



Contact our sales office regarding a delivery date or a price since this is a special model.

SP147X-019E-B  
RP: SX

**SMC** P.G.Information (Specialized Product)

SMC Corporation  
4-14-1, SOTO-KANDA,  
CHIYODA-KU,  
TOKYO 101-0021, JAPAN  
URL: <http://www.smcworld.com>

## Electric Stopper Cylinder / LEBH-X3 Series

Usable in stopper applications in conveyor lines without an air source!

### ■ Features

- **ON-OFF control only**  
(no controller)  
⇒ Simple setup and reduced wiring work-hours  
⇒ No need of controller installation space

- An adjustable shock absorber with soft stop  
⇒ Drag value is changeable with adjustable dial

- Holding power at lowered-end **4.8W**  
\* Inrush power 48W

- Maximum weight of transferred object

Size	*Max. weight of transferred object (kg)
50	400
63	520
80	800

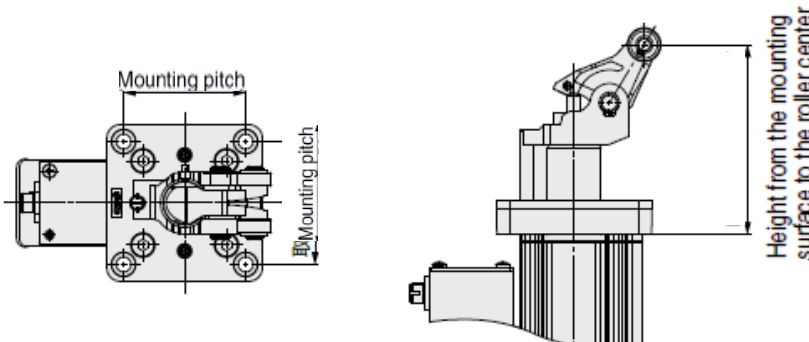
\* Friction coefficient  $\mu = 0.1$

Auto switch  
D-M9 series mountable



- Maximum speed of transferred object **40m/min**

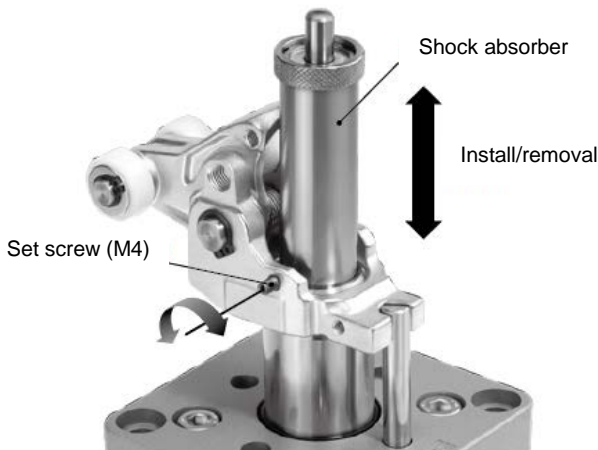
- Mounting compatible with air cylinder (Heavy duty stopper cylinder/RS2H)



The mounting hole pitch and the height from the mounting surface to the center of the roller are the same as the heavy duty stopper cylinder/RS2H).

● **Easy replacement of shock absorbers**

Replaceable just by loosening the set screw



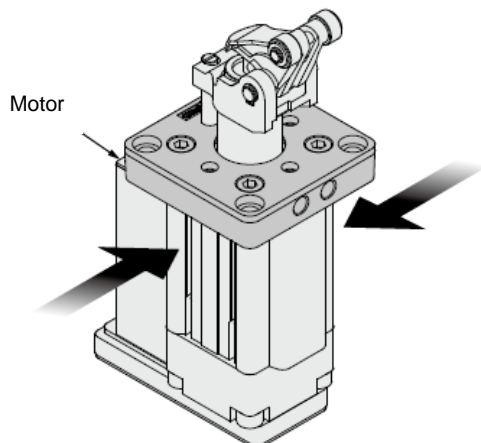
● **The roller can be selected from two materials to suit the application.**

**(Resin, Carbon steel)**



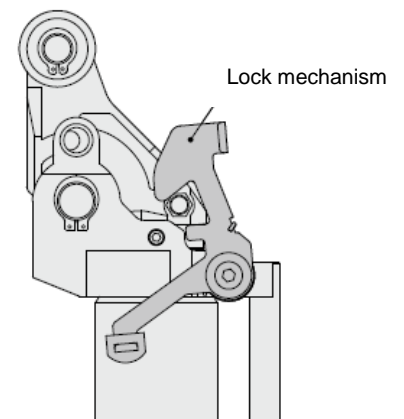
● **Compact auto switch (D-M9□) can be Mounted to two sides.**

Compact auto switch can be directly mounted to round switch mounting groove.



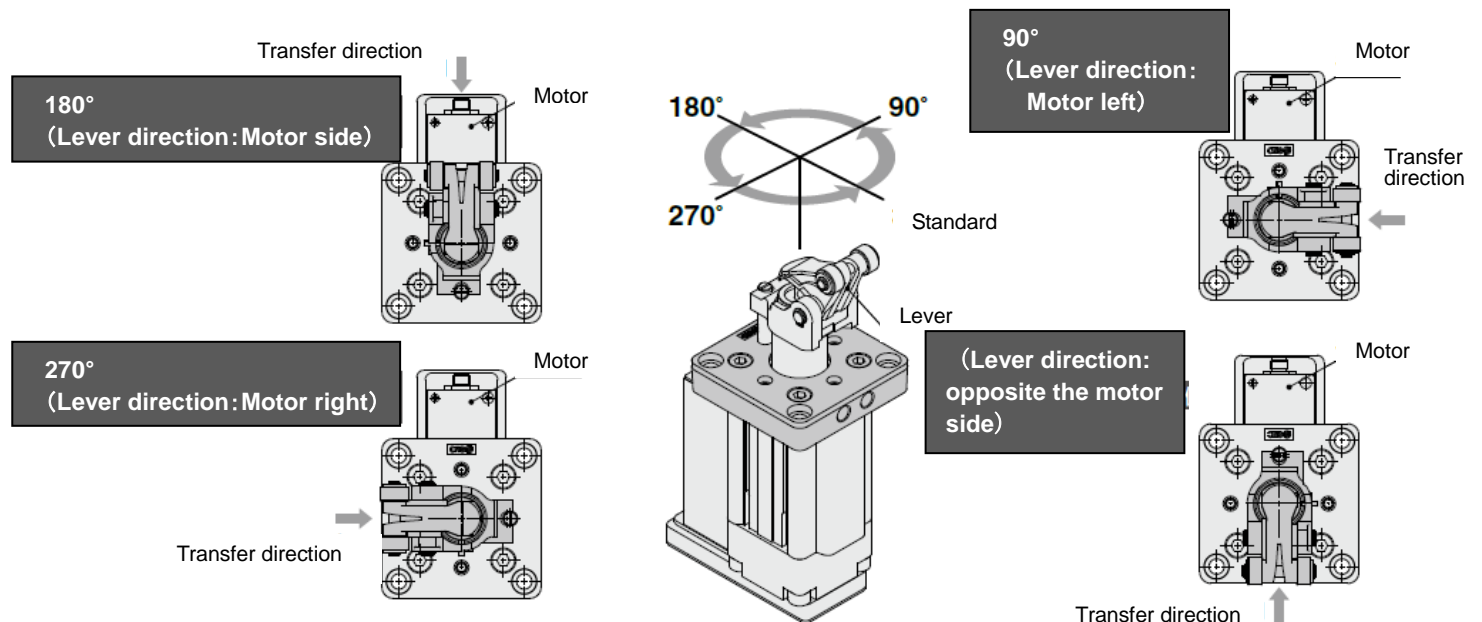
● **Better handling and visibility of the lock Mechanism (Option)**

