



ORIGINAL INSTRUCTIONS

Instruction Manual

Electric Gripper

Series LEHZ(J)\* / LEHF\* / LEHS\*



The intended use of the Electric Gripper is to convert an electrical input signal into mechanical motion in order to grip the work piece.

1 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)<sup>(1)</sup>, and other safety regulations.<sup>(1)</sup> 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 10218-1: Manipulating industrial robots -Safety. etc.

- Refer to the product catalogue, Operation Manual and Handling Precautions for SMC Products for additional information.
- Keep this manual in a safe place for future reference.

	<b>Caution</b>	Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
	<b>Warning</b>	Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
	<b>Danger</b>	Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

**Warning**

- Always ensure compliance with relevant safety laws and standards.
- All work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.
- Electromagnetic compatibility: This product is class A equipment that is intended for use in an industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbances.
- Do not disassemble, modify or repair the product.
- Do not operate the product beyond the specification range.
- When using the product as part of an interlocking system, provide a double interlocking system, for example a mechanical system.
- Keep the controller and product combined as delivered for use. The product is set in parameters for shipment. If it is combined with a different product parameter, failure can result.
- For further safety instructions refer to the operation manual on the SMC website (URL: <https://www.smcworld.com>).

**Warning**

For special products which include a suffix of "-X#", "-D#", refer to the customer drawing of that specific product.

2 Specifications

2.1 Specifications - LEHZ series

Model		10	16	20	25	32	40	
Actuator	Stroke / both sides (mm)	4	6	10	14	22	30	
	Gripping force 40 to 100% (N) *1)*3)	Standard	6 to 14		16 to 40		52 to 130	84 to 210
		Compact	2 to 6	3 to 8	11 to 28		-	-
	Opening/closing speed / Gripping speed (mm/s) *2)*3)	5 to 80		5 to 100		5 to 120		
		5 to 50		5 to 50		5 to 50		
	Actuation type	Slide screw and sliding cam						
	Finger guide type	Linear guide (No circulation)						
	Repeated length accuracy (mm) *4)	± 0.05						
	Finger backlash / one side (mm) *5)	0.25 or less				0.5 or less		
	Repeatability (mm) *6)	± 0.02						
Positioning repeatability / one side (mm)	± 0.05							
Electrical	Lost motion / one side (mm) *7)	0.25 or less				0.3 or less		
	Impact resistance/vibration resistance (m/sec <sup>2</sup> ) *8)	150/30						
	Max. operating frequency (c.p.m)	60						
	Operating temperature (°C)	5 to 40						
	Operating humidity (% RH)	90 or less (No condensation)						
	Weight (g)	Standard	165	220	430	585	1120	1760
		Compact	135	190	365	520	-	-
	Motor size	□20		□28		□42		
	Motor	Step motor (Servo 24 VDC)						
	Encoder (angular displacement sensor)	Incremental						
Power supply voltage (V)	24 VDC ±10%							
Power (W) *9)	Standard	19		51		57	61	
	Compact	14		42		-	-	

2.2 Specifications - LEHZJ series

Model		10	16	20	25	
Actuator	Stroke / both sides (mm)	4	6	10	14	
	Gripping force (N) *1)*3)	Standard	6 to 14 (40 to 100%)		16 to 40 (40 to 100%)	
		Compact	3 to 6 (50 to 100%)	4 to 8 (50 to 100%)	11 to 28 (40 to 100%)	
	Opening/closing speed / Gripping speed (mm/s) *2)*3)	5 to 80		5 to 100		
		5 to 50		5 to 50		
	Actuation type	Slide screw and sliding cam				
	Finger guide type	Linear guide (No circulation)				
	Repeated length accuracy (mm) *4)	± 0.05				
	Finger backlash/ one side (mm) *5)	0.25 or less				
	Repeatability (mm) *6)	± 0.02				
Positioning repeatability/ one side (mm)	± 0.05					
Electrical	Lost motion / one side (mm) *7)	0.25 or less				
	Impact resistance/vibration resistance (m/sec <sup>2</sup> ) *8)	150/30				
	Max. operating frequency (c.p.m)	60				
	Operating temperature (°C)	5 to 40				
	Operating humidity (% RH)	90 or less (No condensation)				
	Weight (g)	Standard	170	230	440	610
		Compact	140	200	375	545
	Motor size	□20		□28		
	Motor	Step motor (Servo 24 VDC)				
	Encoder (angular displacement sensor)	Incremental				
Power supply voltage (V)	24 VDC ± 10%					
Power (W) *9)	Standard	19		51		
	Compact	14		42		

