



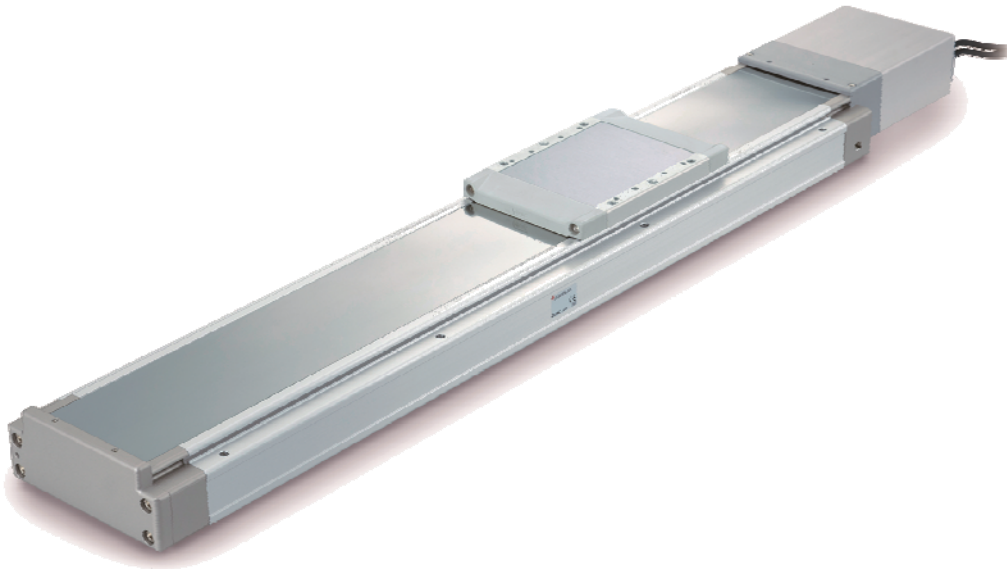
Operation Manual

PRODUCT NAME

Electric Actuator / Slider Type 《 AC Servo Motor 》 For Clean Room Ball Screw type

MODEL / Series

11-LEJ Series



※The description of this manual is only a peculiar content to "11-LEJS For Clean Room".

※Please match and confirm the manual of each model to a detailed content of the product.

SMC Corporation

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11-LEJ Series / Slider type Safety Instructions

These safety instructions are intended to prevent hazardous situations and /or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution,” “Warning” or “Danger.” They are all important notes for safety and must be followed in addition to International Standards (ISO /IEC), Japan Industrial Standards (JIS)*1) and other safety regulations*2).

*1) ISO 4414: Pneumatic fluid power -- General rules relating to systems

ISO 4413: Hydraulic fluid power -- General rules relating to systems

IEC 60204-1: Safety of machinery -- Electrical equipment of machines (Part 1: General requirements)

ISO 10218-1992: Manipulating industrial robots -- Safety

JIS B 8370: General rules for pneumatic equipment.

JIS B 8361: General rules for hydraulic equipment.

JIS B 9960-1: Safety of machinery -- Electrical equipment for machines. (Part 1: General requirements)

JIS B 8433-1993: Manipulating industrial robots - Safety. etc.

*2) Labor Safety and Sanitation Law, etc.



Caution

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



Warning

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



Danger

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results.

The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product.

This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly.

The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery /equipment until safety is confirmed.

The inspection and maintenance of machinery /equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.

When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.

Before machinery /equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1) Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2) Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.

3) An application which could have negative effects on people, property, or animals requiring special safety analysis.

4) Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.



11-LEJ Series / Slider type Safety Instructions

Caution

The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries. If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer /Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*3) Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

***3) Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

When the product is exported, strictly follow the laws required by the Ministry of Economy, Trade and Industry (Foreign Exchange and Foreign Trade Control Law).

1. Outline of clean room specification

11-clean specification actuator is a vacuum type. Please it is a customer, the business mind getting a clean coupling, and lay pipes.

Please adjust and use the amount of the vacuum according to a clean class and use Actuator speed.

1.1 Grease used

The special grease is used for the guide and the ball screw. Please confirm it to our company when you maintain the grease up etc.

1.2 Recommended tube diameter

Recommended tube diameter

Type	Tube diameter(mm)
40,63	8 or more

* An enough fluence is not obtained by a diameter that is thinner than this.
Moreover, please enlarge it by one size when the piping length exceeds 3m.