The shape of the lock is changed. Easy to unlock manually, and instantly see whether it is locked.



● **The roller lever direction can be changed in 90° steps.**

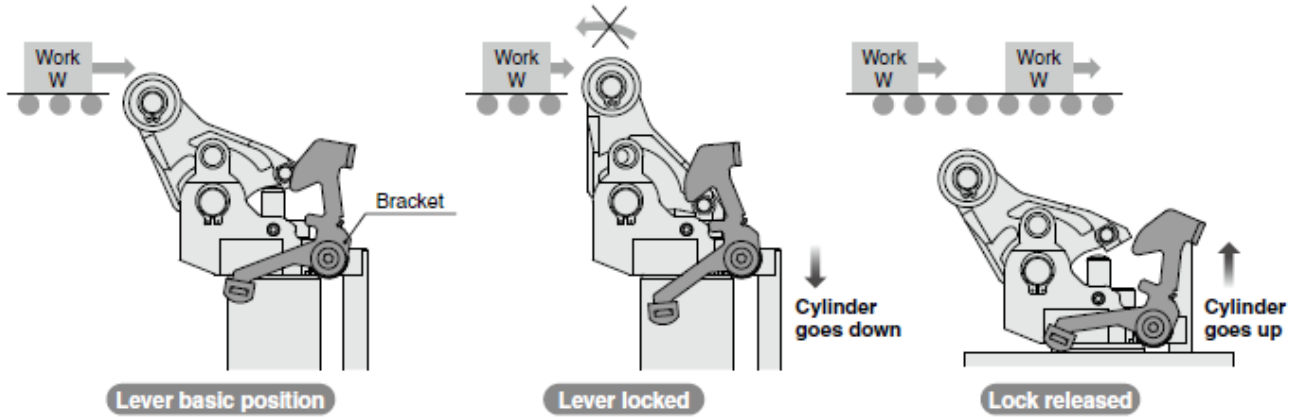
The roller lever of the stopper can be rotated 360° in 90° increments to adapt direction of the workpiece.



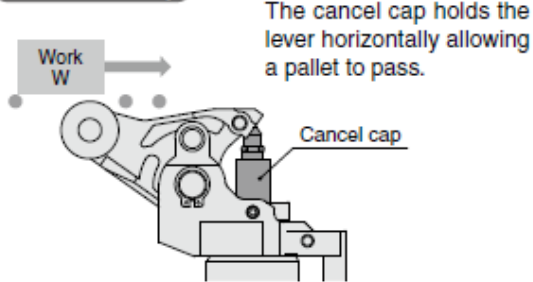
## Option

### With lock mechanism

Even in the case of a light pallet, the lock mechanism prevents the pallet from rebounding due to spring.

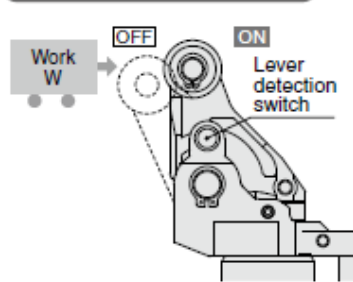


### With cancel cap



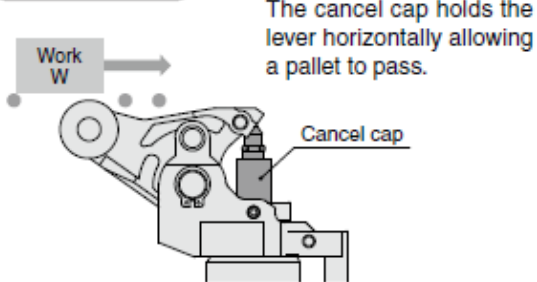
The cancel cap holds the lever horizontally allowing a pallet to pass.

### With lever detection switch



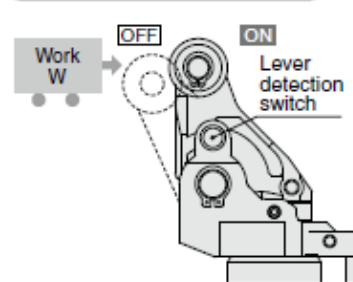
When the lever stands erect (when the energy is absorbed), the switch turns on a signal that determines the pallet has reached the stop position. (For details of lever detection switch, refer to page 1545.)

### With cancel cap



The cancel cap holds the lever horizontally allowing a pallet to pass.

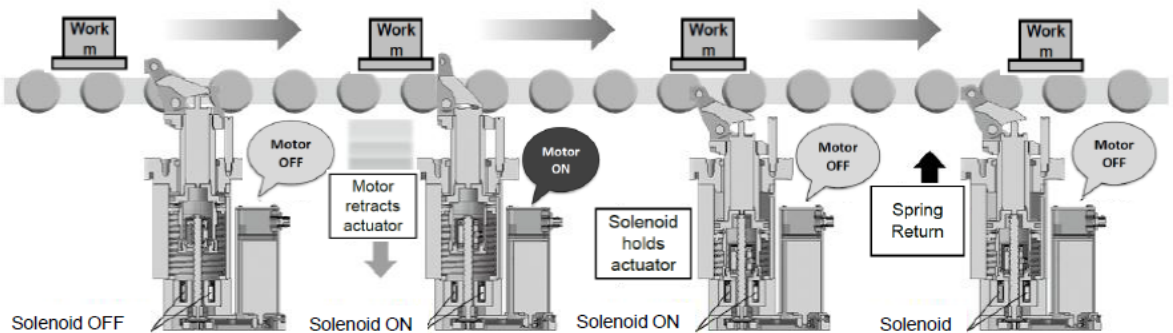
### With lever detection switch



When the lever stands erect (when the energy is absorbed), the switch turns on a signal that determines the pallet has reached the stop position. (For details of lever detection switch, refer to page 1545.)