2 Specifications (continued)

2.3 Specifications - LEHF series

Model		10	20	32	40	
Actuator	Stroke / both sides (mm)	Standard	16	24	32	40
		Long	32	48	64	80
	Gripping force 40 to 100% (N) *1)*3)	3 to 7	11 to 28	48 to 120	72 to 180	
	Opening/closing speed / Gripping speed (mm/s) *2)*3)	5 to 80		5 to 100		
		5 to 20		5 to 30		
	Actuation type	Sliding screw and belt				
	Finger guide type	Linear guide (No circulation)				
	Repeated length accuracy (mm) *4)	± 0.05				
	Finger backlash / one side (mm) *5)	0.5 or less				
	Repeatability (mm) *6)	± 0.05				
Positioning repeatability / one side (mm)	± 0.1					
Lost motion / one side (mm) *7)	0.3 or less					
Impact resistance/vibration resistance (m/sec <sup>2</sup> ) *8)	150/30					
Max. operating frequency (c.p.m)	60					
Operating temperature (°C)	5 to 40					
Operating humidity (% RH)	90 or less (No condensation)					
Weight (g)	Standard	340	610	1625	1980	
	Long	370	750	1970	2500	
Electrical	Motor size	□20	□28	□42		
	Motor	Step motor (Servo 24 VDC)				
	Encoder (angular displacement sensor)	Incremental		Incremental / Battery-less absolute		
	Power supply voltage (V)	24 VDC ±10%				
	Power (W) *9)	19	51	57	61	

2.4 Specifications - LEHS series

Model		10	20	32	40	
Actuator	Stroke / dia. (mm)	4	6	8	12	
	Gripping force (N) 40 to 100% *1)*3)	Standard	2.2 to 5.5	9 to 22	36 to 90	52 to 130
		Compact	1.4 to 3.5	7 to 17	-	-
	Opening/closing speed / Gripping speed (mm/s) *2)*3)	5 to 70		5 to 80	5 to 100	5 to 120
		5 to 50		5 to 50	5 to 50	5 to 50
	Actuation type	Sliding screw and wedge cam				
	Repeated length accuracy (mm) *4)	± 0.05				
	Finger backlash / radius (mm) *5)	0.25 or less				
	Repeatability (mm) *6)	± 0.02				
	Positioning repeatability / Radius (mm)	± 0.05				
Lost motion / radius (mm) *7)	0.25 or less					
Impact resistance/vibration resistance (m/sec <sup>2</sup> ) *8)	150/30					
Max. operating frequency (c.p.m)	60					
Operating temperature (°C)	5 to 40					
Operating humidity (% RH)	90 or less (No condensation)					
Weight (g)	Standard	185	410	975	1265	
	Compact	150	345	-	-	
Electrical	Motor size	□20	□28	□42		
	Motor	Step motor (Servo 24 VDC)				
	Encoder (angular displacement sensor)	Incremental				
	Power supply voltage (V)	24 VDC ±10%				
	Power (W) *9)	Standard	19	51	57	61
Compact		14	42	-	-	

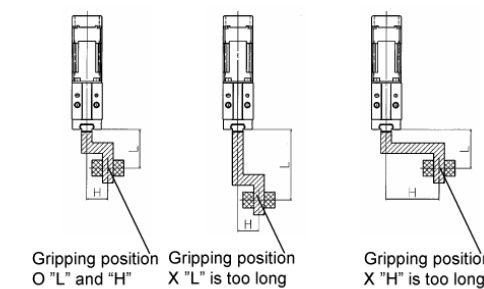
2 Specifications (continued)

