-T7 LECSS2-T7	— — ●*1

*1 The only compatible drivers compliant with UL standards are the LECS2-T7.

5 Stroke [mm]*2

790	890	990	1190	1490	1790
●	●	○	○	○	○

*2 Please consult with SMC for non-standard strokes as they are produced upon receipt of order.

6 Motor option

Nil	None
B	With lock

7 Built-in intermediate supports

M	Built-in intermediate supports
----------	--------------------------------

8 Cable type*3 *4

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

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

Example)

S2S2: Standard cable (2 m) + Driver (LECSS2)

S2: Standard cable (2 m)

Nil: Without cable and driver

*4 The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)

9 Cable length*3 *5

Nil	Without cable
2	2
5	5
A	10

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

11 I/O connector*6

Nil	Without cable
H	Without cable (Connector only)
1	1.5 [m]

*6 When "Without driver" is selected, only "Without cable" can be selected.

10 Driver type*3

Symbol	Compatible driver	Power supply voltage [V]	UL-compliant
Nil	Without driver	—	—
A1	LECSA1-□	100 to 120	—
A2	LECSA2-□	200 to 230	—
B1	LECSB1-□	100 to 120	—
B2	LECSB2-□	200 to 230	—
C1	LECS1-□	100 to 120	—
C2	LECS2-□	200 to 230	—
	LECSS2-□	—	—
S1	LECS1-□	100 to 120	—
S2	LECS2-□	200 to 230	—
	LECSS2-□	200 to 240	●

Compatible Driver

For auto switches, refer to pages 142 to 144.

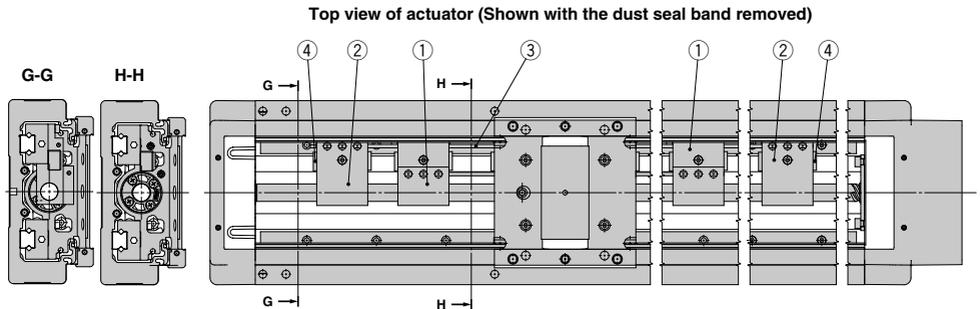
Driver type	Pulse input type / Positioning type	Pulse input type	CC-Link direct input type	SSCNET III type	Pulse Input Type	CC-Link Direct Input Type	SSCNET III type
Series	LECSA	LECSB	LECS	LECSS	LECSB-T	LECS2-T	LECSS-T
Number of point tables	Up to 7	—	Up to 255	—	Up to 255	Up to 255 (2 stations occupied)	—
Pulse input	○	○	—	—	○	—	—
Applicable network	—	—	CC-Link	SSCNET III	—	CC-Link	SSCNET III/H
Control encoder	Incremental 17-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder
Communication function	USB communication	USB communication, RS422 communication	USB communication, RS422 communication	USB communication	USB communication, RS422 communication	RS422 communication	USB communication
Power supply voltage [V]	—	100 to 120 VAC (50/60 Hz) 200 to 230 VAC (50/60 Hz)	—	—	200 to 240 VAC (50/60Hz)	200 to 230 VAC (50/60Hz)	200 to 240 VAC (50/60 Hz)
Reference page	—	—	—	—	—	—	—

Specifications

		Lead [mm]	30	20	10
Work load [kg]	Horizontal		30	45	85
	Vertical		6	10	20
Speed [mm/s]	Stroke range	790	1800	1200	600
		890			
		990			
		1190			
		1490			
		1790			

For the model selection method, refer to page 120. Specifications other than those listed are the same as the standard product. Refer to page 133 for details.

Construction



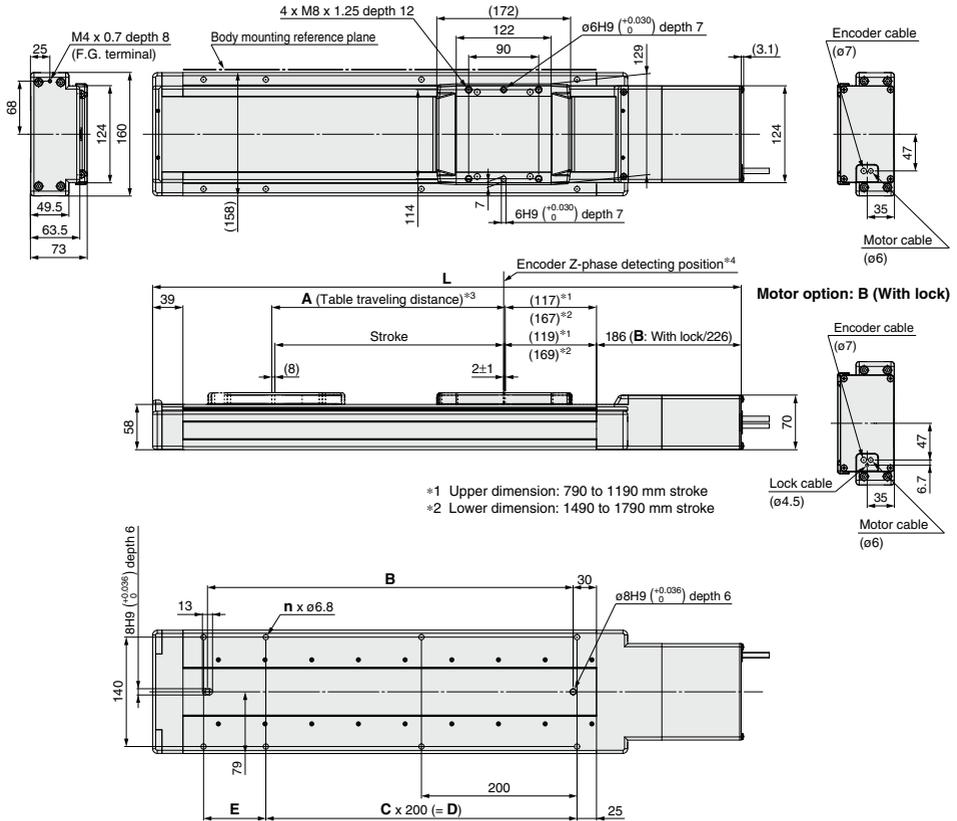
Component Parts

No.	Description	Material
1	Support A	Synthetic resin
2	Support B	Synthetic resin
3	Connection pipe	Stainless steel
4	Bumper	Low-elasticity rubber

LEJS63□-□M Series

Dimensions: Ball Screw Drive

AC servo motor



*1 Upper dimension: 790 to 1190 mm stroke
 *2 Lower dimension: 1490 to 1790 mm stroke

*3 This is the distance within which the table can move when it returns to origin. Make sure workpieces mounted on the table do not interfere with the workpieces and facilities around the table.

