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

SP147X-019E-1
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

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

●Maximum weight of transferred object

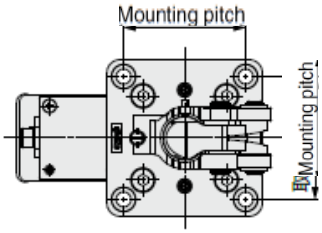
Size	*Max. weight of transferred object (kg)
50	400
63	520
80	800

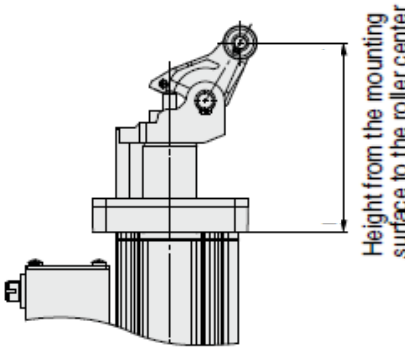
* Friction coefficient μ = 0.1

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

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

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

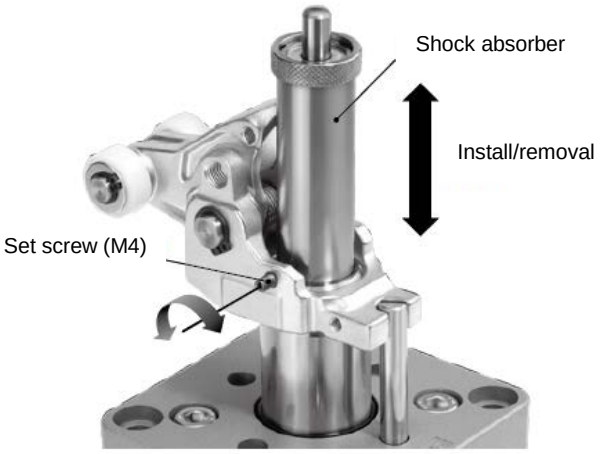




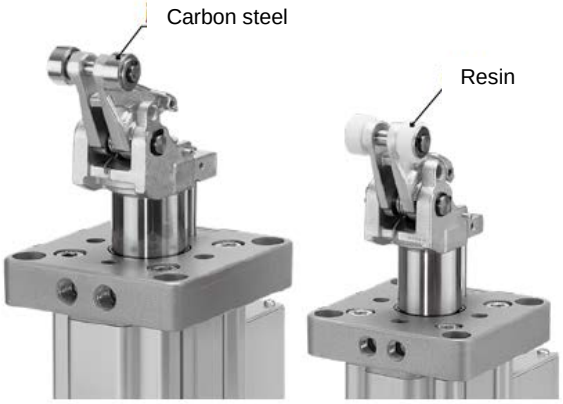
The mounting hole pitch and the height from the mounting surface to the center of the roller are the same as the heavy duty stopper cylinder/RS2H).

●Easy replacement of shock absorbers

Replaceable just by loosening the set screw

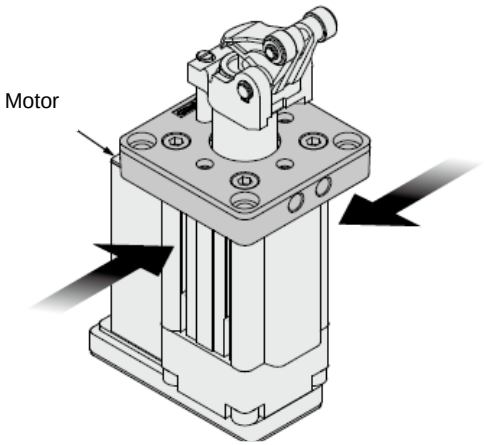


●The roller can be selected from two materials to suit the application. (Resin、Carbon steel)



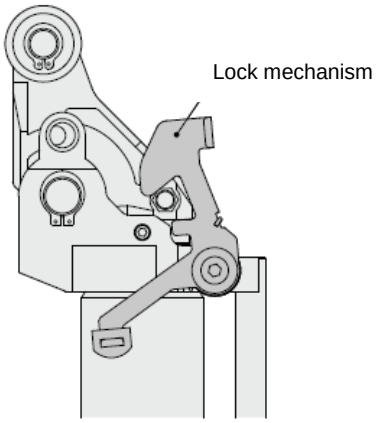
●Compact auto switch (D-M9□) can be Mounted to two sides.

