

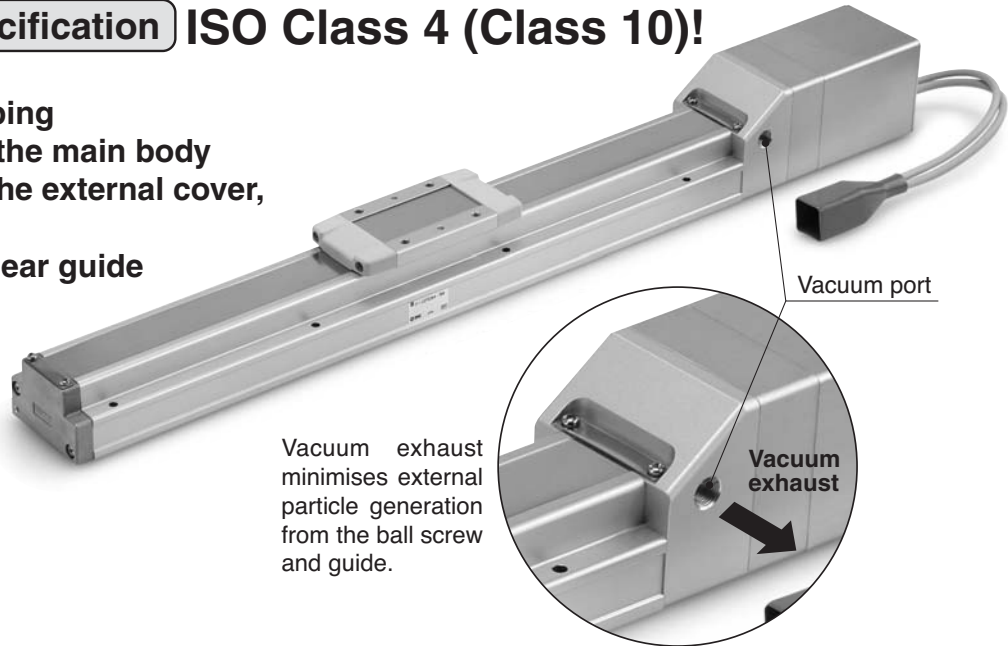
## Electric Actuator/Slider Type

### Series 11-LEFS

Clean Room Specification

Clean Room Specification ISO Class 4 (Class 10)!

- Built-in vacuum piping
- Possible to mount the main body without removing the external cover, etc.
- Body-integrated linear guide specification

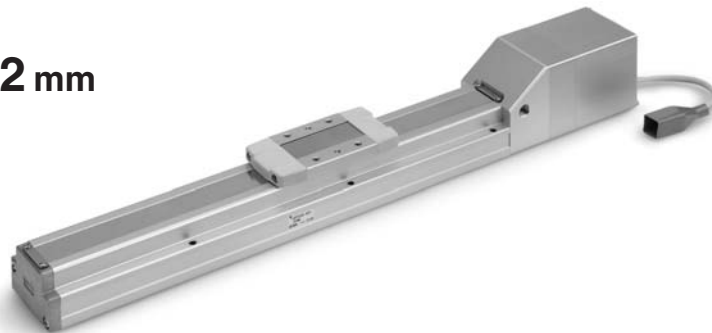


Step Motor (Servo/24 VDC) Servo Motor (24 VDC) Type

Ball Screw Drive Series 11-LEFS

Size: 16, 25, 32, 40

Max. work load: **60 kg**  
 Positioning repeatability:  $\pm 0.02$  mm

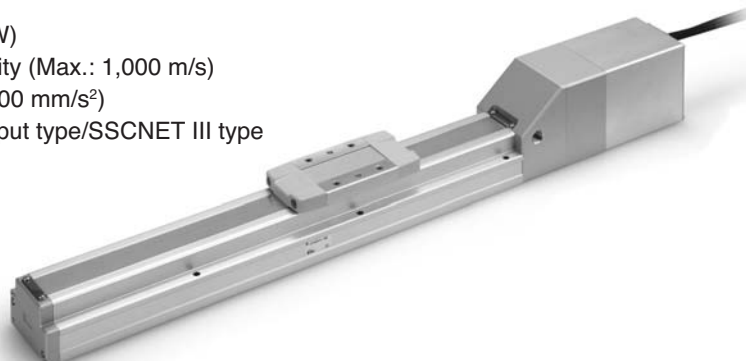


AC Servo Motor (100/200/400 W) Type

Ball Screw Drive Series 11-LEFS

Size: 25, 32, 40

- High output motor (100/200/400 W)
- Improved high speed transfer ability (Max.: 1,000 m/s)
- High acceleration compatible (5,000 mm/s<sup>2</sup>)
- Pulse input type/CC-Link direct input type/SSCNET III type
- With internal absolute encoder (LECSB specification)



# Series 11-LEFS

## Particle Generation Measuring Method

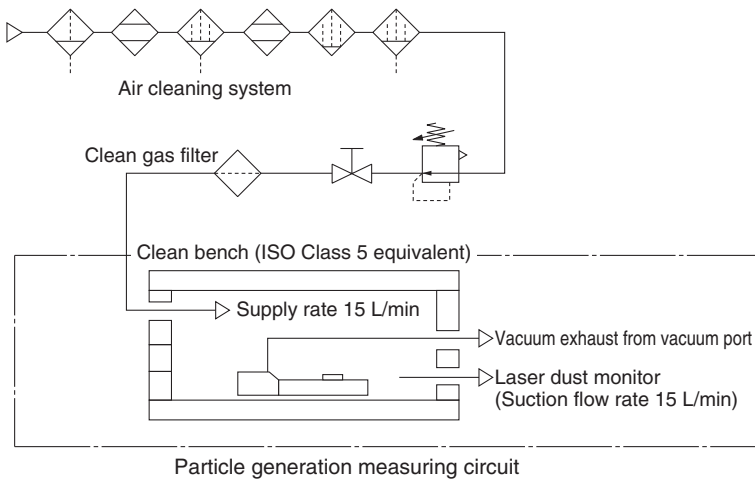
The particle generation data for SMC Clean Series are measured in the following test method.

### Test Method (Example)

Place the specimen in the acrylic resin chamber and operate it while supplying the same flow rate of clean air as the suction flow rate of the measuring instrument (28.3 L/min). Measure the changes of the particle concentration over time until the number of cycles reaches the specified point. The chamber is placed in an ISO Class 5 equivalent clean bench.

### Measuring Conditions

Chamber	Internal volume	28.3 L
	Supply air quality	Same quality as the supply air for driving
Measuring instrument	Description	Laser dust monitor (Automatic particle counter by lightscattering method)
	Minimum measurable particle diameter	0.1 $\mu\text{m}$
	Suction flow rate	28.3 L/min
Setting conditions	Sampling time	5 min
	Interval time	55 min
	Sampling air flow	141.5 L



### Evaluation Method

To obtain the measured values of particle concentration, the accumulated value <sup>Note 1)</sup> of particles captured every 5 minutes, by the laser dust monitor, is converted into the particle concentration in every 1 m<sup>3</sup>.

When determining particle generation grades, the 95% upper confidence limit of the average particle concentration (average value), when each specimen is operated at a specified number of cycles <sup>Note 2)</sup> is considered.

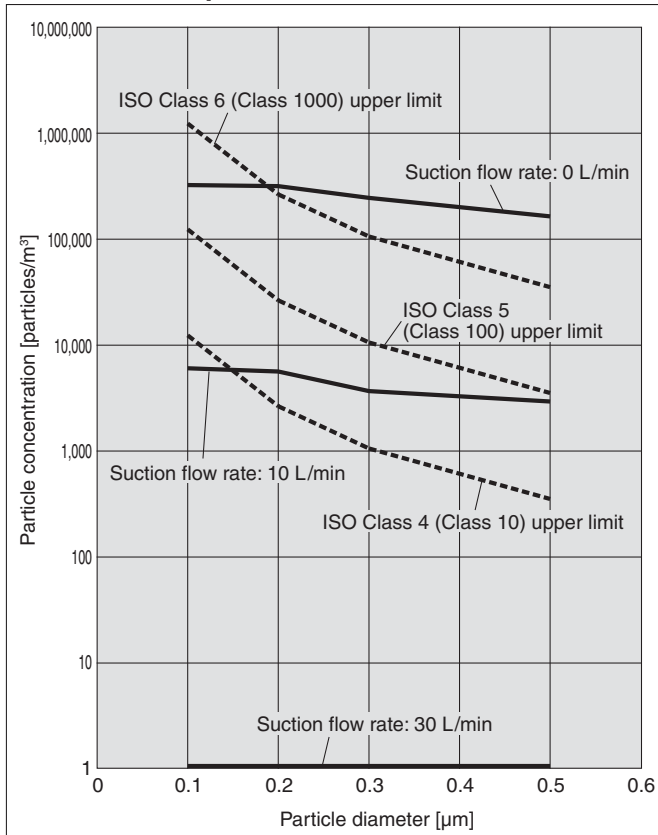
The plots in the graphs indicate the 95% upper confidence limit of the average particle concentration of particles with a diameter within the horizontal axis range.