- Gripping force for LEHF & LEHZ(J) products should be 10 to 20 times the weight of the object to be conveyed and 7 to 13 times for LEHS products. The force should be 150% when releasing the work piece. Gripping force accuracy should be: ± 30% of max. gripping force for LEHZ(J)10/16, LEHF10 & LEHS10. ± 25% of max. gripping force for LEHZ(J)20/25, LEHF20 & LEHS20. ± 20% of max. gripping force for LEHZ32/40, LEHF32/40 & LEHS32/40.
- Pushing speed should be set within the range during pushing (gripping) operation. Otherwise, it may cause malfunction. The opening/closing speed and pushing speed are for both fingers. The speed for one finger is half this value.
- The speed and force may change depending on the cable length, load and mounting conditions. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m. (at 15 m: Reduced by up to 20%).
- Repeated length measurement accuracy means dispersion (value on the controller monitor) when the workpiece is repeatedly held in the same position.
- There will be no influence of backlash when gripping. Make the stroke longer for the amount of backlash when opening.
- Repeatability means the variation of the gripping position (workpiece position) when the gripping operation is repeatedly performed by the same sequence for the same workpiece.
- A reference value for correcting an error in reciprocal operation.
- Impact resistance: No malfunction occurred when the gripper was tested with a drop tester in both an axial and perpendicular direction to the lead screw (test was performed with the gripper in the initialized state).  
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial and perpendicular direction to the lead screw (test was performed with the gripper in the initialized state).
- Indicates the maximum power during operation including the controller. Use this value when selecting the power supply capacity.

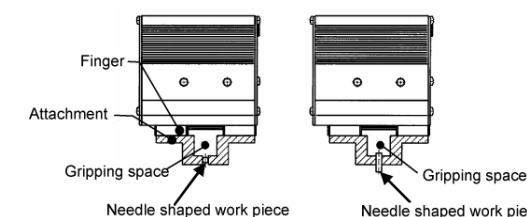
3 Installation

3.1 Design and Selection

- Operate within the specified gripping range.
- If the specified gripping range is exceeded, excessive moment is applied to the sliding part of the fingers, which may have an adverse effect on the life of the product.



- Design the attachment to be lightweight and of minimum length. A long heavy attachment will increase inertia force when the product is opened or closed, which causes play at the fingers. Even if the gripping point of the attachment is within the specified range, design it to be as short and lightweight as possible. For a long or large work piece, select a larger size gripper or use two or more grippers together.
- Reserve gripping space for attachment when a work piece is thin. Without this the product cannot perform stable gripping and the displacement of the work piece or gripping failure can result.



### 3 Installation (continued)

- Select a model that allows for adequate gripping force in relation to the weight of the work piece. The gripping force should be within the range of 10 to 20 times the weight of the object to be conveyed. The accuracy of the gripping force is ±20% of the max. gripping force.
- Select a model that allows for the correct opening and closing width relative to the width of the work piece. Selection of an incorrect model may cause gripping at unexpected positions due to the variable opening and closing width of the product and the width or diameter of the work piece that the product can handle. It is also necessary to select a larger stroke to overcome the backlash created when the product opens after gripping.
- Do not use the product in applications where excessive external forces, including vibration or impact force are applied to it.

#### 3.2 Installation

##### Warning

- Do not install the product unless the safety instructions have been read and understood.
- Do not use the product outside of its allowable specification.
- Do not drop, dent, scratch, strike or cause other damage to the gripper body or the gripper fingers. This may lead to deterioration of accuracy and product failure.
- When installing, adjusting, inspecting or performing maintenance on the product, controller and related equipment, be sure to turn OFF the power supply to each of them. Then, lock it so that no one other than the person working can turn the power on, or implement measures such as a safety plug.

#### 3.3 Operation

##### Warning

- Do not touch the motor while in operation. The surface temperature of the motor can increase to approx. 80°C due to operating conditions. Energizing alone may also cause this temperature increase.
- If abnormal heating, smoking or fire, etc. occurs in the product,

immediately turn OFF the power supply.

