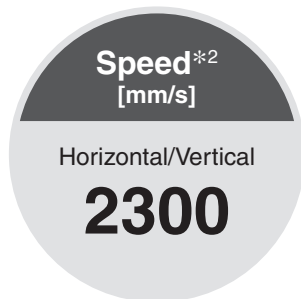
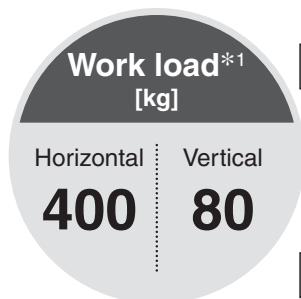


High Rigidity Slider Type

Electric Actuator

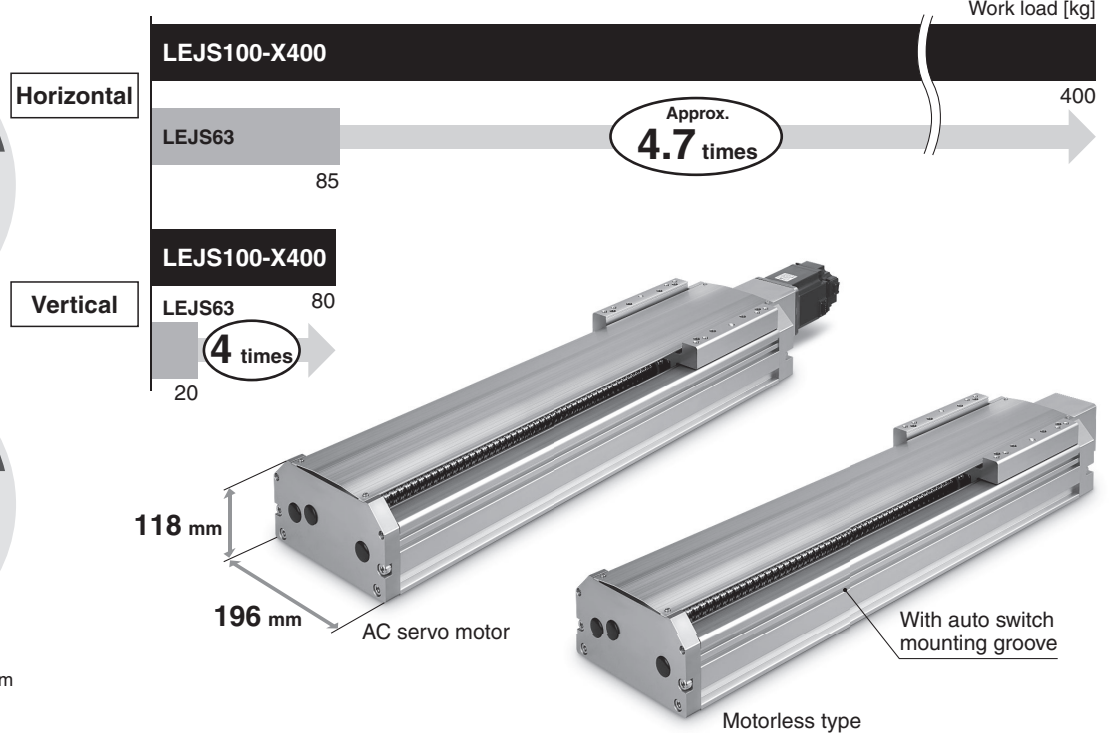


● Supports **750 W** (Motor output)



*1 Speed: 500 mm/s, Lead: 10 mm

*2 Stroke: 500 mm, Lead: 50 mm



● Max. acceleration/deceleration: **9800 mm/s²**

AC Servo Motor Absolute Type

Pulse input type/Positioning type LECSB-T Series

- Positioning by up to 255 point tables
- Input type: Pulse input (Sink (NPN) type interface/Source (PNP) type interface)
- Control encoder: Absolute 22-bit encoder (Resolution: 4194304 p/rev)
- STO (Safe Torque Off) safety function available
- Parallel input: 10 inputs
output: 6 outputs



Motorless Type Compatible Motors by Manufacturer

Manufacturer	Series	Type	Compatible interfaces							
			Battery-less absolute encoder	Pulse input	CC-Link IE $\mathbf{F}$ field	CC-Link IE TSN	SSCNET III/H	MECHATROLINK		DeviceNet
Mitsubishi Electric Corporation	MELSERVO-J4	HG-KR73		●	●		●	II	III	
	MELSERVO-J5	HK-KT7M3W	●	●		●				
YASKAWA Electric Corporation	Σ -V	SGMJV-08		●				●	●	●
	Σ -7	SGM7J-08	●	●				●	●	●

Trademark: DeviceNet™ is a trademark of ODVA.

LEJS100-X400



19-EU743-UK

LEJS100-X400

AC Servo Motor Motorless Type

System Construction

Absolute encoder compatible **LECSB-T Series** (Pulse input type/Positioning type)

Provided by customer

Power supply

Single phase 200 to 240 VAC (50/60 Hz)
Three phase 200 to 240 VAC (50/60 Hz)

Option

Regeneration option

Part no.: LEC-MR-RB-□

Motor cable

Standard cable	Robotic cable
LE-CSM-S□□	LE-CSM-R□□

Lock cable

Standard cable	Robotic cable
LE-CSB-S□□	LE-CSB-R□□

Provided by customer

Power supply for lock
24 VDC



Electric actuator
High rigidity slider type
LEJ Series

Encoder cable

Standard cable	Robotic cable
LE-CSE-S□□	LE-CSE-R□□

* The LECSB2-T□ cannot be used with the LEC-MR-SETUP221□.