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



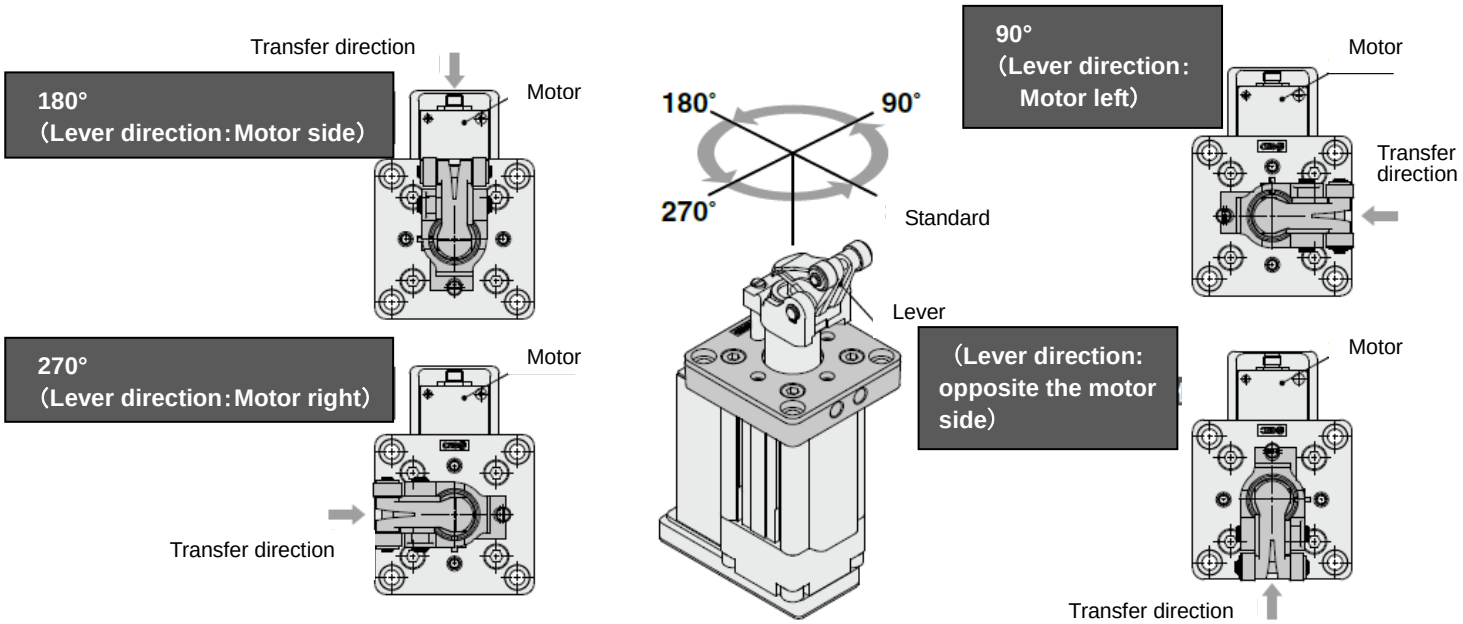
●Better handling and visibility of the lock Mechanism (Option)

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.

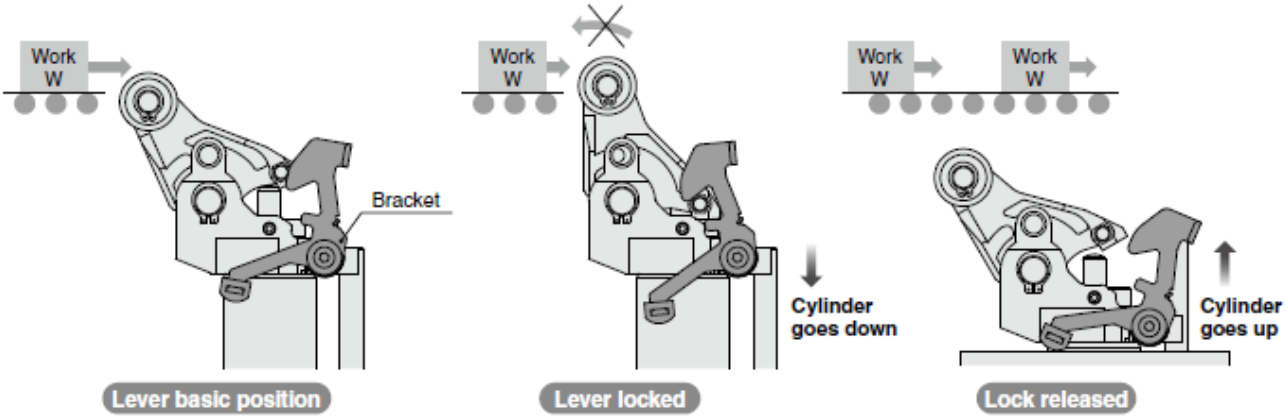
The roller lever of the stopper can be rotated 360° in 90° increments to adapt direction of the workpiece.



Option

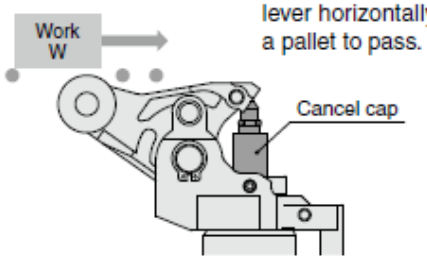
With lock mechanism

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



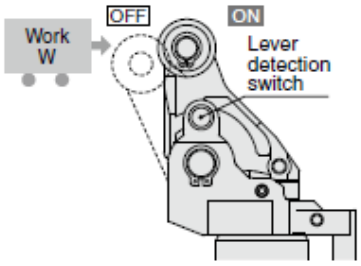
With cancel cap

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.)



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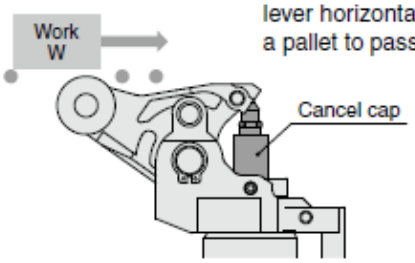

With lever detection switch

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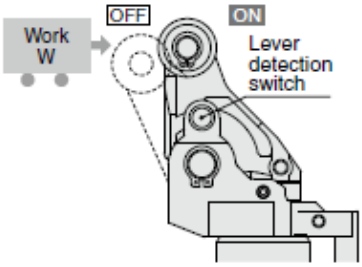
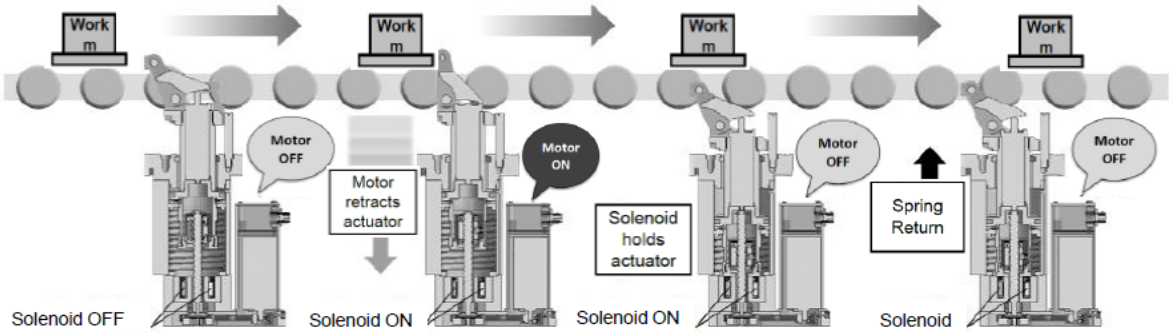


Operating principles

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).



