LEY#-TF2Z025EN

ORIGINAL INSTRUCTIONS

Instruction Manual
Electric Actuator / Rod Type
Series LEY

Motor:AC servo motor (100-200VAC)

The intended use of this Electrical Actuator is to convert an electrical input signal into mechanical motion.

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) *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 10218-1: 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.

⚠ **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

- **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.

2 Specifications

Model			LEY25 LEY25D (Parallel/In-line)			LEY32 (Parallel type)			LEY32D (In-line type)		
Actuator specifications	Stroke [mm] Note1)		30, 50, 100, 150, 200, 250,300, 350, 400			30, 50, 100, 150, 200, 250,300, 350, 400, 450, 500			30, 50, 100, 150, 200, 250,300, 350, 400, 450, 500		
	Work load [kg]	Horizontal Note 2)	18	50	50	30	60	60	30	60	60
		Vertical	8	16	30	9	19	37	12	24	46
	Pushing force [N] Note3)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Maximum Speed Note4) [mm/s]	Range of stroke: to 300	900	450	225	1200	600	300	1000	500	250
		305 to 400	600	300	150						
		405 to 500	-	-	-	800	400	200	640	320	160
	Pushing speed [mm/s] Note5)		35 or less			30 or less					
	acceleration/ deceleration [mm/s^2]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02								
		High precision type	±0.01								
	Lost motion [mm] Note6)	Basic type	0.1 or less								
		High precision type	0.05 or less								
	Lead[mm] (Including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact resistance/vibration Resistance [m/s^2] Note7)		50 / 20			50 / 20					
	Drive method		Ball screw and Belt [1:1] / Ball screw			Ball screw and Belt [1.25:1]			Ball screw		
	Guide type		Sliding bush (Piston rod part)								
	Operating temperature range [℃]		5 to 40								
	Operating humidity range [%RH]		90 or less(No condensation)								
	Regenerative option		May be required by speed and work load (Refer to catalogue)								

Model			LEY25 LEY25D (Parallel/In-line)			LEY32 (Parallel type)			LEY32D (In-line type)		
Electrical specifications	Motor output/size		100W／□40			200W／□60					
	Type of Motor		AC servo motor (100/200 VAC)								
	Encoder Note8)		Motor type S2-S3:Incremntal 17-bit encoder (Resolution:131072 p/rev) Motor type S6-S7:Absolute 18-bit encoder (Resolution:262144 p/rev) Motor type T6-T7:Absolute 22-bit encoder (Resolution:4194304 p/rev) Motor type V6-V7:Absolute 20-bit encoder (Resolution:1048576 p/rev)								
	Power consumption [W] Note9)	Horizontal	45			65					
		Vertical	145			175					
	Standby power consumption when operating [W] Note10)	Horizontal	2			2					
		Vertical	8			8					
	Maximum instantaneous power consumption [W] Note11)		445			724					
Lock unit specifications	Type Note12)		Non magneting look								
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption [W] at 20 ℃ Note13) LEY∗(S/T)∗/LEY∗V∗		6.3 / 5.5			7.9 / 6					
	Rated voltage[V]		24 VDC $^{0}_{-10\%}$								

2 Specifications (continued)

Model			LEY63 (Parallel type)			
			LEY63D (In-line type)			
Actuator specifications	Stroke [mm] Note1)		100, 200, 300, 400, 500, 600, 700, 800			
	Work load [kg]	Horizontal Note 2)	40	70	80	200
		Vertical	19	38	72	115
	Pushing force [N] Note3)		156to 521	304to 1012	573to 1910	1003 to 3343
	Maximum Speed Note4) [mm/s]	Range of stroke: to 300	1000	500	250	70
		305 to 400				
		405 to 500				
		505 to 600	800	400	200	
		605 to 700	600	300	150	
		705 to 800	500	250	125	
	Pushing speed [mm/s] Note5)		30 or less			
	acceleration/deceleration [mm/s^2]		5000			3000
	Positioning repeatability [mm]	Basic type	±0.02			
		High precision type	±0.01			
	Lost motion [mm] Note6)	Basic type	0.1 or less			
		High precision type	0.05 or less			
	Lead[mm] (Including pulley ratio)		20	10	5	2.86
	Impact resistance/vibration Resistance [m/s^2] Note7)		50 / 20			
	Drive method		Ball screw and Belt [1:1] / Ball screw			Ball screw and Belt [4:7]
	Guide type		Sliding bush (Piston rod part)			
	Operating temperature range [℃]		5 to 40			
	Operating humidity range [%RH]		90 or less (No condensation)			
	Regenerative option		May be required by speed and work load (Refer to catalogue)			