## Operating principles

When de-energized (power OFF), raised-end is held with spring force only (operation 1) When energized (power ON), the roller starts to descend powered by the motor and by the coil. (operation 2) After the roller reaches the retracted end, the motor stops automatically and it is held by the solenoid force only (operation 3). When power is OFF, it starts to rise with spring force (operation 4).



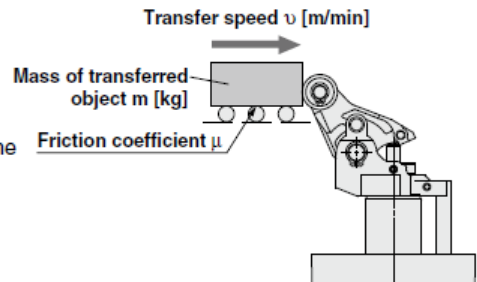
	Operation 1. Holding raised-end	Operation 2. Start descending	Operation 3. Holding lowered-end	Operation 4. Start rising
Power	OFF	ON	ON	OFF
Motor	OFF	ON	OFF	OFF
Solenoid	OFF	ON	ON	OFF
Power consumption (W)	48			
	4.8			

# Model Selection

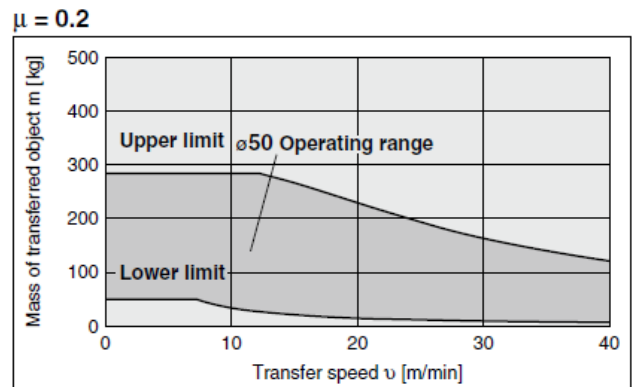
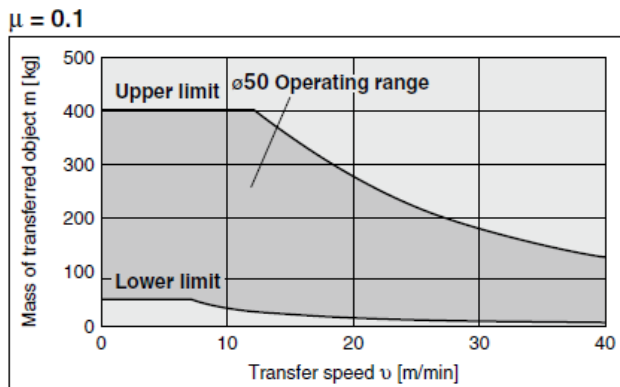
## Operating Range

(Example)  
 Mass of transferred object: 300 kg,  
 Transfer speed: 20 m/min  
 Friction coefficient:  $\mu = 0.1$

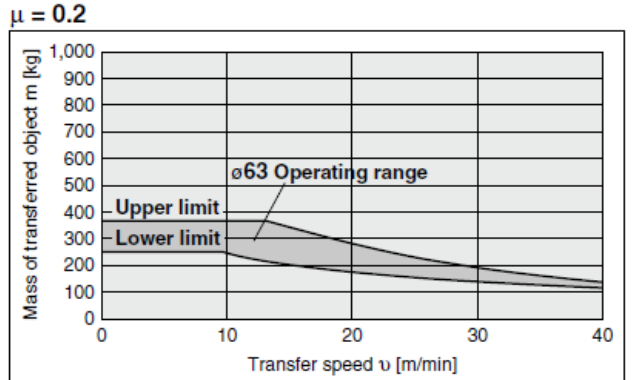
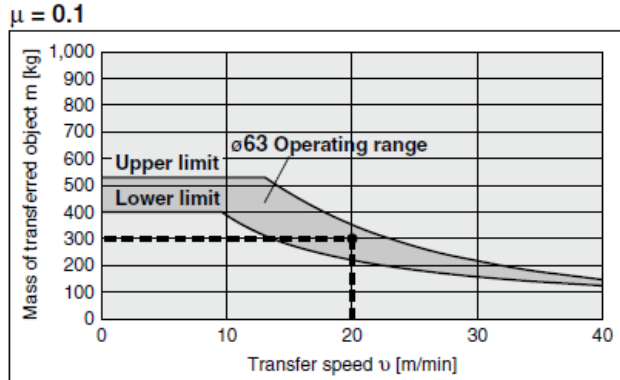
(How to read graph)  
 In following graph, find the intersection of the vertical axis representing the mass of 300 kg and the horizontal axis representing the transfer speed of 20 m/min. And select the bore size  $\phi 63$  positioned within the operating range of the cylinder.



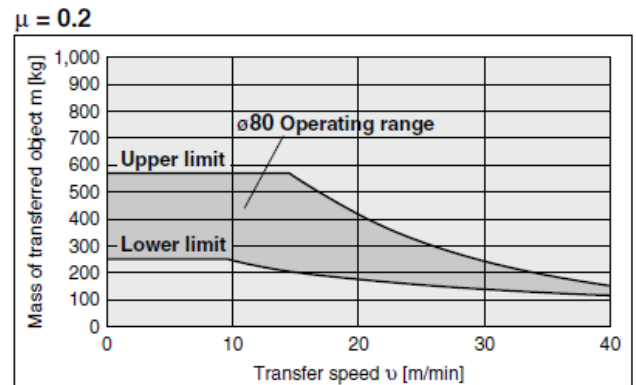
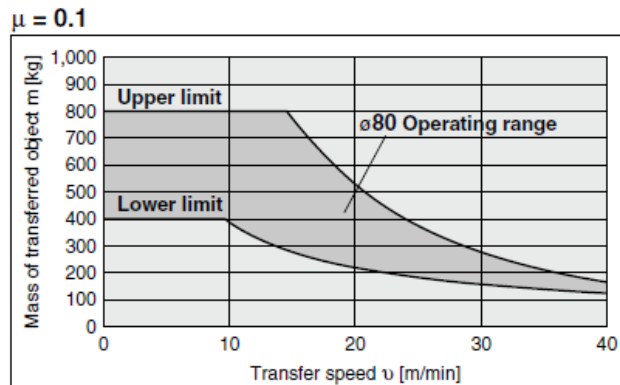
**LEBH50□K-30T□-□-X3** ※The graphs indicate the values at normal temperature.(20 to 25°C)