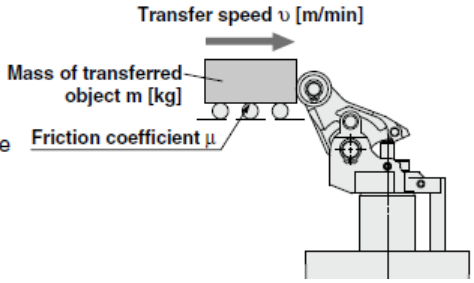
	Operation 1. Holding raised-end	Operation 2. Start descending	Operation 3. Holding lowered-end	Operation 4. Start rising
Power	OFF	ON	ON	OFF
Motor	OFF	ON	OFF	OFF
Solenoid	OFF	ON	ON	OFF
Power consumption (W) 48 / 4.8	4.8	48	4.8	4.8

Model Selection

Operating Range

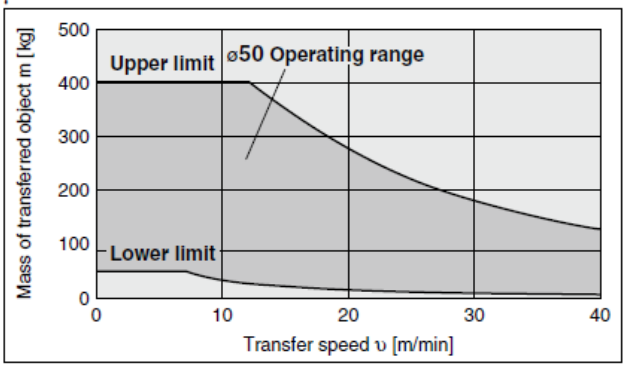
(Example)
Mass of transferred object: 300 kg,
Transfer speed: 20 m/min
Friction coefficient: μ = 0.1

(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 ø63** positioned within the operating range of the cylinder.

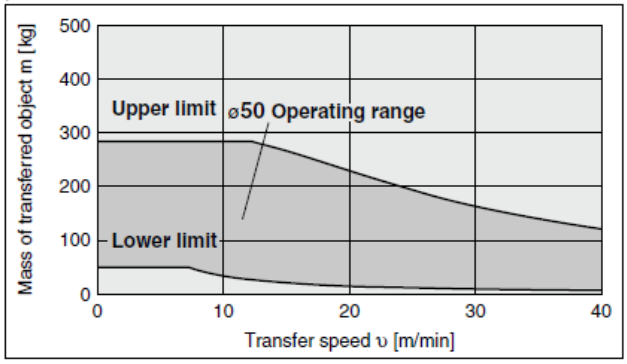


LEBH50□K-30T□-□-X3 ※The graphs indicate the values at normal temperature.(20 to 25℃)

μ = 0.1

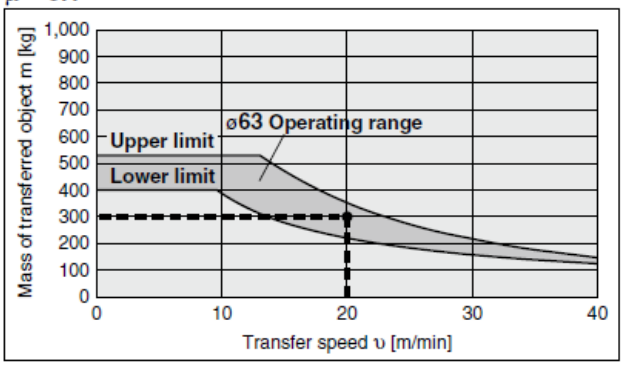


μ = 0.2

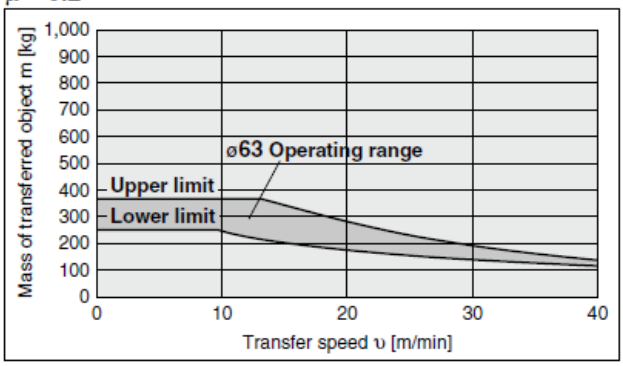


LEBH63-30T□-□-X3 ※The graphs indicate the values at normal temperature.(20 to 25℃)

μ = 0.1

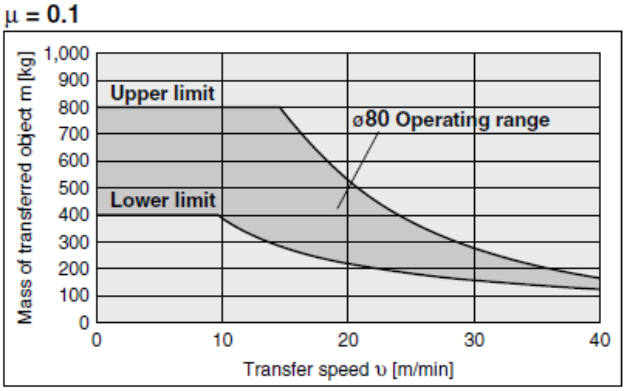


μ = 0.2

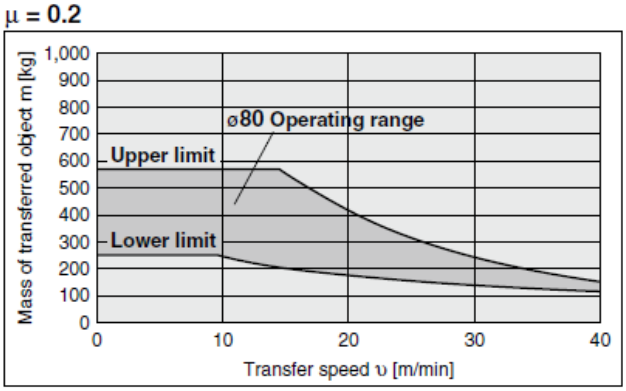


LEBH80-30T□-□-X3 ※The graphs indicate the values at normal temperature.(20 to 25℃)