Note 1) Sampling air flow rate: Number of particles contained in 75 L of air

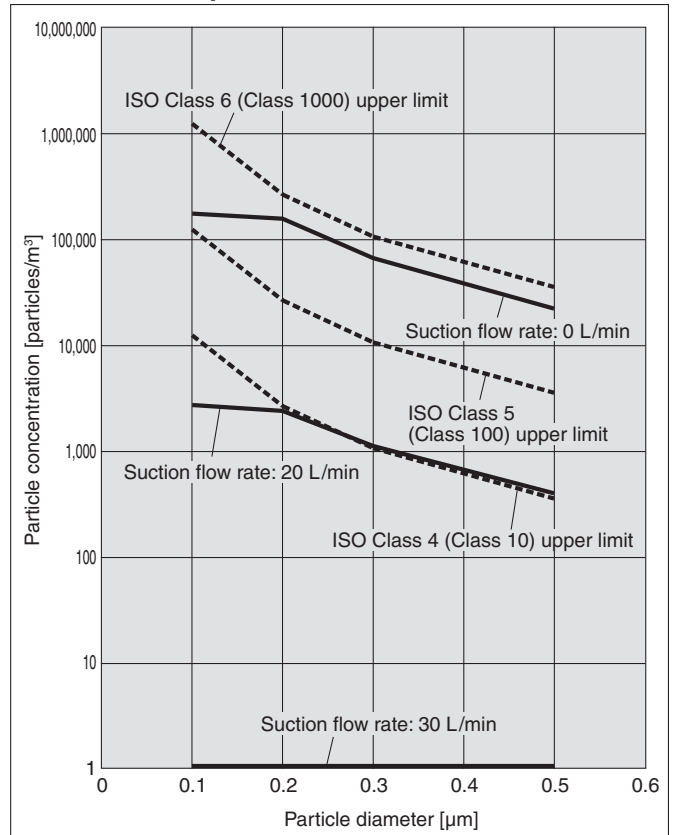
Note 2) Actuator: 1 million cycles

**Particle Generation Characteristics**  
**Step Motor (Servo/24 VDC), Servo Motor (24 VDC)**

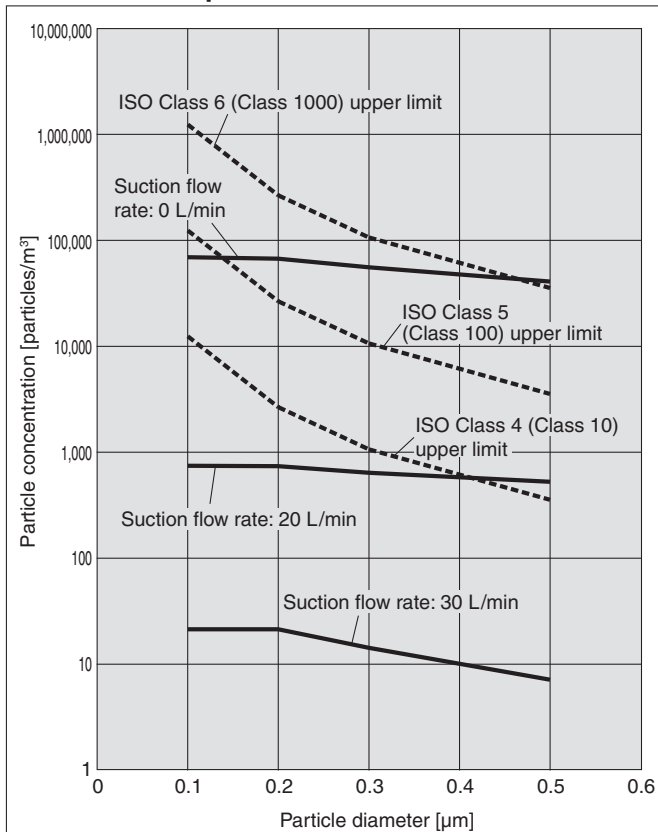
**11-LEFS16 Speed 500 mm/s**



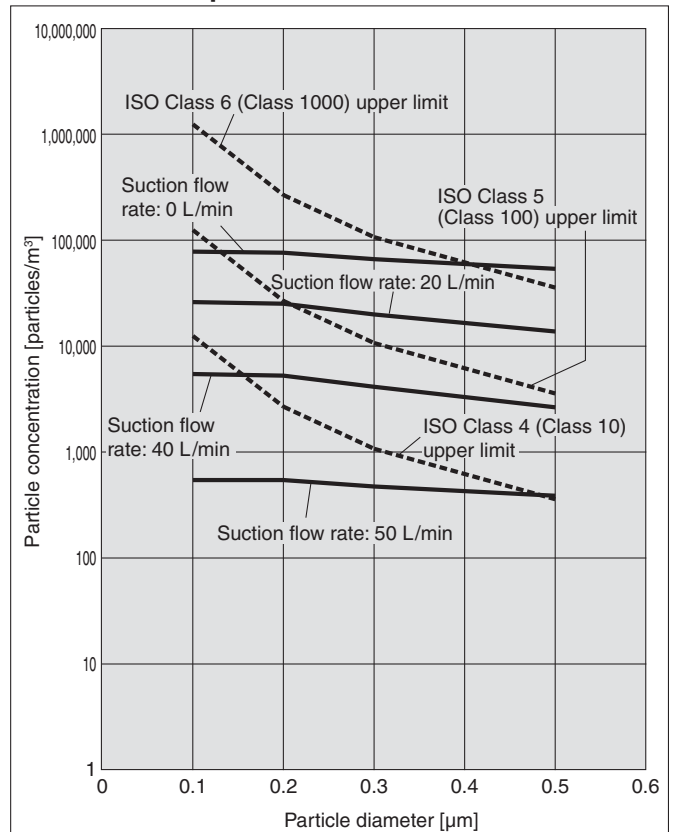
**11-LEFS25 Speed 500 mm/s**



**11-LEFS32 Speed 500 mm/s**



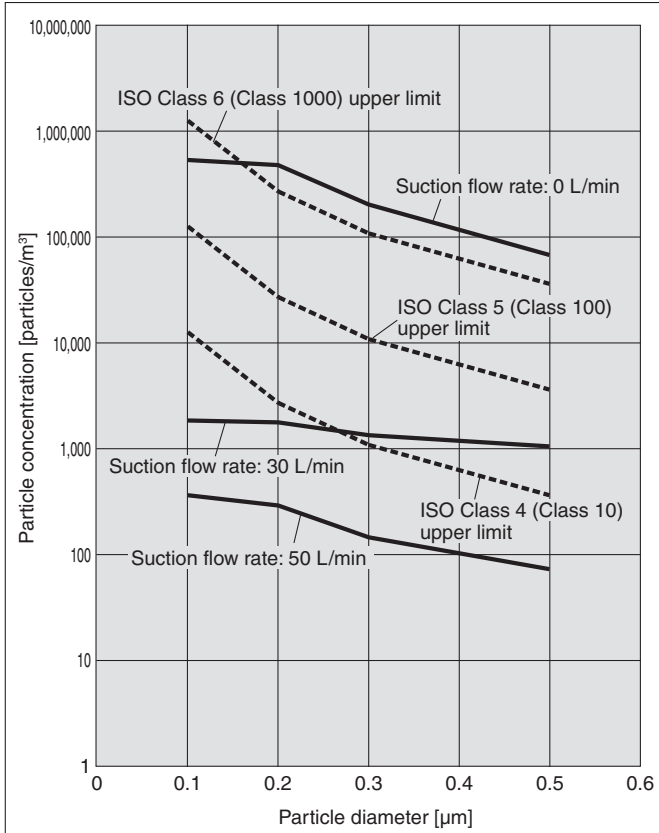
**11-LEFS40 Speed 500 mm/s**



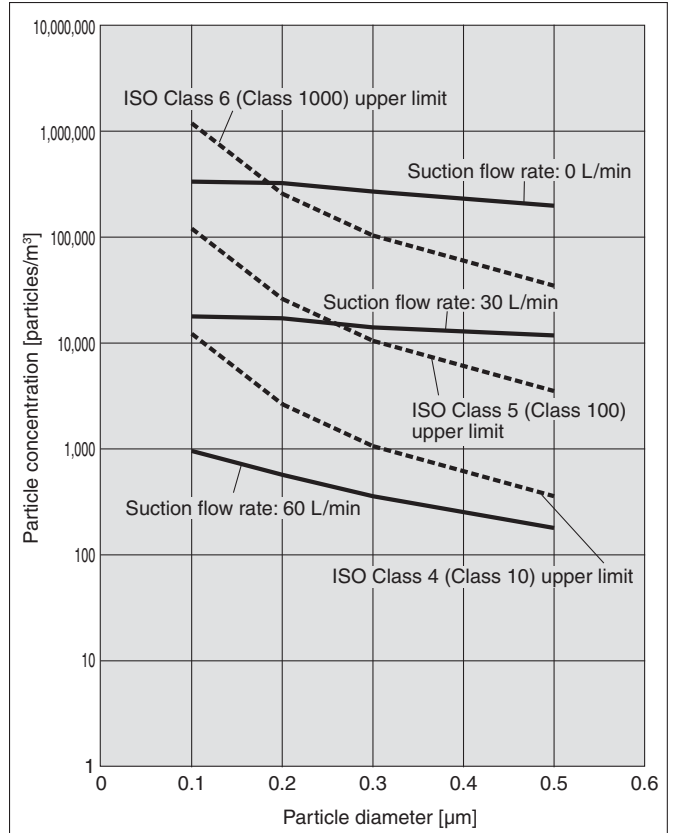
# Series 11-LEFS

## Particle Generation Characteristics AC Servo Motor (100/200/400 W)

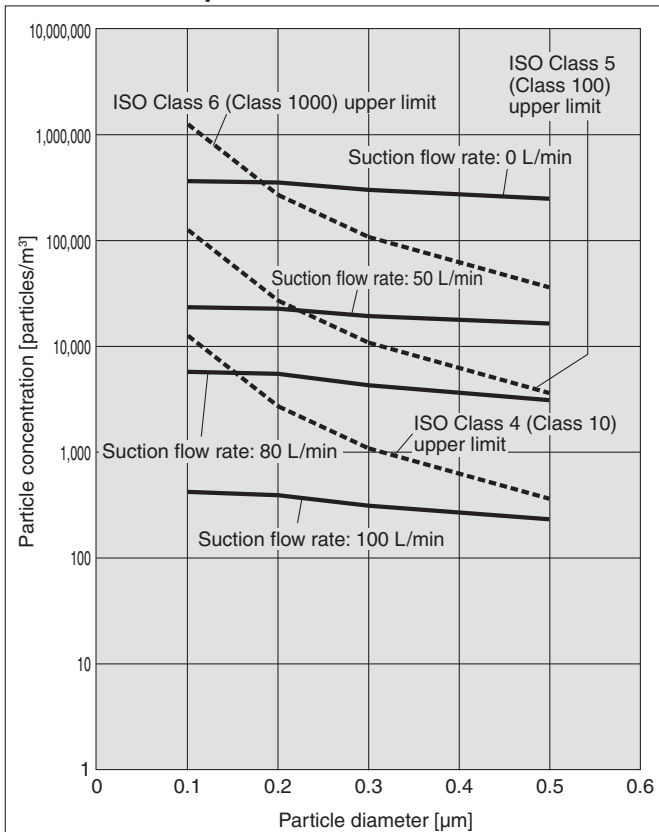
**11-LEFS25 Speed 900 mm/s**



**11-LEFS32 Speed 1000 mm/s**



**11-LEFS40 Speed 1000 mm/s**



# Ball Screw Drive/Series 11-LEFS

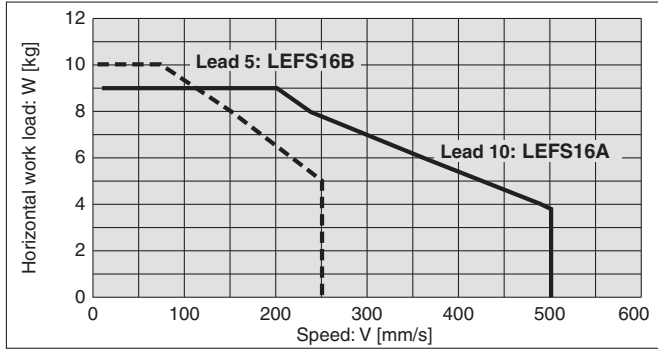
## Model Selection

### Speed-Work Load Graph (Guide) Step Motor (Servo/24 VDC)

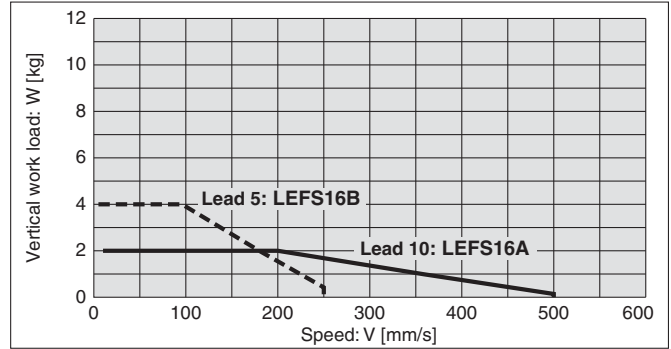
\* The following graph shows the values when positioning force is 100%.