**LEBH63-30T□-□-X3** ※The graphs indicate the values at normal temperature.(20 to 25°C)



**LEBH80-30T□-□-X3** ※The graphs indicate the values at normal temperature.(20 to 25°C)



# How to Order

**LEBH 63 EK-30 TL - X3**

Size

50
63
80

Lever direction

E	Opposite side of motor  Motor Transfer	L	Motor left  Motor Transfer
R	Motor right  Motor Transfer	M	Motor side  Motor Transfer

Option

Nil	Without option
D	With lock mechanism
C	With cancel cap
S	With lever detection switch

Note1) Options can be combined.  
Indicate the option symbols according to the priority order of D,C,S.

Roller material

L	Resin
M	Carbon steel

Action

T	Single acting/spring extend
---	-----------------------------

Stroke

30	30 (LEBH50/63)
40	40 (LEBH80)

Lead

K	Basic
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# Specifications

Model		LEBH50	LEBH63	LEBH80
Actuator specification	Stroke [mm]	30		40
	Installation orientation	Vertical (extending direction: top)		
	Rising (extending operation) time [sec]	1 or less (At 20°C)		1.5 or less (At 20°C)
	Descending (retracting operation) [sec]	1 or less (No lateral load)		1.5 or less (No lateral load)
	Action <sup>Note 1)</sup>	Single acting / Spring extend		
	Rod end configuration	Lever with built-in shock absorber		
	Actuation type	Ball screw + Belt		
	Operating frequency [c.p.m]	3 or less		
	Operating temp. range [°C]	5 to 40		
	Operating humidity range [%RH]	90 or less (No freezing)		
Weight [kg]	3.8 (Without option)	5.5 (Without option)	9.3 (Without option)	
Electric specifications	Motor size	φ38		φ55
	Motor type	DC Motor		
	Rated voltage [V] <sup>Note7)</sup>	24 VDC +/- 10%		
	Starting power [W]	48		
	Holding power at lowered-end [W] <sup>Note2)</sup>	4.8		

Note 1) This actuator holds the raised-end when de-energized. (Spring return)

Note 2) This actuator holds the lowered-end with solenoid only when de-energized.

Note 3) This actuator can be used in vertical directions only.

Note 4) The motor will be turned OFF automatically by the internal circuit board after the actuator stops.

A dedicated controller or driver is not necessary.

Note 5) The applicable auto switch is the M9\* series. (Please refer to Web catalog or Best Pneumatics 2 for details.

Note 6) A short break function is included with this cylinder for protection.

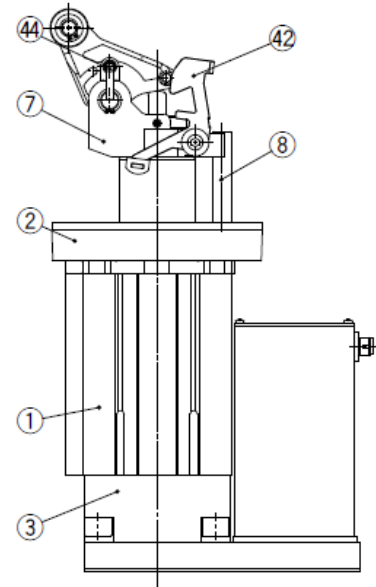
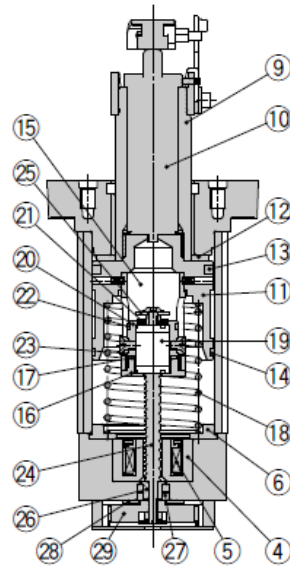
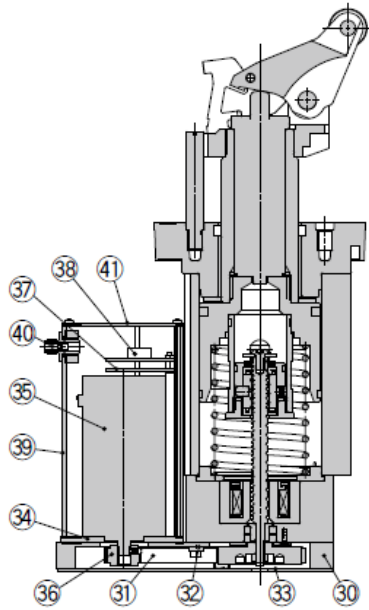
\* Short break function: a function that slows the driving motor down if the rotation speed is over the designated value.

Note 7) Beware of inrush current of approx. 40A when the power supply is turned on.

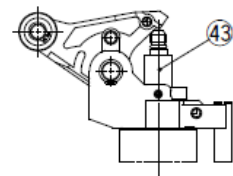
Choose the equipment used when the power supply is turned such as relay considering the inrush current.



# Construction



When cancel cap is used



## Component Parts

No.	Description	Material	Note
1	Cylinder tube	Aluminum alloy	Anodized
2	Rod cover assembly	—	
3	Housing	Aluminum alloy	Anodized
4	Frame	Carbon steel	Nickel plating
5	Brake assembly	—	
6	Spacer	Aluminum alloy	
7	Lever holder B assembly	—	
8	Guide rod	Carbon steel	
9	Piston rod	Carbon steel	
10	Shock absorber	—	
11	Piston	Aluminum alloy	
12	Bumper A	Urethane	
13	Plastic magnet	—	
14	Wear ring	Synthetic resin	
15	Piston tube	Aluminum alloy	Anodized
16	Piston cap	Carbon steel	Chromated
17	Bumper	Urethane	
18	Spring	Steel wire	Chromated
19	Ball screw nut assembly		
20	Nut guide	Aluminum alloy	
21	Urethane washers	Urethane	
22	Guide rings	Synthetic resin	
23	Roller A	Synthetic resin	
24	Ball screw shaft	Carbon steel	
25	Washers	Stainless steel	
26	Bearing spacer	Stainless steel	
27	Bearing	—	
28	Bearing stopper	Aluminum alloy	
29	Speed reduction pulley	Aluminum alloy	
30	Return box	Aluminum alloy	Anodized