μ = 0.1



μ = 0.2



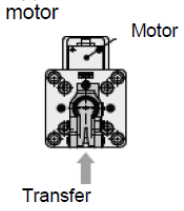
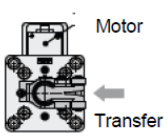
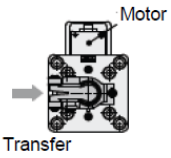
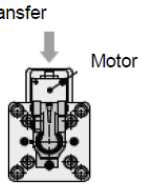
How to Order

LEBH 63 E K – 30 T L – □ – X3

Size

50
63
80

Lever direction

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

Option

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

Note1) Optione 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

Specifications

Model		LEBH50	LEBH63	LEBH80
Actuator specification	Stroke(㎜)	30		40
	Installation orientation	Vertical (extending direction: top)		
	Rising (extending operation) time [sec]	1 or less		1.5 or less
	Descending (retracting operation) time [sec]	1 or less (No lateral load)		1.5 or less (No lateral load)
	Action	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 [℃]	5 to 40		
	Operating humidity range[%RH]	90以下(No freezing)		
	Weight[㎏]	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]	24 V DC ± 10%		
	Starting power [W]	48		
	Holding power at lowered-end [W]	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.

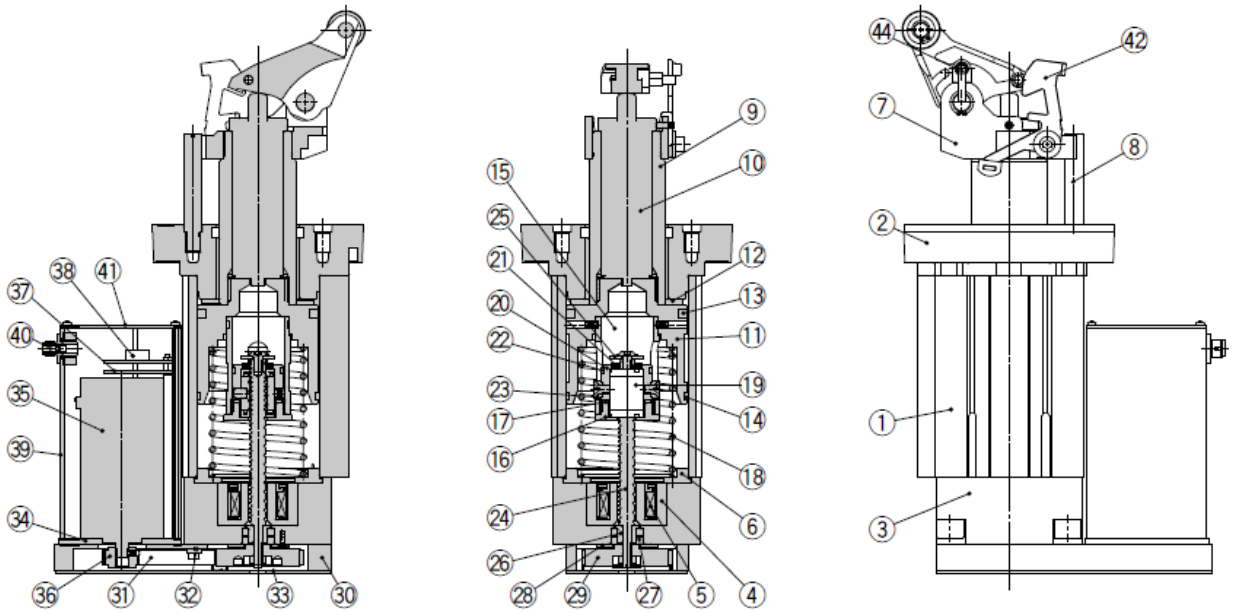
Note 4) The motor will be turned OFF automatically by the internal circuit board after the actuator stops.
A dedicated controller or driver is not necessary.

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

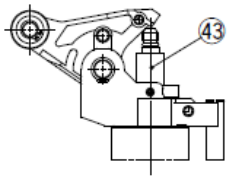
Note 6) A short break function is included with this cylinder for protection.
* Short break function: a function that slows the driving motor down if the rotation speed is over the designated value.

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.