#### 11-LEFS16/Ball Screw Drive

##### Horizontal

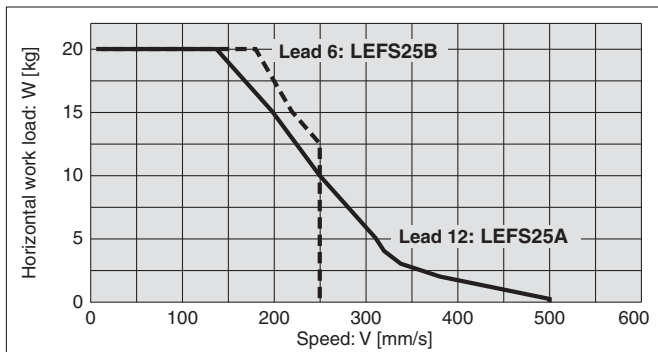


##### Vertical

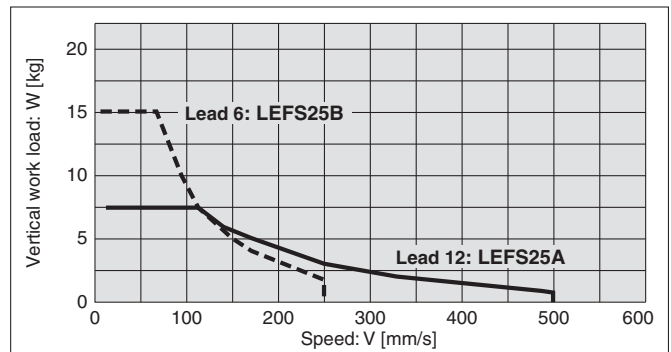


#### 11-LEFS25/Ball Screw Drive

##### Horizontal

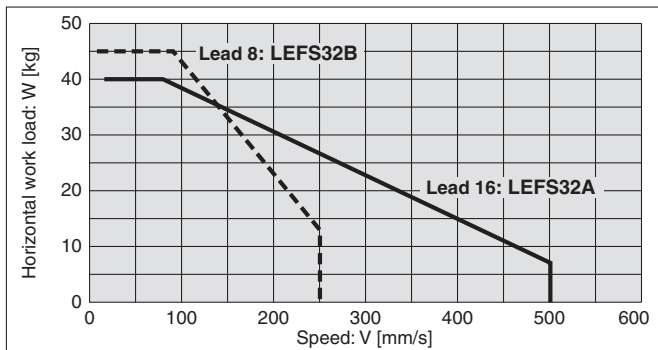


##### Vertical

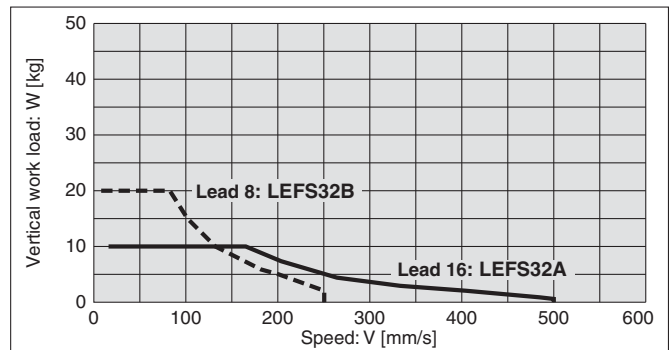


#### 11-LEFS32/Ball Screw Drive

##### Horizontal

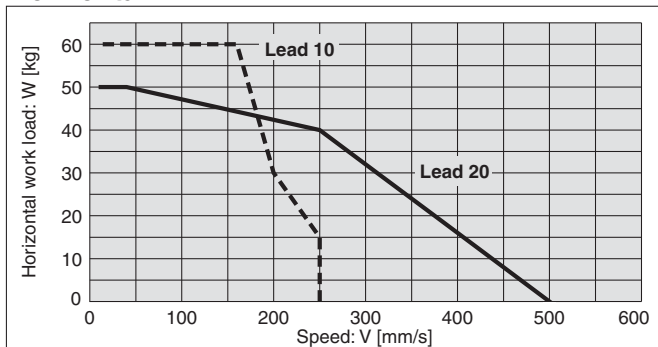


##### Vertical

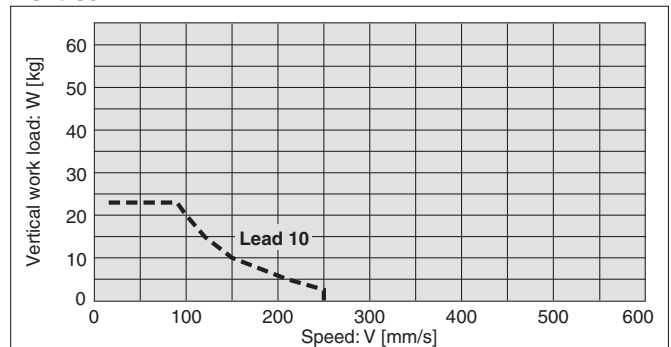


#### 11-LEFS40/Ball Screw Drive

##### Horizontal



##### Vertical



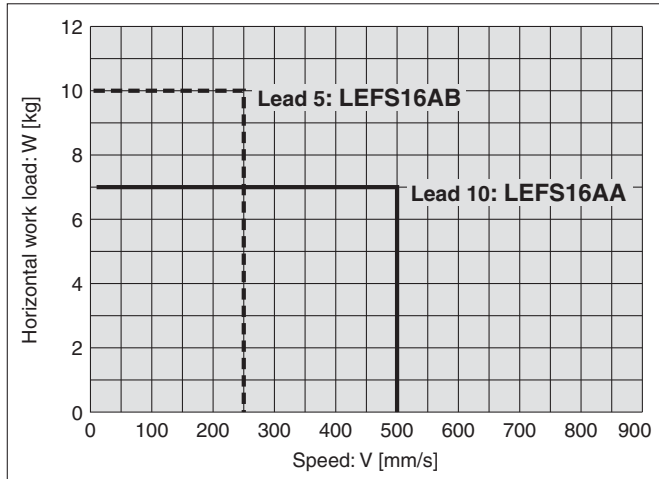
# Series 11-LEFS

## Speed-Work Load Graph (Guide) Servo Motor (24 VDC)

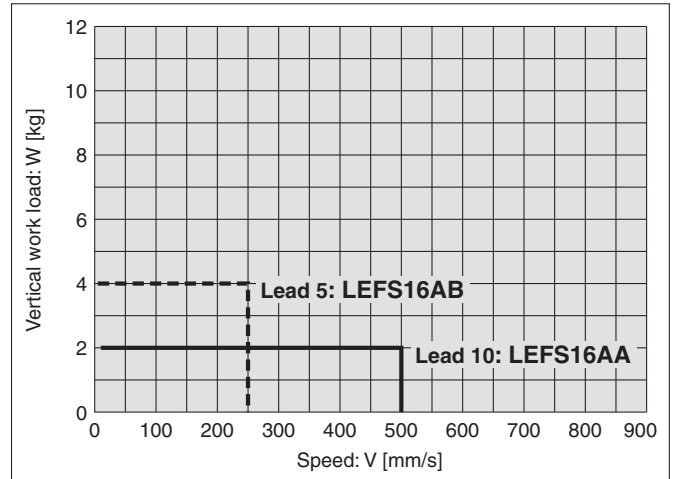
\* The following graph shows the values when positioning force is 250%.