● Main circuit power supply connector (Accessory)

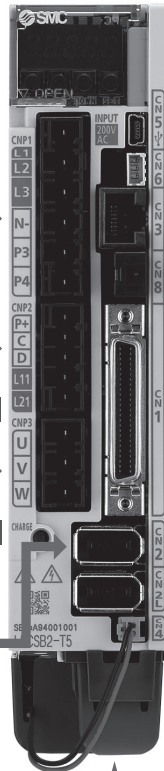
● Control circuit power supply connector (Accessory)

● Motor connector (Accessory)

Battery (Accessory)
(LEC-MR-BAT6V1SET)

Web Catalogue

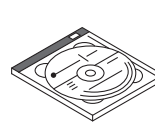
Driver



● USB cable Web Catalogue
Part no.: LEC-MR-J3USB

Option

Setup software Web Catalogue
(MR MR Configurator2™)
LEC-MRC2□

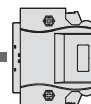


PC

● Analogue monitor output
● RS-422 communication

Option

● STO cable (3 m) Web Catalogue
LEC-MR-D05UDL3M



● I/O connector Web Catalogue
LE-CSNB
or
I/O cable Web Catalogue
LEC-CSNB-1

Provided by customer

PLC (Positioning unit)

Power supply for I/O signal
24 VDC



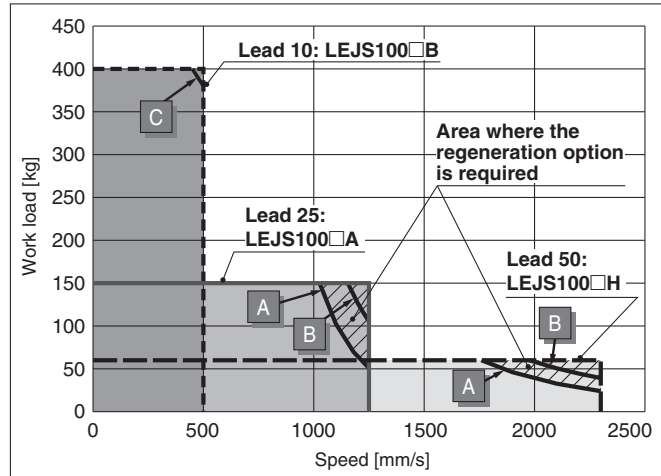
Electric Actuator/High Rigidity Slider Type Ball Screw Drive/LEJS100-X400 Model Selection



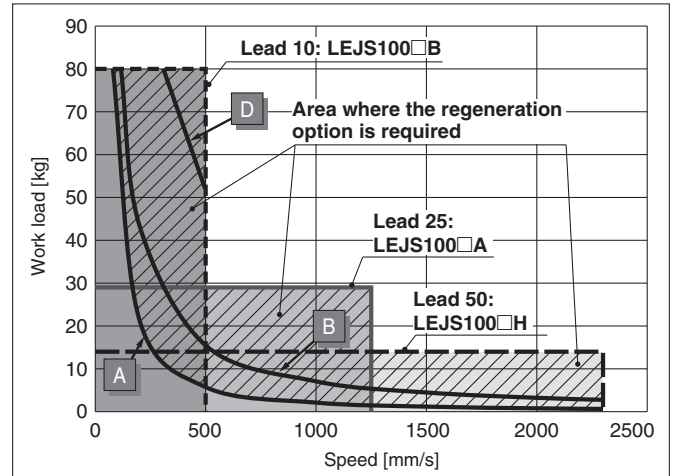
Speed–Work Load Graph/Required Conditions for “Regeneration Option” (Guide)

AC Servo Motor

Horizontal



Vertical



Required conditions for “Regeneration option”

* The regeneration option is required if the product is to be used in the “area beyond the regeneration line (A, B, C, or D)” in the graph. (Order separately.)

“Regeneration Option” Models

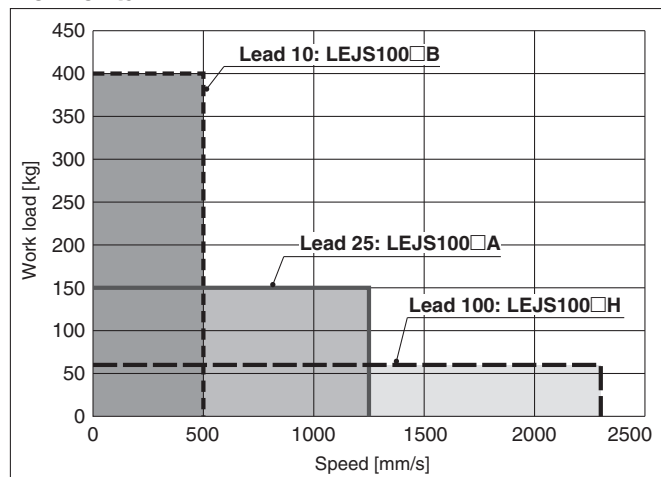
Operating condition	Regenerative condition Duty ratio	Regeneration option
A	100%	LEC-MR-RB-032
B		
C	80%	LEC-MR-RB-12
D	65%	

* Confirm the operating area, and order the regeneration option if needed.