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

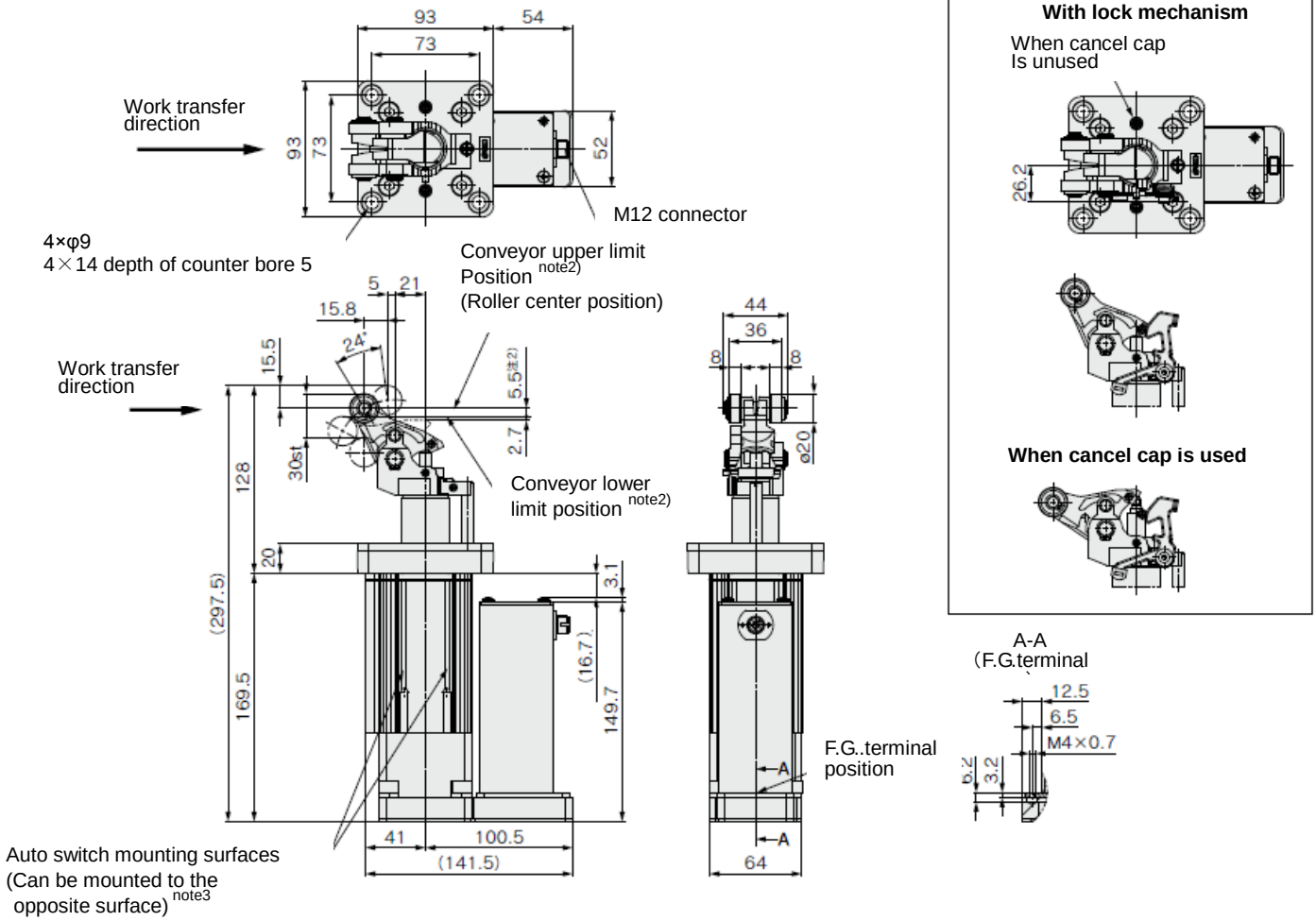
No.	Description	Material	Note
31	Belt	—	
32	Cable clips	Synthetic resin	
33	End plate	Aluminum alloy	Anodized
34	Motor plate	Carbon steel	Chromated
35	Motor assembly	—	
36	Pulley	Aluminum alloy	
37	Intermediate plate	Aluminum alloy	
38	Base plate assembly	—	
39	Motor cover	Aluminum alloy	Anodized
40	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

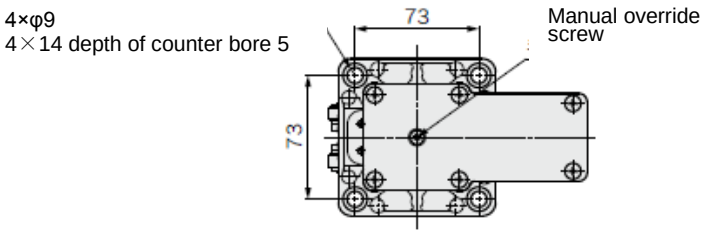
Replacement Parts/Shock Absorber

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

Dimensions

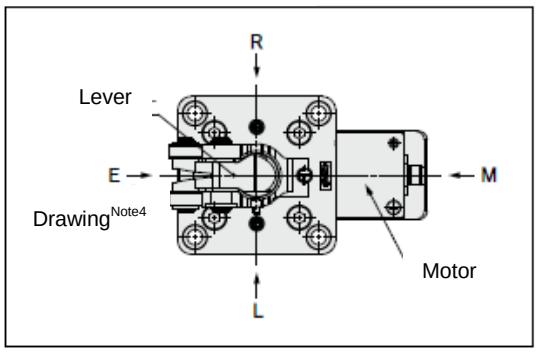
LEBH50□K-30T□-□-X3





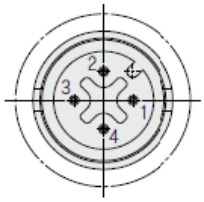
Note 1) Please note that the thickness of a mounting plate should be 10mm or less when this cylinder is mounted from the top (lever side) and ensure that the mounting plate does not interfere with the lever.
Note 2) Please adjust the conveyor height within the range of the lower limit position to the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

