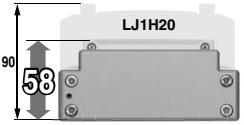
Electric Actuator
Series LEJ

High Rigidity Slider Type

Low-profile/Low center of gravity

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

Series	Work load (kg)	Speed (mm/s)	Motor output (W)
New **LEJS40**	55	600	100
(Existing model) **LJ1H20**	30	500	100



LEJS40

AC Servo Motor Type

Ball Screw Drive *Series LEJS*

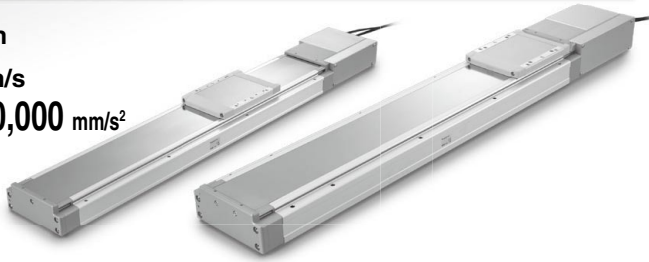
Size: 40, 63 ▸Page 84

Work load: 85 kg
Positioning repeatability: ±0.02 mm
Max. acceleration/deceleration: 20,000 mm/s²

Belt Drive *Series LEJB*

Size: 40, 63 ▸Page 84

Max. stroke: 3,000 mm
Max. speed: 3,000 mm/s
Max. acceleration/deceleration: 20,000 mm/s²



AC Servo Motor Driver ▸Page 409

Incremental Type

Pulse input type/ Positioning type
Series LECSA

Absolute Type

Pulse input type
Series LECSB

CC-Link direct input type
Series LECSC

SSCNET III type
Series LECSS

●High precision/High rigidity

Double axis linear guide reduces deflection

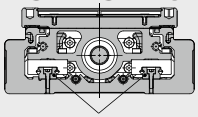
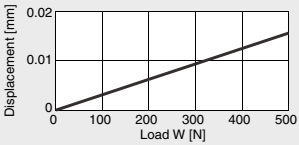
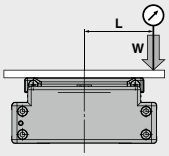


Table displacement

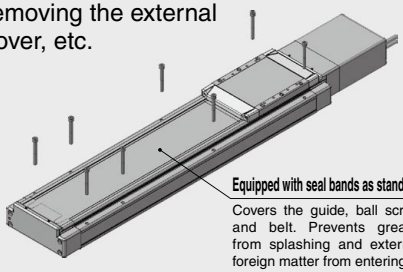
∗ LEJ□63: L = 64.5 mm





●Reduction of the installation labor

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



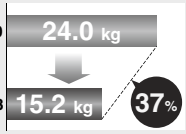
Equipped with seal bands as standard

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

●Weight reduction

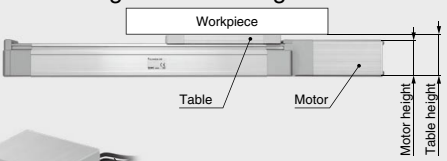
Weight reduced by approx. 37%

∗ Stroke: 600 mm



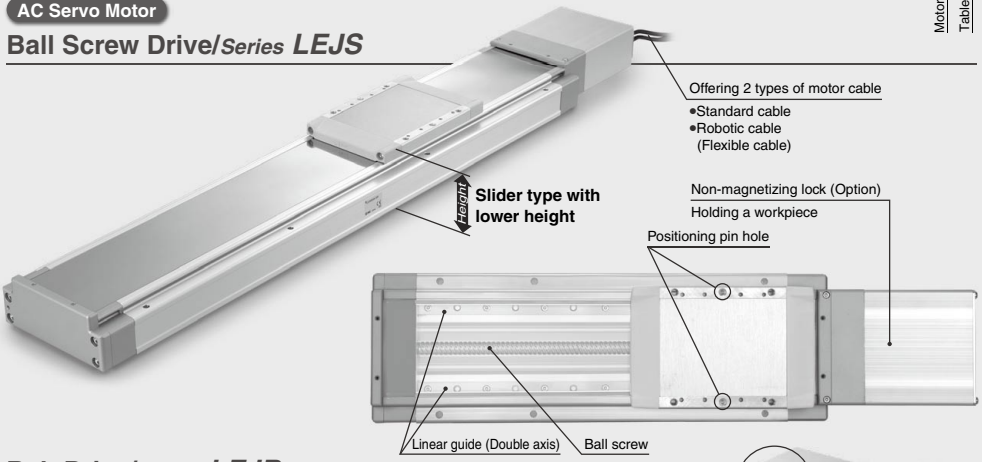
●Workpiece does not interfere with the motor

Table height > Motor height

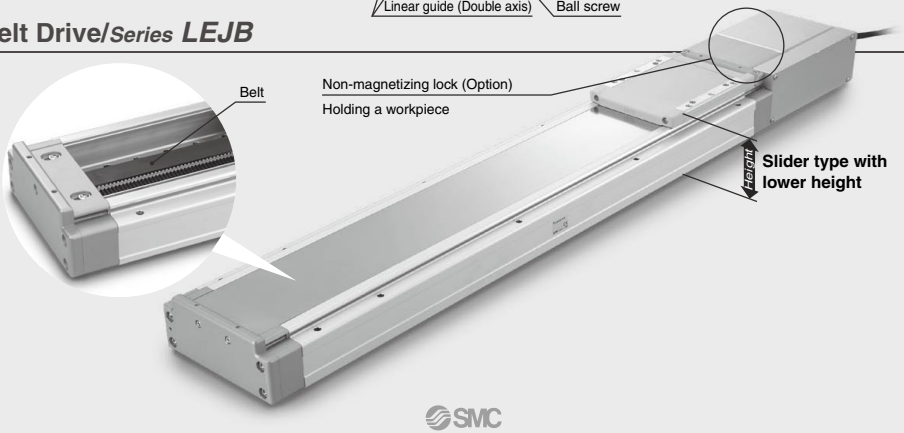


AC Servo Motor

Ball Screw Drive/*Series* LEJS



Belt Drive/*Series* LEJB



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

- Switch wiring can be placed in the body
- D-M9□W (2-color indication), D-M9□

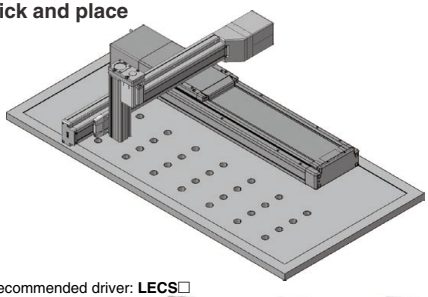
2-color indication solid state auto switch

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

A green light lights up at the optimum operating range.

Application Examples

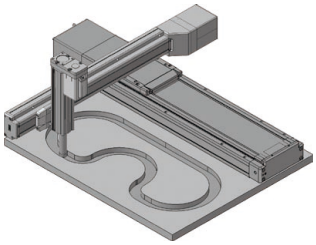
Pick and place



Recommended driver: **LECS□**

LECSA **LECSB** **LECSC** **LECSS**

Glue dispensing/High speed trajectory is available



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

Series Variations

Ball Screw Drive/Series LEJS

Size	Lead (mm)	Stroke (mm)*	Work load: Horizontal (kg) 10 20 30 40 50 60 70 80 90	Work load: Vertical (kg) 10 20 30	Speed (mm/s) 200 400 600 800 1000 1200	Page
40	8	200, 300, (400) 500, 600, (700) 800, (900) (1000), (1200)				Page 92
	16					
63	10	300, (400), 500 600, (700), 800 (900), 1000 (1200), (1500)				
	20					

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

Belt Drive/Series LEJB

Size	Equivalent lead (mm)	Stroke (mm)*1	Work load: Horizontal (kg)*2 5 10 15 20 25 30	Speed (mm/s) 500 1000 1500 2000 2500 3000	Page
40	27	(200), 300, (400), 500, (600), (700), 800 (900), 1000, (1200), (1500), (2000)			Page 97
63	42	(300), (400), 500, (600), (700), 800 (900), 1000, 1200, (1500), (2000), (3000)			

*1 Consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
*2 The belt drive actuator cannot be used vertically for applications.