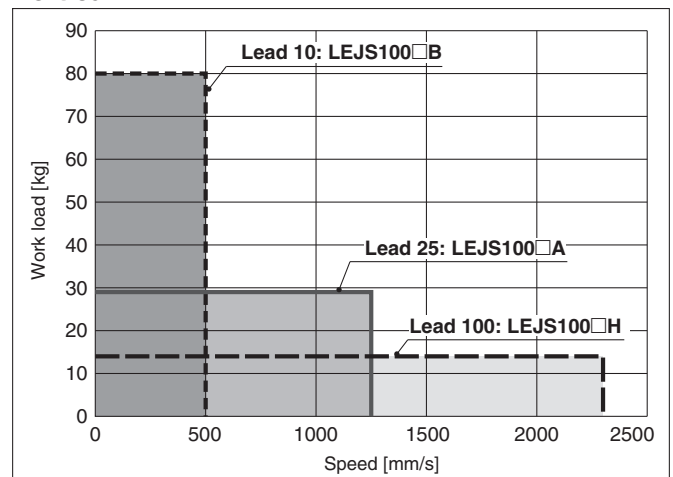
Speed–Work Load Graph (Guide)

Motorless Type

Horizontal



Vertical



Static Allowable Moment^{*1}

[N·m]

Model	Size	Pitching	Yawing	Rolling
LEJS	100	805	771	939

*1 The static allowable moment is the amount of static moment which can be applied to the actuator when it is stopped.

If the product is exposed to impact or repeated load, be sure to take adequate safety measures when using the product.

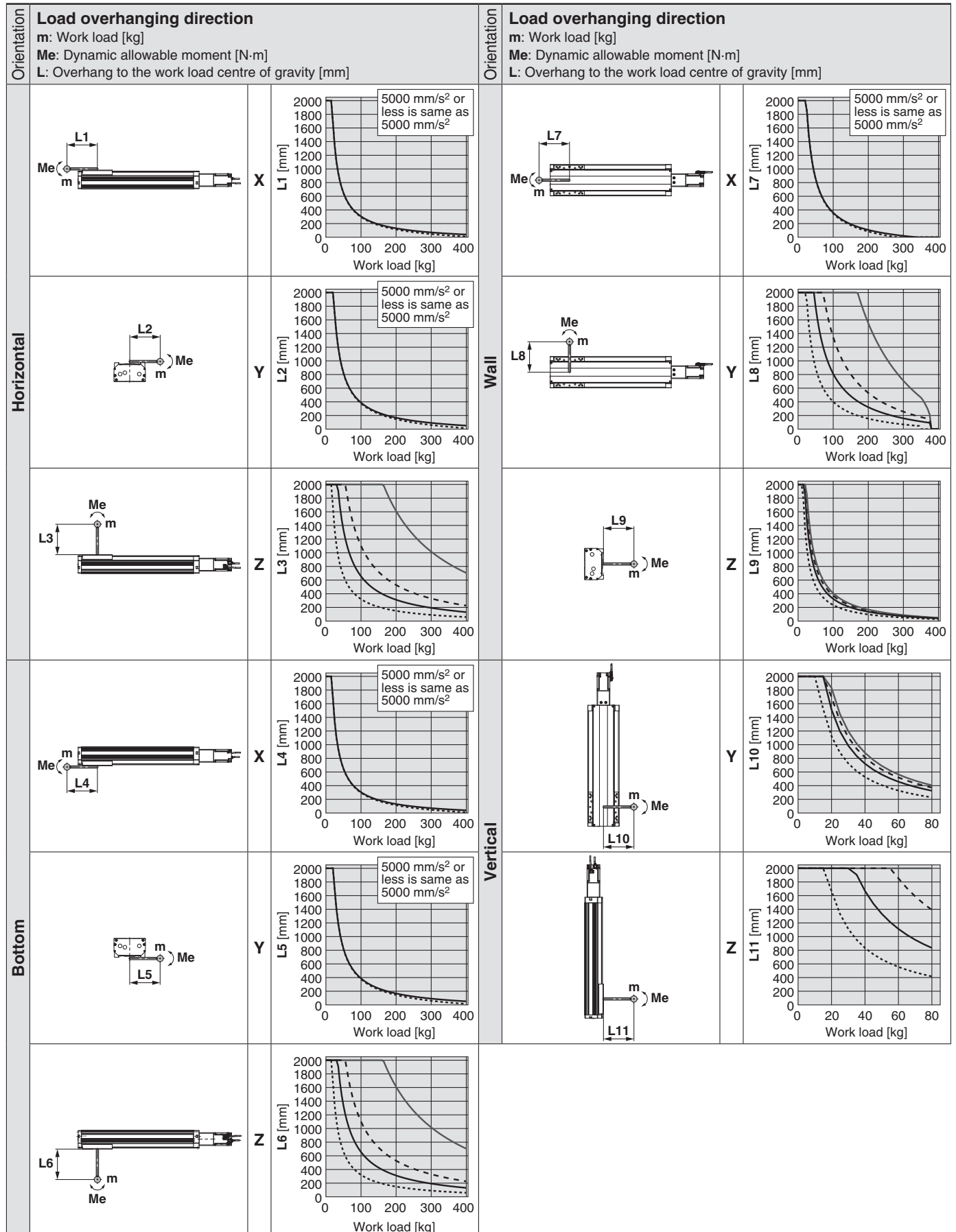
LEJS100-X400

AC Servo Motor Motorless Type

* This graph shows the amount of allowable overhang (guide unit) when the centre of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" for confirmation.

