



Operation Manual

PRODUCT NAME

Electric Slide Table / High Precision Type

MODEL / Series / Product Number

LESYH16-X171 Series

Applicable models: LESYH16(D/R/L)

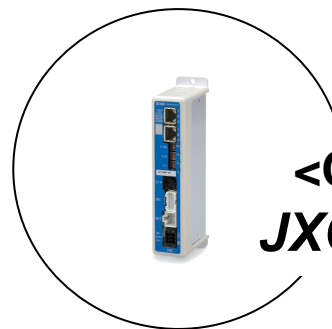
D Type

- Standard
- /LES D Series



R/L Type

- Standard
- /LES R/L Series



<Controller>
JXC□1 Series

This manual describes the actuators operation in combination with the LESYH16-X171 series controllers. Refer to the manual relevant to the controller being used for full operating instructions.

SMC Corporation

Contents

Safety Instructions	2
1. Specifications	4
2. How to Order.....	5
3. Electric slide table / Ball screw drive / Common Precautions ...	6
3.1 Handling	6



LESYH16-X171 Series /Electric Slide Table 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.



LESYH16-X171 Series /Electric Slide Table 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. Specifications

LESYH16(D/R/L)-X171(Ball Screw Drive)

Stroke[mm]		50,100		
Actuator specification	Work load[kg]	Horizontal	8	
		Vertical	12	
	Pushing force[N]	35 to 70%	174 to 348	91 to 182
	Speed[mm/s]		10 to 200	20 to 400
	Pushing speed[mm/s]		10 to 30	20 to 30
	Max.acceleration/deceleration[mm/s ²]		3,000	
	Positioning repeatability[mm]		±0.01	
	Lost motion[mm]		0.1 or less	
	Screw lead[mm]		6	12
	Impact/vibration resistance[m/s ²]		50/20	
	Actuation type		Ball screw(LESYH16D) Ball screw+Belt(LESYH16R,L)	
	Guide type		Linear guide(No circulation)	
	Operating temperature range[°C]		5 to 40	
Operating humidity range[%RH]		90 or less (No condensation)		
Electric specification	Motor size		□42	
	Motor type		Step motor (Servo/24VDC)	
	Encoder(Angular displacement sensor)		Battery less absolute (4096 pulse/rotation)	
	Rated voltage[V]		24 VDC+/-10%	
	Power consumption[W]		40	
	Standby power consumption when operating[W]		15	
Power consumption [W]		48		
Lock unit specifications	Type		Non-magnetizing lock	
	Holding force [N]	157	78	
	Power consumption [W]		5	
	Rated voltage [V]		24 VDC±10%	

Note

- 1) Please refer to the catalogue for the detail.
- 2) Only with the lock.
- 3) Please refer to the catalogue for the controller/driver part.

2. How to Order

How to order

LESYH 16 * E * - 50 * - * * C * 1 * * - X171

① ② ③
④ ⑤
⑥
⑦

① Motor mounting position

D	In-line
R	Right side parallel
L	Left side parallel

② Motor type

E	Battery less absolute (Step motor DC24V)
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③ Lead[mm]

A	12
B	6

④ Stroke[mm]

50
100

⑤ Motor option

C	With cover
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⑥ Actuator cable type*1

Nil	Without cable	
R1	Robotic cable (Flexible cable)	1.5m
R3		3m
R5		5m
R8		8m *3
RA		10m *3
RB		15m *3
RC		20m *3

*1 Order production

⑦ Controller/Driver type

Please refer to a catalogue for the controller/driver part.

⚠ Caution

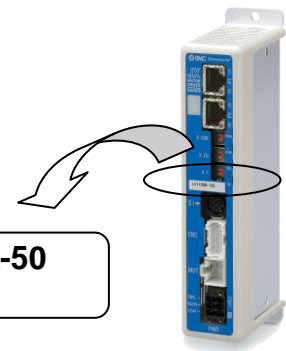
The actuator body and controller are sold as a package.

If when only the actuator is purchased separately, confirm that the combination of the controller, which you have and the actuator is compatible.

<Be sure to check the following before use.>

- (1) Check that actuator label for model number.
This matches the controller.

(1) **LESYH16DEA-50**



3. Electric slide table / Ball screw drive / Common Precautions

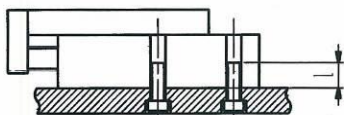
3. 1 Handling

⚠ Caution

- When mounting the product, use screws with adequate length and tighten them to the maximum torque or less.**

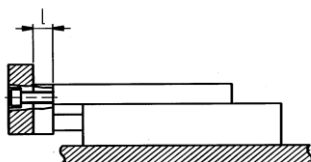
Tightening with higher torque than the specified range may cause malfunction while the tightening with lower torque can cause the displacement of position or dropping a work piece.

Body fixed / Side mounting (body tapped)



Model	Screw size	Max.tightening torque[N * m]	L(Max.screw-in depth)[mm]
LESYH16*-X117	M5x0.8	3	6.5

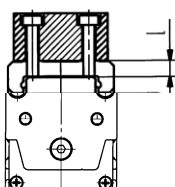
Work fixed / Side mounting (through-hole)



Model	Screw size	Max.tightening torque[N * m]	L(Max.screw-in depth)[mm]
LESYH16*-X117	M5x0.8	3	10

In order to prevent the work fixing bolt from hitting the table, use a bolt of a length at least 0.5mm shorter than the maximum thread depth. Longer bolts can hit the end plate, which will causes operation failure.

Work fixed / Top mounting



Model	Screw size	Max.tightening torque[N * m]	L(Max.screw-in depth)[mm]
LESYH16*-X117	M5x0.8	3	6.5(Max.)

Revision history

SMC Corporation

4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021 JAPAN

Tel: + 81 3 5207 8249 Fax: +81 3 5298 5362

URL <https://www.smcworld.com>

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

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