Model Selection

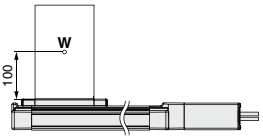
Selection Procedure

Step 1 Check the speed–work load. → **Step 2** Check the cycle time. → **Step 3** Check the allowable moment.

Selection Example

Operating conditions

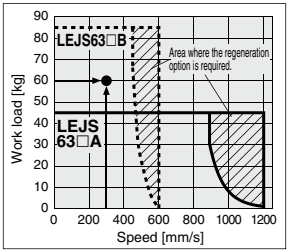
- Work load: 60 [kg]
- Speed: 300 [mm/s]
- Acceleration/Deceleration: 3000 [mm/s^2]
- Stroke: 300 [mm]
- Mounting orientation: Horizontal
- Motor type: Incremental encoder
- External force: 10 [N]
- Workpiece mounting condition:



Step 1 Check the speed–work load.

Select the product by referring to "Speed–Work Load Graph" (Page 85).
Selection example) The **LEJS63S3B-300** is temporarily selected based on the graph shown on the right side.

The regeneration option (LEC-MR-RB-032) may be necessary. See the shaded area in the graph.



<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 (Page 86)

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

Method 2: Calculation

Cycle time T can be found from the following equation.

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

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

$T1 = V/a1$ [s] $T3 = V/a2$ [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 87 and 88).
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 93).

- 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.

$T4 = 0.05$ [s]

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

$T1 = V/a1 = 300/3000 = 0.1$ [s],

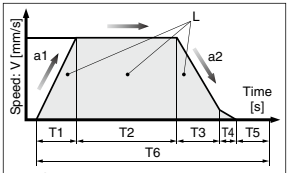
$T3 = V/a2 = 300/3000 = 0.1$ [s]

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

$T4 = 0.05$ [s]

Therefore, the cycle time can be obtained as follows.

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



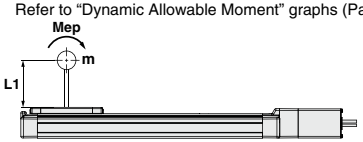
L : Stroke [mm]
V : Speed [mm/s]
a1: Acceleration [mm/s^2]
a2: Deceleration [mm/s^2]

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 in position is completed
T5: Resting time [s]
Time the product is not running
T6: Total time [s]
Total time from T1 to T5

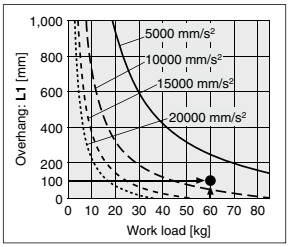
Duty ratio: Ratio of T to T6
T ÷ T6 x 100

Step 3 Check the allowable moment.

Refer to "Dynamic Allowable Moment" graphs (Pages 89 and 90).



Selection example) Select the **LEJS63S3B-300** from the graph on the right side.
Confirm that the external force is 20 [N] or less (Refer to the allowable external force on page 93.).
(The external force is the resistance due to cable duct, flexible trunking or air tubing.)

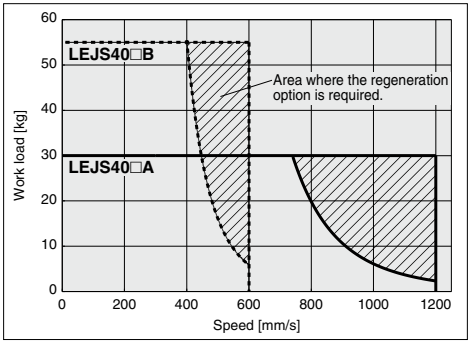


<Dynamic allowable moment> (LEJS63)

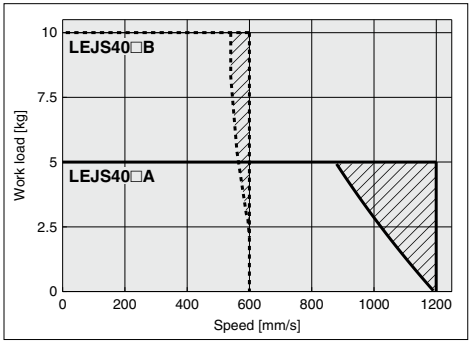
Speed–Work Load Graph (Guide)

LEJS40/Ball Screw Drive

Horizontal

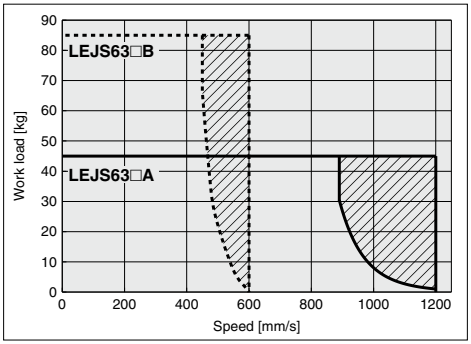


Vertical

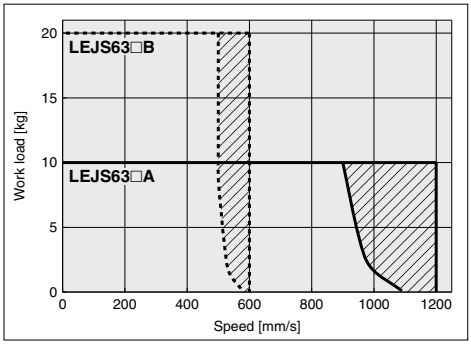


LEJS63/Ball Screw Drive

Horizontal

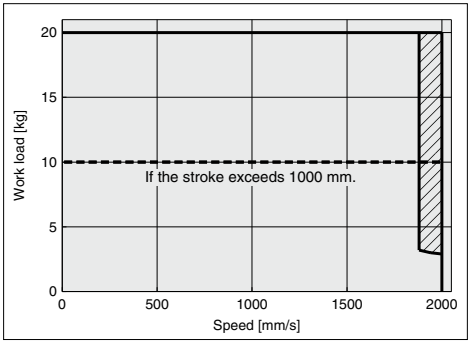


Vertical



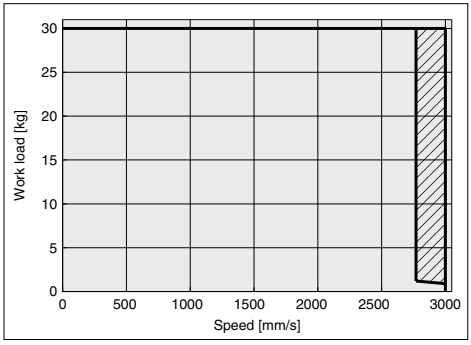
LEJB40/Belt Drive

Horizontal



LEJB63/Belt Drive

Horizontal

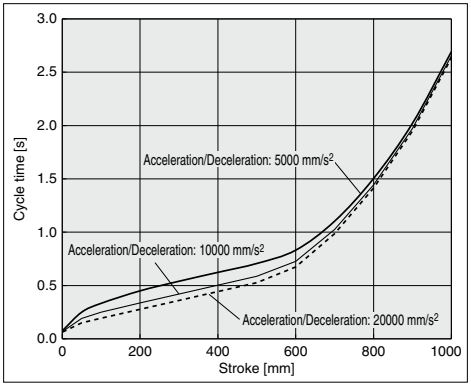


∗ When the stroke of the LEJB40 series exceeds 1000 mm, the work load is 10 kg.
∗ The shaded area in the graph requires the regeneration option (LEC-MR-RB-032).
∗ The belt drive actuator cannot be used vertically for applications.

