



Operation Manual

PRODUCT NAME

High Precision Type / Electric Slide Table

MODEL / Series / Product Number

LESYH-X171 Series

Applicable models: LESYH (16,25)

D Type

- Standard
/LESYH D Series



R/L Type

- Standard
/LESYH R/L Series



コントローラ
JXC□1 Series

#This manual describes the dedicated terms for “LESYH-X171 series”.

Refer to the manual of LES series about other details.

#Refer to the manual relevant to the controller being used for full operating instructions.

SMC Corporation

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LESYH-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)*1), and other safety regulations.

*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: Manipulating industrial robots -Safety.

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.

1. 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.

2. 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.

3. 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.



LESYH-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

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

2. 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.

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

*2) 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

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction(WMD) or any other weapon is strictly prohibited.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulation of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country.

Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

1. Specifications

LESYH*(D/R/L)E*-X171(Ball Screw Drive)

Model		LESYH 16*EB	LESYH 16*EA	LESYH 25*EB	LESYH 25*EA
Actuator specification	Stroke[mm]	50,100		50,100,150	
	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		210 to 420	109 to 218
	Pushing speed[mm/s]	10 to 30		20 to 400	10 to 200
	Max.acceleration/deceleration[mm/s ²]	10 to 30		5,000	20 to 30
	Positioning repeatability[mm]	±0.01		0.1 or less	
	Lost motion[mm]	6		12	6
	Screw lead[mm]	50/20		6	12
	Impact/vibration resistance[m/s ²]	Ball screw / LESYH*D		Ball screw+Belt / LESYH*(R,L)	
	Actuation type	Linear guide(No circulation)		5 to 40	
	Guide type	90 or less (No condensation)		Operating temperature range[°C]	
	Operating temperature range[°C]	Operating humidity range[%RH]		90 or less (No condensation)	
Electric specification	Motor size	□42		□56	
	Motor type	Step motor (Servo/24VDC)		Battery less absolute (4096 pulse/rotation)	
	Encoder(Angular displacement sensor)	24 VDC+/-10%		40	
	Rated voltage[V]	40		50	
	Power consumption[W]	15		48	
	Standby power consumption when operating[W]	48		104	
	Power consumption [W]	Non-magnetizing lock		5	
Lock unit specifications	Type	157		78	216
	Holding force [N]	108		24 VDC±10%	
	Rated voltage [V]	5			

Note

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

2. How to Order

LESYH 16 D E A - 50 C - R 1 C D 1 7 T - X171
 (1) (2) (3) (4) (5) (6) (7) (8)

(1) Size

16
25

(2) Motor mounting position

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

(3) Motor type

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

	Size	
	16	25
A	12	16
B	6	8

(5) Stroke[mm]

	Size	
	16	25
50	●	●
100	●	●
150	-	●

(6) Motor option

C	With cover
W	With cover lock

(7) Actuator cable type*1

Nil	Without cable	
R1	Robotic cable (Flexible cable)	1.5m
R3		3m
R5		5m
R8		8m *1
RA		10m *1
RB		15m *1
RC		20m *1

*1 Produced upon receipt of order.

(8) Controller/Driver type

Refer to the catalogue for Controller/Driver.

⚠ Caution

The actuator and controller are sold as a package.

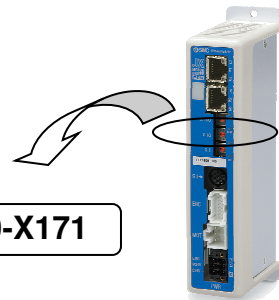
Confirm that the combination of the controller and actuator is correct.

<Check the following before use.>

- *1 Check the actuator label for the model number.
This number should match that of the controller.

*1

LESYH16DEA-50-X171



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

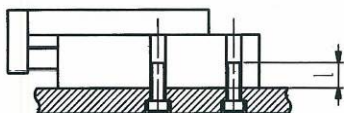
3.1 Handling

Caution

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

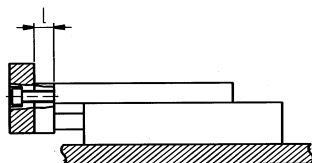
Tightening with higher torque than the specified range may cause malfunction while the tightening with lower torque can cause the displacement of position or dropping a work piece.

Body fixed / Side mounting (body tapped)



Model	Screw size	Max.tightening torque[N · m]	L(Max.screw-in depth)[mm]
LESYH16*-X117	M5x0.8	3.0	6.5
LESYH25*-X117	M6x1.0	5.2	8.5

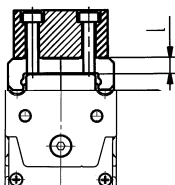
Body fixed / Side mounting (through-hole)



Model	Screw size	Max.tightening torque[N · m]	L(Max.screw-in depth)[mm]
LESYH16*-X117	M5x0.8	3.0	10
LESYH25*-X117	M6x1.0	5.2	12

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	3.0	6.5(Max.)
LESYH25*-X117	M6x1.0	5.2	8(Max.)

3.2 Specific product precautions

Caution

About precautions for installation of actuator, refer to [Specific precautions for Battery-less absolute encoder] that is described in the manual of used controller

Revision history

Jan / 2020 1st printing

Edition A

Jun / 2020 Revision

* Added LESYH25-X171

* Changed the acceleration/deceleration

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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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