### 11-LEFS16A/Ball Screw Drive

#### Horizontal

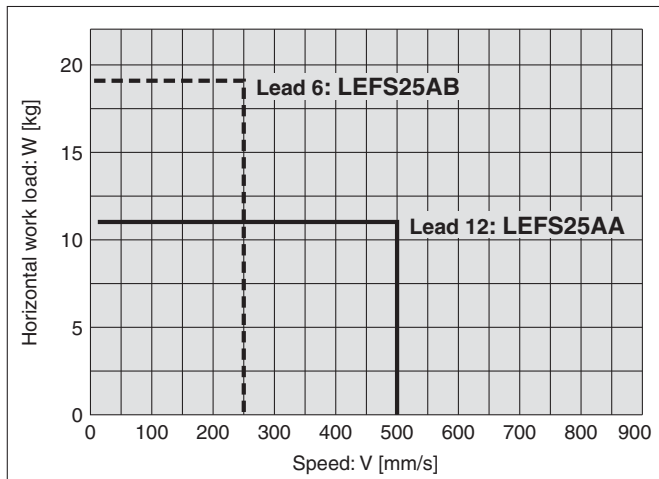


#### Vertical

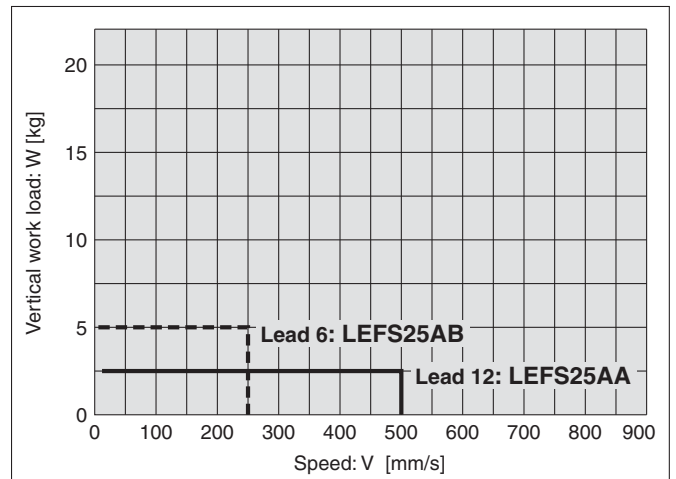


### 11-LEFS25A/Ball Screw Drive

#### Horizontal



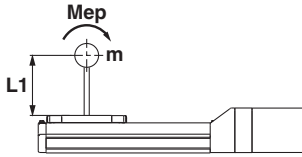
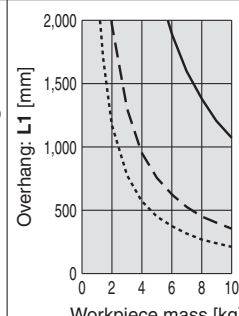
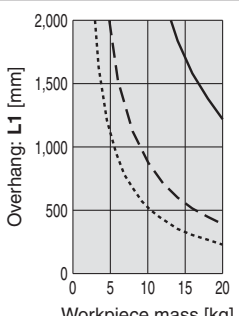
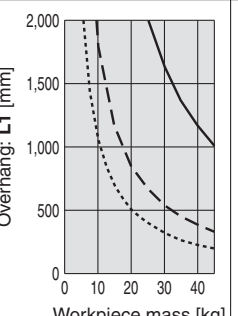
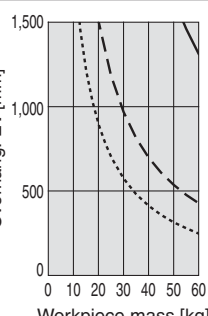
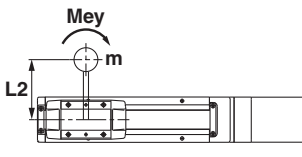
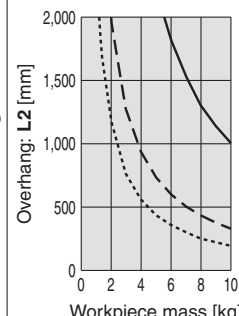
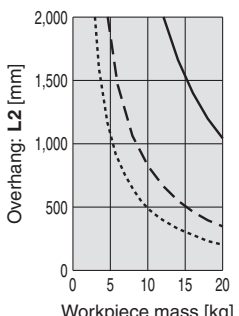
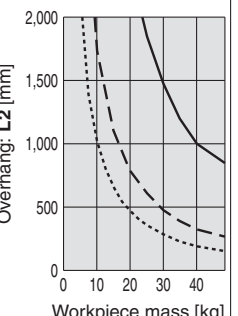
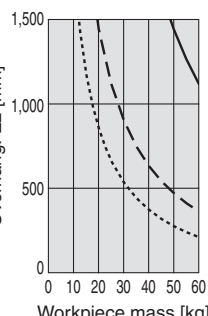
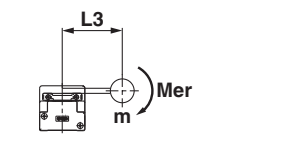
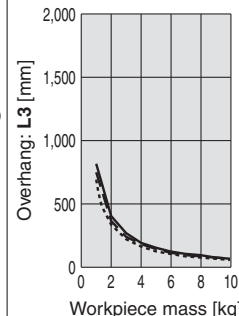
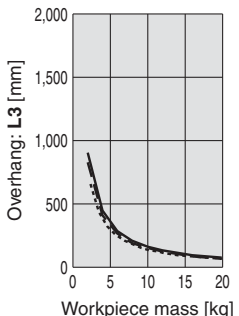
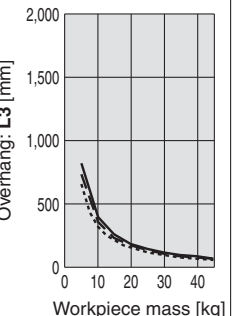
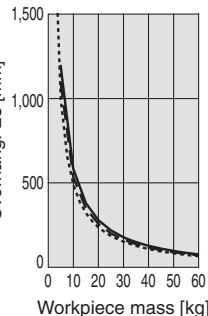
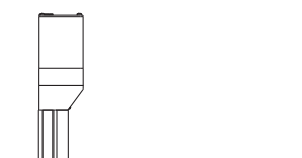
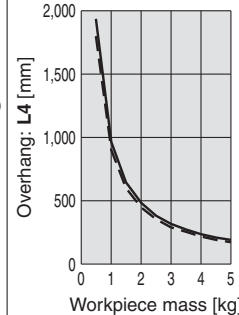
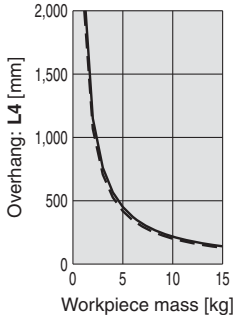
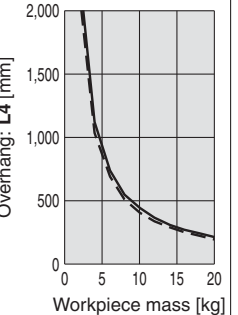
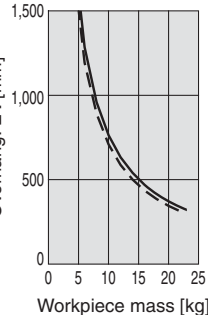
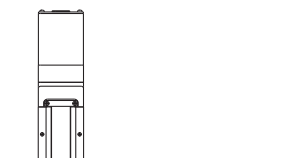
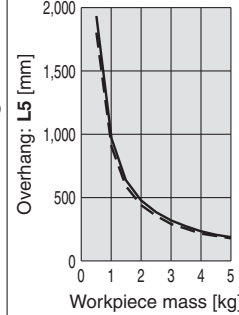
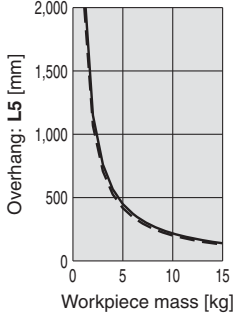
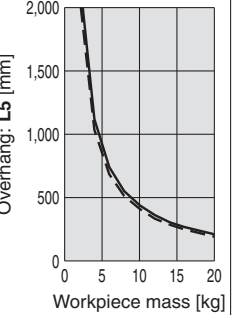
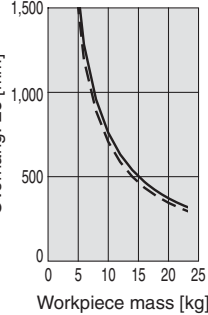
#### Vertical



## Dynamic Allowable Moment

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

Acceleration ——— 1,000 mm/s<sup>2</sup>    - - - - 3,000 mm/s<sup>2</sup>    ······ 5,000 mm/s<sup>2</sup>

Orientation	Load overhanging direction m : Work load [kg] Me: Dynamic allowable moment [N·m] L : Overhang to the work load centre of gravity [mm]	Model			
		11-LEFS16	11-LEFS25	11-LEFS32	11-LEFS40
Horizontal	 <p><b>Pitching</b></p>				
	 <p><b>Yawing</b></p>				
	 <p><b>Rolling</b></p>				
Vertical	 <p><b>Pitching</b></p>				
	 <p><b>Yawing</b></p>				

# Electric Actuator/Slider Type Ball Screw Drive

Step Motor (Servo/24 VDC)

Clean Room Specification

Servo Motor (24 VDC)

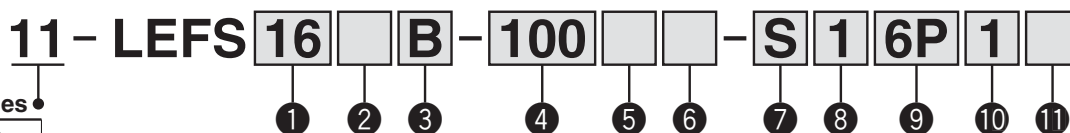
# Series 11-LEFS

## LEFS16, 25, 32, 40



RoHS

### How to Order



Clean series

11	Vacuum type
----	-------------

#### ① Size

16
25
32
40

#### ③ Lead [mm]

Symbol	LEFS16	LEFS25	LEFS32	LEFS40
A	10	12	16	20
B	5	6	8	10

#### ④ Stroke [mm]

100	100
to	to
1000	1000

\* Refer to the applicable stroke table.

#### ② Motor type

Symbol	Type	Applicable size				Compatible controllers
		LEFS16	LEFS25	LEFS32	LEFS40	
—	Step motor (Servo/24 VDC)	●	●	●	●	LECP6 LECP1 LECPA
A	Servo motor <sup>Note)</sup> (24 VDC)	●	●	—	—	LECA6

#### ⚠ Caution

Note) CE-compliant products

- EMC compliance was tested by combining the electric actuator LEF series and the controller LEC series. The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore conformity to the EMC directive cannot be certified for SMC components incorporated into the customer's equipment under actual operating conditions. As a result it is necessary for the customer to verify conformity to the EMC directive for the machinery and equipment as a whole.
- For the servo motor (24 VDC) specification, EMC compliance was tested by installing a noise filter set (LEC-NFA). Refer to the sheet catalogue CAT.ES100-87 for the noise filter set. Refer to the LECA Operation Manual for installation.

#### Applicable stroke table

●Standard/○Produced upon receipt of order

Model \ Stroke	100	200	300	400	500	600	700	800	900	1000	Manufacturable stroke range [mm]
LEFS16	●	●	●	○	—	—	—	—	—	—	100 to 400
LEFS25	●	●	●	○	●	○	—	—	—	—	100 to 600
LEFS32	●	●	●	○	●	○	○	○	—	—	100 to 800
LEFS40	—	●	●	○	●	○	○	●	○	○	200 to 1000

\* Manufacturable in 1 mm stroke increments. Refer to the manufacturable stroke range.

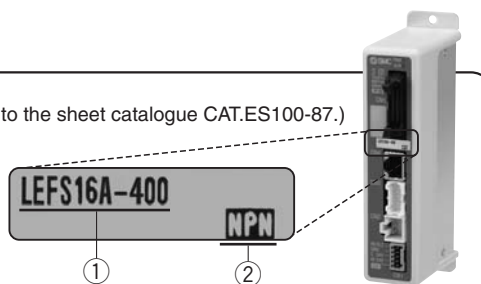
Strokes other than those above are available as special order. Consult with SMC for lead times and prices.

**The actuator and controller are sold as a package.** (Controller → Refer to the sheet catalogue CAT.ES100-87.)

Confirm that the combination of the controller and the actuator is correct.

<Check the following before use.>

- Check that actuator label for model number. This matches the controller.
- Check Parallel I/O configuration matches (NPN or PNP).

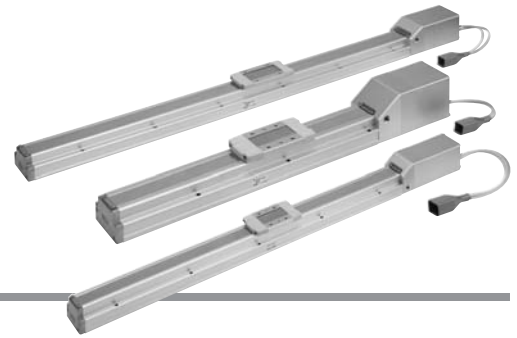


\* Refer to the operation manual for using the products. Please download it via our website, <http://www.smcworld.com>



# Electric Actuator/Slider Type Ball Screw Drive **Series 11-LEFS**

Clean Room Specification

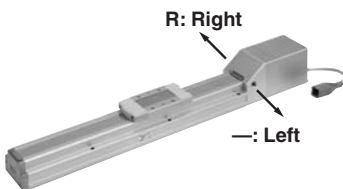


## 5 Motor option

—	Without lock
<b>B</b>	With lock

## 6 Vacuum port

—	Left
<b>R</b>	Right



## 7 Actuator cable type\*1

—	Without cable
<b>S</b>	Standard cable*2
<b>R</b>	Robotic cable (Flexible cable)

\*1 The standard cable should be used on fixed parts. For using on moving parts, select the robotic cable.

\*2 Only available for the motor type "Step motor"

## 8 Actuator cable length

—	Without cable
<b>1</b>	1.5 m
<b>3</b>	3 m
<b>5</b>	5 m
<b>8</b>	8 m*
<b>A</b>	10 m*
<b>B</b>	15 m*
<b>C</b>	20 m*

\* Produced upon receipt of order (Robotic cable only)  
Refer to the specifications Note 2) on page 10.

## 9 Controller type\*1

—	Without controller	
<b>6N</b>	<b>LECP6/LECA6</b> (Step data input type)	NPN
<b>6P</b>		PNP
<b>AN</b>	<b>LECPA</b> *2 (Pulse input type)	NPN
<b>AP</b>		PNP
<b>1N</b>	<b>LECP1</b> *2 (Programless type)	NPN
<b>1P</b>		PNP

\*1 For details about controllers and compatible motors, refer to the compatible controllers below.