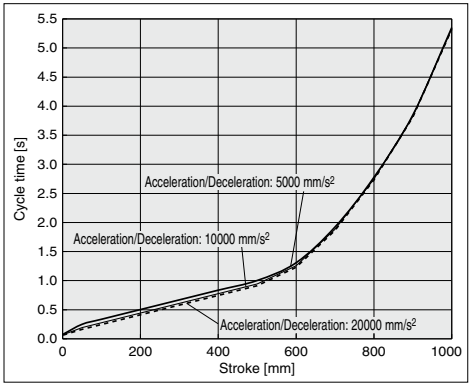
Cycle Time Graph (Guide)

LEJS40/Ball Screw Drive

LEJS40□A

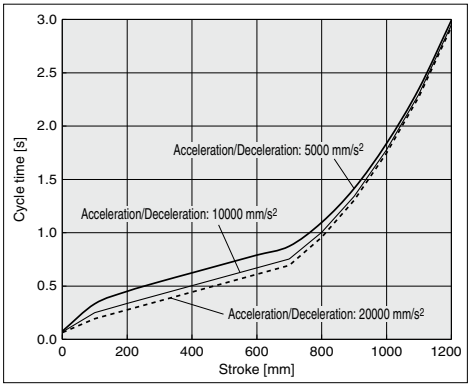


LEJS40□B

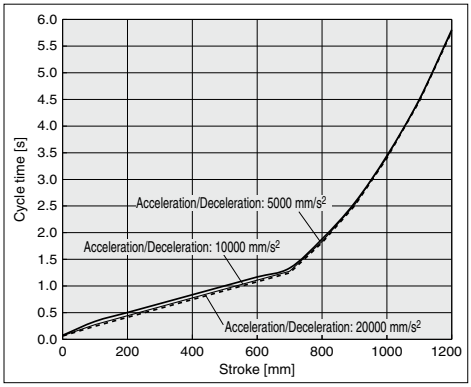


LEJS63/Ball Screw Drive

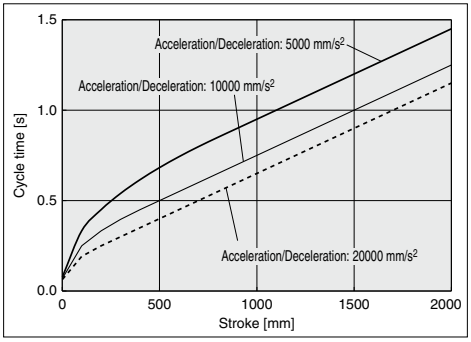
LEJS63□A



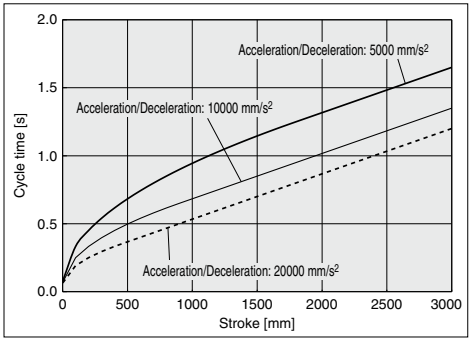
LEJS63□B



LEJB40/Belt Drive



LEJB63/Belt Drive

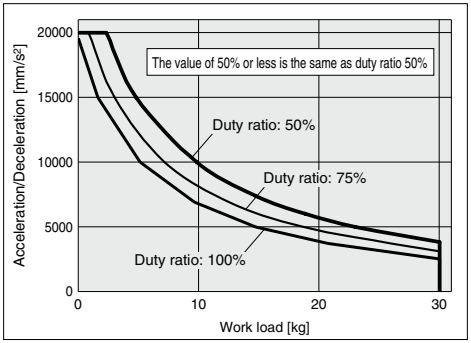


∗ Work load/acceleration/deceleration graph
∗ Maximum speed/acceleration/deceleration values graph for each stroke

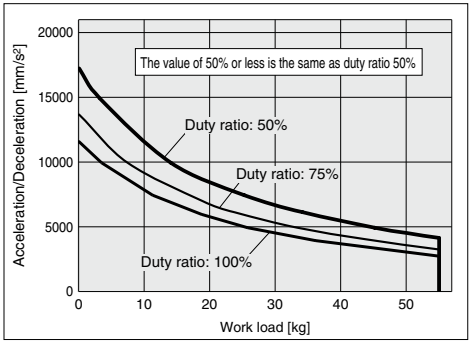
Work Load–Acceleration/Deceleration Graph (Guide)

LEJS40/Ball Screw Drive: Horizontal

LEJS40□A

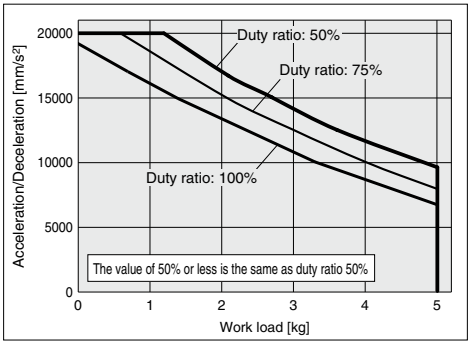


LEJS40□B

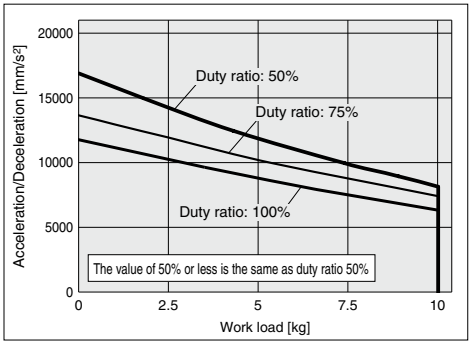


LEJS40/Ball Screw Drive: Vertical

LEJS40□A



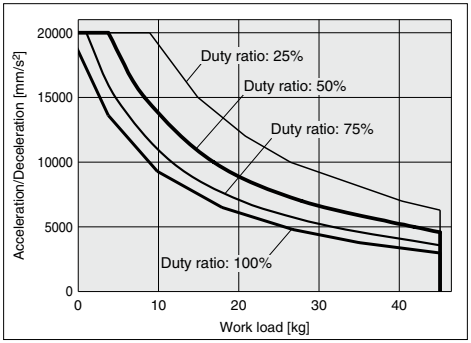
LEJS40□B



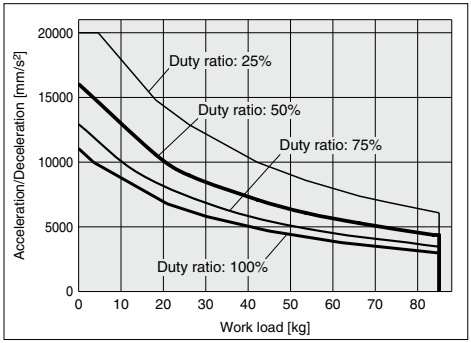
Work Load–Acceleration/Deceleration Graph (Guide)