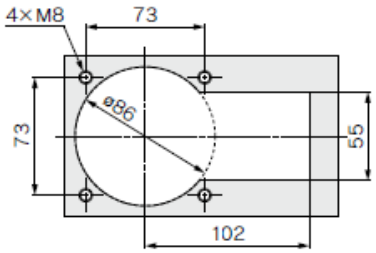
M12 connector



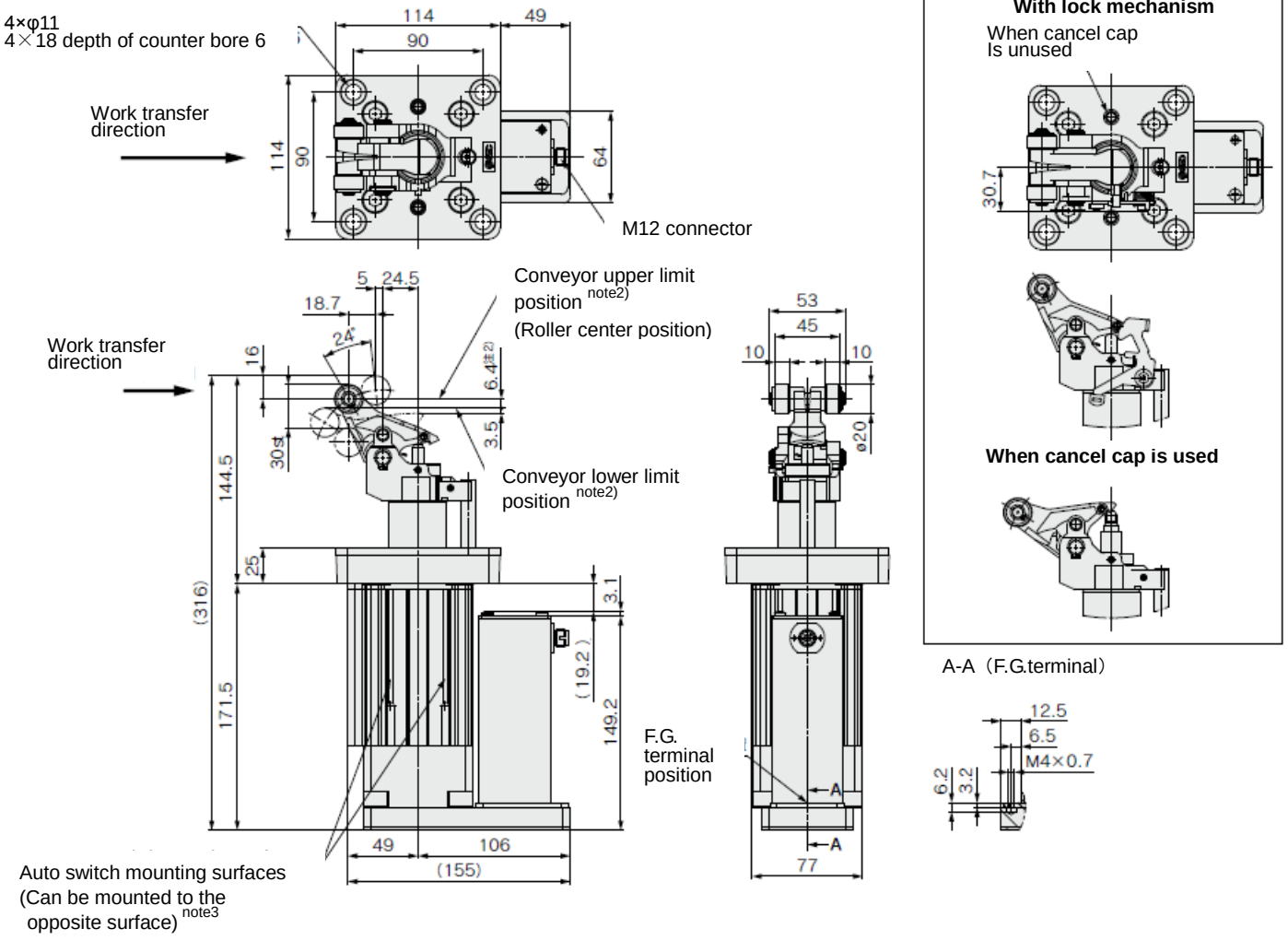
Connector specification

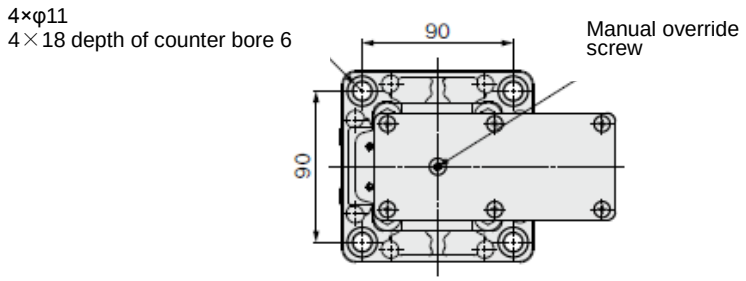
Pin No.	Description	Cable color	Function
1	—	—	Unused
2	—	—	
3	OV	Blue	Operating voltage
4	DC24V	Black	