*4 The Z-phase first detecting position from the stroke end of the motor side

* The auto switch magnet is located in the table center.

⚠ Caution

1. During operation, the intermediate support mechanism emits a collision noise due to the structure.
2. Compared to the standard product, the entire length of the product will be longer for each stroke. For details, refer to the dimensions.
3. The stopper type origin position return method cannot be used as the return to origin method (due to the bumper as shown in Construction ④).

Dimensions and Weight

Model	L		A	B	n	C	D	E	Product weight*1 [kg]
	Without lock	With lock							
LEJS□63□-790□M-□□□□	1256.5	1296.5	800	970	12	4	800	180	19.4
LEJS□63□-890□M-□□□□	1356.5	1396.5	900	1070	14	5	1000	80	20.7
LEJS□63□-990□M-□□□□	1456.5	1496.5	1000	1170	14	5	1000	180	21.9
LEJS□63□-1190□M-□□□□	1656.5	1696.5	1200	1370	16	6	1200	180	24.4
LEJS□63□-1490□M-□□□□	2056.5	2096.5	1500	1770	20	8	1600	180	29.9
LEJS□63□-1790□M-□□□□	2356.5	2396.5	1800	2070	24	10	2000	80	33.7

*1 When using a lock, add 0.4 (incremental encoder) or 0.7 (absolute encoder).

Electric Actuator/High Rigidity Slider Type Ball Screw Drive

LEJS Series LEJS40, 63



Please contact SMC for clean room specification and the models compatible with secondary batteries.

LECS□ Series ▶ Page 607

How to Order

LEJS **H** **40** **V6** **A** - **500** □ - □ □ □ □

1 2 3 4 5 6 7 8 9 10

1 Accuracy

Nil	Basic type
H	High precision type

2 Size

40
63

3 Motor type *1

Symbol	Type	Output [W]	Actuator size	Compatible driver
V6	AC servo motor (Absolute encoder)	100	40	LECYM2-V5 LECYU2-V5
V7	AC servo motor (Absolute encoder)	200	63	LECYM2-V7 LECYU2-V7

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

4 Lead [mm]

Symbol	LEJS40	LEJS63
H	24	30
A	16	20
B	8	10

5 Stroke [mm] *2

200
to
1500

*2 Refer to the applicable stroke table for details.

6 Motor option

Nil	Without option
B	With lock

7 Cable type *4, *5

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

*5 The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)

8 Cable length [m] *4, *6

Nil	Without cable
3	3
5	5
A	10
C	20

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

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

9 Driver type *4

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

10 I/O cable length [m] *7

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

*7 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected.

Refer to page 628-8 if I/O cable is required.

(Options are shown on page 628-8.)

Applicable Stroke Table *3

Model	Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500
LEJS40		●	●	●	●	●	●	●	●	●	●	—
LEJS63		—	●	●	●	●	●	●	●	●	●	●

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

For auto switches, refer to pages 142 to 144.

Compatible Driver

Driver type	MECHATROLINK-II type	MECHATROLINK-III type
Series	LECYM	LECYU
Applicable network	MECHATROLINK-II	MECHATROLINK-III
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	Page 628-1	

Specifications

AC Servo Motor (100/200 W)

Model		LEJS40V6			LEJS63V7					
Stroke [mm] ^{Note 1)}		200, 300, 400, 500, 600, 700, 800 900, 1000, 1200			300, 400, 500, 600, 700, 800, 900 1000, 1200, 1500					
Work load [kg] ^{Note 2)}		Horizontal		15	30	55	30	45	85	
		Vertical		3	5	10	6	10	20	
Speed ^{Note 3)} [mm/s]		Stroke range		Up to 500	1800	1200	600	1800	1200	600
				501 to 600	1580	1050	520	1800	1200	600
				601 to 700	1170	780	390	1800	1200	600
				701 to 800	910	600	300	1390	930	460
				801 to 900	720	480	240	1110	740	370
				901 to 1000	580	390	190	900	600	300
				1001 to 1100	480	320	160	750	500	250
				1101 to 1200	410	270	130	630	420	210
				1201 to 1300	—	—	—	540	360	180
				1301 to 1400	—	—	—	470	310	150
1401 to 1500	—	—	—	410	270	130				
Max. acceleration/deceleration [mm/s ²]		20000 (Refer to pages 124 and 125 for limit according to work load and duty ratio.)								
Positioning repeatability [mm]		Basic type		±0.02						
		High precision type		±0.01						
Lost motion [mm] ^{Note 4)}		Basic type		0.1 or less						
		High precision type		0.05 or less						
Lead [mm]		24	16	8	30	20	10			
Impact/Vibration resistance [m/s ²] ^{Note 5)}		50/20								
Actuation type		Ball screw								
Guide type		Linear guide								
Operating temperature range [°C]		5 to 40								
Operating humidity range [%RH]		90 or less (No condensation)								
Regenerative resistor		May be required depending on speed and work load. (Refer to page 131-2.)								
Motor output [W]/Size [mm]		100/□40			200/□60					
Motor type		AC servo motor (200 VAC)								
Encoder		Absolute 20-bit encoder (Resolution: 1048576 p/rev)								
Power consumption [W] ^{Note 6)}		Horizontal		65	80					
		Vertical		165	235					
Standby power consumption when operating [W] ^{Note 7)}		Horizontal		2	2					
		Vertical		10	12					
Max. instantaneous power consumption [W] ^{Note 8)}		445			725					
Type ^{Note 9)}		Non-magnetizing lock								
Holding force [N]		67	101	202	108	162	324			
Power consumption at 20°C [W] ^{Note 10)}		5.5			6					
Rated voltage [V]		24 VDC ^{+10%} ₀								

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.

Note 2) Check "Speed-Work Load Graph (Guide)" on page 131-2.

Note 3) The allowable speed changes according to the stroke.

Note 4) A reference value for correcting an error in reciprocal operation.

Note 5) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)

Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)

Note 6) The power consumption (including the driver) is for when the actuator is operating.

Note 7) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.

Note 8) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.

Note 9) Only when motor option "With lock" is selected.

Note 10) For an actuator with lock, add the power consumption for the lock.

Note 11) Sensor magnet position is located in the table center. For detailed dimensions, refer to "Auto Switch Mounting Position".

Note 12) Do not allow collisions at either end of the table traveling distance. Additionally, when running the positioning operation, do not set within 2 mm of both ends.