Dynamic Allowable Moment

Acceleration/Deceleration ——— 1000 mm/s² - - - - 3000 mm/s² ——— 5000 mm/s² ······ 9800 mm/s²



Calculation of Guide Load Factor

1. Decide operating conditions.

Model: LEJS-X400

Size: 100

Mounting orientation: Horizontal/Bottom/Wall/Vertical

Acceleration [mm/s²]: **a**

Work load [kg]: **m**

Work load centre 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.

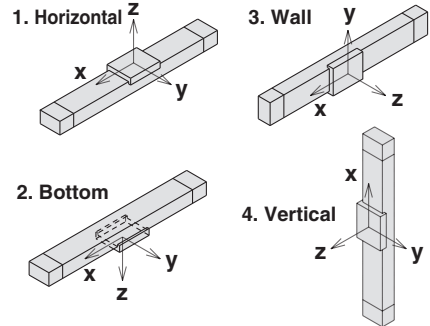
$$\alpha x = Xc/Lx \quad \alpha y = Yc/Ly \quad \alpha z = Zc/Lz$$

5. 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 centre position and series.

Mounting orientation



Example

1. Operating conditions

Model: LEJS-X400

Size: 100

Mounting orientation: Horizontal

Acceleration [mm/s²]: 5000

Work load [kg]: 100

Work load centre position [mm]: **Xc = 50, Yc = 100, Zc = 200**

2. Select the graph on page 3, top and left side first row.

3. **Lx = 300 mm, Ly = 380 mm, Lz = 650 mm**

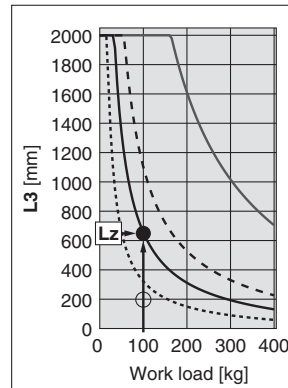
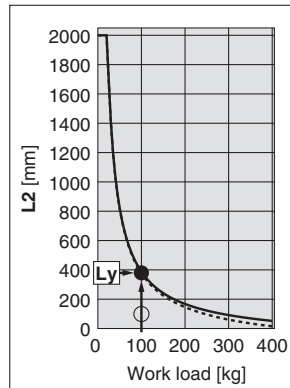
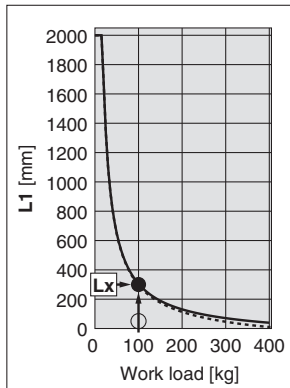
4. The load factor for each direction can be obtained as follows.

$$\alpha x = 50/300 = 0.17$$

$$\alpha y = 100/380 = 0.26$$

$$\alpha z = 200/650 = 0.31$$

5. **$\alpha x + \alpha y + \alpha z = 0.74 \leq 1$**



Electric Actuator/High Rigidity Slider Type Ball Screw Drive *LEJS100-X400*



How to Order

LEJS100 T9 B - 500 T - - - - X400

Motor type: AC servo motor
(Absolute encoder) 750 W

①

②

③

④

⑤

⑥

⑦

• With top cover type

① Lead [mm]

H	50
A	25
B	10

④ Cable type*1*2

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

② Stroke [mm]

200	200
300	300
400	400
500	500
600	600
800	800
1000	1000
1200	1200
1500	1500

*1 When a driver type is selected, a cable is included.

Select the cable type and cable length.
Example)

S2B2: Standard cable (2 m) + Driver (LECSB2)

S2 : Standard cable (2 m)

— : Without cable and driver

*2 The motor and encoder cables are included.

(The lock cable is included when the motor with lock option is selected.)

③ Motor option

—	Without option
B	With lock

⑤ Cable length [m]*3

—	Without cable
2	2
5	5
A	10

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

⑥ Driver type*1

Compatible driver Model	Power supply voltage [V]	Control method
—	Without driver	—
B2	LECSB2-T9	200 to 240
		Pulse input/Point table

⑦ I/O cable length [m]*4

—	Without cable
H	Connector only
1	1.5

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

Driver type	Pulse input type
	
Series	LECSB-T
Number of point tables	Up to 255
Pulse input	○
Applicable network	—
Control encoder	Absolute 22-bit encoder
Communication function	USB communication, RS422 communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)