Recommended mounting plate and drilling

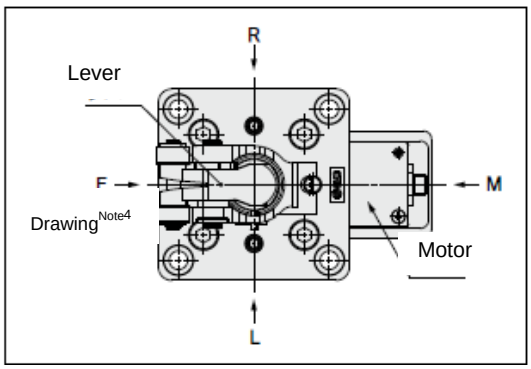


LEBH63□K-30T□-□-X3





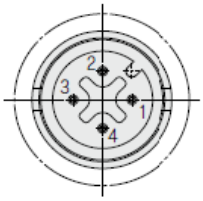
Work transfer direction



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

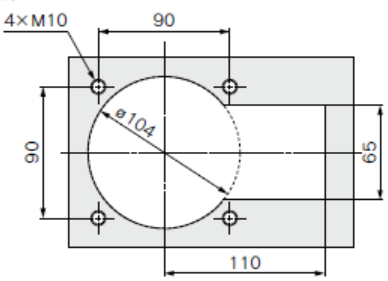
M12 connector



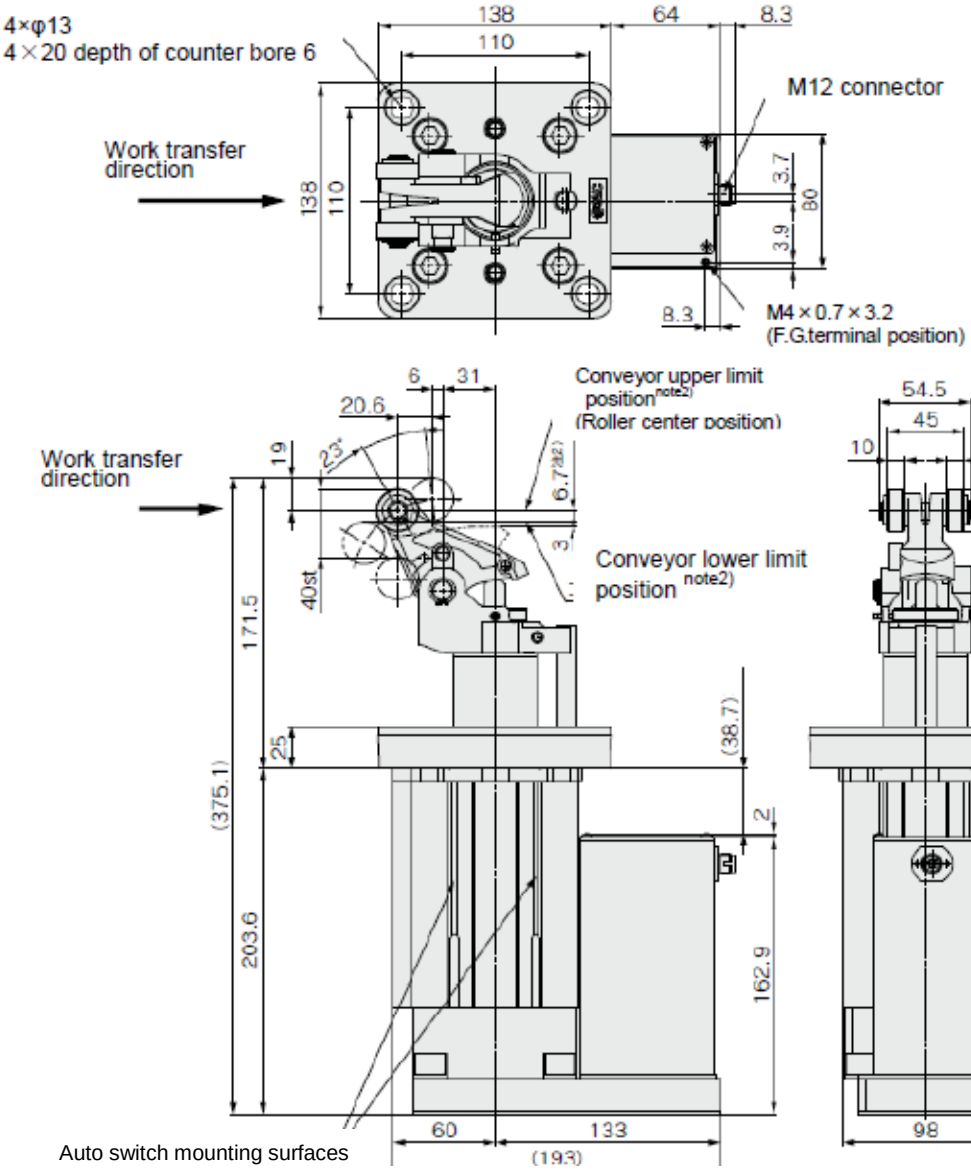
Connector specification

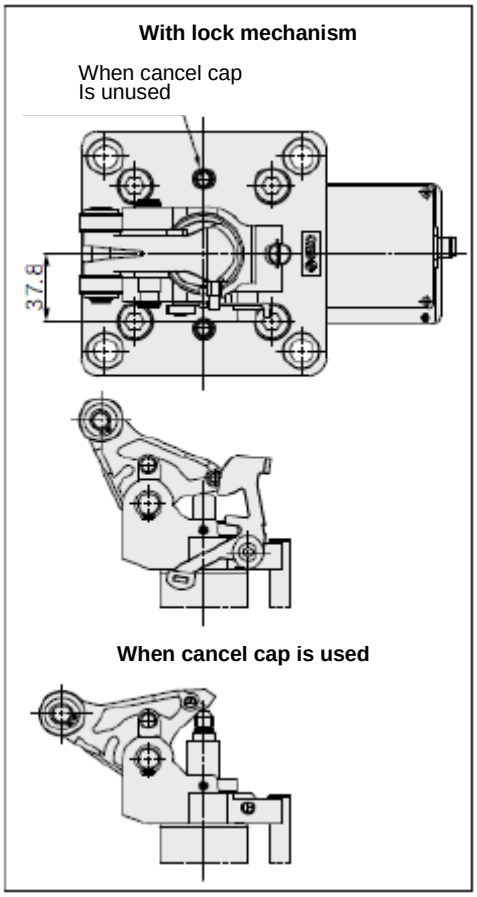
Pin No.	Description	Cable color	Function
1	—	—	Unused
2	—	—	
3	OV	Blue	Operating voltage
4	DC24V	Black	

Recommended mounting plate and drilling



LEBH80□K-40T□-□-X3





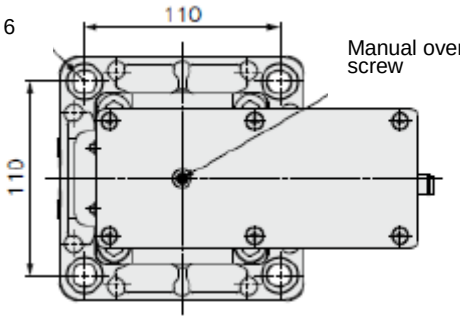
Note 1) Please note that the thickness of a mounting plate should be 10mm or less when this cylinder is mounted from the top (lever side) and ensure that the mounting plate does not interfere with the lever.