Model			LEY63 (Parallel type)			
			LEY63D (In-line type)			
Electrical specifications	Motor output/size		400W／□60			
	Type of Motor		AC servo motor (200 VAC)			
	Encoder Note8)		Motor type S4:Incremntal 17-bit encoder (Resolution:131072 p/rev) Motor type S8:Absolute 18-bit encoder (Resolution:262144 p/rev) Motor type T8:Absolute 22-bit encoder (Resolution:4194304 p/rev) Motor type V8:Absolute 20-bit encoder (Resolution:1048576 p/rev)			
	Power consumption [W] Note9)	Horizontal	210			
		Vertical	230			
	Standby power consumption when operating [W] Note10)	Horizontal	2			
		Vertical	18			
	Maximum instantaneous power consumption [W] Note11)		1275			
Lock unit specifications	Type Note12)		Non magneting look			
	Holding force [N]		313	607	1146	2006
	Power consumption [W] at 20 ℃ Note13) LEY∗(S/T)∗/LEY∗V∗		7.9 / 6			
	Rated voltage[V]		24 VDC $^{0}_{-10\%}$			

2 Specifications (continued)

Model			LEY100D (In-line)		
Actuator specifications	Stroke [mm] Note1)		100,200,300,400,500,600,700,800,900,1000		
	Work load [kg]	Horizontal Note 2)	1200	1200	240
		Vertical	200	185	80
	Pushing force [N] Note3)		2800 to 12000	1600 to 7200	600 to 2600
	Maximum Speed Note4) [mm/s]	Range of stroke: to 500	100	167	500
		505 to 600	74	123	370
		605 to 700	57	95	285
		705 to 800	45	75	225
		805 to 900	36	60	180
		905 to 1000	30	50	150
	Pushing speed [mm/s] Note5)		20 or less		
	acceleration/deceleration [mm/s^2]		2000	3000	
	Positioning repeatability [mm]		±0.02		
	Lost motion [mm] Note6)		0.1 or less		
	Screw lead [mm]		10		
	Reduction raito		1/5	1/3	-
	Lead [mm] (Including reduction ratio)		2	3.33	10
	Impact resistance/vibration Resistance [m/s^2] Note7)		50 / 20		
	Drive method		Ball screw		
	Guide type		Sliding bush (Piston rod part)		
	Operating temperature range [℃]		5 to 40		
	Operating humidity range [%RH]		90 or less(No condensation)		
	Regenerative option		May be required by speed and work load (Refer to catalogue)		

Model			LEY100D (In-line)		
Electrical specifications	Motor output/size		750W／□80		
	Type of Motor		AC servo motor (200 VAC)		
	Encoder Note8)		Absolute 22-bit encoder (Resolution:4194304 p/rev)		
	Power consumption [W] Note9)	Horizontal	250		
		Vertical	450		
	Standby power consumption when operating [W] Note10)	Horizontal	20		
		Vertical	30		
	Maximum instantaneous power consumption [W] Note11)		1100		
Lock unit specifications	Type Note12)		Non magneting look		
	Holding force [N]		5700	3400	1200
	Power consumption [W] at 20 ℃ Note13)		10		
	Rated voltage[V]		24 VDC $^{0}_{-10\%}$		

2 Specifications (continued)

Product Weight [kg]

Model		LEY25 (Parallel type)								
Stroke [mm]		30	50	100	150	200	250	300	350	400
Type of Motor	Incremental Encoder[S2]	1.3	1.4	1.6	1.8	2.0	2.2	2.3	2.5	2.7
	Absolute Encoder[S6]	1.4	1.5	1.6	1.9	2.1	2.2	2.4	2.6	2.8
	Absolute Encoder[T6]	1.4	1.5	1.6	1.9	2.1	2.2	2.4	2.6	2.7
	Absolute Encoder[V6]	1.2	1.3	1.6	1.7	1.9	2.1	2.2	2.4	2.6

Model		LEY25D (In-line mounting type)								
Stroke [mm]		30	50	100	150	200	250	300	350	400
Type of Motor	Incremental Encoder[S2]	1.3	1.4	1.6	1.8	2.0	2.2	2.4	2.5	2.7
	Absolute Encoder[S6]	1.4	1.5	1.6	1.9	2.1	2.3	2.4	2.6	2.8
	Absolute Encoder[T6]	1.4	1.5	1.6	1.9	2.1	2.3	2.4	2.6	2.8
	Absolute Encoder[V6]	1.2	1.3	1.6	1.7	1.9	2.1	2.3	2.4	2.6