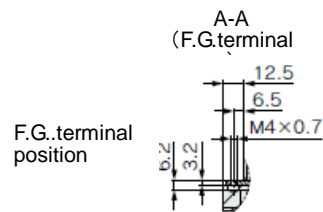
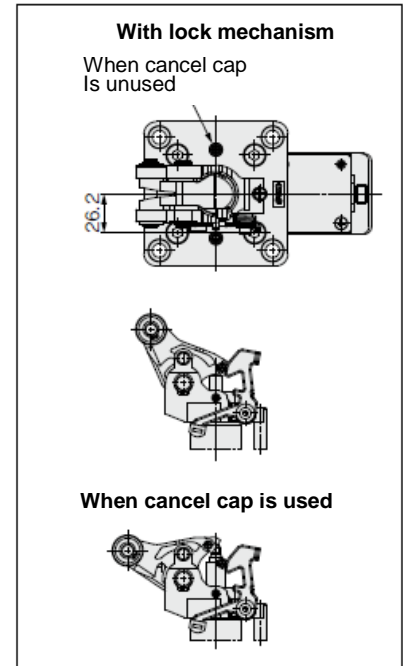
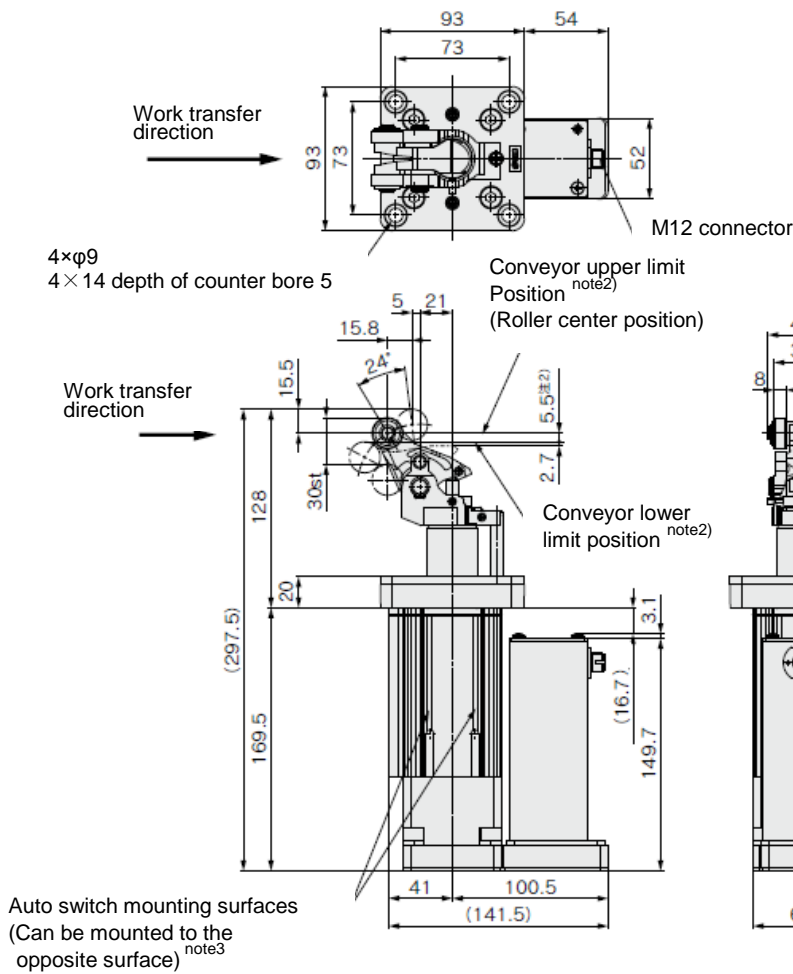
No.	Description	Material	Note
31	Belt	—	
32	Cable clips	Synthetic resin	
33	End plate	Aluminum alloy	Anodized
34	Motor plate	Carbon steel	Chromated
35	Motor assembly	—	
36	Pulley	Aluminum alloy	
37	Intermediate plate	Aluminum alloy	
38	Base plate assembly	—	
39	Motor cover	Aluminum alloy	Anodized
40	Connector assembly	—	
41	Motor end plate	Aluminum alloy	Anodized
42	Lock mechanism assembly	—	Used for -D (Lock type)
43	Cancel cap assembly	—	Used for -C (Cancel cap type)
44	Proximity switch	—	Used for the "with lever detection switch" type

## Replacement Parts/Shock Absorber

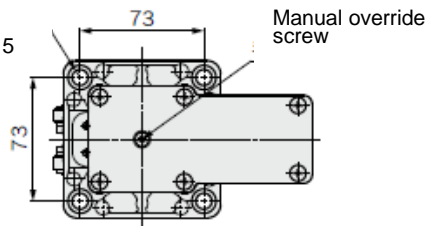
Model	Order no.
LEBH50	RS2H-R50
LEBH63	RS2H-R63
LEBH80	RS2H-R80

# Dimensions

## LEBH50□K-30T□-□-X3



4×φ9  
4×14 depth of counter bore 5

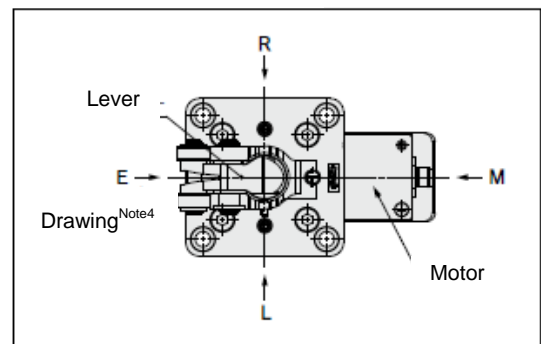


Note 1) Please note that the thickness of a mounting plate should be 10mm or less when this cylinder is mounted from the top (lever side) and ensure that the mounting plate does not interfere with the lever.

Note 2) Please adjust the conveyor height within the range of the lower limit position to the upper limit position.

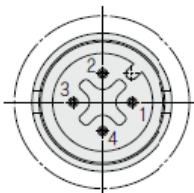
Note 3) The auto switch mounting surface is indicated above regardless of lever direction.