\*2 Only available for the motor type "Step motor"

## 10 I/O cable length

—	Without cable
<b>1</b>	1.5 m*
<b>3</b>	3 m*
<b>5</b>	5 m*

\* When "Without controller" is selected for controller types, I/O cable is not included. Refer to the sheet catalog CAT.ES100-87 for LECP6/LECA6 and LECP1 if I/O cable is required.





## 11 Controller mounting

—	Screw mounting
<b>D</b>	DIN rail mounting*

\*1 Only available for the controller types "6N", "6P", "AN" and "AP"

\*2 DIN rail is not included. Order it separately.

## Compatible Controllers

Type	Step data input type 	Step data input type 	Programless type 	Pulse Input Type 
<b>Series</b>	<b>LECP6</b>	<b>LECA6</b>	<b>LECP1</b>	<b>LECPA</b>
<b>Features</b>	Value input Standard controller		Capable of setting up operation without using a PC or teaching box	Use of pulse signals to allow positioning at any position
<b>Compatible motor</b>	Step motor (Servo/24 VDC)	Servo motor (24 VDC)	Step motor (Servo/24 VDC)	Step motor (Servo/24 VDC)
<b>Control method</b>	Position input (maximum number of step data: 64 points)		Position input (maximum number of step data: 14 points)	Pulse Input
<b>Power supply voltage</b>	24 VDC			
<b>Reference catalogue</b>	Sheet catalogue CAT.ES100-87			11-E573

# Series 11-LEFS

Clean Room Specification

## Specifications

### Step Motor (Servo/24 VDC)

Model		11-LEFS16		11-LEFS25		11-LEFS32		11-LEFS40		
Actuator specifications	Stroke [mm] <sup>Note 1)</sup>	100, 200, 300 (400)		100, 200, 300 (400), 500, (600)		100, 200, 300, (400) 500, (600, 700, 800)		200, 300, (400), 500, (600) (700), 800, (900), (1000)		
	Work load [kg] <sup>Note 2)</sup>	Horizontal	9	10	20	20	40	45	50	60
		Vertical	2	4	7.5	15	10	20	—	23
	Speed [mm/s] <sup>Note 2)</sup>	10 to 500	5 to 250	12 to 500	6 to 250	16 to 500	8 to 250	20 to 500	10 to 250	
	Max. acceleration/deceleration [mm/s <sup>2</sup> ]	3,000								
	Positioning repeatability [mm]	±0.02								
	Lead [mm]	10	5	12	6	16	8	20	10	
	Impact/Vibration resistance [m/s <sup>2</sup> ] <sup>Note 3)</sup>	50/20								
	Actuation type	Ball screw								
	Guide type	Linear guide								
Operating temp. range [°C]	5 to 40									
Operating humidity range [%RH]	90 or less (No condensation)									
Electric specifications	Motor size	□28		□42		□56.4				
	Motor type	Step motor (Servo/24 VDC)								
	Encoder	Incremental A/B phase (800 pulse/rotation)								
	Rated voltage [V]	24 VDC ±10%								
	Power consumption [W] <sup>Note 4)</sup>	22		38		50		100		
	Standby power consumption when operating [W] <sup>Note 5)</sup>	18		16		44		43		
	Momentary max. power consumption [W] <sup>Note 6)</sup>	51		57		123		141		
	Controller weight [kg]	0.15 (Screw mounting), 0.17 (DIN rail mounting)								
Lock unit specifications	Type <sup>Note 7)</sup>	Non-magnetizing lock								
	Holding force [N]	20	39	78	157	108	216	113	225	
	Power consumption [W] <sup>Note 8)</sup>	2.9		5		5		5		
	Rated voltage [V]	24 VDC ±10%								

Note 1) Strokes shown in ( ) are produced upon receipt of order.

Note 2) Speed is changed by the work load. Check "Speed-Work Load Graph (Guide)" on page 5. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.

Note 3) 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 4) Power consumption (including the controller) is for when the actuator is operating.

Note 5) Standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during operation.

Note 6) Momentary max. power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.

Note 7) With lock only

Note 8) For an actuator with lock, add the power consumption for the lock.

## Specifications

### Servo Motor (24 VDC)

Model		11-LEFS16A		11-LEFS25A		
Actuator specifications	Stroke [mm] <sup>Note 1)</sup>	100, 200, 300 (400)		100, 200, 300 (400), 500, (600)		
	Work load [kg] <sup>Note 2)</sup>	Horizontal	7	10	11	18
		Vertical	2	4	2.5	5
	Speed [mm/s] <sup>Note 2)</sup>	10 to 500	5 to 250	12 to 500	6 to 250	
	Max. acceleration/deceleration [mm/s <sup>2</sup> ]	3,000				
	Positioning repeatability [mm]	±0.02				
	Lead [mm]	10	5	12	6	
	Impact/Vibration resistance [m/s <sup>2</sup> ] <sup>Note 3)</sup>	50/20				
	Actuation type	Ball screw				
	Guide type	Linear guide				
Operating temp. range [°C]	5 to 40					
Operating humidity range [%RH]	90 or less (No condensation)					
Electric specifications	Motor size	□28		□42		
	Motor output [W]	30		36		
	Motor type	Servo motor (24 VDC)				
	Encoder	Incremental A/B (800 pulse/rotation)/Z phase				
	Rated voltage [V]	24 VDC ±10%				
	Power consumption [W] <sup>Note 4)</sup>	63		102		
	Standby power consumption when operating [W] <sup>Note 5)</sup>	Horizontal 4/Vertical 9		Horizontal 4/Vertical 9		
	Momentary max. power consumption [W] <sup>Note 6)</sup>	70		113		
	Controller weight [kg]	0.15 (Screw mounting), 0.17 (DIN rail mounting)				
	Type <sup>Note 7)</sup>	Non-magnetizing lock				
Lock unit specifications	Holding force [N]	20	39	78	157	
	Power consumption [W] <sup>Note 8)</sup>	2.9		5		
	Rated voltage [V]	24 VDC ±10%				

Note 1) Strokes shown in ( ) are produced upon receipt of order.

Note 2) Check "Speed-Work Load Graph (Guide)" on page 6. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.

Note 3) 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 4) Power consumption (including the controller) is for when the actuator is operating.

Note 5) Standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during operation.

Note 6) Momentary max. power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.

Note 7) With lock only

Note 8) For an actuator with lock, add the power consumption for the lock.

## Weight

Model	11-LEFS16			
Stroke [mm]	100	200	300	(400)
Product weight [kg]	0.90	1.05	1.20	1.35
Additional weight with lock [kg]	0.12			

Model	11-LEFS25					
Stroke [mm]	100	200	300	(400)	500	(600)
Product weight [kg]	1.84	2.12	2.40	2.68	2.96	3.24
Additional weight with lock [kg]	0.26					

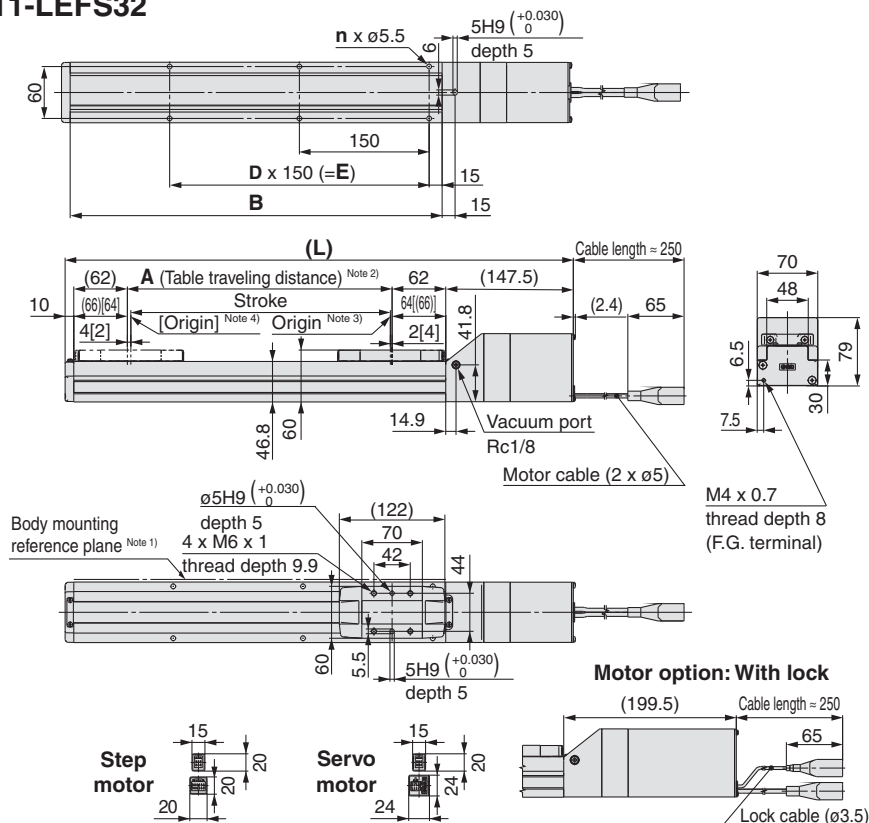
Model	11-LEFS32							
Stroke [mm]	100	200	300	(400)	500	(600)	(700)	(800)
Product weight [kg]	3.35	3.75	4.15	4.55	4.95	5.35	5.75	6.15
Additional weight with lock [kg]	0.53							

Model	11-LEFS40									
Stroke [mm]	200	300	(400)	500	(600)	(700)	800	(900)	(1000)	
Product weight [kg]	5.65	6.21	6.77	7.33	7.89	8.45	9.01	9.57	10.13	
Additional weight with lock [kg]	0.53									