Specifications

Actuator specifications	Stroke [mm]*1			200, 300, 400, 500, 600, 800, 1000, 1200, 1500		
	Lead [mm]			50	25	10
	Work load*2 [kg]	Horizontal	3000 (mm/s²)	60	150	400
			5000 (mm/s²)	43	93	150
			9800 (mm/s²)	22	36	—
		Vertical	3000 (mm/s²)	14	29	80
			5000 (mm/s²)	12	29	30
			9800 (mm/s²)	8	9	—
	Max. speed*3 [mm/s]	Stroke range	200 to 800	2300	1250	500
			1000	1600	800	320
			1200	1200	600	240
			1500	900	450	180
	Max. acceleration/deceleration [mm/s²]			9800		
	Positioning repeatability [mm]			±0.01		
	Lost motion [mm]*4			0.05 or less		
	Impact/Vibration resistance [m/s²]*5			50/20		
	Actuation type			Ball screw		
	Guide type			Linear guide		
	Static allowable moment*6 [N·m]	Mep (Pitching)		805		
		Mey (Yawing)		771		
		Mer (Rolling)		939		
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 2.)			
Electric specifications	Motor output [W]/Size [mm]			750/□80		
	Motor type			AC servo motor (200 VAC)		
	Encoder			Absolute 22-bit encoder (Resolution: 4194304 p/rev)		
Lock unit specifications	Power [W]*7			Max. power 1100		
	Type*8			Non-magnetizing lock		
	Holding force [N]			240	480	1200
	Power consumption [W] at 20°C			10		
Rated voltage [V]			24 VDC ⁰ _{-10%}			

*1 Les courses autres que celles énumérées dans le tableau ci-dessus sont disponibles en tant que commandes spéciales.

Veuillez contacter SMC pour plus de détails.

*2 Pour plus de détails, reportez-vous à la section « Graphique vitesse-charge (guide) » à la page 2.

*3 La vitesse autorisée varie en fonction de la course.

*4 Valeur de référence pour la correction d'une erreur dans une opération réciproque.

*5 Résistance aux chocs : aucun dysfonctionnement ne s'est produit lorsque l'actionneur a été soumis au test de chocs à la fois dans le sens axial et dans le sens perpendiculaire au pas de vis. (Le test a été réalisé avec l'actionneur en condition initiale.)

Résistance aux vibrations : Aucun dysfonctionnement lorsque soumis au test entre 45 et 2000 Hz. Le test a été effectué à la fois dans un sens axial et dans un sens perpendiculaire au pas de vis. (Le test a été réalisé avec l'actionneur en condition initiale.)

*6 Le moment statique admissible est le moment statique qui peut être supporté par l'actionneur lorsqu'il est à l'arrêt.

Si le produit est exposé à des chocs ou une charge répétée, prenez les mesures de sécurité appropriées pour son utilisation.

*7 Indique la puissance maximale pendant le fonctionnement (y compris le pilote).

Lors de la sélection de la capacité de l'alimentation électrique, reportez-vous à la capacité de l'alimentation électrique dans le manuel d'utilisation de

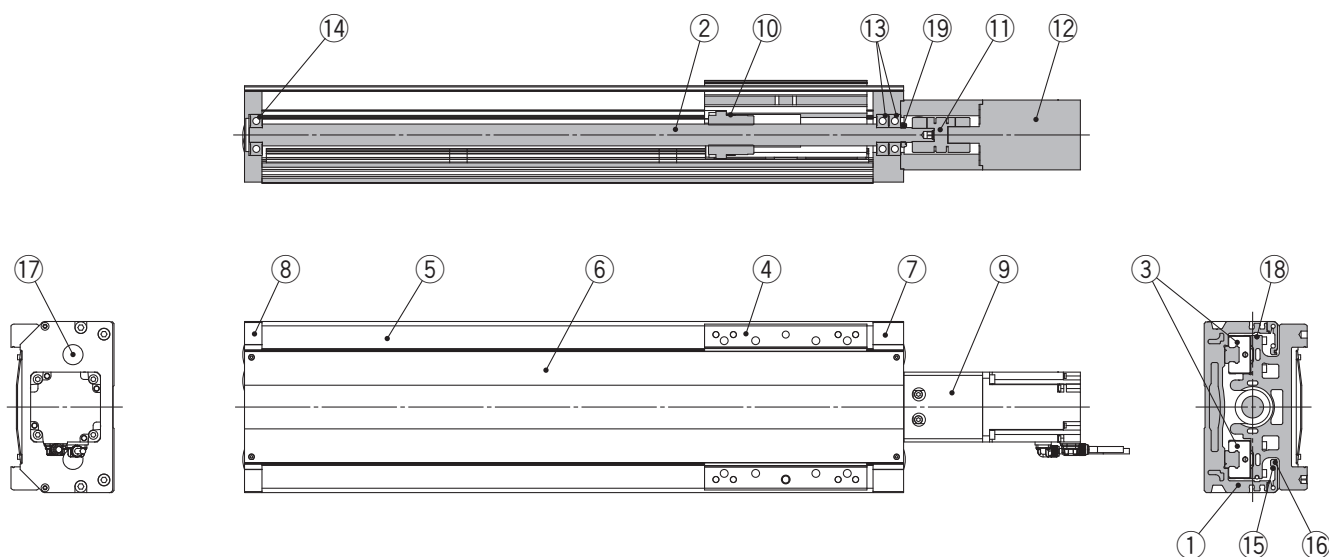
*8 Uniquement quand l'option de moteur « Avec verrouillage » est sélectionnée

* Ne laissez aucun objet pouvant créer une collision à chaque extrémité de la distance de déplacement de la table. De plus, lors de l'exécution de l'opération de positionnement, laissez plus de 7 mm à chaque extrémité.