Caution

When using it excluding specified grease

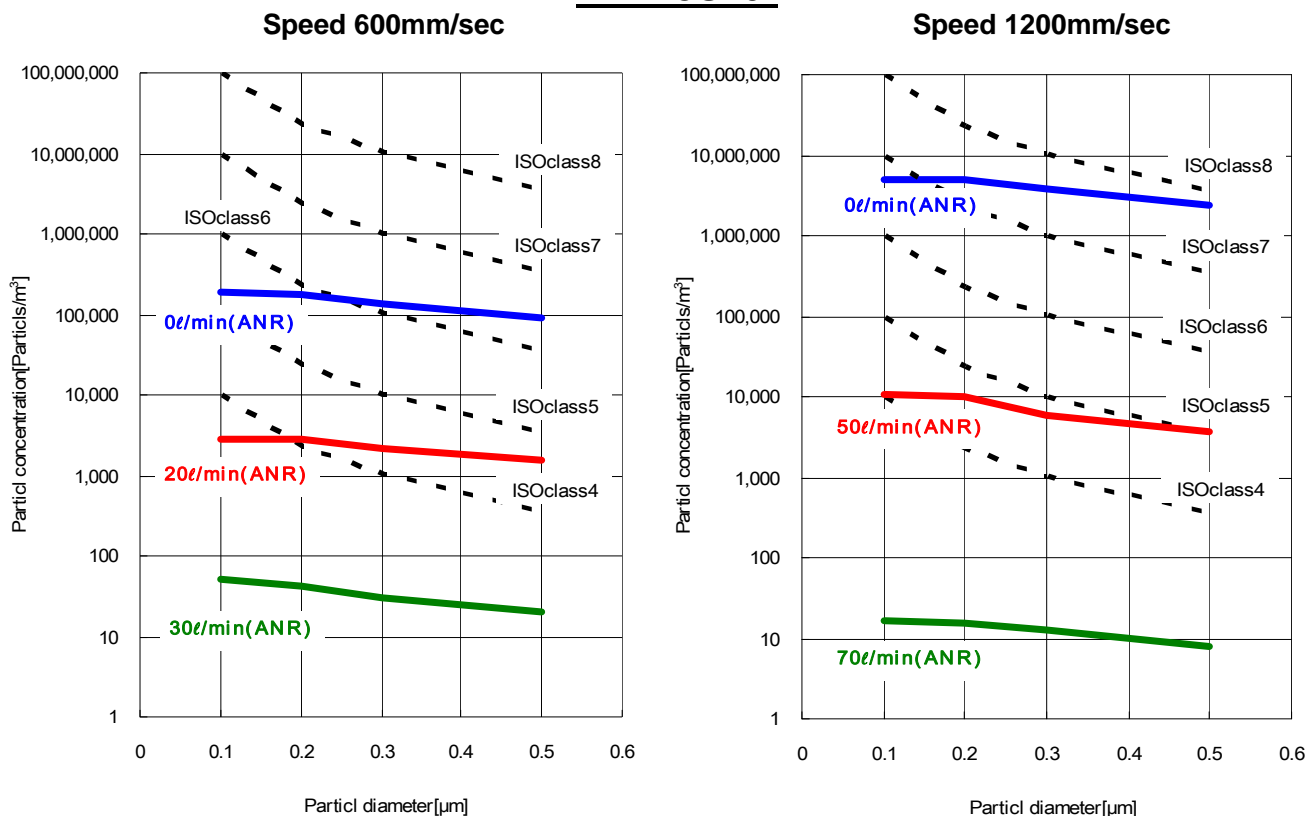
When wrong grease is used, particle might be increased. According to circumstances, please note that raising dust is increased even if the low raising dust greases other than specification are used. Especially, please do not use fluorine system grease.