- Immediately stop operation if abnormal operation noise or vibration occurs. If this occurs, the product may have been mounted incorrectly. Unless operation of the product is stopped for inspection, the product may be seriously damaged.
- Never touch the rotating part of the motor or the moving part of the actuator while in operation.
- In the case of the actuator that has a servo motor (24VDC), the "motor phase detection step" is carried out by inputting the Servo ON signal just after the controller power is turned ON. The "motor phase detection step" operates the table/rod to the maximum distance of the lead screw (the motor rotates in the reverse direction if the table hits an obstacle such as the end stop damper). Take this into consideration for the operation of the actuator.
- Check the product for the following points before operation:
  - Damage to electric driving line and signal lines.
  - Looseness of the connector to each power line and signal line.
  - Looseness of the actuator/cylinder and controller/driver mounting.
  - Abnormal operation.
  - Stop function.
- An operation test should be performed at low speed, starting the test at a predefined speed, while confirming there are no problems.
- The actual speed of the product will be changed by the workload. Before selecting a product, check the catalogue for the instructions regarding selection and specifications.
- Do not use the product until it has been verified that the equipment can be operated correctly. After mounting or repair, connect the power supply to the product and perform appropriate functional inspections to check it is mounted correctly.

### 3 Installation (continued)

#### 3.2 Environment

##### Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- Do not install in a location subject to vibration or impact in excess of the product's specifications.
- Do not mount in a location exposed to radiant heat that would result in temperatures in excess of the product specifications.
- Prevent foreign particles from entering the product.
- Avoid using in the following environments:
  - Areas with large amounts of dust or cutting chips that could enter the product.
  - Areas where the ambient temperature exceeds the specified range.
  - Areas where the ambient humidity exceeds the specified range.
  - Areas where strong magnetic or electric fields are generated.
- Do not use in an environment where the product is directly exposed to liquid, such as cutting oils. If cutting oil, coolant, or oil mist adheres to the product, failure or increased sliding resistance can result.

#### 3.3 Mounting

##### Warning

- Observe the required tightening torque for screws. Unless stated otherwise, tighten the screws to the recommended torque for mounting the product.
- Do not make any alterations to the product. Alterations made to this product may lead to a loss of durability and damage to the product, which can lead to injury and damage to other equipment and machinery.
- When an external guide is used, connect the moving parts of the product and the load in such a way that there is no interference at any point within the stroke.
- When attaching to the work piece, do not apply strong impact or a large moment. If an external force in excess of the allowable moment is

applied, it may cause looseness in the guide unit, an increase in sliding resistance or other problems.

- Allow sufficient space for maintenance and inspection.

##### Caution

When mounting attachments to the Gripper fingers avoid applying excessive torque and use screws with adequate length and tighten with adequate torque within the specified torque range. Applying excessive torque may lead to play in the fingers and deterioration of the gripper accuracy. Tightening the screws with a torque higher than recommended may cause malfunction, whilst tightening with a lower torque can lead to the displacement of the mounting position or in extreme conditions the attachment could become detached from the gripper.

#### 3.3.1 Mounting attachments to Gripper fingers

##### LEHZ(J) series

Model	Screw	Max. Tightening torque (N•m)
LEHZ(J)10(L)K2-4	M2.5 x 0.45	0.3
LEHZ(J)16(L)K2-6	M3 x 0.5	0.9
LEHZ(J)20(L)K2-10	M4 x 0.7	1.4
LEHZ(J)25(L)K2-14	M5 x 0.8	3.0
LEHZ32K2-22	M6 x 1	5.0
LEHZ40K2-30	M8 x 1.25	12.0

##### LEHF series

Model	Screw	Max. Tightening torque (N•m)
LEHF10K2-*	M2.5 x 0.45	0.3
LEHF20K2-*	M3 x 0.5	0.9
LEHF32K2-*	M4 x 0.7	1.4
LEHF40K2-*	M4 x 0.7	1.4

### 3 Installation (continued)

#### LEHS series

Model	Screw	Max. Tightening torque (N•m)
LEHS10(L)K3-4	M3 x 0.5	0.9
LEHS20(L)K3-6	M3 x 0.5	0.9
LEHS32K3-8	M4 x 0.7	1.4
LEHS40K3-12	M5 x 0.8	3.0

#### 3.3.2 Mounting the Gripper

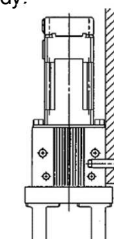
When mounting the Gripper to other equipment, use screws with adequate length and tighten them with adequate torque within the specified torque range.