LEJS100-X400

AC Servo Motor

Construction

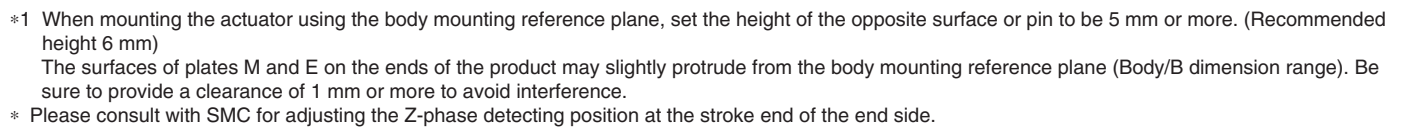


Component Parts

No.	Description	Material	Note
1	Body	Aluminium alloy	Anodised
2	Ball screw assembly	—	
3	Linear guide assembly	—	
4	Table	Aluminium alloy	Anodised
5	Side cover	Aluminium alloy	Anodised
6	Dust cover	Aluminium alloy	Anodised
7	Plate M	Aluminium alloy	Anodised
8	Plate E	Aluminium alloy	Anodised
9	Motor block	Aluminium alloy	Anodised
10	Spacer	Aluminium alloy	"Lead: H" only
11	Coupling	—	
12	Motor	—	
13	Bearing	—	
14	Bearing	—	
15	Pin	Carbon steel	
16	Pin	Carbon steel	
17	Cap	Polyethylene	
18	Magnet	—	
19	Lock nut	—	

Replacement Parts/Grease Pack

Applied portion	Order no.
Ball screw	GR-S-010 (10 g)
Linear guide portion	GR-S-020 (20 g)

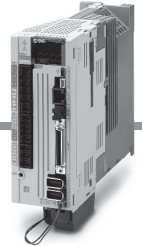


Stroke	L		A	B	n	D	E	G	Weight [kg]	
	Without lock	With lock							Without lock	With lock
200	657.5	697.8	214	400	6	2	360	325	20.4	21.4
300	757.5	797.8	314	500	6	2	360	325	22.5	23.5
400	857.5	897.8	414	600	8	3	540	505	24.6	25.6
500	957.5	997.8	514	700	8	3	540	505	26.7	27.7
600	1057.5	1097.8	614	800	10	4	720	685	28.8	29.8
800	1257.5	1297.8	814	1000	12	5	900	865	33.0	34.0
1000	1457.5	1497.8	1014	1200	14	6	1080	1045	37.1	38.1
1200	1657.5	1697.8	1214	1400	16	7	1260	1225	41.3	42.3
1500	1957.5	1997.8	1514	1700	20	9	1620	1585	47.6	48.6

AC Servo Motor Driver

Absolute Type

LECSB-T (Pulse input type/Positioning type)



How to Order

LECSB2-T9

Driver type

B	Pulse input type/Positioning type (For absolute encoder)
----------	---

Power supply voltage

2	200 to 240 VAC 50/60 Hz
----------	-------------------------

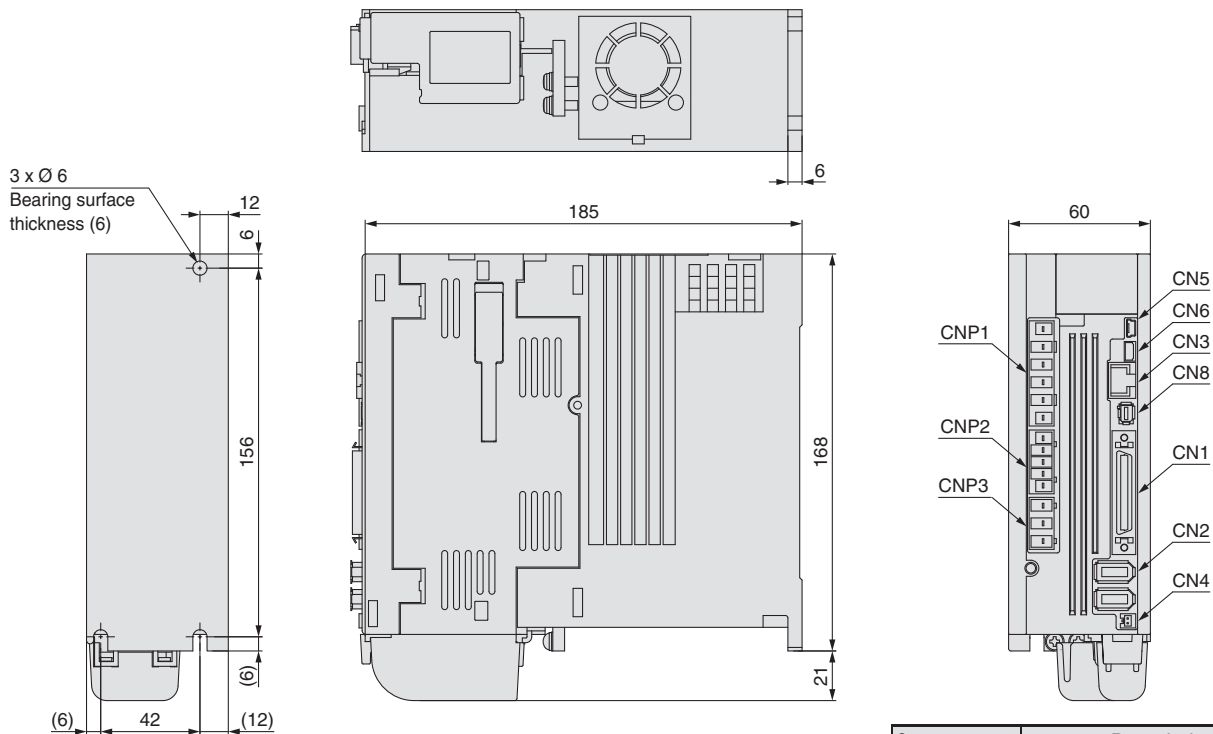
Compatible motor type

Symbol	Type	Capacity	Encoder
T9	AC servo motor (T9*1)	750 W	Absolute

*1 The symbol shows the motor type (actuator).

