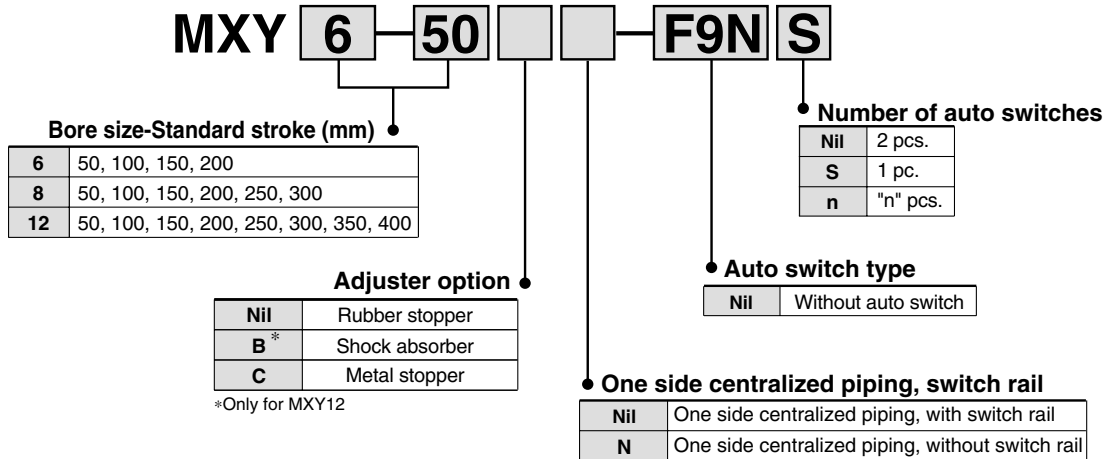


Air Slide Table

Series MXY

ø6, ø8, ø12

How to Order



The auto switch cannot be mounted on the one side centralized piping type without switch rail (N).

Applicable auto switches/Refer to pages 11 through 15 for detailed specifications of auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage			Auto switch model		Lead wire length* (m)			Applicable load	
					DC	AC	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)			
Reed switch	—	Grommet	No	2-wire	24V	5V, 12V	100V or less	A90V	A90	●	●	○	IC circuit	Relay PLC
			Yes			12V	100V	A93V	A93	●	●	—		
			3-wire (NPN equiv.)	—	5V	—	A96V	A96	●	●	—	IC circuit	—	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24V	5V, 12V	—	F9NV	F9N	●	●	○	IC circuit	Relay PLC
								F9PV	F9P	●	●	○		
				3-wire (PNP)	12V	F9BV	F9B	●	●	○	—			
				2-wire		F9NWV	F9NW	●	●	○	IC circuit			
				3-wire (NPN)	5V, 12V	F9PWV	F9PW	●	●	○				
				3-wire (PNP)		12V	F9BWV	F9BW	●	●	○	—		
	2-wire	—	—	—	—	—	—	—						

*Lead wire length symbols: 0.5m Nil (Example) F9N
 3m L (Example) F9NL
 5m Z (Example) F9NZ

*Solid state switches marked "O" are produced upon receipt of order.

Specifications



Model	MXY6	MXY8	MXY12
Bore size (mm)	6	8	12
Port size	M5 x 0.8		
Fluid	Air		
Action	Double acting (type)		
Operating pressure	0.2 to 0.55MPa		
Proof pressure	0.83MPa		
Ambient and fluid temperature	-10 to 60°C		
Piston speed	50 to 400mm/S Metal stopper: 50 to 200mm/S		
Cushion	Rubber bumper Shock absorber (option, not available on MXY6, MXY8) None (with metal stopper)		
Lubrication	Non-lube (equipment), unlubricated		
Stroke adjuster	Standard		
Stroke adjustment range	Rubber stopper	0 to 5mm	
	Shock absorber	—	0 to 15mm
	Metal stopper	0 to 5mm	
Auto switch	Reed switches (2-wire, 3-wire) Solid state switches (2-wire, 3-wire) 2-color display solid state switches (2-wire, 3-wire)		
Stroke length tolerance	$+1_0$ mm		

Theoretical Output

(N)

Cylinder bore (mm)	Piston area (mm ²)	Operating pressure (MPa)				
		0.2	0.3	0.4	0.5	0.55
6	28	6	8	11	14	15
8	50	10	15	20	25	28
12	113	23	34	45	57	62