### Work transfer direction



Note 4) Lever direction of this drawing is opposite the motor side: E type

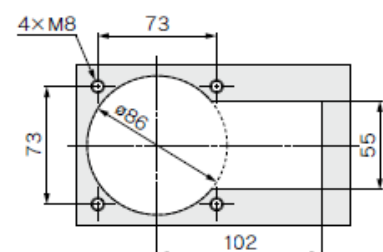
### M12 connector



### Connector specification

Pin No.	Description	Cable color	Function
1	—	—	Unused
2	—	—	
3	OV	Blue	Operating voltage
4	DC24V	Black	

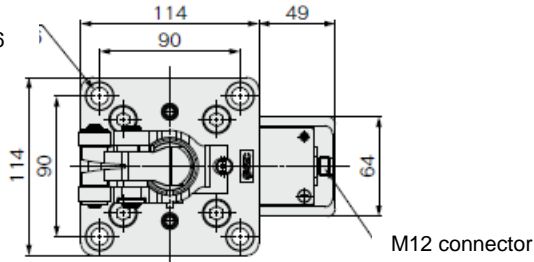
### Recommended mounting plate and drilling



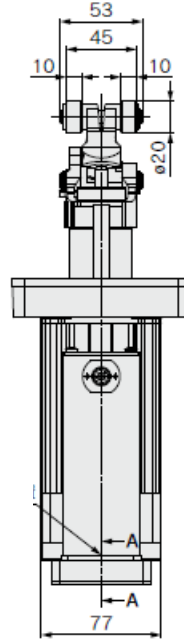
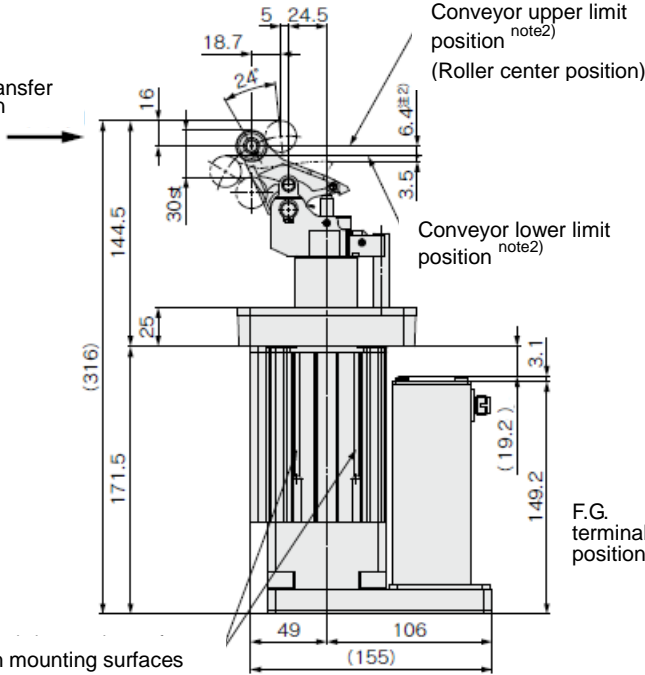
# LEBH63□K-30T□-□-X3

4×φ11  
4×18 depth of counter bore 6

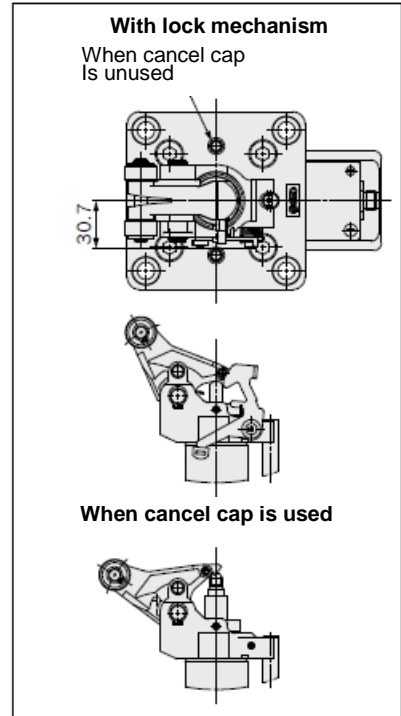
Work transfer direction



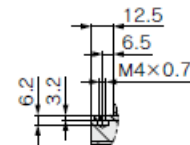
Work transfer direction



Auto switch mounting surfaces  
(Can be mounted to the opposite surface)  
note3

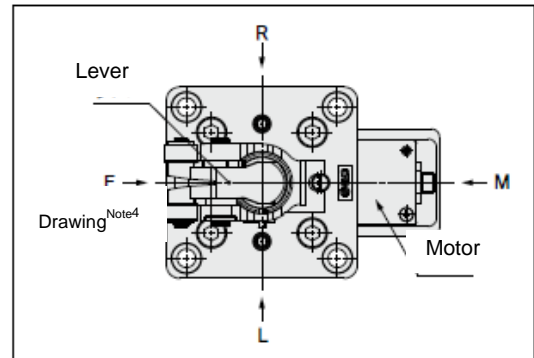
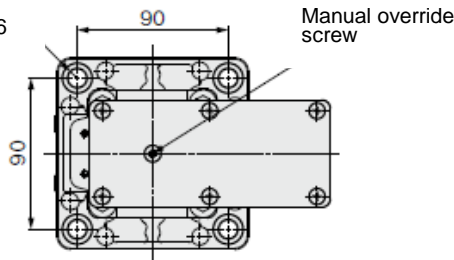


A-A (F.G.terminal)



## Work transfer direction

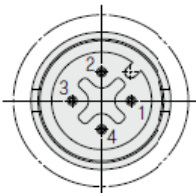
4×φ11  
4×18 depth of counter bore 6



- Note 1) Please note that the thickness of a mounting plate should be 10mm or less when this cylinder is mounted from the top (lever side) and ensure that the mounting plate does not interfere with the lever.
- Note 2) Please adjust the conveyor height within the range of the lower limit position to the upper limit position.
- Note 3) The auto switch mounting surface is indicated above regardless of lever direction.