Tightening the screws with a torque higher than recommended may cause malfunction, whilst tightening with a lower torque can cause the displacement of the mounting position or in extreme conditions the gripper could become detached from its mounting position.

##### LEHZ(J) Mounting

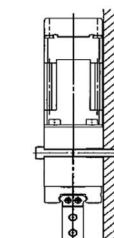
Mounting of the Gripper with screws to the side of the body.

Model	Screw	Max. Tightening torque [N•m]	Max. thread depth L [mm]
LEHZ(J)10(L)K2-4	M3x0.5	0.9	6
LEHZ(J)16(L)K2-6	M4x0.7	1.4	6
LEHZ(J)20(L)K2-10	M5x0.8	3.0	8
LEHZ(J)25(L)K2-14	M6x1	5.0	10
LEHZ32K2-22	M6x1	5.0	10
LEHZ40K2-30	M8x1.25	12.0	14



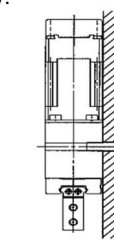
Mounting the Gripper with screws to a mounting plate.

Model	Screw	Max. tightening torque [N•m]
LEHZ(J)10(L)K2-4	M3x0.5	0.9
LEHZ(J)16(L)K2-6	M3x0.5	0.9
LEHZ(J)20(L)K2-10	M4x0.7	1.4
LEHZ(J)25(L)K2-14	M5x0.8	3.0
LEHZ32K2-22	M5x0.8	3.0
LEHZ40K2-30	M6x1	5.0



Mounting the Gripper with screws to the back of the body.

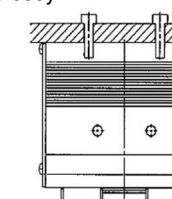
Model	Screw	Max. tightening torque [N•m]	Max. thread depth L [mm]
LEHZ(J)10(L)K2-4	M4x0.7	1.4	6
LEHZ(J)16(L)K2-6	M4x0.7	1.4	6
LEHZ(J)20(L)K2-10	M5x0.8	3.0	8
LEHZ(J)25(L)K2-14	M6x1	5.0	10
LEHZ32K2-22	M6x1	5.0	10
LEHZ40K2-30	M8x1.25	12.0	14



##### LEHF Mounting

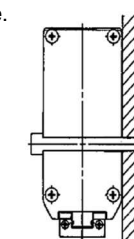
Mounting the Gripper with screws to the side of the body.

Model	Screw	Max. tightening torque [N•m]	Max. thread depth L [mm]
LEHF10K2-*	M4x0.7	1.4	7
LEHF20K2-*	M5x0.8	3.0	8
LEHF32K2-*	M6x1	5.0	10
LEHF40K2-*	M6x1	5.0	10



Mounting the Gripper with screws to a mounting plate.

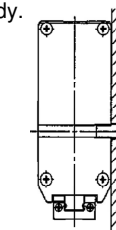
Model	Screw	Max. tightening torque [N•m]
LEHF10K2-*	M4x0.7	1.4
LEHF20K2-*	M5x0.8	3.0
LEHF32K2-*	M6x1	5.0
LEHF40K2-*	M6x1	5.0



### 3 Installation (continued)

Mounting the Gripper with screws to the back of the body.