Note 13) For the manufacture of intermediate strokes, please contact SMC. (LEJS40/Manufacturable stroke range: 200 to 1200 mm, LEJS63/Manufacturable stroke range: 300 to 1500 mm)

Weight

Model		LEJS40									
Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	
Product weight [kg]	5.6	6.4	7.1	7.9	8.7	9.4	10.2	11.0	11.7	13.3	
Additional weight with lock [kg]	0.3 (Absolute encoder)										
Model		LEJS63									
Stroke [mm]	300	400	500	600	700	800	900	1000	1200	1500	
Product weight [kg]	11.4	12.7	13.9	15.2	16.4	17.7	18.9	20.1	22.6	26.4	
Additional weight with lock [kg]	0.7 (Absolute encoder)										

Built-in Intermediate Supports Type

These specifications enable the maximum speed to be realized throughout the entire stroke.

**Electric Actuator/High Rigidity Slider Type
Ball Screw Drive
LEJS63□-□M Series**

Please contact SMC for clean room specification and the models compatible with secondary batteries.

LECS Series Page 607

How to Order

For the model selection method, refer to page 131-1, and for details on the specifications, construction, and dimensions, refer to page 136-02 and onwards.

LEJS **H** 63 **S3** **A** - **790** □ **M** - □ □ □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Accuracy

NII	Basic type
H	High-precision type

② Size

63

③ Motor type

Symbol	Type	Output [W]	Actuator size	Compatible driver
V7	AC servo motor (Absolute encoder)	200	63	LECYM2-V7 LECYU2-V7

④ Lead [mm]

H	30
A	20
B	10

⑤ Stroke [mm]*1

● Standard ○ Produced upon receipt of order

790	890	990	1190	1490	1790
●	●	○	○	○	○

*1 Please consult with SMC for non-standard strokes as they are produced upon receipt of order.

⑥ Motor option

NII	None
B	With lock

⑦ Built-in intermediate supports

M	Built-in intermediate supports
----------	--------------------------------

⑧ Driver type*2

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

⑧ Cable type*2 *3

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

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

Example)

S2S2: Standard cable (2 m) + Driver (LECS2)

S2: Standard cable (2 m)

NII: Without cable and driver

*3 The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)

⑨ Cable length*2 *4

NII	Without cable
3	3
5	5
A	10
C	20

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

⑩ I/O connector*5

NII	Without cable
H	Without cable (Connector only)
1	1.5 [m]

*5 When "Without driver" is selected, only "Without cable" can be selected.

For auto switches, refer to pages 142 to 144.

Compatible Driver

Driver type	MECHATROLINK-II type	MECHATROLINK-III type
Series	LECYM	LECYU
Applicable network	MECHATROLINK-II	MECHATROLINK-III
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	Page 628-1	

Electric Actuator/High Rigidity Slider Type Belt Drive

LEJB Series

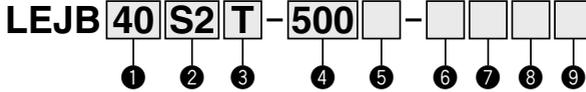


LECY □ Series ▶ Page 628-1



* See tables 2 and 3 below.

How to Order



① Size

40
63

③ Lead [mm]

Symbol	LEJB40	LEJB63	
	T	27	42

④ Stroke [mm]^{*4}

200
to
3000

*4 Refer to the applicable stroke table for details.

⑤ Motor option

Nil	Without option
B	With lock

⑥ Cable type^{*6, *7, *8}

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

② Motor type

Symbol	Type	Output [W]	Actuator size	Compatible driver	UL-compliant
S2^{*1}	AC servo motor (Incremental encoder)	100	40	LECSA□-S1	—
S3	AC servo motor (Incremental encoder)	200	63	LECSA□-S3	—
S6^{*1}	AC servo motor (Absolute encoder)	100	40	LECSB□-S5 LECS□-S5 LECSS□-S5	—
S7	AC servo motor (Absolute encoder)	200	63	LECSB□-S7 LECS□-S7 LECSS□-S7	—
T6^{*2, *3}	AC servo motor (Absolute encoder)	100	40	LECSB2-T5 LECS2-T5	—
T7^{*3}				LECSS2-T5	● ^{*3}
		200	63	LECSB2-T7 LECS2-T7 LECSS2-T7	—

*1 For motor type S2 and S6, the compatible driver part number suffixes are S1 and S5 respectively.
 *2 For motor type T6, the compatible driver part number suffix is T5.
 *3 The only compatible drivers complaint with UL standards are the LECS2-T5 and LECS2-T7.

⑦ Cable length [m]^{*6, *9}

Nil	Without cable
2	2
5	5
A	10

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

⑨ I/O cable length [m]^{*10}

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

*10 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 624 if I/O cable is required. (Options are shown on page 624.)

*7 The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)

*8 Standard cable entry direction is "A" Axis side". (Refer to page 623 for details.)

⑧ Driver type^{*6}

	Compatible driver	Power supply voltage [V]	UL-compliant
Nil	Without driver	—	—
A1	LECSA1	100 to 120	—
A2	LECSA2	200 to 230	—
B1	LECSB1	100 to 120	—
B2	LECSB2-□ LECSB2-T□	200 to 230 200 to 240	— —
C1	LECS1	100 to 120	—
C2	LECS2-□ LECS2-T□	200 to 230	— —
S1	LECSS1	100 to 120	—
S2	LECSS2-□ LECSS2-T□	200 to 230 200 to 240	— ●

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

Example
 S2S2: Standard cable (2 m) + Driver (LECSS2)
 S2 : Standard cable (2 m)
 Nil : Without cable and driver

Applicable Stroke Table^{*5}

Model	Stroke [mm]													
	200	300	400	500	600	700	800	900	1000	1200	1500	2000	3000	
LEJB40	●	●	●	●	●	●	●	●	●	●	●	●	●	—
LEJB63	—	—	●	●	●	●	●	●	●	●	●	●	●	●

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

Compatible Driver

For auto switches, refer to pages 142 to 144.

Driver type	Pulse input type /Positioning type	Pulse input type	CC-Link direct input type	SSCNET III type	Pulse Input Type	CC-Link Direct Input Type	SSCNET III/H type
Series	LECSA	LECSB	LECS	LECSS	LECSB-T	LECS2-T	LECSNET III/H
Number of point tables	Up to 7	—	Up to 255	—	Up to 255	Up to 255 (2 stations occupied)	—
Pulse input	○	○	—	—	○	—	—
Applicable network	—	—	CC-Link	SSCNET III	—	CC-Link	SSCNET III/H
Control encoder	Incremental 17-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder	Absolute 18-bit encoder	Absolute 22-bit encoder
Communication function	USB communication	USB communication, RS422 communication	USB communication, RS422 communication	USB communication	USB communication, RS422 communication	USB communication	USB communication
Power supply voltage [V]	—	100 to 120 VAC (50/60 Hz) 200 to 230 VAC (50/60 Hz)	—	—	200 to 240 VAC (50/60 Hz)	200 to 230 VAC (50/60 Hz)	200 to 240 VAC (50/60 Hz)
Reference page	—	—	—	—	—	—	—