LEJS63/Ball Screw Drive: Horizontal

LEJS63□A

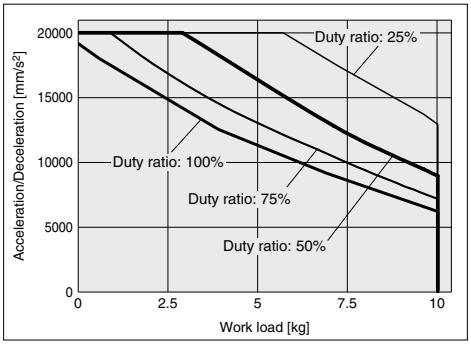


LEJS63□B

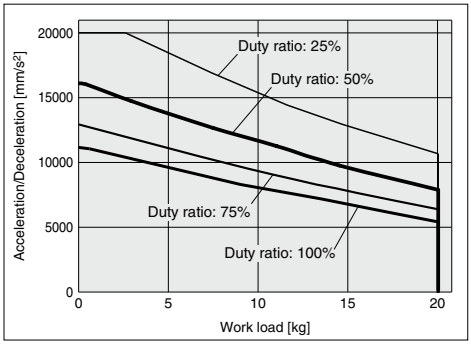


LEJS63/Ball Screw Drive: Vertical

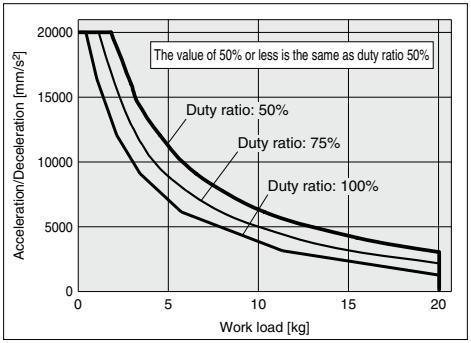
LEJS63□A



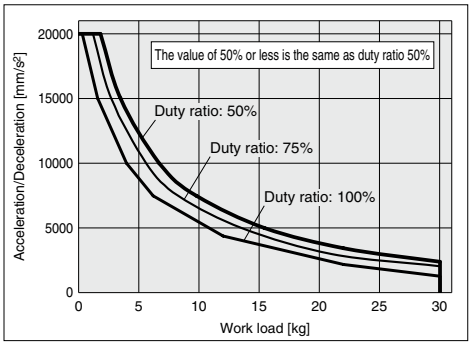
LEJS63□B



LEJB40/Belt Drive: Horizontal



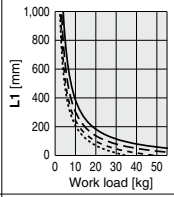
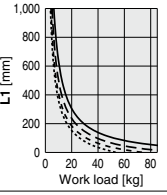
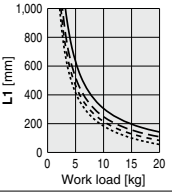
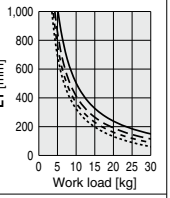
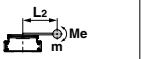
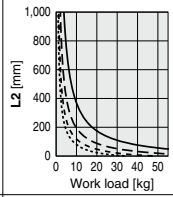
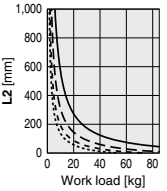
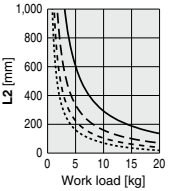
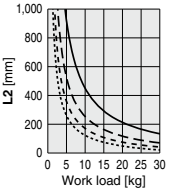
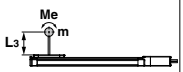
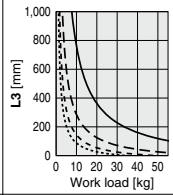
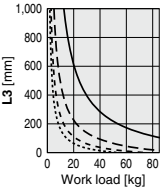
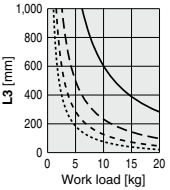
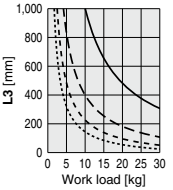
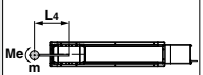
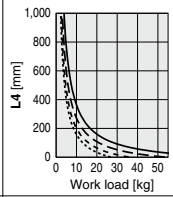
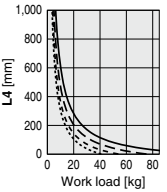
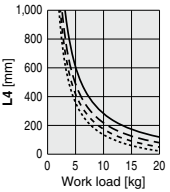
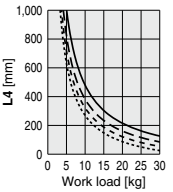
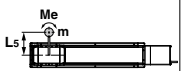
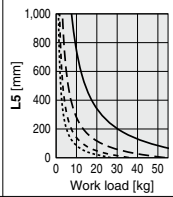
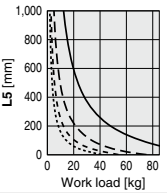
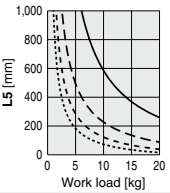
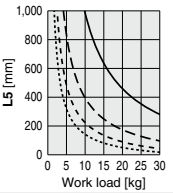
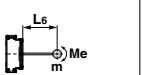
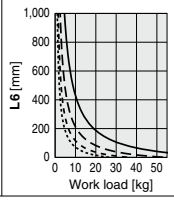
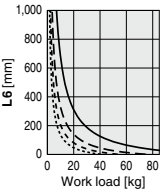
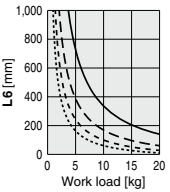
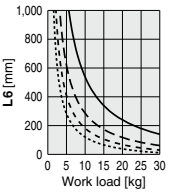
LEJB63/Belt Drive: Horizontal



Dynamic Allowable Moment

∗ This graph shows the amount of allowable overhang when the center of gravity of the workpiece overhangs in one direction. When the center of gravity of the workpiece overhangs in two directions, refer to the Electric Actuator Selection Software for confirmation. http://www.smcworld.com

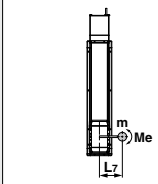
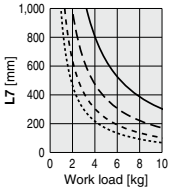
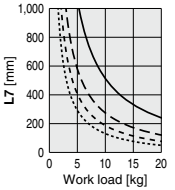
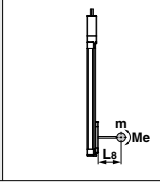
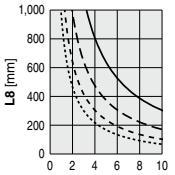
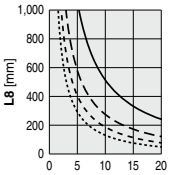
Acceleration/Deceleration —— 5,000 mm/s² – – – 10,000 mm/s² - - - - 15,000 mm/s² ····· 20,000 mm/s²

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**
Horizontal/Bottom		**X**				
		**Y**				
		**Z**				
Wall		**X**				
		**Y**				
		**Z**				

Dynamic Allowable Moment

* This graph shows the amount of allowable overhang when the center of gravity of the workpiece overhangs in one direction. When the center of gravity of the workpiece overhangs in two directions, refer to the Electric Actuator Selection Software for confirmation. http://www.smcworld.com

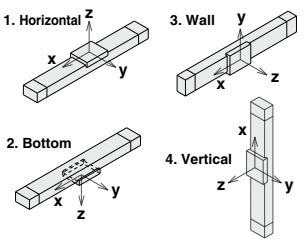
Acceleration/Deceleration ——— 5,000 mm/s² — — — 10,000 mm/s² - - - - 15,000 mm/s² ····· 20,000 mm/s²

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	Model: LEJS63
Vertical		Y		
		Z		

Calculation of Guide Load Factor

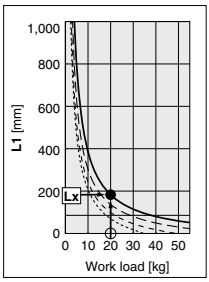
1. Decide operating conditions.
   Model: LEJS/LEJB
   Size: 40/63
   Mounting orientation: Horizontal/Bottom/Wall/Vertical
   Acceleration [mm/s²]: **a**
   Work load [kg]: **m**
   Work load center position [mm]: **Xc/Yc/Zc**
2. Select the target graph with reference to the model, size and mounting orientation.
3. Based on the acceleration and work load, obtain the overhang [mm]: **Lx/Ly/Lz** from the graph.
4. Calculate the load factor for each direction.
   α**x = Xc/Lx**, α**y = Yc/Ly**, α**z = Zc/Lz**
5. Confirm the total of α**x**, α**y** and α**z** is 1 or less.
   α**x + αy + αz ≤1**
   When 1 is exceeded, please consider a reduction of acceleration and work load, or a change of the work load center position and series.

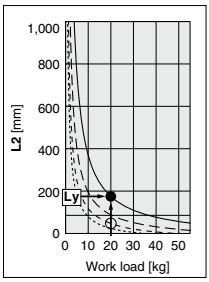
Mounting orientation



Example

1. Operating conditions
   Model: LEJS
   Size: 40
   Mounting orientation: Horizontal
   Acceleration [mm/s²]: 5000
   Work load [kg]: 20
   Work load center position [mm]: **Xc = 0**, **Yc = 50**, **Zc = 200**
2. Select the graph on page 89, top and left side first row.
3. **Lx = 180 mm**, **Ly = 170 mm**, **Lz = 360 mm**
4. The load factor for each direction can be obtained as follows.
   α**x = 0/180 = 0**
   α**y = 50/170 = 0.29**
   α**z = 200/360 = 0.56**
5. α**x + αy + αz = 0.85 ≤1**





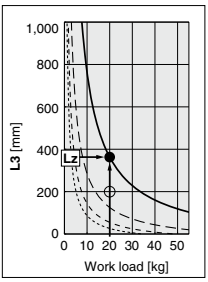
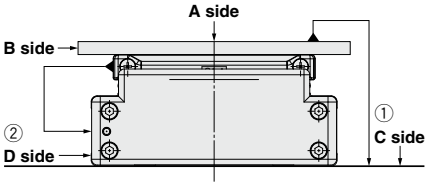


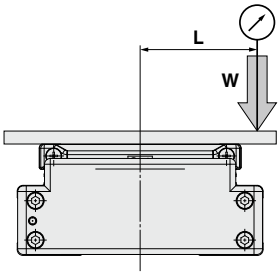
Table Accuracy (Reference Value)

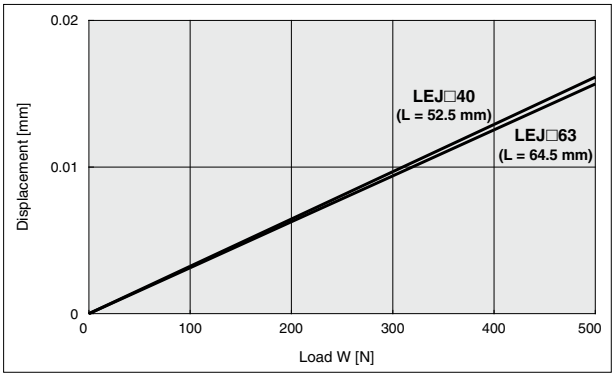


Model	Traveling parallelism [mm] (Every 300 mm)	
	① C side traveling parallelism to A side	② D side traveling parallelism to B side
LEJ□40	0.05	0.03
LEJ□63	0.05	0.03

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.)