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

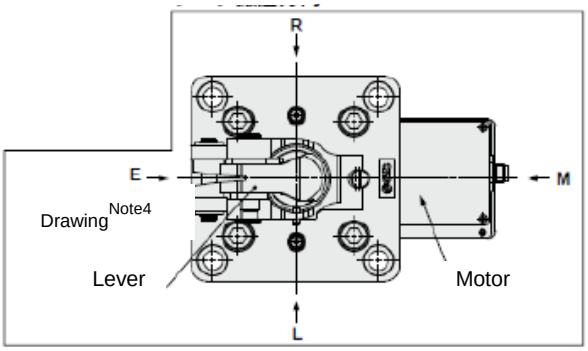
Note 3) The auto switch mounting surface is indicated above regardless of lever direction.

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

4×φ13
4×20 depth of counter bore 6

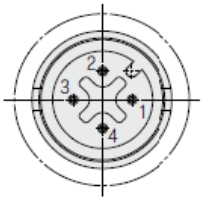


Work transfer direction



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

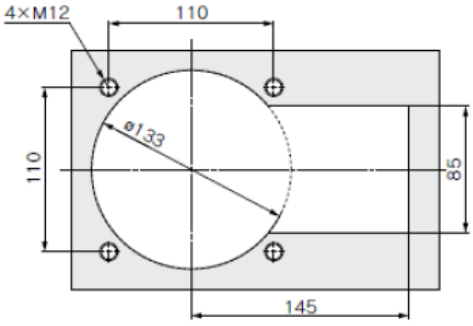
M12 connector



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

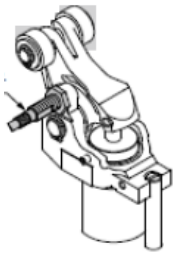
Proximity switch specification／OMRON Corporation

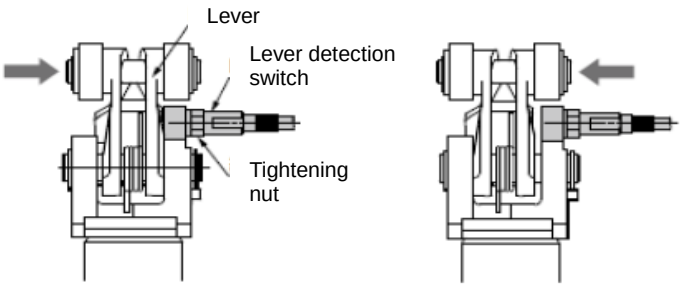
Model	E2E-X2D1-N
Output modes	Normally open
Power supply voltage （Operating voltage range)	12 to 24VDC（10 to 30VDC）,Ripple(p-p) 10% or less
Current consumption （Leakage current）	0.8 mA or less
Response frequency	1.5kHz
Control output （chest）	3 to 100mA
Indicator light	Operation indication (Red LED), Set operation indication (Green LED)
Ambient temperature	-25 to 70℃（No freezing）
Ambient humidity	35 to 95%RH
Residual voltage Note1）	3V or less
Withstand voltage Note2）	AC1000V
Vibration	Endurance 10 to 55 Hz, Duplex amplitude 1.5 mm X,Y,Z direction each 2h
Impact	Endurance 500 m/s2 (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

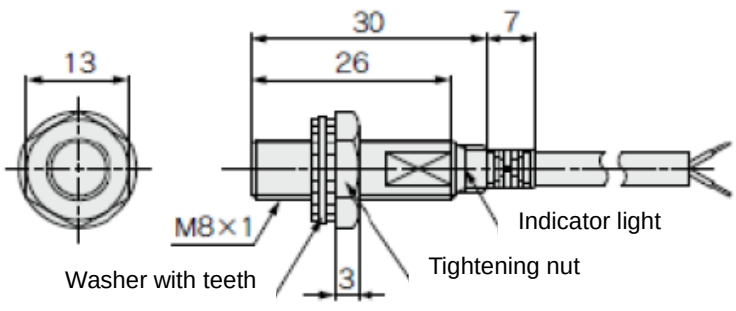
<Mounting position>

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.



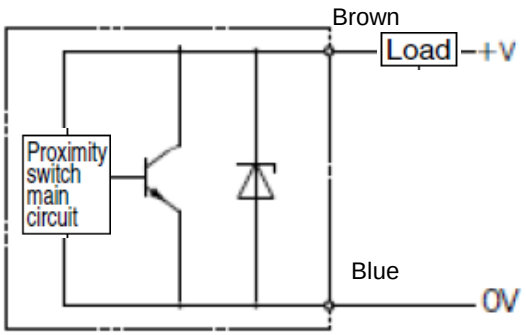


Dimensions



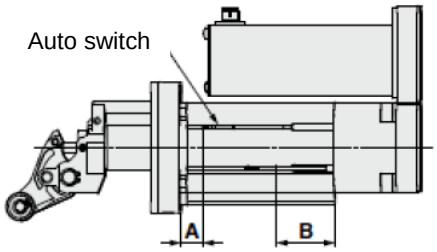
Output Circuit

2-Wire

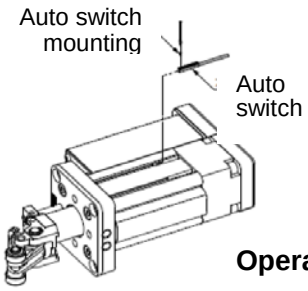


Auto Switch mounting

Auto switch proper mounting position (Detection at Stroke End)



Auto switch mounting dimensions



Tightening Torque for Auto Switch Mounting Screw

(N・m)

Auto switch model	Tightening Torque
D-M9 D-M9□W D-M9□V D-M9□WV	0.05～0.15

Auto Switch Proper mounting Position

(mm)

	Auto switch model			
	D-M9□ D-M9□W		D-M9□V 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

(mm)

Auto switch model	Model		
	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.