**Dimensions: Ball Screw Drive**

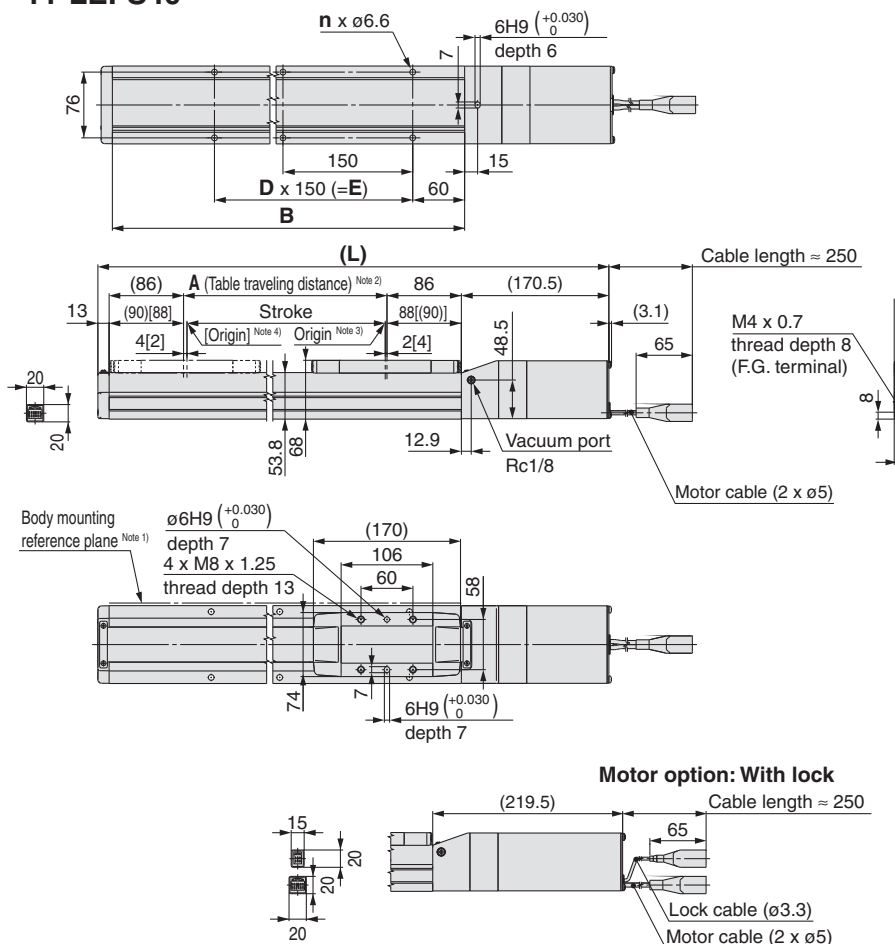
**11-LEFS32**



- Note 1) When mounting the electric actuator using the body mounting reference plane, set the height of the opposite surface or pin to 3 mm or more because of R chamfering. (Recommended height: 5 mm)
- Note 2) 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 3) Position after return to origin.
- Note 4) The number in brackets indicates when the direction of return to origin has changed.

Model	L	A	B	n	D	E
11-LEFS32□-100	387.5	106	230	4	—	—
11-LEFS32□-100B	439.5	—	—	—	—	—
11-LEFS32□-200	487.5	206	330	6	2	300
11-LEFS32□-200B	539.5	—	—	—	—	—
11-LEFS32□-300	587.5	306	430	6	2	300
11-LEFS32□-300B	639.5	—	—	—	—	—
11-LEFS32□-400	687.5	406	530	8	3	450
11-LEFS32□-400B	739.5	—	—	—	—	—
11-LEFS32□-500	787.5	506	630	10	4	600
11-LEFS32□-500B	839.5	—	—	—	—	—
11-LEFS32□-600	887.5	606	730	10	4	600
11-LEFS32□-600B	939.5	—	—	—	—	—
11-LEFS32□-700	987.5	706	830	12	5	750
11-LEFS32□-700B	1039.5	—	—	—	—	—
11-LEFS32□-800	1087.5	806	930	14	6	900
11-LEFS32□-800B	1139.5	—	—	—	—	—

**11-LEFS40**



- Note 1) When mounting the electric actuator using the body mounting reference plane, set the height of the opposite surface or pin to 3 mm or more because of R chamfering. (Recommended height: 5 mm)
- Note 2) 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 3) Position after return to origin.
- Note 4) The number in brackets indicates when the direction of return to origin has changed.

Model	L	A	B	n	D	E
11-LEFS40□-200	561.5	206	378	6	2	300
11-LEFS40□-200B	610.5	—	—	—	—	—
11-LEFS40□-300	661.5	306	478	6	2	300
11-LEFS40□-300B	710.5	—	—	—	—	—
11-LEFS40□-400	761.5	406	578	8	3	450
11-LEFS40□-400B	810.5	—	—	—	—	—
11-LEFS40□-500	861.5	506	678	10	4	600
11-LEFS40□-500B	910.5	—	—	—	—	—
11-LEFS40□-600	961.5	606	778	10	4	600
11-LEFS40□-600B	1010.5	—	—	—	—	—
11-LEFS40□-700	1061.5	706	878	12	5	750
11-LEFS40□-700B	1110.5	—	—	—	—	—
11-LEFS40□-800	1161.5	806	978	14	6	900
11-LEFS40□-800B	1210.5	—	—	—	—	—
11-LEFS40□-900	1261.5	906	1078	14	6	900
11-LEFS40□-900B	1310.5	—	—	—	—	—
11-LEFS40□-1000	1361.5	1006	1178	16	7	1050
11-LEFS40□-1000B	1410.5	—	—	—	—	—

# Ball Screw Drive/Series 11-LEFS

# Model Selection

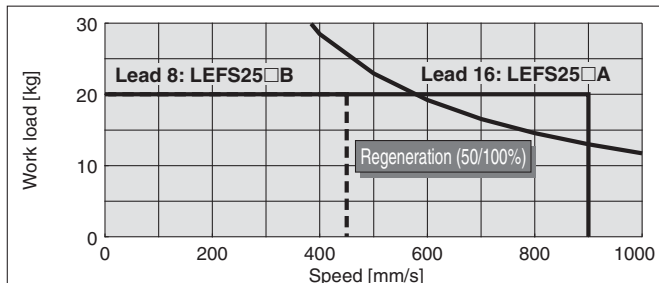
## Speed-Work Load Graph (Guide)

### AC Servo Motor

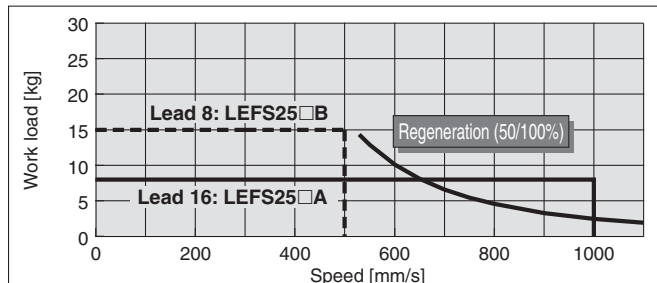
\* The allowable speed is limited depending on the stroke.  
Select it referring to "Allowable Stroke Speed" below.

### 11-LEFS25/Ball Screw Drive

#### Horizontal

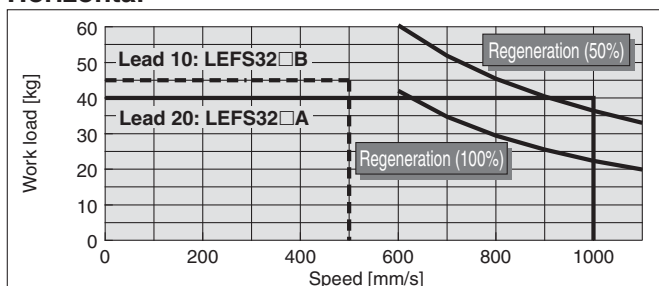


#### Vertical

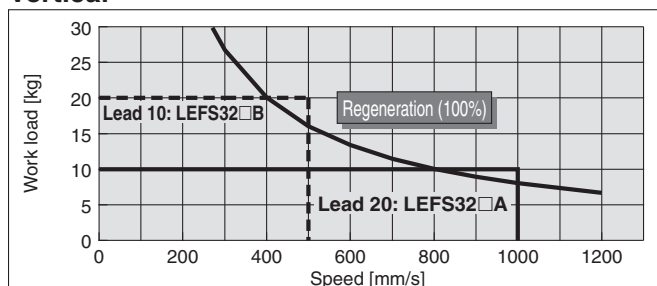


### 11-LEFS32/Ball Screw Drive

#### Horizontal

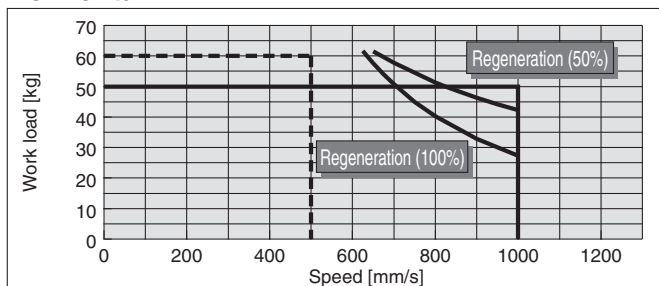


#### Vertical

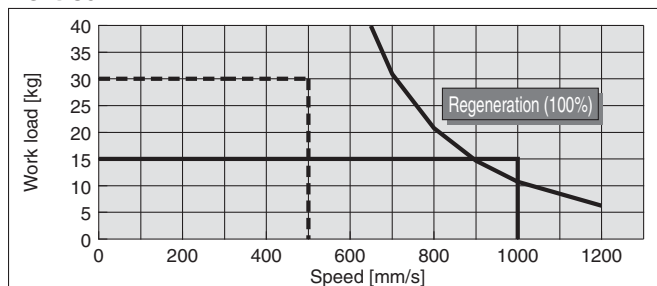


### 11-LEFS40/Ball Screw Drive

#### Horizontal



#### Vertical



### Required conditions for "Regeneration option"

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

[How to read the graph]

Required conditions changes depending on operating conditions.

"Regeneration (50%)": Duty ratio 50% or more

"Regeneration (100%)": Duty ratio 100%

### "Regeneration Option" Models

Size	Model
11-LEFS25□	LEC-MR-RB032
11-LEFS32□	LEC-MR-RB032
11-LEFS32D	LEC-MR-RB032

## Allowable Stroke Speed

Model	AC servo motor	Lead		Stroke [mm]									
		Symbol	[mm]	Up to 100	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
11-LEFS25	100 W □40	A	12		900			720	540				
		B	6		450			360	270				
		(Motor rotation speed)			(4500 rpm)			(3650 rpm)	(2700 rpm)				
11-LEFS32	200 W □60	A	16	1000	1000	1000	1000	1000	800	620	500		
		B	8	500	500	500	500	500	400	310	250		
		(Motor rotation speed)			(3750 rpm)			(3000 rpm)	(2325 rpm)	(1875 rpm)			
11-LEFS40	400 W □60	A	20			1000			940	760	620	520	
		B	10			500			470	380	310	260	
		(Motor rotation speed)				(3000 rpm)			(2820 rpm)	(2280 rpm)	(1860 rpm)	(1560 rpm)	

## Dynamic Allowable Moment AC Servo Motor

Acceleration ——— 1,000 mm/s<sup>2</sup>    - - - 3,000 mm/s<sup>2</sup>    ..... 5,000 mm/s<sup>2</sup>

Orientation		Load overhanging direction	Model		
		<b>m</b> : Work load [kg] <b>Me</b> : Dynamic allowable moment [N·m] <b>L</b> : Overhang to the work load centre of gravity [mm]	11-LEFS25S□	11-LEFS32S□	11-LEFS40S□
Horizontal	Pitching				
	Yawing				
	Rolling				
Vertical	Pitching				
	Yawing				



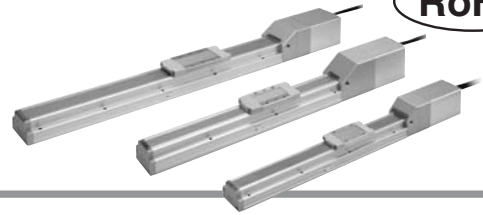
# Electric Actuator/Slider Type Ball Screw Drive

AC Servo Motor (100/200/400 W)

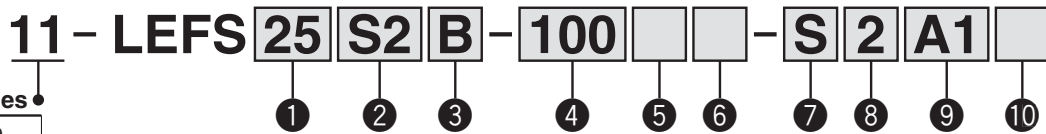
Clean Room Specification

# Series 11-LEFS

## LEFS25, 32, 40



### How to Order



Clean series

11	Vacuum type
----	-------------

#### 1 Size

25
32
40

#### 4 Stroke [mm]

100	100
to	to
1000	1000

\* Refer to the applicable stroke table.