Specifications

AC Servo Motor

Model		LEJB40S ² /T6	LEJB63S ³ /T7	
Actuator specifications	Stroke [mm] ^{Note 1)}	200, 300, 400, 500, 600, 700, 800 900, 1000, 1200, 1500, 2000	300, 400, 500, 600, 700, 800 900, 1000, 1200, 1500, 2000, 3000	
	Work load [kg]	Horizontal	20 (If the stroke exceeds 1000 mm: 10)	
	Speed [mm/s] ^{Note 2)}		2000	
	Max. acceleration/deceleration [mm/s ²]		20000 (Refer to page 126 for limit according to work load and duty ratio.)	
	Positioning repeatability [mm]		±0.04	
	Lost motion [mm] ^{Note 3)}		0.1 or less	
	Lead [mm]		27	
	Impact/Vibration resistance [m/s ²] ^{Note 4)}		50/20	
	Actuation type		Belt	
	Guide type		Linear guide	
	Allowable external force [N]		20	
	Operating temperature range [°C]		5 to 40	
	Operating humidity range [%RH]		90 or less (No condensation)	
Regeneration option		May be required depending on speed and work load. (Refer to page 121.)		
Electric specifications	Motor output [W]/Size [mm]	100□40	200□60	
	Motor type	AC servo motor (100/200 VAC)		
	Encoder ^{Note 13)}	Motor type S2, S3: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7: Absolute 18-bit encoder (Resolution: 262144 p/rev) Motor type T6, T7: Absolute 22-bit encoder (Resolution: 4194304 p/rev) (For LECSCB-□□, LECSC-T□) Motor type T6, T7: Absolute 18-bit encoder (Resolution: 262144 p/rev) (For LECSC-T□)		
	Power consumption [W] ^{Note 5)}	Horizontal	65	
		Vertical	—	
	Standby power consumption when operating [W] ^{Note 6)}	Horizontal	2	
		Vertical	—	
	Max. instantaneous power consumption [W] ^{Note 7)}		445	
	Lock unit specifications	Type ^{Note 8)}	Non-magnetizing lock	
		Holding force [N]	60	157
Power consumption at 20°C [W] ^{Note 9)}		6.3	7.9	
Rated voltage [V]		24 VDC ⁰ _{-10%}		

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.

Note 2) For details, refer to "Speed-Work Load Graph (Guide)" on page 121.

Note 3) A reference value for correcting an error in reciprocal operation.

Note 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. (Test was performed with the actuator in the initial state.)

Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)

Note 5) The power consumption (including the driver) is for when the actuator is operating.

Note 6) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.

Note 7) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.

Note 8) Only when motor option "With lock" is selected.

Note 9) For an actuator with lock, add the power consumption for the lock.

Note 10) Sensor magnet position is located in the table center.

For detailed dimensions, refer to "Auto Switch Mounting Position" on page 142.

Note 11) Do not allow collisions at either end of the table traveling distance. Additionally, when running the positioning operation, do not set within 2 mm of both ends.

Note 12) For the manufacture of intermediate strokes, please contact SMC.

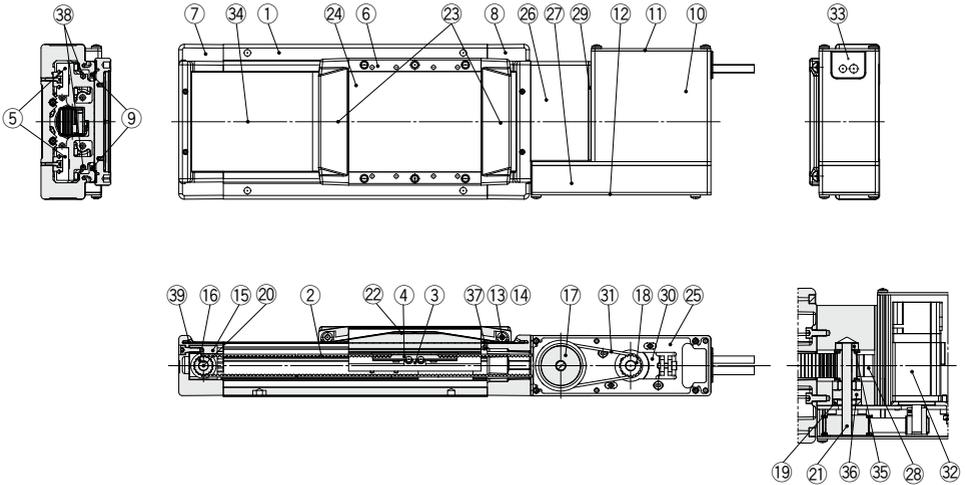
(LEJB40/Manufacturable stroke range: 200 to 2000 mm, LEJB63/Manufacturable stroke range: 300 to 3000 mm)

Note 13) The resolution will change depending on the driver type.

Weight

Model	LEJB40											
Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500	2000
Product weight [kg]	5.7	6.4	7.1	7.7	8.4	9.1	9.8	10.5	11.2	12.6	14.7	18.1
Additional weight with lock [kg]	S2: 0.2/S6: 0.3/T6: 0.2											
Model	LEJB63											
Stroke [mm]	300	400	500	600	700	800	900	1000	1200	1500	2000	3000
Product weight [kg]	11.5	12.7	13.8	15.0	16.2	17.4	18.6	19.7	22.1	25.7	31.6	43.4
Additional weight with lock [kg]	S3: 0.4/S7: 0.7/T7: 0.4											

Construction



Motor details

Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Anodized
2	Belt	—	
3	Belt holder	Carbon steel	
4	Belt stopper	Aluminum alloy	
5	Linear guide assembly	—	
6	Table	Aluminum alloy	Anodized
7	Housing A	Aluminum alloy	Coating
8	Housing B	Aluminum alloy	Coating
9	Seal magnet	—	
10	Motor cover	Aluminum alloy	Anodized
11	End cover A	Aluminum alloy	Anodized
12	End cover B	Aluminum alloy	Anodized
13	Roller shaft	Stainless steel	
14	Roller	Synthetic resin	
15	Pulley holder	Aluminum alloy	
16	Drive pulley	Aluminum alloy	
17	Speed reduction pulley	Aluminum alloy	
18	Motor pulley	Aluminum alloy	
19	Spacer	Aluminum alloy	
20	Pulley shaft A	Stainless steel	