Note 4) Lever direction of this drawing is opposite the motor side: E type

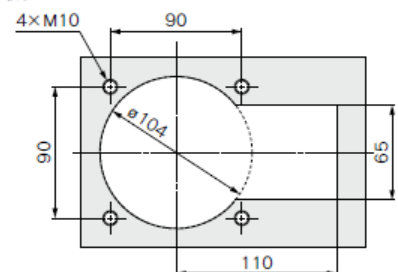
## M12 connector



## Connector specification

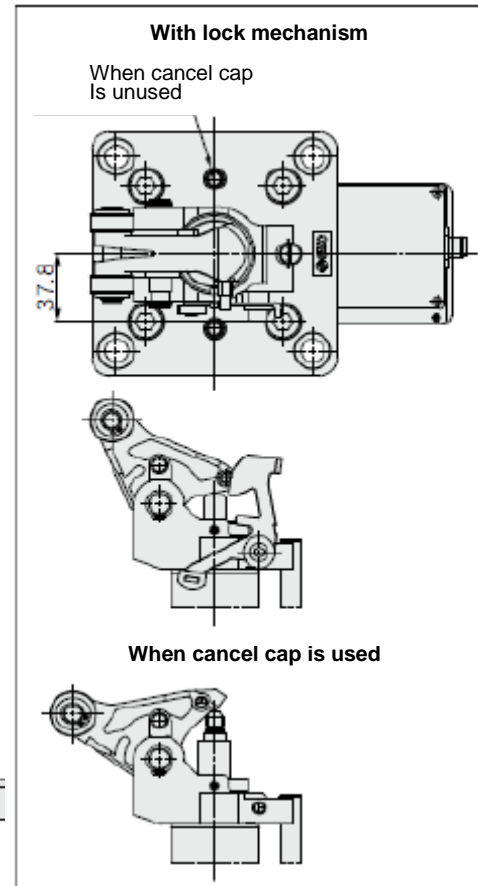
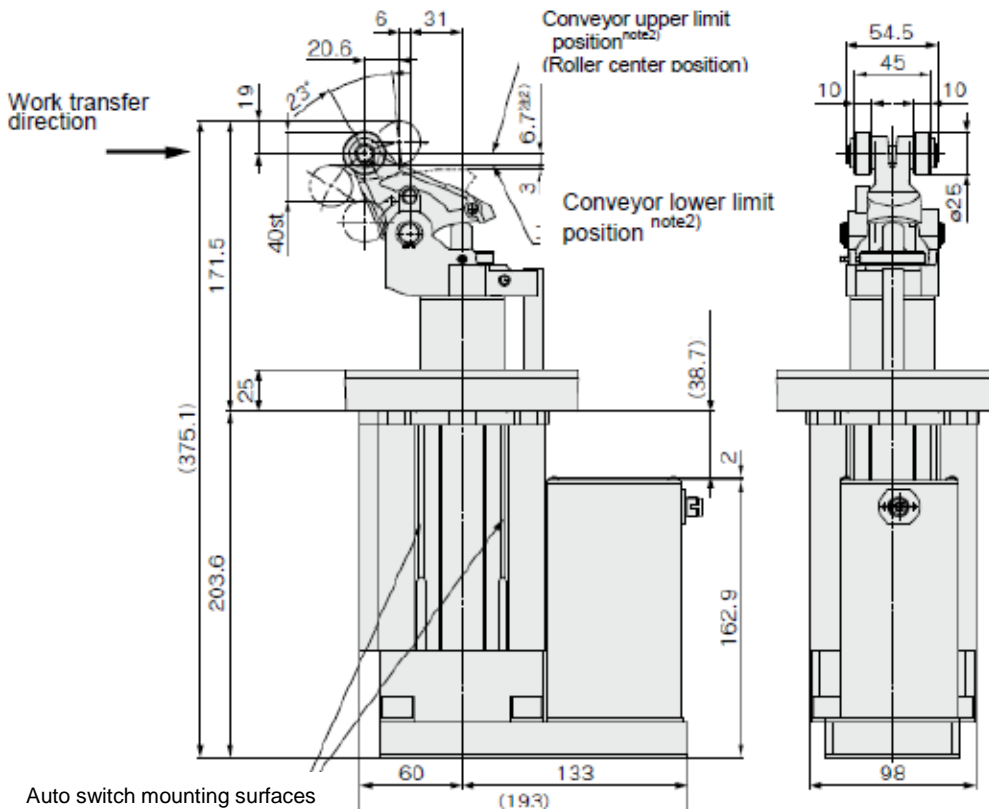
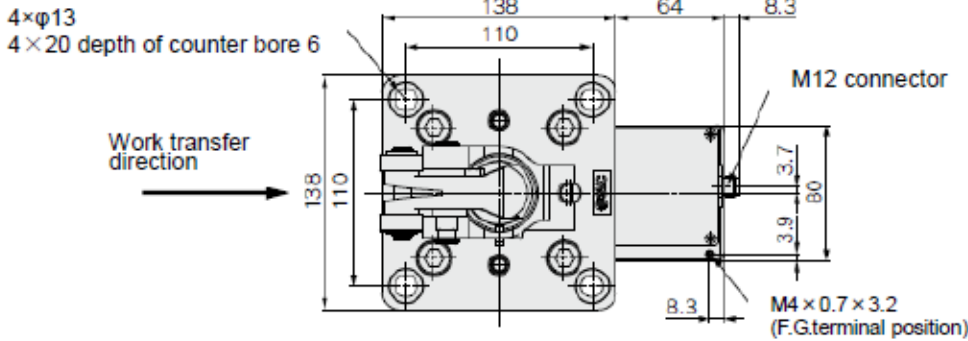
Pin No.	Description	Cable color	Function
1	—	—	Unused
2	—	—	
3	OV	Blue	Operating voltage
4	DC24V	Black	

## Recommended mounting plate and drilling



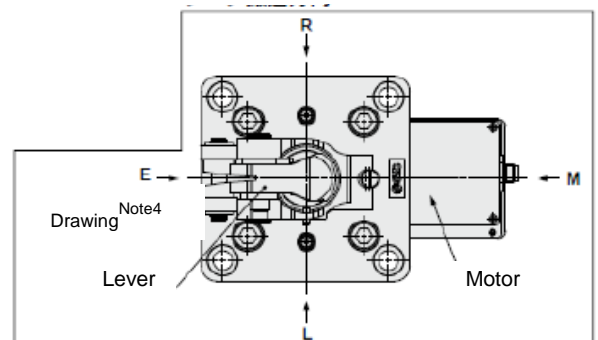


# LEBH80□K-40T□-□-X3



- Note 1) Please note that the thickness of a mounting plate should be 10mm or less when this cylinder is mounted from the top (lever side) and ensure that the mounting plate does not interfere with the lever.
- Note 2) Please adjust the conveyor height within the range of the lower limit position to the upper limit position.
- Note 3) The auto switch mounting surface is indicated above regardless of lever direction.