#### 5 Motor option

—	Without lock
B	With lock

#### 8 Cable length Note 2)

—	Without cable
2	2 m
5	5 m
A	10 m

Note 2) Common to encoder/motor/lock cable

#### 2 Motor type

Symbol	Type	Output [W]	Actuator size	Compatible drivers
S2*	AC servo motor	100	25	LECSA□-S1
S3	AC servo motor (Incremental encoder)	200	32	LECSA□-S3
S4		400	40	LECSA2-S4
S6*	AC servo motor	100	25	LECSB□-S5, LECS□-S5, LECSS□-S5
S7	AC servo motor (Absolute encoder)	200	32	LECSB□-S7, LECS□-S7, LECSS□-S7
S8		400	40	LECSB2-S8, LECS2-S8, LECSS2-S8

\* Motor types: For S2 and S6 only, the compatible driver part number suffix will be S1 and S5.

#### 3 Lead [mm]

Symbol	LEFS25	LEFS32	LEFS40
A	12	16	20
B	6	8	10

\* Applicable stroke table ●Standard/○Produced upon receipt of order

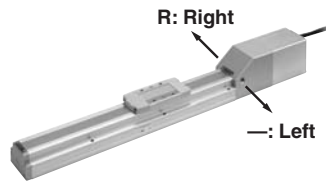
Model	Stroke [mm]									
	100	200	300	400	500	600	700	800	900	1000
LEFS25	●	●	●	○	●	○	—	—	—	—
LEFS32	●	●	●	○	●	○	○	○	—	—
LEFS40	—	●	●	○	●	○	○	●	○	○

Note) Consult with SMC for the manufacture of intermediate strokes.

#### 6 Vacuum port\*

—	Left
R	Right
D	Both left and right

\* Select "D" for the vacuum port for suction of 50 L/min (ANR) or more.



#### 7 Actuator cable type Note 1)

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

Note 1) Motor cable and encoder cable are included. (Lock cable is also included if motor option "With lock" is selected.)

#### 9 Driver type

	Compatible drivers	Power supply voltage
A1	LECSA1	100 V to 120 V
A2	LECSA2	200 V to 230 V
B1	LECSB1	100 V to 120 V
B2	LECSB2	200 V to 230 V
C1	LECSC1	100 V to 120 V
C2	LECSC2	200 V to 230 V
S1	LECSS1	100 V to 120 V
S2	LECSS2	200 V to 230 V

#### 10 I/O connector

—	Without connector
H	With connector

### Compatible Drivers

Type	Pulse input type (For incremental encoder)	Pulse input type (For absolute encoder)	CC-Link Direct Input Type (For absolute encoder)	SSCNET III Type (For absolute encoder)
Series	LECSA1, LECSA2	LECSB1, LECSB2	LECSC1, LECSC2	LECSS1, LECSS2
Features	<ul style="list-style-type: none"> <li>17-bit incremental encoder compatible</li> <li>Positioning function (Max. 7 inputs)</li> <li>Servo adjustment switch</li> </ul>	<ul style="list-style-type: none"> <li>18-bit absolute encoder compatible</li> <li>With RS422 communication port (compatible with Mitsubishi Electric's touch panel)</li> <li>Analogue input for speed and torque command</li> </ul>	<ul style="list-style-type: none"> <li>18-bit absolute encoder compatible</li> <li>Applicable Fieldbus protocol: CC-Link (Ver. 1.10)</li> <li>Position data/speed data setting and operation start/stop</li> </ul>	<ul style="list-style-type: none"> <li>18-bit absolute encoder compatible</li> <li>Applicable Fieldbus protocol: SSCNET III</li> <li>Compatible with Mitsubishi Electric's servo system</li> <li>SSCNET III optical cable provides enhanced noise resistance</li> </ul>
Compatible motor	AC servo motor (Incremental encoder) S2, S3, S4	AC servo motor (Absolute encoder) S6, S7, S8	AC servo motor (Absolute encoder) S2, S3, S4	AC servo motor (Absolute encoder) S6, S7, S8
Power supply voltage	100 to 120 VAC (50/60 Hz), 200 to 230 VAC (50/60 Hz)	100 to 120 VAC (50/60 Hz), 200 to 230 VAC (50/60 Hz)	100 to 120 VAC (50/60 Hz), 200 to 230 VAC (50/60 Hz)	100 to 120 VAC (50/60 Hz), 200 to 230 VAC (50/60 Hz)
Reference catalogue	Sheet catalogue CAT.ES100-87		11-E579	



## Specifications

### 11-LEFS25, 32, 40 AC Servo Motor (100/200/400 W)

Model		11-LEFS25S <sup>2</sup>		11-LEFS32S <sup>3</sup>		11-LEFS40S <sup>4</sup>			
Actuator specifications	Stroke [mm] <sup>Note 1)</sup>	100, 200, 300, (400) 500, (600)		100, 200, 300, (400) 500, (600), (700), (800)		200, 300, (400), 500 (600), (700), 800, (900) (1000)			
	Work load [kg] <sup>Note 2)</sup>	Horizontal	20	20	40	45	50	60	
		Vertical	8	15	10	20	15	30	
	Max. speed [mm/s] <sup>Note 3)</sup>	Stroke range	Up to 400	900	450	1000	500	1000	500
			401 to 500	720	360	1000	500	1000	500
			501 to 600	540	270	800	400	1000	500
			601 to 700	—	—	620	310	940	470
			701 to 800	—	—	500	250	760	380
			801 to 900	—	—	—	—	620	310
	901 to 1000	—	—	—	—	520	260		
	Max. acceleration/deceleration [mm/s <sup>2</sup> ]	5,000							
	Positioning repeatability [mm]	±0.02							
Lead [mm]	12	6	16	8	20	10			
Impact/Vibration resistance [m/s <sup>2</sup> ] <sup>Note 4)</sup>	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)								
Electric specifications	Motor output/Size	100 W/□40		200 W/□60		400 W/□60			
	Motor type	AC servo motor (100/200 VAC)							
	Encoder	Motor type S2, S3, S4: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S6, S7, S8: Absolute 18-bit encoder (Resolution: 262144 p/rev)							
Lock unit specifications	Type <sup>Note 5)</sup>	Non-magnetizing lock							
	Holding force [N]	131	255	197	385	330	660		
	Power consumption at 20°C [W] <sup>Note 6)</sup>	6.3		7.9		7.9			
	Rated voltage [V]	24 VDC <sup>0</sup> / <sub>-10%</sub>							

Note 1) Consult with SMC for the manufacture of intermediate strokes other than those specified on the above.

Note 2) For details, refer to "Speed-Work Load Graph (Guide)" on page 14.

Note 3) The allowable speed will change depending on the stroke.

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

Note 6) For an actuator with lock, add the power consumption for the lock.

## Weight

Model	11-LEFS25					
Stroke [mm]	100	200	300	(400)	500	(600)
Product weight [kg]	2.20	2.50	2.75	3.05	3.30	3.60
Additional weight with lock [kg]	0.35					

Model	11-LEFS32							
Stroke [mm]	100	200	300	(400)	500	(600)	(700)	(800)
Product weight [kg]	3.60	4.00	4.40	4.80	5.20	5.60	6.00	6.40
Additional weight with lock [kg]	0.70							

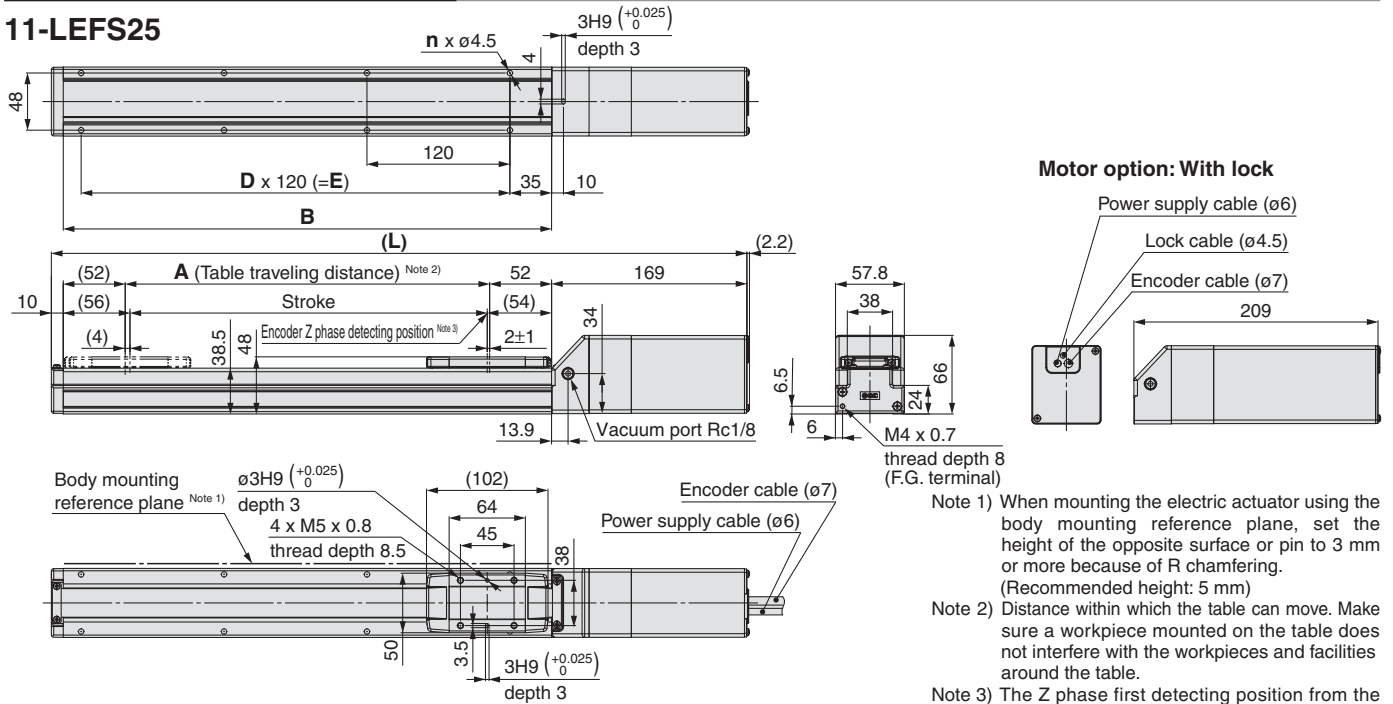
Model	11-LEFS40								
Stroke [mm]	200	300	(400)	500	(600)	(700)	800	(900)	(1000)
Product weight [kg]	6.20	6.75	7.35	7.90	8.35	9.00	9.55	10.15	10.70
Additional weight with lock [kg]	0.70								