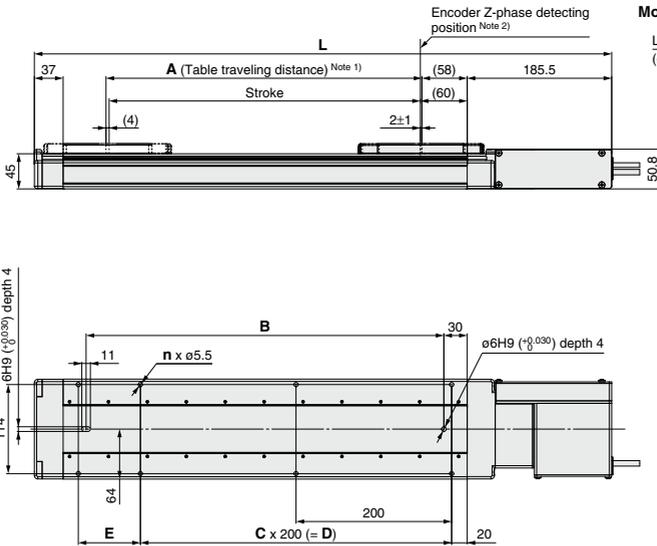
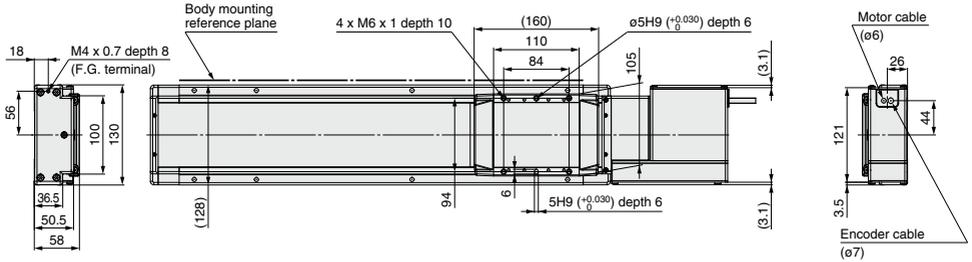
No.	Description	Material	Note
21	Pulley shaft B	Stainless steel	
22	Table cap	Synthetic resin	
23	Seal band holder	Synthetic resin	
24	Blanking plate	Aluminum alloy	Anodized
25	Motor mount plate	Carbon steel	
26	Pulley block	Aluminum alloy	Anodized
27	Pulley cover	Aluminum alloy	Anodized
28	Belt stopper	Aluminum alloy	
29	Side plate	Aluminum alloy	Anodized
30	Motor plate	Carbon steel	
31	Belt	—	
32	Motor	—	
33	Grommet	NBR	
34	Dust seal band	Stainless steel	
35	Bearing	—	
36	Bearing	—	
37	Stopper pin	Stainless steel	
38	Magnet	—	
39	Seal band stopper	Stainless steel	

LEJB Series

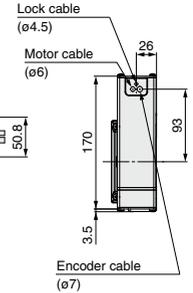
AC Servo Motor

Dimensions: Belt Drive

LEJB40



Motor option B: With lock



Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

Note 2) The Z-phase first detecting position from the stroke end of the motor side.

Note 3) Auto switch magnet is located in the table center.

Model	L	A	B	n	C	D	E
LEJB40□□□-200□-□□□□	542	206	260	6	1	200	80
LEJB40□□□-300□-□□□□	642	306	360	6	1	200	180
LEJB40□□□-400□-□□□□	742	406	460	8	2	400	80
LEJB40□□□-500□-□□□□	842	506	560	8	2	400	180
LEJB40□□□-600□-□□□□	942	606	660	10	3	600	80
LEJB40□□□-700□-□□□□	1042	706	760	10	3	600	180
LEJB40□□□-800□-□□□□	1142	806	860	12	4	800	80
LEJB40□□□-900□-□□□□	1242	906	960	12	4	800	180
LEJB40□□□-1000□-□□□□	1342	1006	1060	14	5	1000	80
LEJB40□□□-1200□-□□□□	1542	1206	1260	16	6	1200	80
LEJB40□□□-1500□-□□□□	1842	1506	1560	18	7	1400	180
LEJB40□□□-2000□-□□□□	2342	2006	2060	24	10	2000	80

Electric Actuator/High Rigidity Slider Type Belt Drive

LEJB Series LEJB40, 63



LECY Series ▶ Page 607

How to Order

LEJB **40** **V6** **T** - **500** -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Size

40
63

② Motor type *1

Symbol	Type	Output [W]	Actuator size	Compatible driver
V6	AC servo motor (Absolute encoder)	100	40	LECYM2-V5 LECYU2-V5
V7	AC servo motor (Absolute encoder)	200	63	LECYM2-V7 LECYU2-V7

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

③ Lead [mm]

Symbol	LEJB40	LEJB63
T	27	42

④ Stroke [mm] *2

200
to
3000

*2 Refer to the applicable stroke table for details.

⑤ Motor option

Nil	Without option
B	With lock

⑥ Cable type *4,*5

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

*5 The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)

⑦ Cable length [m] *4,*6

Nil	Without cable
3	3
5	5
A	10
C	20

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

⑧ Driver type *4

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

⑨ I/O cable length [m] *7

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

*7 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 628-8 if I/O cable is required. (Options are shown on page 628-8.)

Applicable Stroke Table *3

●: Standard

Model \ Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500	2000	3000
LEJB40	●	●	●	●	●	●	●	●	●	●	●	●	—
LEJB63	—	●	●	●	●	●	●	●	●	●	●	●	●

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

For auto switches, refer to pages 142 to 144.

Compatible Driver

Driver type	MECHATROLINK-II type	MECHATROLINK-III type
Series	LECYM	LECYU
Applicable network	MECHATROLINK-II	MECHATROLINK-III
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	Page 628-1	

Specifications

AC Servo Motor

Model		LEJB40V6	LEJB63V7	
Actuator specifications	Stroke [mm] ^{Note 1)}	200, 300, 400, 500, 600, 700, 800 900, 1000, 1200, 1500, 2000	300, 400, 500, 600, 700, 800 900, 1000, 1200, 1500, 2000, 3000	
	Work load [kg]	Horizontal 20 (If the stroke exceeds 1000 mm: 10)	30	
	Speed [mm/s] ^{Note 2)}	2000	3000	
	Max. acceleration/deceleration [mm/s ²]	20000 (Refer to page 126 for limit according to work load and duty ratio.)		
	Positioning repeatability [mm]	±0.04		
	Lost motion [mm] ^{Note 3)}	0.1 or less		
	Lead [mm]	27	42	
	Impact/Vibration resistance [m/s ²] ^{Note 4)}	50/20		
	Actuation type	Belt		
	Guide type	Linear guide		
	Allowable external force [N]	20		
	Operating temperature range [°C]	5 to 40		
	Operating humidity range [%RH]	90 or less (No condensation)		
	Regenerative resistor	May be required depending on speed and work load. (Refer to page 131-2.)		
Electric specifications	Motor output [W]/Size [mm]	100/□40	200/□60	
	Motor type	AC servo motor (200 VAC)		
	Encoder	Absolute 20-bit encoder (Resolution: 1048576 p/rev)		
	Power consumption [W] ^{Note 5)}	Horizontal	65	190
		Vertical	—	—
	Standby power consumption when operating [W] ^{Note 6)}	Horizontal	2	2
		Vertical	—	—
Max. instantaneous power consumption [W] ^{Note 7)}	445	725		
Lock unit specifications	Type ^{Note 8)}	Non-magnetizing lock		
	Holding force [N]	59	77	
	Power consumption at 20°C [W] ^{Note 9)}	5.5	6	
	Rated voltage [V]	24 VDC ^{+10%} ₀		

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.