2. Raising dust characteristic

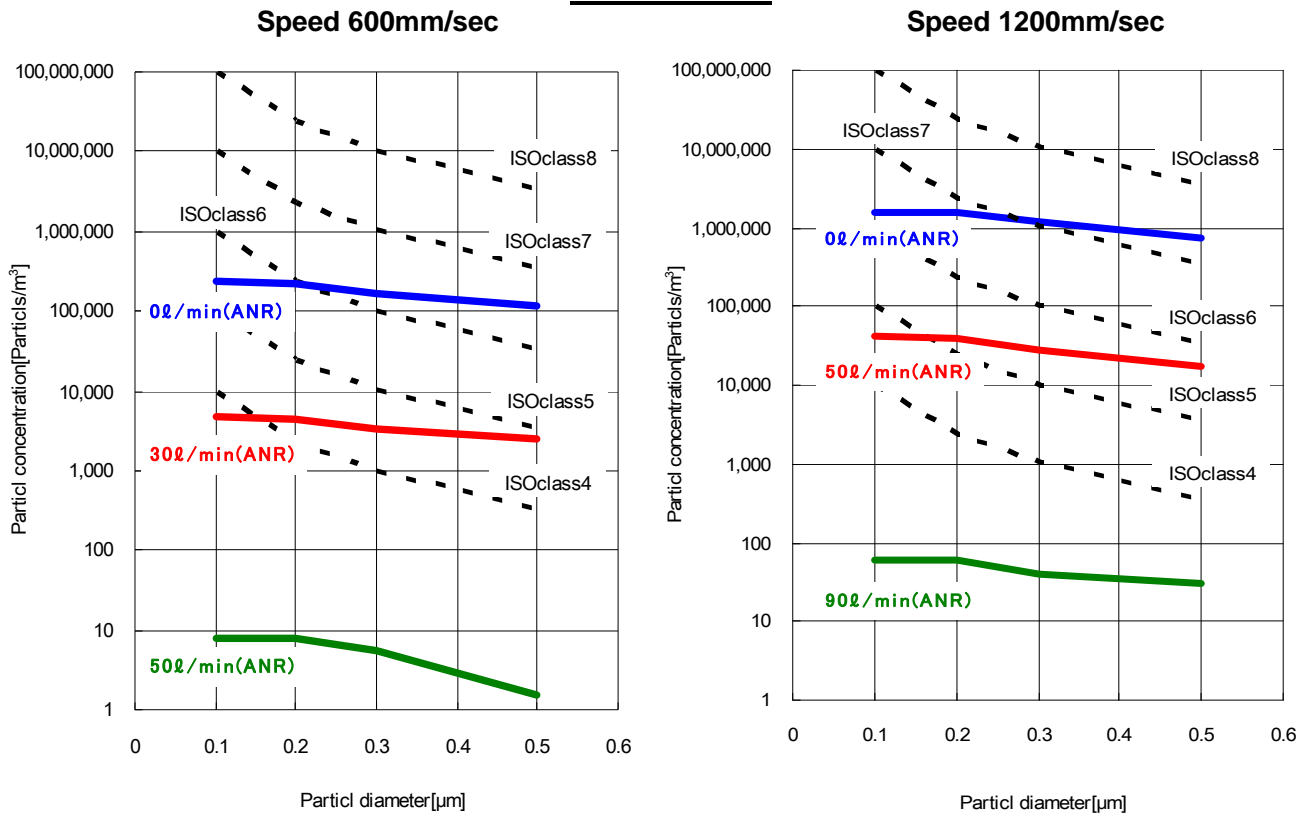
2.1 Recommended tube diameter

The figure below shows the amount of the vacuum aspiration and the raising dust degree. (reference value)

11-LEJS40*



11-LEJS63*



2.2 Amount of vacuum aspiration

The amount of recommended vacuum aspiration according to the clean time class is shown in the following.

Type	Speed (mm/s)	Clean class		Amount of recommended vacuum aspiration
		ISO 14644-1	Fed.Std.209D	
11-LEJS40	~ 600	6	1000	10
		5	100	20
		4	10	30
	~ 1200	6	1000	50
		5	100	※60
		4	10	※70
11-LEJS63	~ 600	6	1000	20
		5	100	30
		4	10	50
	~ 1200	6	1000	30
		5	100	※70
		4	10	※90

*Please aspirate it from the port on both sides when aspirating 50l/min(ANR). Please select "D" about the type.

* Based on "SMC" test condition.

Caution

As for the raising particle, the amount of the aspiration is different depending on the speed.

Please do the vacuum aspiration according to customer's specification. The vacuum aspiration flunce shows the flunce immediately before piping in the actuator.

3.How to Order

11-LEJS 40 S2 A - 500 □ □ - □ □ □ □

1
2
3
4
5
6
7
8
9
10

(1) Size

40
63

(2) Motor type*1

Type	Type	Output [W]	Actuator size	Compatible controller
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, note that the compatible driver part number suffix is S1, S5.