## Work transfer direction

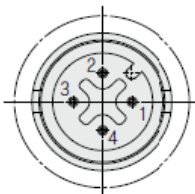


Note 4) Lever direction of this drawing is opposite the motor side: E type

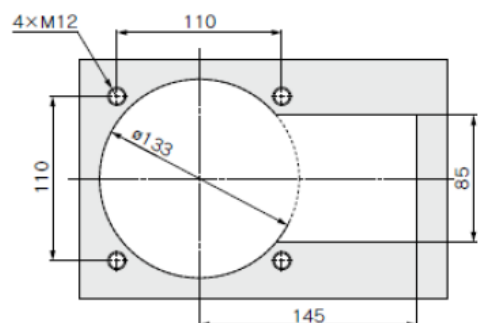
## M12 connector

### Connector specification

Pin No.	Description	Cable color	Function
1	—	—	Unused
2	—	—	
3	OV	Blue	Operating voltage
4	DC24V	Black	



## Recommended mounting plate and drilling



# Lever detection switch (Proximity switch) / E2E-X2D1-N

## Proximity switch specification / OMRON Corporation

Model	E2E-X2D1-N
Output modes	Normally open
Power supply voltage (Operating voltage range)	12 to 24VDC (10 to 30VDC), Ripple(p-p) 10% or less
Current consumption (Leakage current)	0.8 mA or less
Response frequency	1.5kHz
Control output (chest)	3 to 100mA
Indicator light	Operation indication (Red LED), Set operation indication (Green LED)
Ambient temperature	-25 to 70°C (No freezing)
Ambient humidity	35 to 95%RH
Residual voltage <sup>Note1)</sup>	3V or less
Withstand voltage <sup>Note2)</sup>	AC1000V
Vibration	Endurance 10 to 55 Hz, Duplex amplitude 1.5 mm X,Y,Z direction each 2h
Impact	Endurance 500 m/s <sup>2</sup> (approx. 50 G), X, Y, Z direction each 10 times
Enclosure	IEC standards IP67 (Immersion proof shape and oil proof shape by JEM standards IP67G)

Note 1) At load current 100 mA and cord length of 2 m

Note 2) Between case and whole charging part

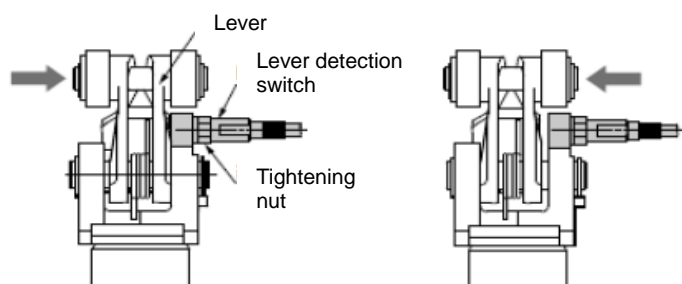
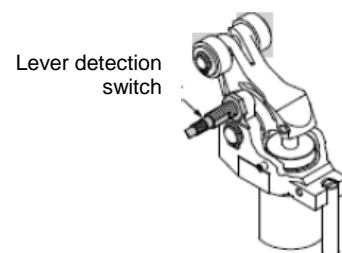
### <Mounting position>

Confirm that the proximity switch indicator LED turns green when the lever is pushed towards the proximity switch side. (Figure 1)

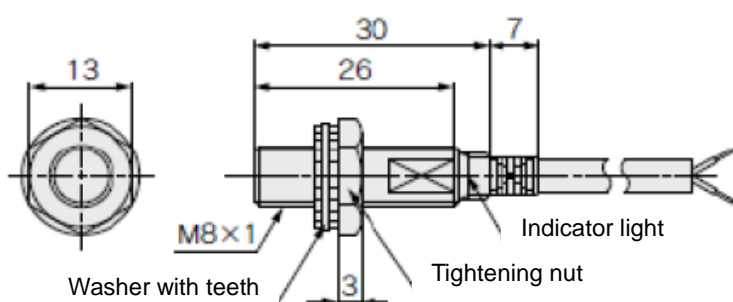
Confirm that the proximity switch indicator LED turns green when the lever is pushed towards the side opposite from the proximity switch. (Figure 2)

Then, rotate the lever 90° to confirm that the indicator LED of the proximity switch (red, green) does not turn on.

Fix the cylinder with the included screws after confirming that there is no interference between the lever and the proximity switch.

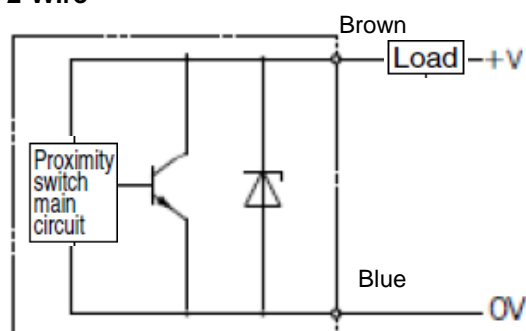


### Dimensions



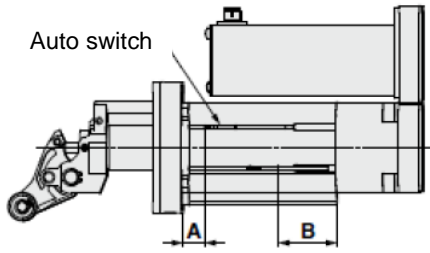
### Output Circuit

#### 2-Wire

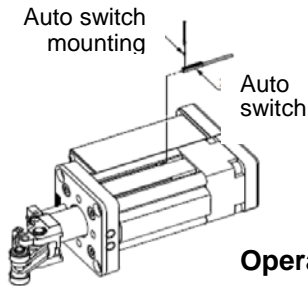


## Auto Switch mounting

### Auto switch proper mounting position (Detection at Stroke End)



### Auto switch mounting dimensions



### Tightening Torque for Auto Switch Mounting Screw

Auto switch model	Tightening Torque (N·m)
D-M9 D-M9□W D-M9□V D-M9□WV	0.05~0.15

### Auto Switch Proper mounting Position

	Auto switch model (mm)			
	D-M9□		D-M9□V	
	D-M9□W		D-M9□WV	
	A	B	A	B
LEBH50	16.1	40.9	16.1	42.9
LEBH63	15.6	45.4	15.6	47.4
LEBH80	27.1	51.2	27.1	53.2

Note) Adjust the auto switch after confirming the Operating conditions in the actual setting

### Operating Range

Auto switch model	Model (mm)		
	LEBH50	LEBH63	LEBH80
D-M9 D-M9□W D-M9□V D-M9□WV	6	6.5	7

\*Since the operating range is provided as a guideline Including hysteresis, it cannot be guaranteed. (assuming approximately ±30% dispersion) It may vary substantially depending on an ambient environment.

⚠ Caution To ensure the safest possible operation of this product, please be sure to thoroughly read the "Safety Instructions" in our "Best Pneumatics" catalog before use.