Note 2) Check "Speed-Work Load Graph (Guide)" on page 131-2.

Note 3) A reference value for correcting an error in reciprocal operation.

Note 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. (Test was performed with the actuator in the initial state.)

Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)

Note 5) The power consumption (including the driver) is for when the actuator is operating.

Note 6) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.

Note 7) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.

Note 8) Only when motor option "With lock" is selected.

Note 9) For an actuator with lock, add the power consumption for the lock.

Note 10) Sensor magnet position is located in the table center.

For detailed dimensions, refer to "Auto Switch Mounting Position".

Note 11) Do not allow collisions at either end of the table traveling distance. Additionally, when running the positioning operation, do not set within 2 mm of both ends.

Note 12) For the manufacture of intermediate strokes, please contact SMC.

(LEJB40/Manufacturable stroke range: 200 to 2000 mm, LEJB63/Manufacturable stroke range: 300 to 3000 mm)

Weight

Model	LEJB40											
Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500	2000
Product weight [kg]	5.7	6.4	7.1	7.7	8.4	9.1	9.8	10.5	11.2	12.6	14.7	18.1
Additional weight with lock [kg]	0.3 (Absolute encoder)											

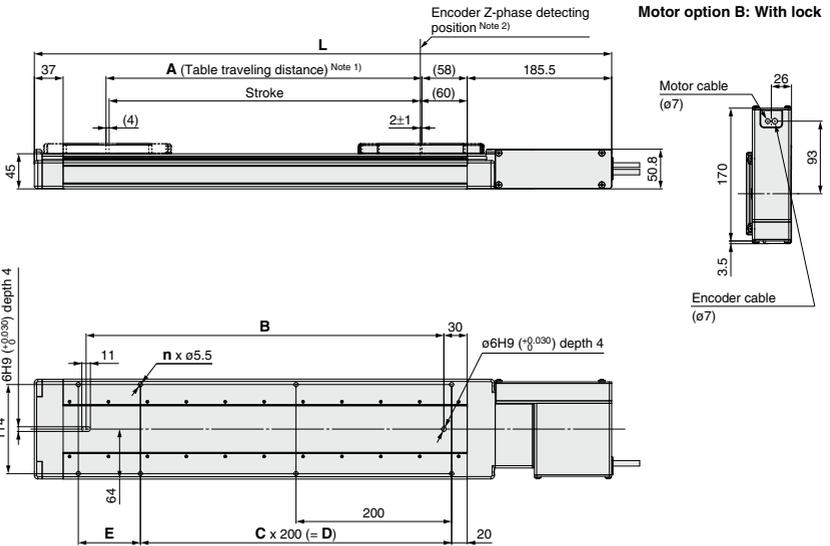
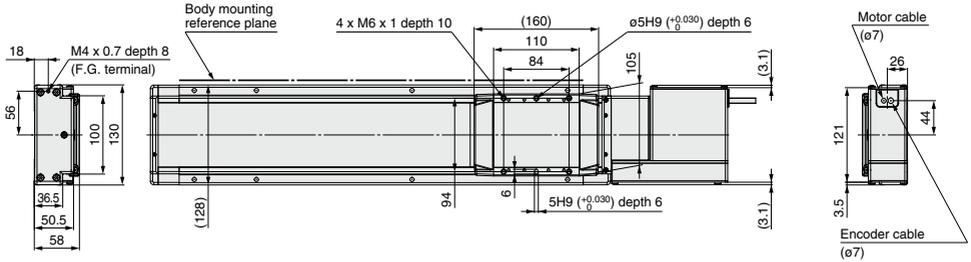
Model	LEJB63											
Stroke [mm]	300	400	500	600	700	800	900	1000	1200	1500	2000	3000
Product weight [kg]	11.5	12.7	13.8	15.0	16.2	17.4	18.6	19.7	22.1	25.7	31.6	43.4
Additional weight with lock [kg]	0.7 (Absolute encoder)											

LEJB Series

AC Servo Motor

Dimensions: Belt Drive

LEJB40



Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

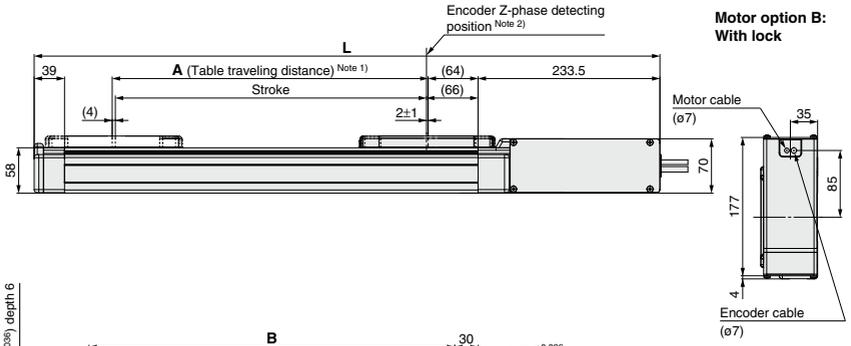
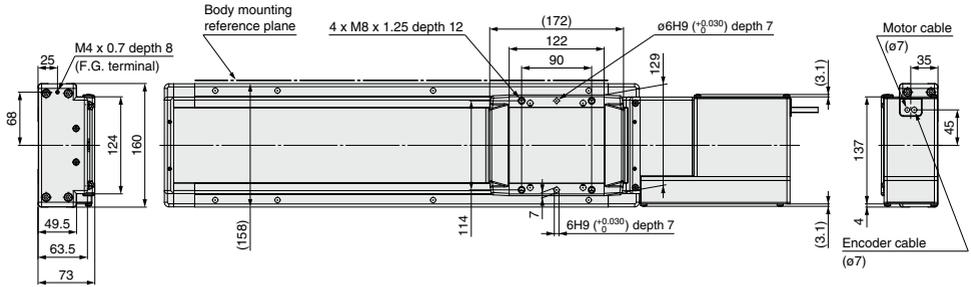
Note 2) The Z-phase first detecting position from the stroke end of the motor side

Note 3) Auto switch magnet is located in the table center.