- * If an I/O connector is required, order the part number "LE-CSNB" separately.
 - * If an I/O cable is required, order the part number "LEC-CSNB-1" separately.
- (Since the electric actuator will not operate without forced stop (EM2) wiring when using the LECSB-T in any mode other than positioning mode, an I/O connector or an I/O cable is required.)

Dimensions



Connector name	Description
CN1	I/O signal connector
CN2	Encoder connector
CN3	RS-422 communication connector
CN4	Battery connector
CN5	USB communication connector
CN6	Analogue monitor connector
CN8	STO input signal connector
CNP1	Main circuit power supply connector
CNP2	Control circuit power supply connector
CNP3	Servo motor power connector

Specifications

Model		LECSB2-T9
Compatible motor capacity [W]		750
Compatible encoder		Absolute 22-bit encoder (Resolution: 4194304 p/rev)
Main power supply	Power voltage [V]	Three phase 200 to 240 VAC (50/60 Hz), Single phase 200 to 240 VAC (50/60 Hz)
	Allowable voltage fluctuation [V]	Three phase 170 to 264 VAC (50/60 Hz), Single phase 170 to 264 VAC (50/60 Hz)
	Rated current [A]	3.8
Control power supply	Control power supply voltage [V]	Single phase 200 to 240 VAC (50/60 Hz)
	Allowable voltage fluctuation [V]	Single phase 170 to 264 VAC
	Rated current [A]	0.2
Parallel input		10 inputs
Parallel output		6 outputs
Max. input pulse frequency [pps]		4 M (for differential receiver), 200 k (for open collector)
Function	In-position range setting [pulse]	0 to ± 65535 (Command pulse unit)
	Error excessive	± 3 rotations
	Torque limit	Parameter setting or external analogue input setting (0 to 10 VDC)
	Communication	USB communication, RS422 communication ^{*1}
	Point table	Up to 255 points
	Pushing operation	Point table no. input method, Up to 127 points
Operating temperature range [°C]		0 to 55 (No freezing)
Operating humidity range [%RH]		90 or less (No condensation)
Storage temperature range [°C]		-20 to 65 (No freezing)
Storage humidity range [%RH]		90 or less (No condensation)
Insulation resistance [MΩ]		Between the housing and SG: 10 (500 VDC)
Weight [g]		1400

*1 USB communication and RS422 communication cannot be performed at the same time.

Electric Actuator/High Rigidity Slider Type Ball Screw Drive LEJS100-X400



RoHS

How to Order

LEJS100 N B - 500 T - X400

Motorless type

①

②

With top cover type

① Lead [mm]

H	50
A	25
B	10

② Stroke [mm]

200	200
300	300
400	400
500	500
600	600
800	800
1000	1000
1200	1200
1500	1500

Specifications

Actuator specifications	Stroke*1 [mm]			200, 300, 400, 500, 600, 800, 1000, 1200, 1500			
	Lead [mm]			50	25	10	
	Work load*2 [kg]	Horizontal	3000 [mm/s ²]	60	150	400	
			5000 [mm/s ²]	43	93	150	
			9800 [mm/s ²]	22	36	—	
		Vertical	3000 [mm/s ²]	14	29	80	
			5000 [mm/s ²]	12	29	30	
			9800 [mm/s ²]	8	9	—	
	Max. speed*3 [mm/s]	Stroke range	200 to 800	2300	1250	500	
			1000	1600	800	320	
			1200	1200	600	240	
			1500	900	450	180	
	Max. acceleration/deceleration [mm/s ²]			9800			
	Positioning repeatability [mm]			±0.01			
	Lost motion*4 [mm]			0.05 or less			
	Ball screw specifications		Thread size [mm]	ø25			
			Shaft length [mm]	Stroke + 284.5			
	Impact/Vibration resistance*5 [m/s ²]			50/20			
	Actuation type			Ball screw			
	Guide type			Linear guide			
	Static allowable moment*6 [N·m]	Mep (Pitching)		805			
		Mey (Yawing)		771			
		Mer (Rolling)		939			
Operating temperature range [°C]			5 to 40				
Operating humidity range [%RH]			90 or less (No condensation)				
Other*7 specifications	Actuation unit weight [kg]		4.58				
	Other inertia [kg·cm ²]		0.43				
	Friction coefficient		0.05				
	Mechanical efficiency		0.8				
Reference motor specifications	Motor shape		□80				
	Motor type		AC servo motor (200 VAC)				
	Rated output capacity [W]		750				
	Rated torque [N·m]		2.4				
	Rated rotation [rpm]		3000				

*1 Strokes other than those listed in the table above are available as special orders. Please contact SMC for further details.