Standard Stroke

(mm)

Magnetic Holding Force

(N)

Model	Standard stroke
MXY6	50, 100, 150, 200
MXY8	50, 100, 150, 200, 250, 300
MXY12	50, 100, 150, 200, 250, 300, 350, 400

Model	Magnetic holding force
MXY6	19
MXY8	34
MXY12	77

Weights

(g)

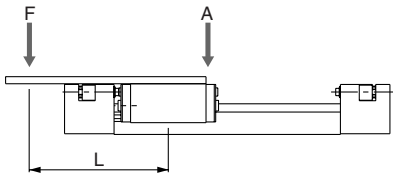
Model	One side centralized piping, with switch rail								One side centralized piping, without switch rail							
	Stroke (mm)								Stroke (mm)							
	50	100	150	200	250	300	350	400	50	100	150	200	250	300	350	400
MXY6	270	330	390	450	—	—	—	—	230	280	330	380	—	—	—	—
MXY8	420	510	600	690	780	870	—	—	410	480	550	620	690	760	—	—
MXY12	930	1060	1190	1320	1450	1580	1710	1840	910	1020	1130	1240	1350	1460	1570	1680

Series MXY

Table Deflection

Table deflection due to pitch moment load

Displacement at "A" when load is applied "F"



L dimension mm

MXY6	100
MXY8	100
MXY12	140

Pitch moment

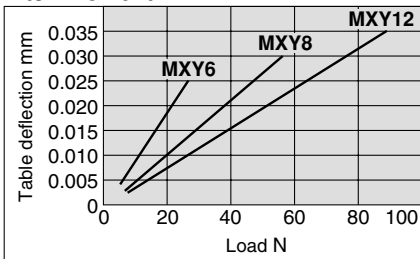
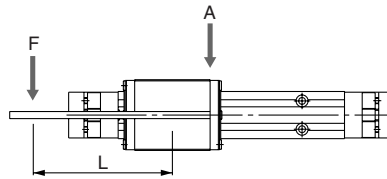


Table deflection due to yaw moment load

Displacement at "A" when load is applied "F"



L dimension mm

MXY6	100
MXY8	100
MXY12	140

Yaw moment

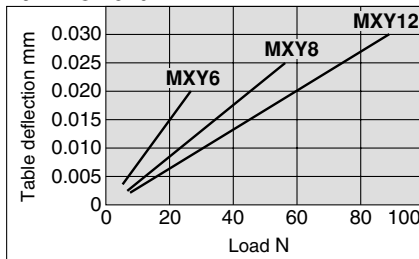
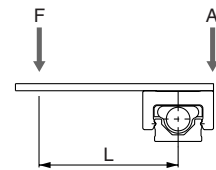


Table deflection due to roll moment load

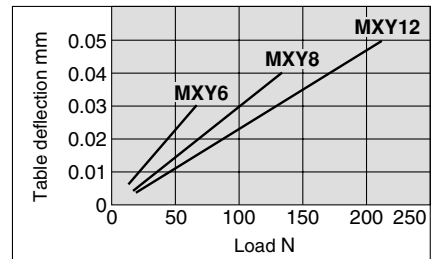
Displacement at "A" when load is applied "F"