Model		LEY32 (Parallel type)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	450	500
Type of Motor	Incremental Encoder[S3]	2.4	2.5	2.8	3.3	3.6	3.9	4.1	4.4	4.7	5.0	5.3
	Absolute Encoder[S7]	2.4	2.5	2.8	3.2	3.5	3.8	4.1	4.4	4.6	4.9	5.2
	Absolute Encoder[T7]	2.3	2.4	2.7	3.2	3.5	3.8	4.1	4.3	4.6	4.9	5.2
	Absolute Encoder[V7]	2.3	2.4	2.7	3.2	3.5	3.8	4.0	4.3	4.6	4.9	5.2

Model		LEY32D (In-line mounting type)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	450	500
Type of Motor	Incremental Encoder[S3]	2.4	2.6	2.8	3.3	3.6	3.9	4.2	4.4	4.7	5.0	5.3
	Absolute Encoder[S7]	2.4	2.5	2.8	3.3	3.5	3.8	4.1	4.4	4.7	5.0	5.2
	Absolute Encoder[T7]	2.4	2.5	2.8	3.2	3.5	3.8	4.1	4.4	4.6	4.9	5.2
	Absolute Encoder[V7]	2.3	2.4	2.7	3.2	3.5	3.8	4.1	4.3	4.6	4.9	5.2

Model		LEY63 (Parallel type)								LEY63D (In-line mounting type)							
Stroke [mm]		100	200	300	400	500	600	700	800	100	200	300	400	500	600	700	800
Type of Motor	Incremental Encoder[S4]	5.4	6.6	8.3	9.4	10.5	12.2	13.4	14.5	5.6	6.7	8.4	9.6	10.7	12.4	13.5	14.7
	Absolute Encoder[S8]	5.5	6.7	8.4	9.5	10.6	12.3	13.5	14.6	5.7	6.8	8.5	9.7	10.8	12.5	13.6	14.8
	Absolute Encoder[T8]	5.4	6.6	8.3	9.4	10.5	12.2	13.4	14.5	5.6	6.7	8.4	9.6	10.7	12.4	13.5	14.7
	Absolute Encoder[V8]	5.3	6.5	8.2	9.3	10.4	12.1	13.3	14.4	5.5	6.6	8.3	9.5	10.6	12.3	13.4	14.6

Model		LEY100D (In-line mounting type)									
Stroke [mm]		100	200	300	400	500	600	700	800	900	1000
Type of Lead	Without reducer[B]	12.7	14.4	16.0	17.7	19.3	21.0	22.6	24.2	25.9	27.5
	With reducer [D/L]	15.1	16.8	18.4	20.1	21.7	23.4	25.0	26.6	28.3	29.9

Additional weight for lock accessories [kg]

Size		25	32	63	100
Lock	Incremental Encode [S2/S3/S4]	0.2	0.4	0.4	-
	Absolute Encoder [S6/S7/S8]	0.3	0.7	0.6	-
	Absolute Encoder [T6/T7/T8/T9]	0.3	0.4	0.4	1.0
	Absolute Encoder [V6/V7/V8]	0.3	0.6	0.6	-
Rod end male thread	Part of male thread	0.03	0.03	0.03	0.11
	Nut	0.02	0.02	0.02	0.05
Foot style (Body mounting screw is included、2sets)		0.08	0.14	0.26	1.1
Rod side flange style (Body mounting screw is included)		0.17	0.20	0.51	0.8
Motor side flange style (Body mounting screw is included)		0.17	0.20	0.51	-
Double clevis style (Clevis pin, Type C retaining ring for axis, Body mounting bolt is included)		0.16	0.22	0.58	-

2 Specifications (continued)

Note 1) Please consult with SMC for non-standard strokes produced to special order.
Note 2) This is the maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Confirm the load using the actual device.
Note 3) Thrust setting range when "pushing" operation in torque control mode, etc. Refer to the thrust conversion graph shown in the catalogue as a guide.
Set value LEY25□S/32□S:15 to 30%
Set value LEY25□T/32□T:12 to 24%
Set value LEY25□V/32□V:45 to 90%
Set value LEY63□S:15 to 50%
Set value LEY63□T:12 to 40%
Set value LEY63□V:45 to 150%
Set value LEY100□T:12 to 55%
Note 4) The allowable speed changes according to the stroke.
Note 5) The allowable collision speed for collision with the workpiece with the torque control mode.
Note 6) A reference value for correcting an error in reciprocal operation.
Note 7) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and perpendicular direction to the lead screw.
(The test was performed with the actuator in the initial state.)
Vibration resistance:No malfunction occurred in a test ranging between 45 to 2000 Hz, when the actuator was tested in both an axial direction and a perpendicular direction to the lead screw.
(The test was performed with the actuator in the initial state.)
Note 8) When the motor type is "T6-T9",the resolution will change depending on the driver type.
Note 9) The standby power consumption when operating (including the driver) is for when the actuator is operating.
Note 10) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 11) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 12) Only when the motor option, "with lock", is selected.
Note 13) For an actuator with lock, add the power consumption for the lock.