Model	L	A	B	n	C	D	E
LEJB40V□-200□-□□□□	542	206	260	6	1	200	80
LEJB40V□-300□-□□□□	642	306	360	6	1	200	180
LEJB40V□-400□-□□□□	742	406	460	8	2	400	80
LEJB40V□-500□-□□□□	842	506	560	8	2	400	180
LEJB40V□-600□-□□□□	942	606	660	10	3	600	80
LEJB40V□-700□-□□□□	1042	706	760	10	3	600	180
LEJB40V□-800□-□□□□	1142	806	860	12	4	800	80
LEJB40V□-900□-□□□□	1242	906	960	12	4	800	180
LEJB40V□-1000□-□□□□	1342	1006	1060	14	5	1000	80
LEJB40V□-1200□-□□□□	1542	1206	1260	16	6	1200	80
LEJB40V□-1500□-□□□□	1842	1506	1560	18	7	1400	180
LEJB40V□-2000□-□□□□	2342	2006	2060	24	10	2000	80

Dimensions: Belt Drive

LEJB63

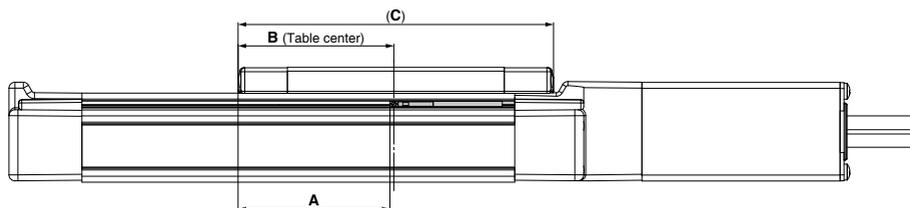


Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.
 Note 2) The Z-phase first detecting position from the stroke end of the motor side
 Note 3) Auto switch magnet is located in the table center.

Model	L	A	B	n	C	D	E
LEJB63V□□-300□-□□□□	704	306	370	6	1	200	180
LEJB63V□□-400□-□□□□	804	406	470	8	2	400	80
LEJB63V□□-500□-□□□□	904	506	570	8	2	400	180
LEJB63V□□-600□-□□□□	1004	606	670	10	3	600	80
LEJB63V□□-700□-□□□□	1104	706	770	10	3	600	180
LEJB63V□□-800□-□□□□	1204	806	870	12	4	800	80
LEJB63V□□-900□-□□□□	1304	906	970	12	4	800	180
LEJB63V□□-1000□-□□□□	1404	1006	1070	14	5	1000	80
LEJB63V□□-1200□-□□□□	1604	1206	1270	16	6	1200	80
LEJB63V□□-1500□-□□□□	1904	1506	1570	18	7	1400	180
LEJB63V□□-2000□-□□□□	2404	2006	2070	24	10	2000	80
LEJB63V□□-3000□-□□□□	3404	3006	3070	34	15	3000	80

LEJ Series Auto Switch Mounting

Auto Switch Mounting Position



[mm]					
Model	Size	A	B	C	Operating range
LEJS40	40	77	80	160	5.5
LEJB40					5.0
LEJS63	63	83	86	172	7.0
LEJB63					6.5

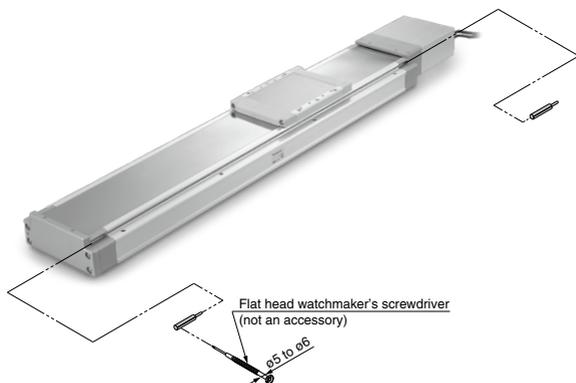
Note) The operating range is a guideline including hysteresis, not meant to be guaranteed. There may be large variations (as much as $\pm 30\%$) depending on the ambient environment.

Auto Switch Mounting

When mounting the auto switches, they should be inserted into the actuator's auto switches mounting groove from the direction shown in the drawing on the below. Once in the mounting position, use a flat head watchmaker's screwdriver to tighten the included auto switch mounting screw.

Auto Switch Mounting Screw Tightening Torque [N·m]

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



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

Solid State Auto Switch Direct Mounting Type

D-M9N(V)/D-M9P(V)/D-M9B(V)



Grommet

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



⚠ Caution

Precautions

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

Auto Switch Specifications

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

PLC: Programmable Logic Controller

D-M9□, D-M9□V (With indicator light)						
Auto switch model	D-M9N	D-M9NV	D-M9P	D-M9PV	D-M9B	D-M9BV
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)					
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 μA or less at 24 VDC				0.8 mA or less	
Indicator light	Red LED illuminates when turned ON.					
Standard	CE marking, RoHS					

Oilproof Heavy-duty Lead Wire Specifications

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

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

Weight

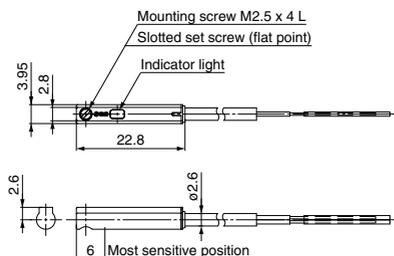
(g)

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

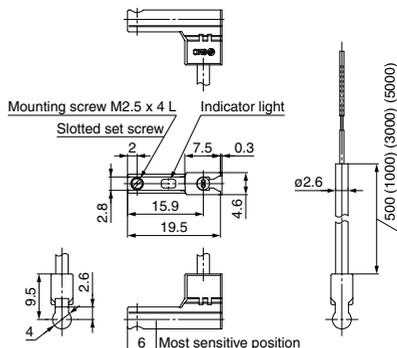
Dimensions

(mm)

D-M9□



D-M9□V



Normally Closed Solid State Auto Switch Direct Mounting Type

D-M9NE(V)/D-M9PE(V)/D-M9BE(V)



Grommet

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



⚠ Caution

Precautions

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

Auto Switch Specifications

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

PLC: Programmable Logic Controller

D-M9□E, D-M9□EV (With indicator light)						
Auto switch model	D-M9NE	D-M9NEV	D-M9PE	D-M9PEV	D-M9BE	D-M9BEV
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire			2-wire		
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)			—		
Current consumption	10 mA or less			—		
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less			2.5 to 40 mA		
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 μA or less at 24 VDC				0.8 mA or less	
Indicator light	Red LED illuminates when turned ON.					
Standard	CE marking, RoHS					

Oilproof Heavy-duty Lead Wire Specifications

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

Note 1) Refer to page 1584 for solid state auto switch common specifications.

Note 2) Refer to page 1584 for lead wire lengths.

Weight

(g)

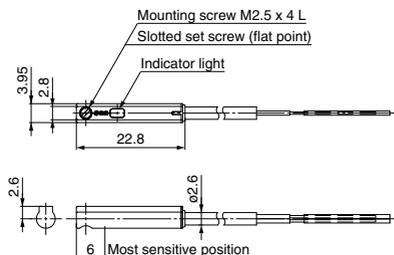
Auto switch model		D-M9NE(V)	D-M9PE(V)	D-M9BE(V)
Lead wire length	0.5 m (NII)	8	7	7
	1 m (M)*	14	13	13
	3 m (L)	41	38	38
	5 m (Z)*	68	63	63

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

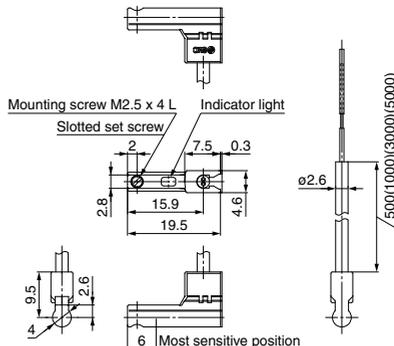
Dimensions

(mm)

D-M9□E



D-M9□EV



2-Color Indicator Solid State Auto Switch Direct Mounting Type

D-M9NW(V)/D-M9PW(V)/D-M9BW(V)



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

Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Using flexible cable as standard spec.
- The proper operating range can be determined by the color of the light. (Red → Green ← Red)



Caution

Precautions

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

Auto Switch Specifications

PLC: Programmable Logic Controller

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

Oilproof Flexible Heavy-duty Lead Wire Specifications

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

Note 1) Refer to Best Pneumatics No. 2-1 for solid state auto switch common specifications.