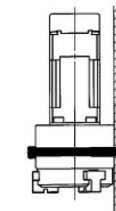
Model	Screw	Max. tightening torque [N•m]	Max. thread depth L [mm]
LEHF10K2-*	M5x0.8	3.0	10
LEHF20K2-*	M6x1	5.0	12
LEHF32K2-*	M8x1.25	12.0	16
LEHF40K2-*	M8x1.25	12.0	16



##### LEHS Mounting

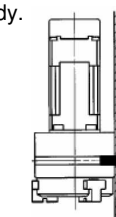
Mounting the Gripper with screws to a mounting plate.

Model	Screw	Max. tightening torque [N•m]
LEHS10(L)K3-4	M3x0.5	0.9
LEHS20(L)K3-6	M5x0.8	3.0
LEHS32K3-8	M6x1	5.0
LEHS40K3-12	M6x1	5.0



Mounting the Gripper with screws to the back of the body.

Model	Screw	Max. tightening torque [N•m]	Max. thread depth L [mm]
LEHS10(L)K3-4	M4x0.7	1.4	6
LEHS20(L)K3-6	M6x1	5.0	10
LEHS32K3-8	M8x1.25	12.0	14
LEHS40K3-12	M8x1.25	12.0	14



- The mounting surface has dowel holes and slots for positioning. If required use them for accurate positioning of the gripper.
- When the workpiece must be removed after the power has been switched off, it can be removed by using the manual override or by removing the finger attachments. If the manual override is used to remove the workpiece allow sufficient space to access the manual override screw. Do not apply excessive torque to the manual override that could lead to damage and malfunction of the product.
- When gripping the work piece leave space in the finger movement

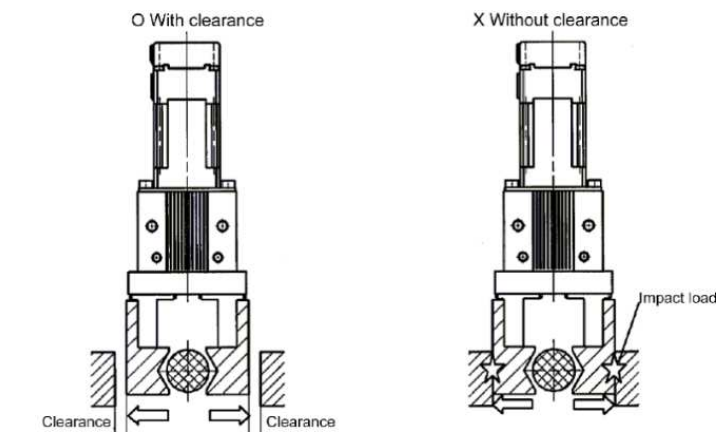
direction to prevent the load from being concentrated on one finger and to allow for work piece mis-alignment.

For the same reason when aligning the work piece using the gripper finger movement, minimize the frictional resistance created by the movement of the workpiece.

The finger can be displaced or play or breakage can occur.

#### 3.3.3 Gripper Adjustment

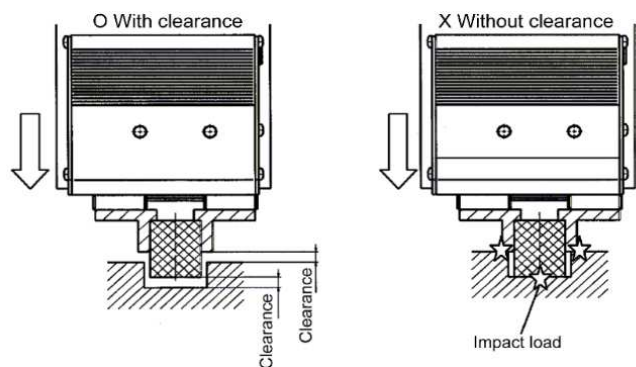
- Perform adjustment and confirmation to ensure there is no external force applied to the finger. If the fingers are subject to repetitive lateral load or impact load, it can cause play or breakage and the lead screw can get stuck, which results in operation failure. Allow a clearance to prevent the work piece or the attachment from hitting the gripper product at the end of stroke.
- Stroke end when fingers are open