⚠ Warning

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

3 Installation

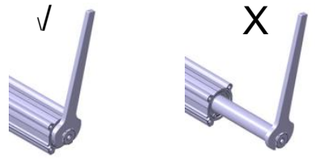
3.1 Installation

⚠ Warning

- Do not install the product unless the safety instructions have been read and understood.
- Do not use the product in excess of its allowable specification as listed in Section 2.
- Ensure the product is sized correctly and is suitable for the application.
- Do not operate the product by fixing the piston rod and moving the actuator body.
- Avoid using the electric actuator in a way that rotational torque would be applied to the piston rod. If rotational torque is applied to the piston rod it will cause deformation, damage and/or reduce the non-rotational accuracy of the product. The allowable rotational torque is listed below.

Allowable Rotational torque (Nm or less)	LEY25	LEY32	LEY63	LEY100
	1.1	1.4	2.8	4.6

- When attaching a bracket or nut to the end of the rod, ensure the piston rod is fully retracted.



- When installing, inspecting or performing maintenance on the product, be sure to turn off the power supplies. Then, lock it so it cannot be tampered with while work is happening.

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’s specifications.
- Prevent foreign particles from entering the product.

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.
  Do not scratch or dent the sliding parts of the table or mounting face etc., by striking or holding them with other objects. The components are manufactured to precise tolerances, so that even a slight deformation may cause faulty operation or seizure.
- 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.
- 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.
- Allow sufficient space for maintenance and inspection.

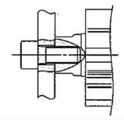
3 Installation (continued)

3.3 Mounting (continued)

⚠ Caution

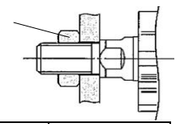
- **When mounting the product, use screws with adequate length and tighten them to the recommended torque.**
  Tightening with larger torque than the specified range may cause mal-function while the tightening with smaller torque can allow the displacement of actuator position. In extreme conditions the actuator could become detached from it’s mounting position.

Work fixed/Rod end female thread



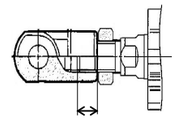
Model	Screw	Max. tightening torque [Nm]	Max. thread depth L [mm]	Rod end width across flats [mm]
LEY25	M8 x 1.25	12.5	13	17
LEY32	M8 x 1.25	12.5	13	22
LEY63	M16 x 2	106	21	36
LEY100	M20x2.5	204	27	27

Work fixed/Rod end male thread



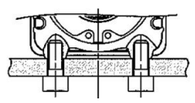
Model	Screw	Max. tightening torque [Nm]	Max. thread length L [mm]	Rod end width across flats [mm]
LEY25	M14 x 1.5	65.0	20.5	17
LEY32	M14 x 1.5	65.0	20.5	22
LEY63	M18 x 1.5	97	26	36

Model	Rod end nut		thread depth of bracket[mm]
	Width across flats [mm]	Length [mm]	
LEY25	22	8	14
LEY32	22	8	14
LEY63	27	11	18



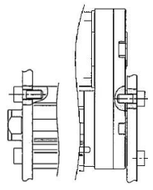
Tighten the product mounting screws to the specified torque.
Tightening to a torque over the specified range can cause operation failure, and insufficient torque can cause displacing or dropping of the attachment.

Mounting / Screw bottom tapped style
(When “Body bottom tapped” is selected)



Model	Screw	Max. tightening torque [Nm]	Max. thread depth L [mm]
LEY25	M5 x 0.8	3.0	6.5
LEY32	M6 x 1.0	5.2	8.5
LEY63	M8x1.25	12.5	10
LEY100	M10x1.5	24.5	17

Mounting / Rod side - Head side tapped style



Model	Screw	Max. tightening torque [Nm]	Max. thread depth L [mm]
LEY25	M5 x 0.8	3.0	8
LEY32	M6 x 1.0	5.2	10
LEY63	M8 x 1.25	12.5	16

3 Installation (continued)

- When using the product with IP65 or equivalent specifications, be sure to mount the tubing to the vent hole, and then place the end of the tubing in an area where it is not exposed to dust or water. If the actuator is used without the tubing to the vent hole, water or dust may enter the inside of the actuator, resulting in a malfunction.
- When mounting vertically and using the product facing upwards in an environment where water is present, take necessary measures to prevent water from splashing on the rod cover, because water will accumulate on the rod seal due to the structure of the product.
- Cannot be used in an environment where oil such as cutting oil splashes or it is constantly exposed to water. Take appropriate protective measures.