Electric Actuator/High Rigidity Slider Type
Ball Screw Drive AC Servo Motor
Series LEJS

How to Order

LEJS 40 S2 A – 500 □ – □ □ □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

❶ Size

40
63

❷ Motor type*1

Symbol	Type	Output [W]	Actuator size	Compatible drivers*2
S2	AC servo motor (Incremental encoder)	100	40	LECSA□-S1
S3	AC servo motor (Incremental encoder)	200	63	LECSA□-S3
S6	AC servo motor (Absolute encoder)	100	40	LECSB□-S5 LECSC□-S5 LECSS□-S5
S7	AC servo motor (Absolute encoder)	200	63	LECSB□-S7 LECSC□-S7 LECSS□-S7

*1: For motor type S2 and S6, the compatible driver part number suffixes are S1 and S5 respectively.
*2: For details of the driver, refer to page 409.

❸ Lead [mm]

Symbol	LEJS40	LEJS63
A	16	20
B	8	10

❹ Stroke [mm]*3

200
to
1500

*3: Refer to the table below for details.

❺ Motor option

Nil	Without option
B	With lock

❻ Cable type*5, *6, *7

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

*6: The motor and encoder cables are included. (The lock cable is included when the motor with lock option is selected.)
*7: Standard cable entry direction is "(A) Axis side". (Refer to page 425 for details.)

❼ Cable length [m]*5, *8

Nil	Without cable
2	2 m
5	5 m
A	10 m

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

❽ Driver type*5

	Compatible drivers	Power supply voltage (V)
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	LECSC1-S□	100 to 120
C2	LECSC2-S□	200 to 230
S1	LECSS1-S□	100 to 120
S2	LECSS2-S□	200 to 230

❾ I/O connector

Nil	Without connector
H	With connector

Applicable Stroke Table*4

●Standard ○Produced upon receipt of order

Model \ Stroke (mm)	200	300	400	500	600	700	800	900	1000	1200	1500
LEJS40	●	●	○	●	●	○	●	○	○	○	—
LEJS63	—	●	○	●	●	○	●	○	●	○	○

*4: Consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

*5: 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 102 and 103.

Compatible Drivers

Driver type	Pulse input type /Positioning type 	Pulse input type 	CC-Link direct input type 	SSCNET III type 
Series	LECSA	LECSB	LECSC	LECSS
Number of point tables	Up to 7	—	Up to 255	—
Pulse input	○	○	—	—
Applicable network	—	—	CC-Link	SSCNET III
Control encoder	Incremental 17-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder
Communication	USB communication	USB communication, RS422 communication	USB communication, RS422 communication	USB communication
Power supply voltage (V)	100 to 120 VAC (50/60 Hz) 200 to 230 VAC (50/60 Hz)			
Reference page	Page 409			

Specifications

LEJS40/63 AC Servo Motor

Model			LEJS40S$^{2}_{6}$		LEJS63S$^{3}_{7}$	
Actuator specifications	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	30	55	45	85
		Vertical	5	10	10	20
	Speed Note 3) [mm/s] — Stroke range	Up to 500	1200	600	1200	600
		501 to 600	1050	520	1200	600
		601 to 700	780	390	1200	600
		701 to 800	600	300	930	460
		801 to 900	480	240	740	370
		901 to 1000	390	190	600	300
		1001 to 1100	320	160	500	250
		1101 to 1200	270	130	420	210
		1201 to 1300	—	—	360	180
		1301 to 1400	—	—	310	150
		1401 to 1500	—	—	270	130
	Max. acceleration/deceleration [mm/s^2]		20000 (Refer to page 87 for limit according to work load and duty ratio.)			
	Positioning repeatability [mm] Note 4)		±0.02			
	Lead [mm]		16	8	20	10
	Impact/Vibration resistance [m/s^2] Note 5)		50/20			
	Actuation type		Ball screw			
	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 425.)			
Electric specifications	Motor output [W]/Size [mm]		100/□40		200/□60	
	Motor type		AC servo motor (100/200 VAC)			
	Encoder		Motor type S2, S3: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7: Absolute 18-bit encoder (Resolution: 262144 p/rev)			
	Power consumption [W] 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	
Lock unit specifications	Type Note 9)		Non-magnetizing lock			
	Holding force [N]		101	203	330	660
	Power consumption at 20°C [W] Note 10)		6.3		7.9	
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$			

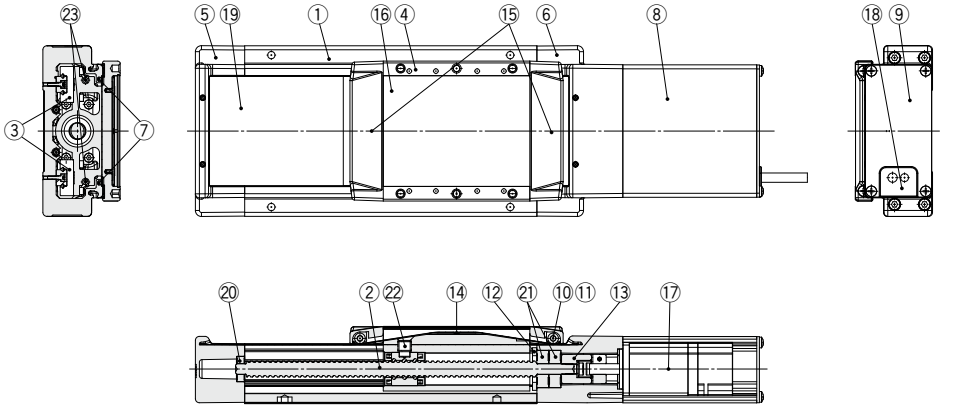
Note 1) Consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
Note 2) Check "Speed–Work Load Graph (Guide)" on page 85.
Note 3) The allowable speed changes according to the stroke.
Note 4) Conforming to JIS B 6191-1999
Note 5) Impact resistance: No malfunction 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.

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]	0.2 (Incremental encoder)/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]	0.4 (Incremental encoder)/0.7 (Absolute encoder)									

Construction



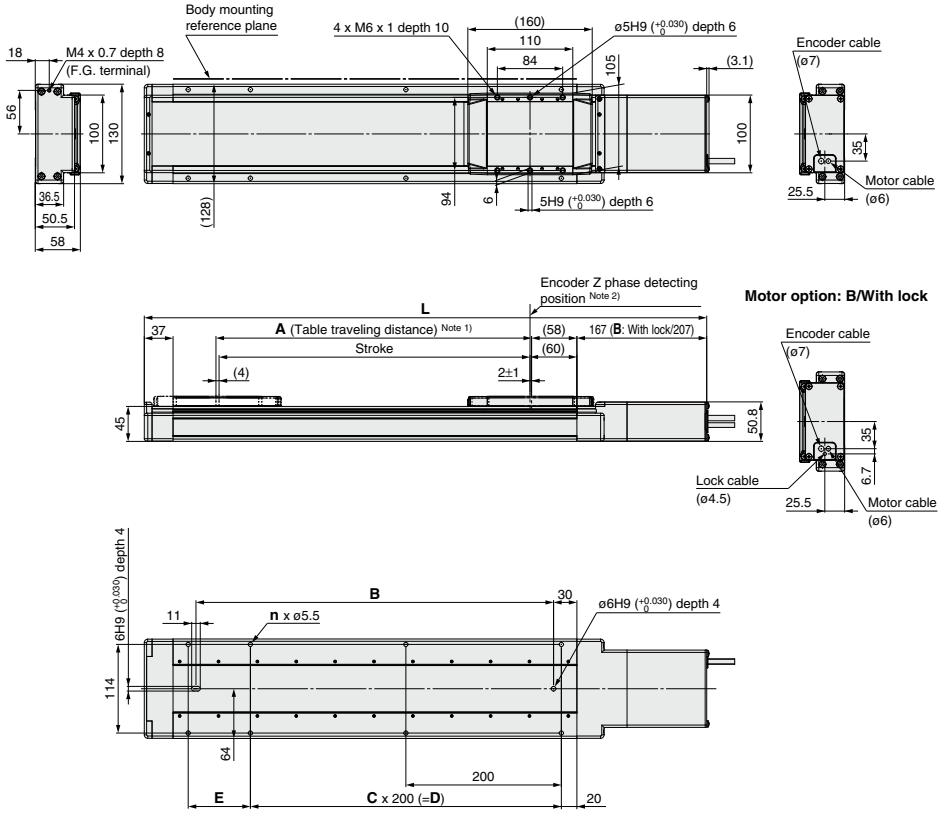
Component Parts

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 stopper**	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**	—	