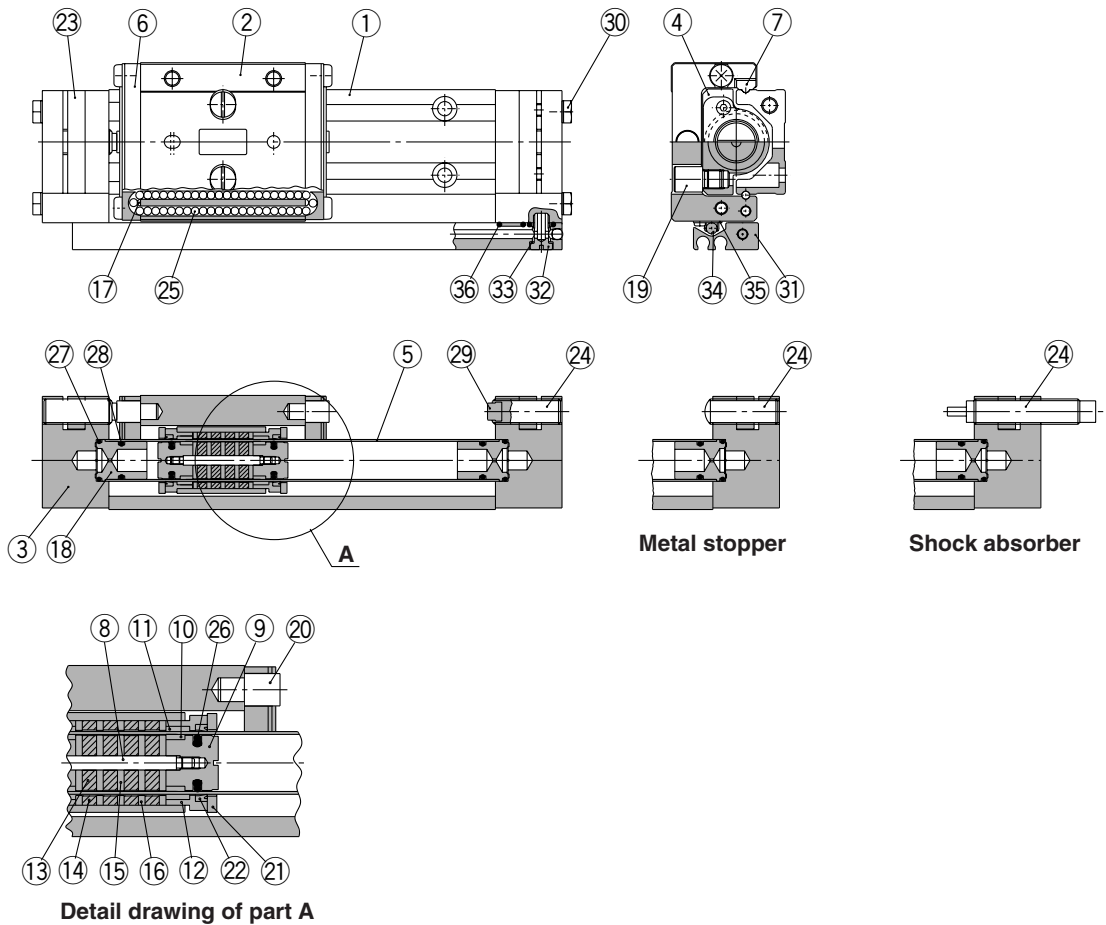
L dimension mm

MXY6	100
MXY8	100
MXY12	140

Roll moment



Construction



Parts list

No.	Description	Material	Note
1	Rail	Steel	Heat treatment, electroless nickel plated
2	Guide block	Steel	Heat treatment, electroless nickel plated
3	End plate	Aluminium alloy	Hard anodized
4	Body	Aluminium alloy	Hard anodized
5	Tube	Stainless steel	
6	Cover	Resin	
7	Scraper	Stainless steel, NBR	
8	Shaft	Stainless steel	
9	Piston	Brass	Electroless nickel plated
10	Wear ring A	Resin	
11	Wear ring B	Resin	
12	Spacer	Brass	Electroless nickel plated
13	Magnet A	Rare earth magnet	Nickel plated
14	Magnet B	Rare earth magnet	Nickel plated
15	Yoke A	Steel	Electroless nickel plated
16	Yoke B	Steel	Electroless nickel plated
17	Return guide	Resin	
18	End cap	Resin	
19	Stud	Steel	Heat treatment