(3) Lead [mm]

	LEJS40	LEJS63
A	16	20
B	8	10

(5) Motor option

Nil	Without lock
B	With lock

(6) Vacuum port direction *3

Nil	Left side
R	Right side
D	Both side

*3 When vacuum over 50L/min(ANR), select D.

(4) Stroke [mm] *2

● Standard ○ Produced upon receipt of order

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

*2 Strokes other than standard and produced upon receipt of order are available as special orders, so please contact with our company.

(7) Cable type *4*5*6

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

*4 When [With driver] is selected, cable is included. Select cable type and length surely.

example)

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

S2 : Standard cable (2m)

Nil : Without cable and driver

*5 Motor cable and encoder cable are included as accessories.

(If motor option is with lock, lock cable is also included.)

*6 The standard direction of each cable is "shaft side (A)".

(8) Cable length [m] *4 *7

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

*7 The motor, encoder and lock cables are combined.

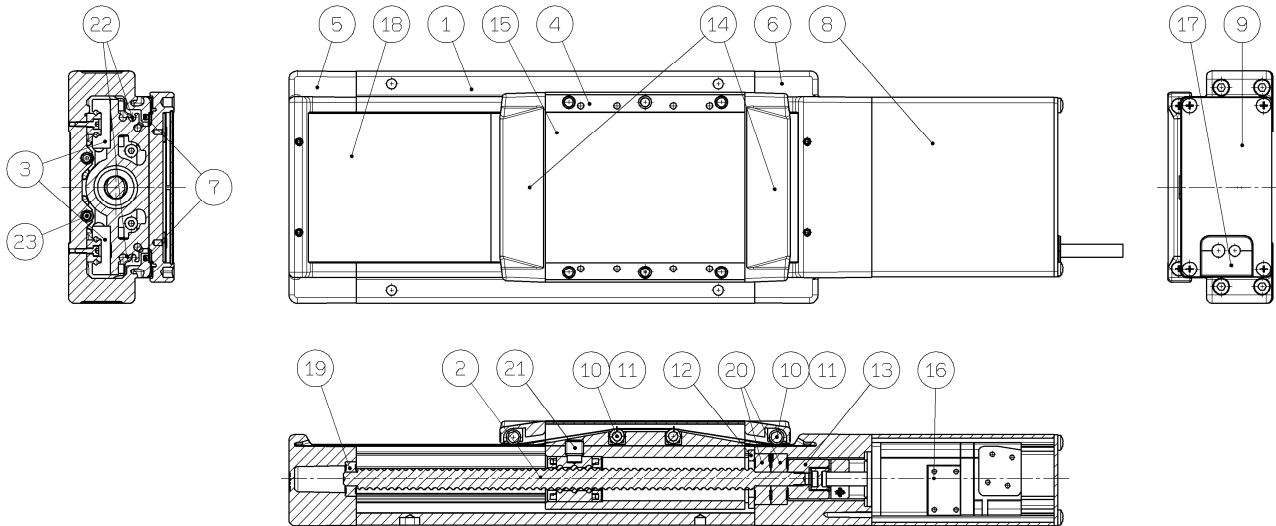
(9) Driver type *4

	Compatible driver	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

(10) I/O Connector

Nil	Without connector
H	With connector

4. Construction



Parts list

No.	Parts name	Material	Remarks
1	Body	Aluminum alloy	Alumite treatment
2	Ball screw ass'y	-	
3	Linear guide ass'y	-	
4	Table	Aluminum alloy	Alumite treatment
5	Housing A	Aluminum die casting	Paint
6	Housing B	Aluminum die casting	Paint
7	Seal magnet	-	
8	Motor cover	Aluminum alloy	Alumite treatment
9	End cover	Aluminum alloy	Alumite treatment
10	Roller shaft	Stainless steel	
11	Roller	Synthetic resin	
12	Bearing pusher	Carbon steel	

No.	Parts name	Material	Remarks
13	Coupling	-	
14	Seal band pusher	Synthetic resin	
15	Blanking plate	Aluminum alloy	Alumite treatment
16	Motor	-	
17	Grommet	NBR	
18	Dust seal band	Stainless steel	
19	Bearing	-	
20	Bearing	-	
21	Nut fixed pin	Carbon steel	
22	Magnet	-	
23	Pipe	Stainless steel	

Revision history

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Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.

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