Dimensions: Ball Screw Drive

LEJS40



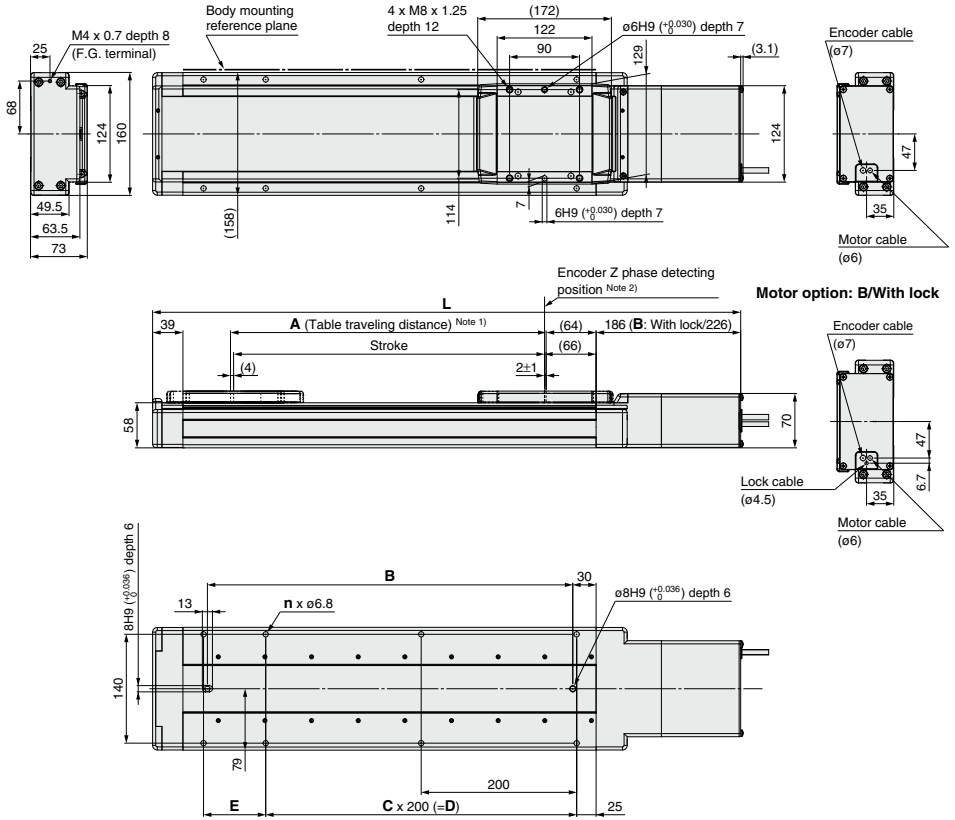
Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.
Note 2) The Z phase first detecting position from the stroke end of the motor side.
Note 3) Auto switch magnet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

[mm]

Model	L		A	B	n	C	D	E
	Without lock	With lock						
LEJS40S□□-200□-□□□□	523.5	563.5	206	260	6	1	200	80
LEJS40S□□-300□-□□□□	623.5	663.5	306	360	6	1	200	180
LEJS40S□□-400□-□□□□	723.5	763.5	406	460	8	2	400	80
LEJS40S□□-500□-□□□□	823.5	863.5	506	560	8	2	400	180
LEJS40S□□-600□-□□□□	923.5	963.5	606	660	10	3	600	80
LEJS40S□□-700□-□□□□	1023.5	1063.5	706	760	10	3	600	180
LEJS40S□□-800□-□□□□	1123.5	1163.5	806	860	12	4	800	80
LEJS40S□□-900□-□□□□	1223.5	1263.5	906	960	12	4	800	180
LEJS40S□□-1000□-□□□□	1323.5	1363.5	1006	1060	14	5	1000	80
LEJS40S□□-1200□-□□□□	1523.5	1563.5	1206	1260	16	6	1200	80

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.

[mm]

Model	L		A	B	n	C	D	E
	Without lock	With lock						
LEJS63S□□-300□-□□□□	656.5	696.5	306	370	6	1	200	180
LEJS63S□□-400□-□□□□	756.5	796.5	406	470	8	2	400	80
LEJS63S□□-500□-□□□□	856.5	896.5	506	570	8	2	400	180
LEJS63S□□-600□-□□□□	956.5	996.5	606	670	10	3	600	80
LEJS63S□□-700□-□□□□	1056.5	1096.5	706	770	10	3	600	180
LEJS63S□□-800□-□□□□	1156.5	1196.5	806	870	12	4	800	80
LEJS63S□□-900□-□□□□	1256.5	1296.5	906	970	12	4	800	180
LEJS63S□□-1000□-□□□□	1356.5	1396.5	1006	1070	14	5	1000	80
LEJS63S□□-1200□-□□□□	1556.5	1596.5	1206	1270	16	6	1200	80
LEJS63S□□-1500□-□□□□	1856.5	1896.5	1506	1570	18	7	1400	180

Electric Actuator/High Rigidity Slider Type
Belt Drive AC Servo Motor
Series LEJB

How to Order

LEJB **40** **S2** **T** – **500** □ – □ □ □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

❶ Size

40
63

❷ Motor type*1

Symbol	Type	Output [W]	Actuator size	Compatible drivers
S2	AC servo motor (Incremental encoder)	100	40	LECSA□-S1
S3	AC servo motor (Incremental encoder)	200	63	LECSA□-S3
S6	AC servo motor (Absolute encoder)	100	40	LECSB□-S5 LECSC□-S5 LECSS□-S5
S7	AC servo motor (Absolute encoder)	200	63	LECSB□-S7 LECSC□-S7 LECSS□-S7

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

❸ Lead [mm]

Symbol	LEJB40	LEJB63
T	27	42

❹ Stroke [mm]*2

200
to
3000

*2: Refer to the table below for details.

❺ Motor option

Nil	Without option
B	With lock

❻ Cable type*4, *5, *6

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.)

*6: Standard cable entry direction is "(A) Axis side". (Refer to page 425 for details.)

❼ Cable length [m]*4, *7

Nil	Without cable
2	2 m
5	5 m
A	10 m

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

❽ Driver type*4

	Compatible drivers	Power supply voltage (V)
Nil	Without driver	—
A1	LECSA1	100 to 120
A2	LECSA2	200 to 230
B1	LECSB1	100 to 120
B2	LECSB2	200 to 230
C1	LECSC1	100 to 120
C2	LECSC2	200 to 230
S1	LECSS1	100 to 120
S2	LECSS2	200 to 230

❾ I/O connector

Nil	Without connector
H	With connector

Applicable Stroke Table*3

●Standard ○Produced upon receipt of order

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

*3: Consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

*4: 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 102 and 103.