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

*3 The allowable speed changes according to the stroke.

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

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

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

*6 The static allowable moment is the amount of static moment which can be applied to the actuator when it is stopped. If the product is exposed to impact or repeated load, be sure to take adequate safety measures when using the product.

*7 Each value is only to be used as a guide to select a motor of the appropriate capacity.

* Values in this specifications table are the allowable values of the actuator body with the standard motor mounted. Do not use the actuator so that it exceeds these values.

* Before mounting the coupling, remove any dust, oil, etc., adhered to the shaft and the inner surface of the coupling.

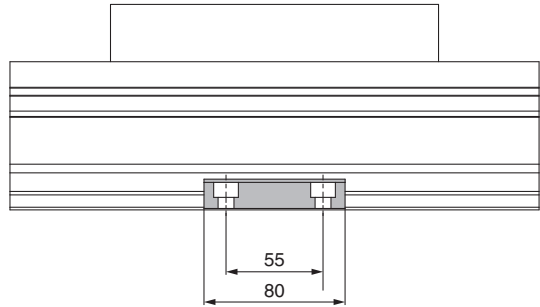
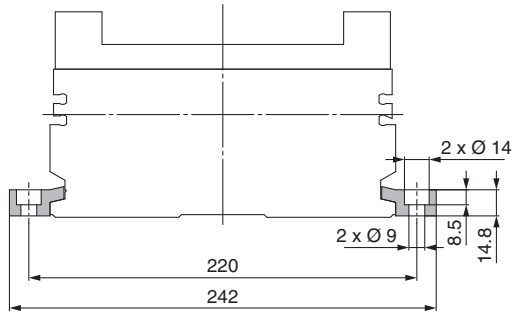
* This product does not come with a motor, motor mounting screws, or couplings. They should be prepared separately by the customer.

* Take measures to prevent the loosening of the motor mounting screws.

* Do not allow collisions at either end of the table traveling distance. Additionally, when running the positioning operation, do not set within 7 mm of both ends.

Side Supports

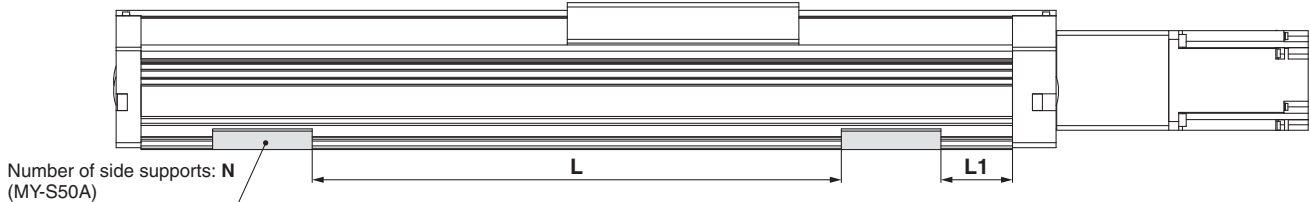
Side supports: MY-S50A



* The side supports consist of a set of right and left brackets.

Usage Guide for Side Supports

When mounting with the side supports, be sure to use the number of side supports (N) and the support spacing (L1) shown in the figure and table below as a guide.



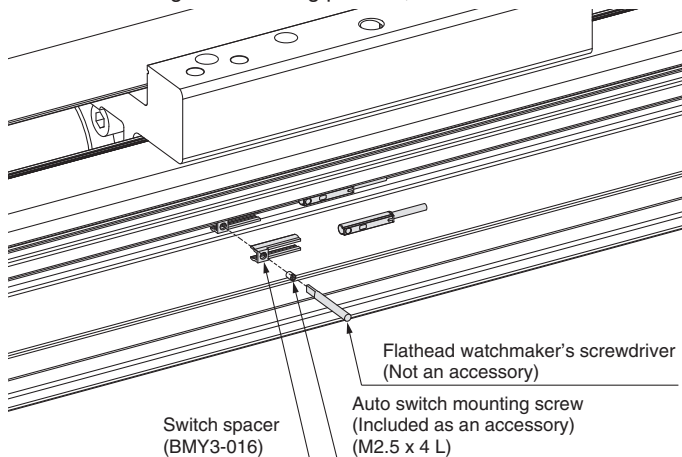
* Number of side supports: N is the combined number of left and right supports.

Stroke	N (Qty.)	L1 [mm]	Screw size	Max. tightening torque [N·m]
200 st	6	15	M8 x 1.25	1.25
300 st	6			
400 st	6			
500 st	6			
600 st	8			
800 st	8			
1000 st	10			
1200 st	10			
1500 st	14			

- Secure the side supports using the support spacing (L) in the table above.
- When mounting with the side supports, use in combination with the pin on the bottom of the body.
- For vertical or bottom mounting, please refrain from using only the side supports.

Auto Switch Mounting

When mounting an auto switch, first, hold a switch spacer between your fingers and press it into the auto switch mounting groove. When doing this, confirm that it is set in the correct mounting orientation, or reattach it if necessary. Next, insert an auto switch into the auto switch mounting groove and slide it until it is positioned under the switch spacer. After establishing the mounting position, use a flathead watchmaker's screwdriver to tighten the included auto switch mounting screw.



Auto Switch Mounting Screw Tightening Torque

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



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