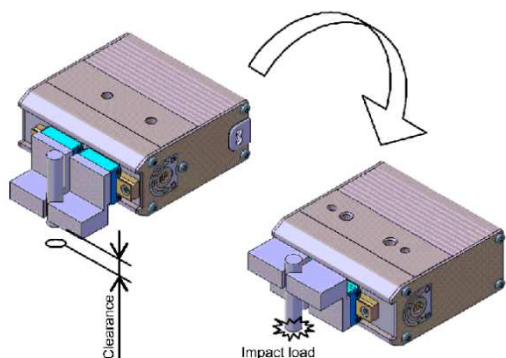


### 3 Installation (continued)

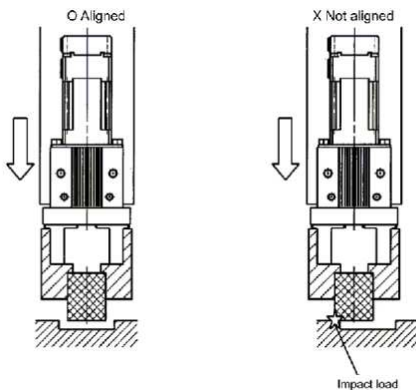
- Stroke end when Gripper is moving



- Stroke end when turning over



- When mounting a work piece, align it with the product carefully to prevent excessive force being applied to the finger. In particular, during a trial run, operate the product manually or at a low speed and check that safety is assured without impact.



- When using the LEHZJ series, affix the "protection seal provided to prevent ingress of dust". Otherwise machining chips and fine particles may get into the product from the outside, leading to operation failure. This is equivalent to IP50 (dust-proof). Please note that it does not provide a drip-proof function.

#### 3.4 Lubrication

##### Caution

- SMC products have been lubricated for life at manufacture, and do not require lubrication in service.
- If a lubricant is used in the system, refer to the operation manual or catalogue on the SMC website (URL: <https://www.smcworld.com>).
- The recommended grease is lithium grade No.2.

### 4 Wiring

#### 4.1 Wiring

##### Warning

- Adjustment, mounting or wiring changes should not be carried out before disconnecting the power supply to the product.
- Do not disassemble the cables.
- Use only specified cables.
- Do not connect or disconnect the wires, cables and connectors when the power is ON.

##### Caution

- Do not route wires and cables together with power or high-voltage cables.
- Check the insulation of wires and cables.
- Take appropriate measures against noise, such as noise filters, when the product is incorporated into other equipment or devices.
- Take sufficient shielding measures when the product is to be used in the following conditions:
  - Where noise due to static electricity is generated.
  - Where electro-magnetic field strength is high.
  - Where radioactivity is present.
  - Where power lines are located.
- Do not use the product in a place where electrical surges are generated.
- Use suitable surge protection when a surge generating load such as a solenoid valve is to be directly driven.

##### Caution

- Wire the connector correctly and securely. Check the connector for polarity and do not apply any voltage other than those specified.
- Take appropriate measures against noise. Noise in a signal line may cause malfunction. As a countermeasure separate the high voltage and low voltage cables, and shorten the wiring lengths, etc.
- Do not route input/output wires and cables together with power or high voltage cables. The product can malfunction due to noise interference and surge voltage from power and high voltage cables close to the

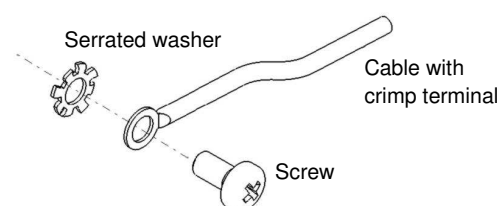
signal line. Route the wires of the product separately from power or high voltage cables.

- Take care that actuator movement does not catch cables.
- Operate with all wires and cables secured.
- Avoid bending cables at sharp angles where they enter the product.
- Avoid twisting, folding, rotating or applying an external force to the cable. Risk of electric shock, wire breakage, contact failure and loss of control of the product can result. Refer to the relevant operation manual for the bending life of the cable.
- Secure the motor cables protruding from the actuator before use.
- The cables connecting the actuator and the controller are robotic type cables. These should not be placed in a flexible moving tube with a radius smaller than the specified value (50 mm minimum).