Compatible Drivers

Driver type	Pulse input type /Positioning type 	Pulse input type 	CC-Link direct input type 	SSCNET III type 
Series	LECSA	LECSB	LECSC	LECSS
Number of point tables	Up to 7	—	Up to 255	—
Pulse input	○	○	—	—
Applicable network	—	—	CC-Link	SSCNET III
Control encoder	Incremental 17-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder	Absolute 18-bit encoder
Communication	USB communication	USB communication, RS422 communication	USB communication, RS422 communication	USB communication
Power supply voltage (V)	100 to 120 VAC (50/60 Hz) 200 to 230 VAC (50/60 Hz)			
Reference page	Page 409			

Specifications

LEJB40/63 AC Servo Motor

Model			LEJB40S$^{2}_{6}$	LEJB63S$^{3}_{7}$
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 88 for limit according to work load and duty ratio.)	
	Positioning repeatability [mm] Note 3)		±0.04	
	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)	
	Regeneration option		May be required depending on speed and work load. (Refer to page 425.)	
Electric specifications	Motor output [W]/Size [mm]		100/□40	200/□60
	Motor type		AC servo motor (100/200 VAC)	
	Encoder		Motor type S2, S3: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7: Absolute 18-bit encoder (Resolution: 262144 p/rev)	
	Power consumption [W] 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]		60	189
	Power consumption at 20°C [W] Note 9)		6.3	7.9
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$	

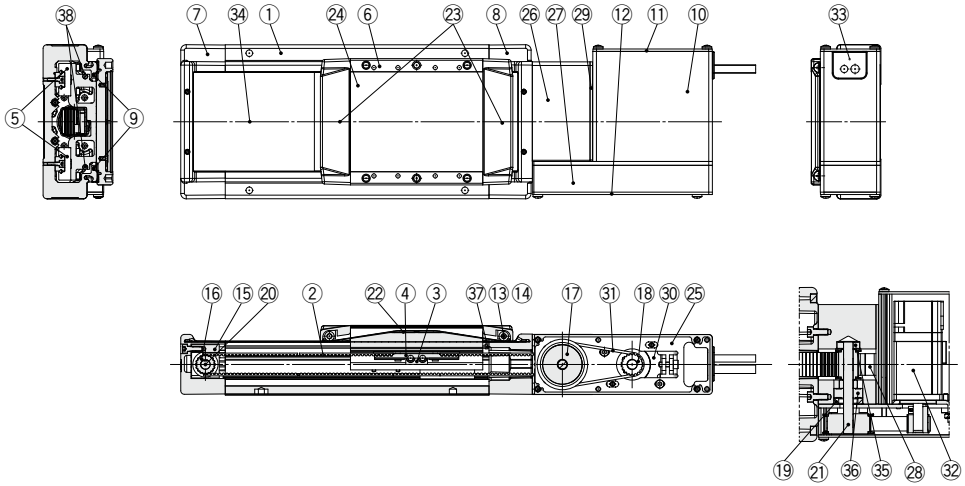
Note 1) Consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
Note 2) Check “Speed–Work Load Graph (Guide)” on page 85.
Note 3) Conforming to JIS B 6191-1999
Note 4) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester 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.

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]	0.2 (Incremental encoder)/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]	0.4 (Incremental encoder)/0.7 (Absolute encoder)											

Construction



Motor details

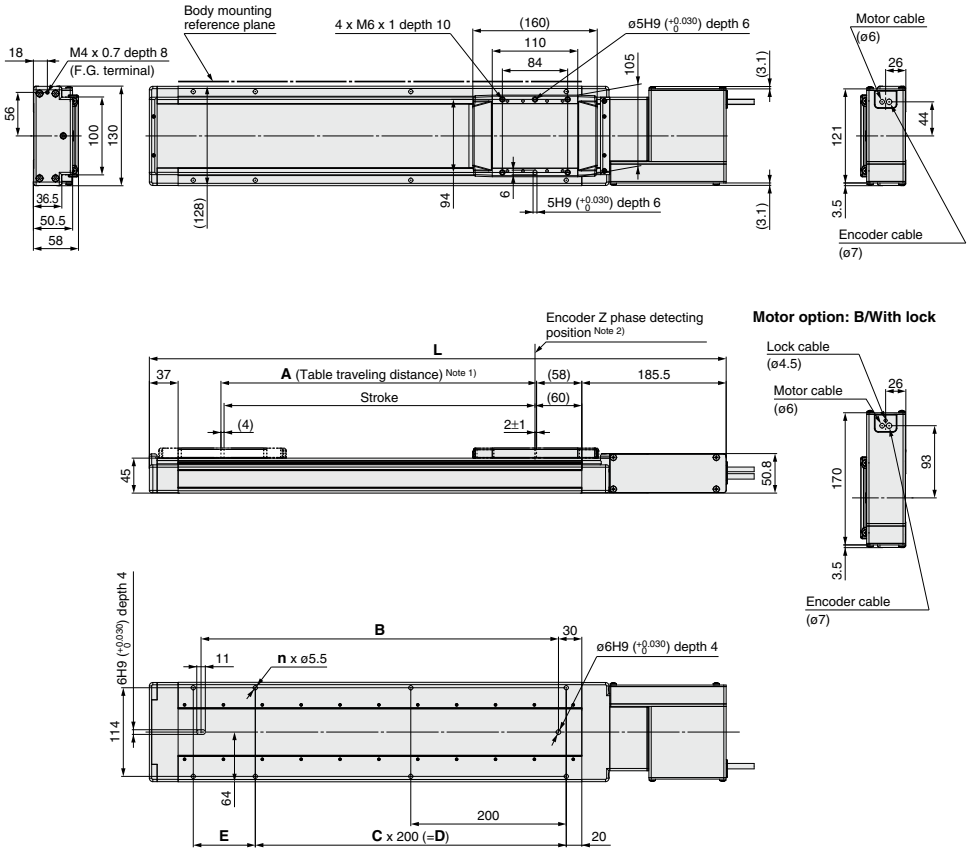
Component Parts

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	

No.	Description	Material	Note
20	**Pulley shaft A**	Stainless steel	
21	**Pulley shaft B**	Stainless steel	
22	**Table cap**	Synthetic resin	
23	**Seal band stopper**	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**	—	

Dimensions: Belt Drive

LEJB40



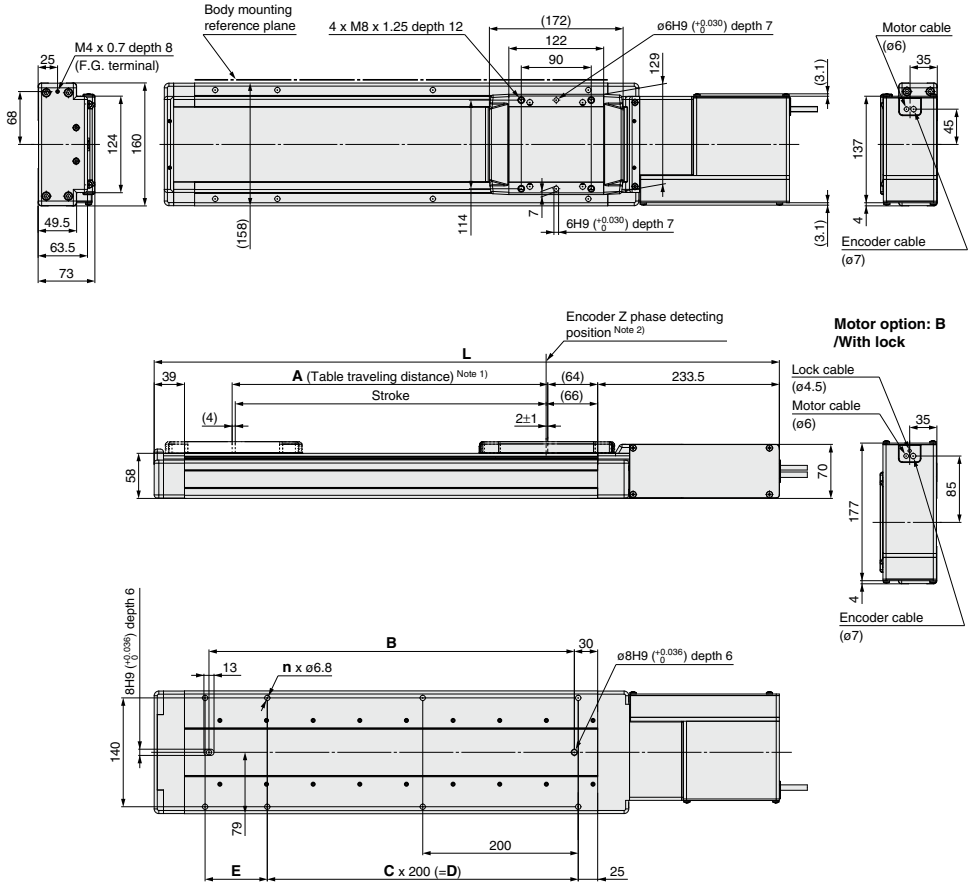
Note 1) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.
Note 2) The Z phase first detecting position from the stroke end of the motor side.
Note 3) Auto switch magnet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