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 catalogue for details.
- The recommended grease is lithium grade No.2

Applied Region	Grease Pack Number	Weight [g]
Piston rod Guide	GR-S-010	10
	GR-S-020	20

- For products which include a “25A-” prefix the recommended grease is low condensation grease.

Applied Region	Grease Pack Number	Weight [g]
Piston rod Guide	GR-D-010	10

3.5 Wiring

⚠ Warning

- Adjustment, mounting or wiring changes should not be carried out before disconnecting the power supply to the product.
  Electric shock, malfunction and damage can result.
- Do not disassemble the cables.
- Use only specified cables.
  Use only specified cables otherwise there may be risk of fire and damage.
- Do not connect or disconnect the wires, cables and connectors when the power is turned on.

⚠ Caution

- Wire the connector correctly and securely.
  Check the connector for polarity and do not apply any voltage to the terminals other than those specified in the Operation Manual.
- 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.

3 Installation (continued)

- Select “Robotic cables” in applications where cables are moving repeatedly (encoder/ motor/ lock).
  Refer to the relevant operation manual for the bending life of the cable.
- Confirm correct insulation.
  Poor insulation of wires, cables, connectors, terminals etc. can cause interference with other circuits. Also there is the possibility that excessive voltage or current may be applied to the product causing damage.
- Refer to the auto switch references in “Best Pneumatics“ when an auto switch is to be used

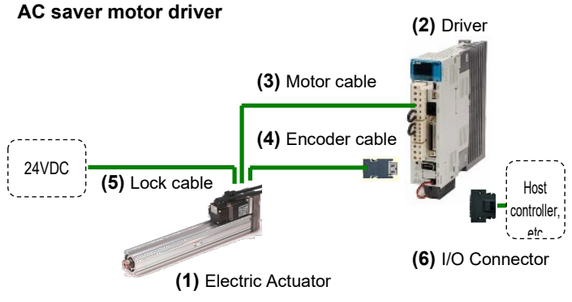
3.6 Actuator Ground connection

⚠ Caution

- The Actuator must be connected to ground to shield the actuator from electrical noise. The screw and cable with crimping terminal and toothed washer should be prepared separately by the user.

3.7 Wiring of Actuator to Controller

AC saver motor driver



⚠ Warning

Use only specified cables otherwise there may be risk of fire and damage

4 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.

5 Outline Dimensions

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

6 Maintenance

6.1 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.
- Do not disassemble the product, unless required by installation or maintenance instructions.
- 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.

6.2 Periodical Maintenance

- Maintenance should be performed according to the table below:

	Appearance Check	Belt Check
Inspection before daily operation	✓	
Inspection every six months*	✓	✓
Inspection every 1,000 km*	✓	✓
Inspection every 5 million cycles*	✓	✓

**whichever of these occurs first.*

- Following any maintenance, always perform a system check. Do not use the product if any error occurs, as safety cannot be assured if caused by any un-intentional malfunction.

6.3 Appearance Check

- The following items should be visually monitored to ensure that the actuator remains in good condition and there are no concerns flagged;
  - Loose Screws,
  - Abnormal level of dust or dirt,
  - Visual flaws / faults,
  - Cable connections,
  - Abnormal noises or vibrations.

6 Maintenance (continued)

6.4 Belt Check

- If one of the 6 conditions below are seen, do not continue operating the actuator, contact SMC immediately.
  - **Tooth shaped canvas is worn out.**
    Canvas fibre becomes “fuzzy”, rubber is removed, and the fibre gains a white colour. The lines of fibre become very unclear.

  - **Peeling off or wearing of the side of the belt.**
    The corner of the belt becomes round and frayed, with threads beginning to stick out.
  - **Belt is partially cut.**
    Belt is partially cut. Foreign matter could be caught in the teeth and cause flaws.

  - **Vertical line of belt teeth.**
    Flaw which is made when the belt runs on the flange.
  - **Rubber back of the belt is softened and sticky.**
  - **Crack on the back of the belt.**

7 Limitations of Use

7.1 Limited warranty and disclaimer/compliance requirements

- Refer to Handling Precautions for SMC Products.

8 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.

9 Contacts

Refer to www.smcworld.com or www.smc.eu for your local distributor / importer.

SMC Corporation

URL : http// www.smcworld.com (Global) http// www.smceu.com (Europe)
'SMC Corporation, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan

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