#### 4.2 Actuator Ground connection

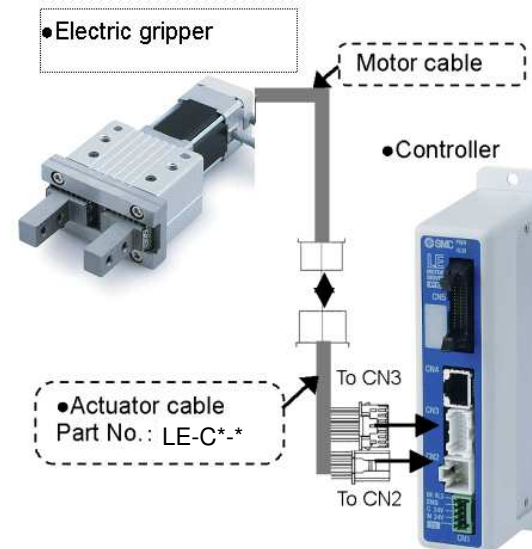
##### Caution

- The Actuator must be connected to ground to shield the actuator from electrical noise.
- Dedicated grounding should be used. Grounding should be to a D-class ground (resistance of 100 Ω or less).
- Grounding should be performed near the actuator to shorten the wiring distance. The cross-sectional area of the ground wire shall be a minimum of 2 mm<sup>2</sup>. Avoid common grounding with other devices.
- The screw, cable with crimping terminal and shakeproof washer must be provided by the user.



### 4 Wiring (continued)

#### 4.3 Wiring of Actuator to Controller



##### Warning

Use only the cables specified otherwise there may be risk of damage.

### 5 How to Order

- For standard products, refer to the catalogue on the SMC website (URL: <https://www.smcworld.com>) for the how to order information.

### 6 Outline Dimensions

- For standard products, refer to the catalogue on the SMC website (URL: <https://www.smcworld.com>) for outline dimensions.

### 7 Maintenance

#### 7.1 General Maintenance

##### Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly electricity and compressed air can be dangerous.
- Maintenance of electromechanical and pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn OFF the power supply and be sure to cut off the supply pressure. Confirm that the power has been discharged and the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical or pneumatic connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Incorrect handling can cause an injury, damage or malfunction of the equipment and machinery, so ensure that the procedure for the task is followed.
- Always allow sufficient space around the product to complete any maintenance and inspection.
- Do not disassemble or repair the product.
- Before modifying or checking the wiring, the voltage should be checked with a tester 5 minutes after the power supply is turned OFF.
- When the product is to be removed, check that it is not gripping a work piece. There is a risk of dropping the work piece.

### 7 Maintenance (continued)

- The dust cover on the gripper fingers (LEHZJ series only) is a consumable item, replace the dust cover as and when it is necessary. If machining chips, fine particles or oils, etc. enter the gripper mechanism from outside, it could lead to the failure of the product. The dust cover on the gripper finger can be damaged if the finger attachment or the workpiece comes into contact with the dust cover during operation.

##### Caution

- Removal of product  
When the equipment is serviced, first confirm that measures are in place to prevent dropping of work pieces and run-away of equipment, etc, and then turn off the power supply to the system.  
When the machinery is restarted, check that the operation is normal with the gripper in a safe position.

### 8 Limitations of Use

#### 8.1 Limited warranty and disclaimer/compliance requirements

- Refer to Handling Precautions for SMC Products.

### 9 Product disposal

This product should not be disposed of as municipal waste. Check your local regulations and guidelines to dispose of this product correctly, in order to reduce the impact on human health and the environment.

### 10 Contacts

Refer to [www.smcworld.com](http://www.smcworld.com) or [www.smc.eu](http://www.smc.eu) for your local distributor / importer.

## SMC Corporation

URL: <http://www.smcworld.com> (Global) <http://www.smc.eu> (Europe)  
 SMC Corporation, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan  
 Specifications are subject to change without prior notice from the manufacturer.  
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 Template DKP50047-F-085M