[mm]

Model	L	A	B	n	C	D	E
LEJB40S□□-200□-□□□□	542	206	260	6	1	200	80
LEJB40S□□-300□-□□□□	642	306	360	6	1	200	180
LEJB40S□□-400□-□□□□	742	406	460	8	2	400	80
LEJB40S□□-500□-□□□□	842	506	560	8	2	400	180
LEJB40S□□-600□-□□□□	942	606	660	10	3	600	80
LEJB40S□□-700□-□□□□	1042	706	760	10	3	600	180
LEJB40S□□-800□-□□□□	1142	806	860	12	4	800	80
LEJB40S□□-900□-□□□□	1242	906	960	12	4	800	180
LEJB40S□□-1000□-□□□□	1342	1006	1060	14	5	1000	80
LEJB40S□□-1200□-□□□□	1542	1206	1260	16	6	1200	80
LEJB40S□□-1500□-□□□□	1842	1506	1560	18	7	1400	180
LEJB40S□□-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.

[mm]

Model	L	A	B	n	C	D	E
LEJB63S□□-300□-□□□□	704	306	370	6	1	200	180
LEJB63S□□-400□-□□□□	804	406	470	8	2	400	80
LEJB63S□□-500□-□□□□	904	506	570	8	2	400	180
LEJB63S□□-600□-□□□□	1004	606	670	10	3	600	80
LEJB63S□□-700□-□□□□	1104	706	770	10	3	600	180
LEJB63S□□-800□-□□□□	1204	806	870	12	4	800	80
LEJB63S□□-900□-□□□□	1304	906	970	12	4	800	180
LEJB63S□□-1000□-□□□□	1404	1006	1070	14	5	1000	80
LEJB63S□□-1200□-□□□□	1604	1206	1270	16	6	1200	80
LEJB63S□□-1500□-□□□□	1904	1506	1570	18	7	1400	180
LEJB63S□□-2000□-□□□□	2404	2006	2070	24	10	2000	80
LEJB63S□□-3000□-□□□□	3404	3006	3070	34	15	3000	80

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

CE RoHS

Grommet

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

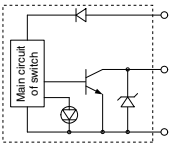
⚠Caution

Precautions

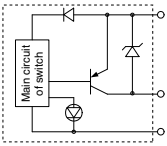
Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Internal Circuit

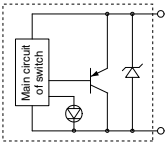
D-M9N/M9NV



D-M9P/M9PV



D-M9B/M9BV



Auto Switch Specifications

Refer to SMC website for details about 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	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire				2-wire	
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24 VDC relay, PLC	
Power supply voltage	5, 12, 24 VDC (4.5 to 28 V)				—	
Current consumption	10 mA or less				—	
Load voltage	28 VDC or less		—		24 VDC (10 to 28 VDC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less at 10 mA (2 V or less at 40 mA)				4 V or less	
Leakage current	100 μA or less at 24 VDC				0.8 mA or less	
Indicator light	Red LED lights up when turned ON.					
Standards	CE marking, RoHS					

- Lead wires — Oilproof flexible heavy-duty vinyl cord: ø2.7 x 3.2 ellipse, 0.15 mm², 2 cores (D-M9B(V)), 3 cores (D-M9N(V)/D-M9P(V))

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

Weight

[g]

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

How to Order

D-M9 N □ □

- Series
- Wiring/Output type

N	3-wire NPN
P	3-wire PNP
B	2-wire

- Electrical entry

Nil	In-line
V	Perpendicular

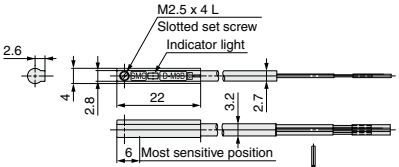
- Lead wire length

Nil	0.5 m
M	1 m
L	3 m
Z	5 m

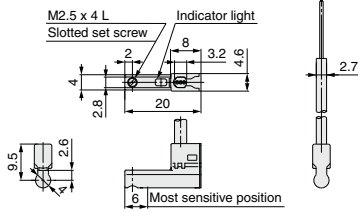
Dimensions

[mm]

D-M9□



D-M9□V



SMC

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

CE RoHS

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

Grommet

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

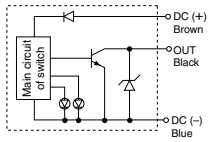
⚠Caution

Precautions

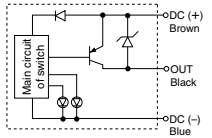
Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Internal Circuit

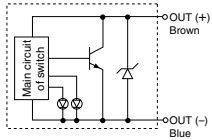
D-M9NW/M9NWV



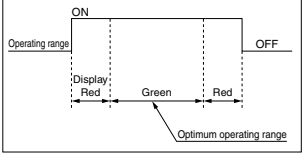
D-M9PW/M9PWV



D-M9BW/M9BWV



Indicator light/Indication method



Auto Switch Specifications

PLC: Programmable Logic Controller

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

● Lead wires — Oilproof flexible heavy-duty vinyl cord: ø2.7 x 3.2 ellipse, 0.15 mm², 2 cores (D-M9BW(V)), 3 cores (D-M9NW(V), D-M9PW(V))

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

Weight

[g]

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

How to Order

D-M9 N W V L

Series

Wiring/Output type

N	3-wire NPN
P	3-wire PNP
B	2-wire

Electrical entry

Nil	In-line
V	Perpendicular

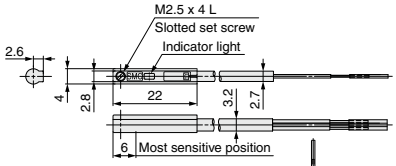
Lead wire length

Nil	0.5 m
M	1 m
L	3 m
Z	5 m

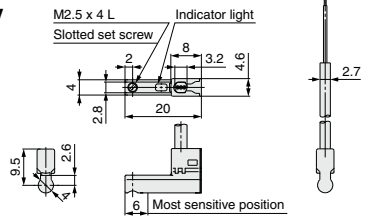
Dimensions

[mm]

D-M9□W



D-M9□WV



Series LEJ
Electric Actuator/ Specific Product Precautions 1

Be sure to read before handling. Refer to page 459 for Safety Instructions and the Operation Manual for Electric Actuator Precautions.
Please download it via our website, http://www.smcworld.com

Design

⚠Caution

1. Do not apply a load in excess of the operating limit.

Select a suitable actuator by load and allowable moment. If the product is used outside of the operating limit, 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 operating limit.

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 operating limit, 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 1000 strokes.

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 operating limit 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. Please 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 0.1 mm or less.

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.

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.

Series LEJ
Electric Actuator/ Specific Product Precautions 2

Be sure to read before handling. Refer to page 459 for Safety Instructions and the Operation Manual for Electric Actuator Precautions.
Please download it via our website, http://www.smcworld.com

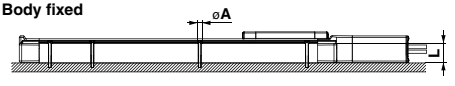
Handling

⚠Caution

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

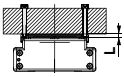
Tightening the screws with a higher torque than recommended may cause a malfunction, whilst the tightening with a lower torque can cause the displacement of the mounting position or in extreme conditions the actuator could become detached from its mounting position.

Body fixed



Model	Bolt	øA (mm)	L (mm)
LEJ□40	M5	5.5	36.5
LEJ□63	M6	6.8	49.5

Workpiece fixed



Model	Bolt	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

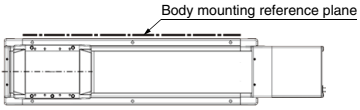
To prevent the workpiece fixing bolts from touching the body, use bolts that are 0.5 mm or shorter than the maximum screw-in depth. If long bolts are used, they can touch the body and cause a malfunction, etc.

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 chamfering. (Recommended height 6 mm)



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 sooner.

• 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