# Series 11-LEFS

Clean Room Specification

## Dimensions: Ball Screw Drive

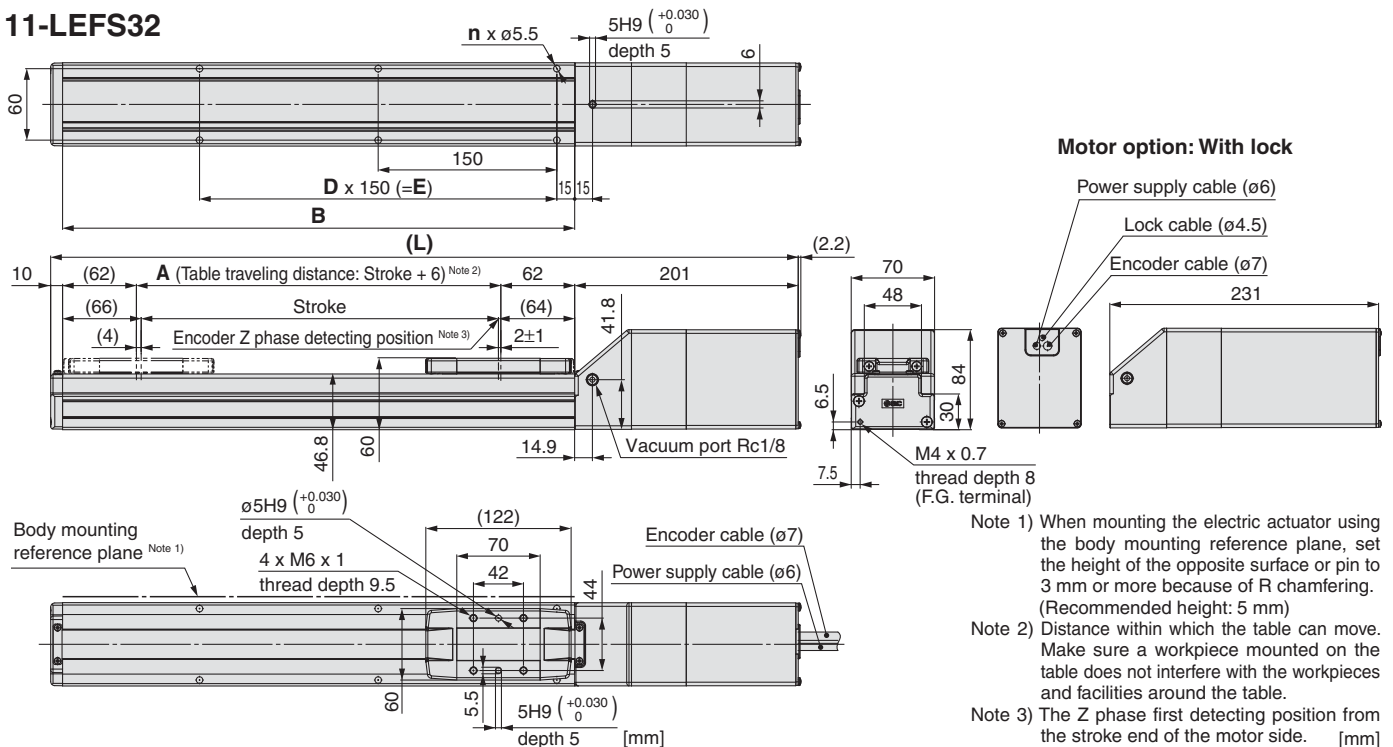
### 11-LEFS25



Model	L	A	B	n	D	E
11-LEFS25□□-100-□□□□	389	106	210	4	—	—
11-LEFS25□□-100B-□□□□	429	—	—	—	—	—
11-LEFS25□□-200-□□□□	489	—	—	—	—	—
11-LEFS25□□-200B-□□□□	529	206	310	6	2	240
11-LEFS25□□-300-□□□□	589	—	—	—	—	—
11-LEFS25□□-300B-□□□□	629	306	410	8	3	360

Model	L	A	B	n	D	E
11-LEFS25□□-400-□□□□	689	—	—	—	—	—
11-LEFS25□□-400B-□□□□	729	406	510	8	3	360
11-LEFS25□□-500-□□□□	789	—	—	—	—	—
11-LEFS25□□-500B-□□□□	829	506	610	10	4	480
11-LEFS25□□-600-□□□□	889	—	—	—	—	—
11-LEFS25□□-600B-□□□□	929	606	710	12	5	600

### 11-LEFS32



Model	L	A	B	n	D	E
11-LEFS32□□-100-□□□□	441	106	230	4	—	—
11-LEFS32□□-100B-□□□□	471	—	—	—	—	—
11-LEFS32□□-200-□□□□	541	—	—	—	—	—
11-LEFS32□□-200B-□□□□	571	206	330	6	2	300
11-LEFS32□□-300-□□□□	641	—	—	—	—	—
11-LEFS32□□-300B-□□□□	671	306	430	6	2	300
11-LEFS32□□-400-□□□□	741	—	—	—	—	—
11-LEFS32□□-400B-□□□□	771	406	530	8	3	450

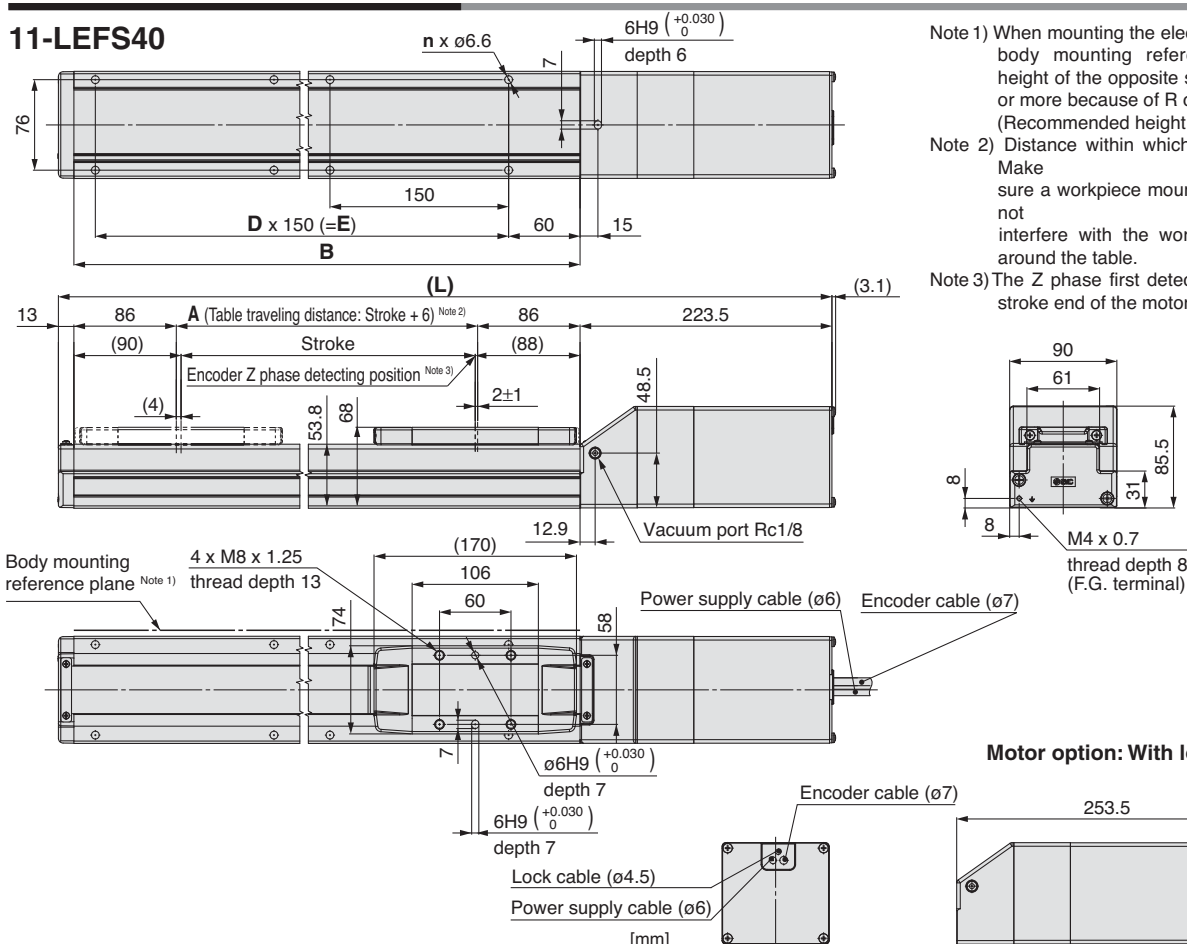
Model	L	A	B	n	D	E
11-LEFS32□□-500-□□□□	841	—	—	—	—	—
11-LEFS32□□-500B-□□□□	871	506	630	10	4	600
11-LEFS32□□-600-□□□□	941	—	—	—	—	—
11-LEFS32□□-600B-□□□□	971	606	730	10	4	600
11-LEFS32□□-700-□□□□	1041	—	—	—	—	—
11-LEFS32□□-700B-□□□□	1071	706	830	12	5	750
11-LEFS32□□-800-□□□□	1141	—	—	—	—	—
11-LEFS32□□-800B-□□□□	1171	806	930	14	6	900

# Electric Actuator/Slider Type Ball Screw Drive **Series 11-LEFS**

Clean Room Specification

## Dimensions: Ball Screw Drive

### 11-LEFS40



Note 1) When mounting the electric actuator using the body mounting reference plane, set the height of the opposite surface or pin to 3 mm or more because of R chamfering. (Recommended height: 5 mm)

Note 2) Distance within which the table can move. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

Note 3) The Z phase first detecting position from the stroke end of the motor side.

Model	L	A	B	n	D	E
11-LEFS40-200-□□□□	614.5	206	378	6	2	300
11-LEFS40-200B-□□□□	644.5					
11-LEFS40-300-□□□□	714.5	306	478	6	2	300
11-LEFS40-300B-□□□□	744.5					
11-LEFS40-400-□□□□	814.5	406	578	8	3	450
11-LEFS40-400B-□□□□	844.5					
11-LEFS40-500-□□□□	914.5	506	678	10	4	600
11-LEFS40-500B-□□□□	944.5					
11-LEFS40-600-□□□□	1014.5	606	778	10	4	600
11-LEFS40-600B-□□□□	1044.5					

Model	L	A	B	n	D	E
11-LEFS40-700-□□□□	1114.5	706	878	12	5	750
11-LEFS40-700B-□□□□	1144.5					
11-LEFS40-800-□□□□	1214.5	806	978	14	6	900
11-LEFS40-800B-□□□□	1244.5					
11-LEFS40-900-□□□□	1314.5	906	1078	14	6	900
11-LEFS40-900B-□□□□	1344.5					
11-LEFS40-1000-□□□□	1414.5	1006	1178	16	7	1050
11-LEFS40-1000B-□□□□	1444.5					



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