Note 2) Refer to Best Pneumatics No. 2-1 for lead wire lengths.

Weight

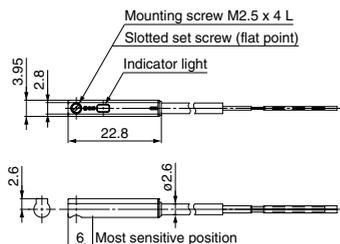
(g)

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

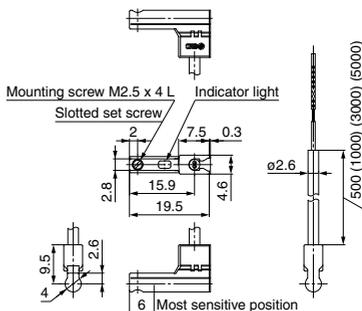
Dimensions

(mm)

D-M9□W



D-M9□WV



Electric Actuator/ Specific Product Precautions 1

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 8 for Electric Actuator Precautions.



Design

⚠ Caution

1. Do not apply a load in excess of the specification limits.

Select a suitable actuator by work load and allowable moment. If the product is used outside of the specification limits, the eccentric load applied to the guide will be excessive and have adverse effects such as creating play on the guide, degrading accuracy and shortening the life of the product.

2. Do not use the product in applications where excessive external force or impact force is applied to it.

The product can be damaged.

The components including the motor are manufactured to precise tolerances. So that even a slight deformation may cause a malfunction or seizure.

Selection

⚠ Warning

1. Do not increase the speed in excess of the specification limits.

Select a suitable actuator by the relationship of the allowable work load and speed, and the allowable speed of each stroke. If the product is used outside of the specification limits, it will have adverse effects such as creating noise, degrading accuracy and shortening the life of the product.

2. When the product repeatedly cycles with partial strokes (100 mm or less), lubrication can run out. Operate it at a full stroke at least once a day or every a thousand cycles.

3. When external force is applied to the table, it is necessary to add external force to the work load as the total carried load for the sizing.

When a cable duct or flexible moving tube is attached to the actuator, the sliding resistance of the table increases and may lead to operational failure of the product.

Handling

⚠ Caution

1. Do not allow the table to hit the end of stroke.

When incorrect instructions are inputted, such as using the product outside of the specification limits or operation outside of actual stroke through changes in the controller/driver setting and/or origin position, the table may collide against the stroke end of the actuator. Check these points before use.

If the table collides against the stroke end of the actuator, the guide, belt or internal stopper can be broken. This may lead to abnormal operation.



Handle the actuator with care when it is used in the vertical direction as the workpiece will fall freely from its own weight.

2. The actual speed of this actuator is affected by the work load and stroke.

Check specifications with reference to the model selection section of the catalog.

3. Do not apply a load, impact or resistance in addition to the transferred load during return to origin.

4. Do not dent, scratch or cause other damage to the body and table mounting surfaces.

This may cause unevenness in the mounting surface, play in the guide or an increase in the sliding resistance.

5. Do not apply strong impact or an excessive moment while mounting the product or a workpiece.

If an external force over the allowable moment is applied, it may cause play in the guide or an increase in the sliding resistance.

6. Keep the flatness of mounting surface should be within 0.1 mm/500 mm.

Unevenness of a workpiece or base mounted on the body of the product may cause play in the guide and an increase in the sliding resistance.

In the case of overhang mounting (including cantilever), to avoid deflection of the actuator body, use a support plate or support guide.

7. When mounting the actuator, use all mounting holes.

If all mounting holes are not used, it influences the specifications, e.g., the amount of displacement of the table increases.

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

9. Do not apply external force to the dust seal band.

Particularly during the transportation

Electric Actuator/ Specific Product Precautions 2

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 8 for Electric Actuator Precautions.



Handling

⚠ Caution

10. When mounting the product, use screws with adequate length and tighten them with adequate torque.

Tightening the screws with a higher torque than recommended may cause a malfunction, whilst the tightening with a lower torque can cause the displacement of the mounting position or in extreme conditions the actuator could become detached from its mounting position.

Body fixed

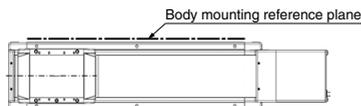
Model	Screw size	Max. tightening torque (N·m)	ϕA [mm]	L [mm]
LEJ□40	M5	3.0	5.5	36.5
LEJ□63	M6	5.2	6.8	49.5

Workpiece fixed

Model	Screw size	Max. tightening torque (N·m)	L (Max. screw-in depth) [mm]
LEJ□40	M6 x 1	5.2	10
LEJ□63	M8 x 1.25	12.5	12

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

11. Do not operate by fixing the table and moving the actuator body.
12. The belt drive actuator cannot be used vertically for applications.
13. Vibration may occur during operation, this could be caused by the operating conditions.
If it occurs, adjust response value of auto tuning of driver to be lower.
During the first auto tuning noise may occur, the noise will stop when the tuning is complete.
14. When mounting the actuator using the body mounting reference plane, use a pin. Set the height of the pin to be 5 mm or more because of round chamfering. (Recommended height 6 mm)



15. When the fluctuation of load is caused during operation, malfunction/noise/alarm may occur. (In case of AC servo motor)

The tuning of gain may not suit for fluctuation load. Adjust the gain properly by following the manual of driver.

Maintenance

⚠ Warning

Maintenance frequency

Perform maintenance according to the table below.

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

* Select whichever comes first.

• Items for visual appearance check

1. Loose set screws, Abnormal dirt
2. Check of flaw and cable joint
3. Vibration, Noise

• Items for internal check

1. Lubricant condition on moving parts.
* For lubrication, use lithium grease No. 2.
2. Loose or mechanical play in fixed parts or fixing screws.

• Items for belt check

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

a. Tooth shape canvas is worn out.

Canvas fiber becomes fuzzy. Rubber is removed and the fiber becomes whitish. Lines of fibers become unclear.

b. Peeling off or wearing of the side of the belt

Belt corner becomes round and frayed thread sticks out.

c. Belt partially cut

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

d. Vertical line of belt teeth

Flaw which is made when the belt runs on the flange.

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

f. Crack on the back of the belt