Parts list

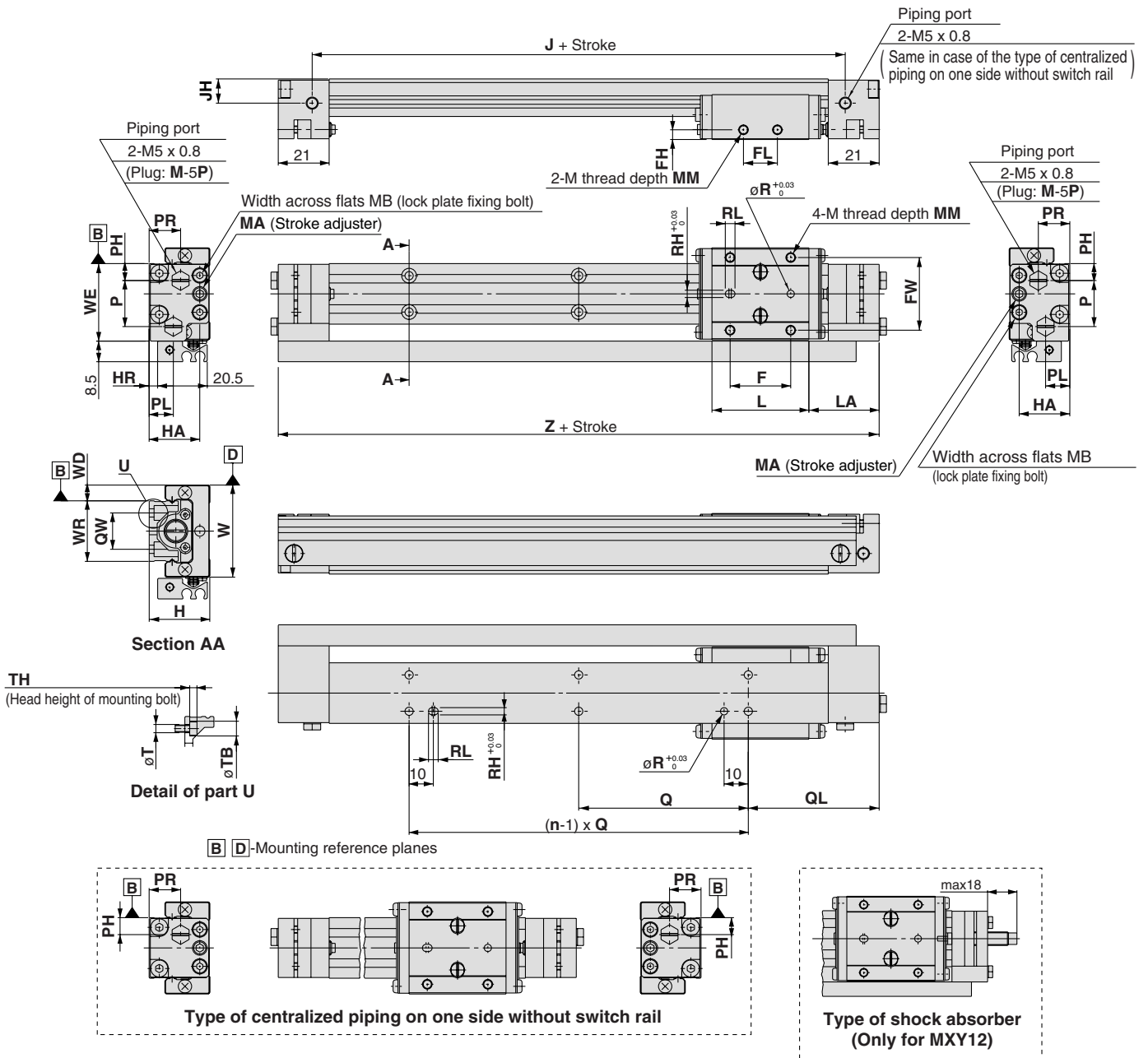
No.	Description	Material	Note
20	Stopper screw	Steel	Heat treatment
21	External magnet fix plate	Stainless steel	
22	Cylinder scraper	NBR	
23	Lock plate	Stainless steel	
24	Adjustment bolt	Steel	Nickel plated Rubber stopper
		Stainless steel	Metal stopper
	Shock absorber		Shock absorber
25	Steel ball	Copper	
26	Piston seal	NBR	
27	O-ring	NBR	
28	O-ring	NBR	Rubber stopper
29	Adjustment bumper	Polyurethane	
30	Plug		Hard anodized
31	Switch rail	Aluminium alloy	Electroless nickel plated
32	Stud	Brass	
33	Gasket	NBR	
34	Magnet	Rare earth	Electroless nickel plated
35	Magnet holder	Steel	
36	O-ring	NBR	

Replacement parts

Bore size (mm)	Kit no.	Contents
6	MXY6-PS	Set consists of 2 pieces of above 10, 11, 22 and 26 each
8	MXY8-PS	
12	MXY12-PS	

Series MXY

Dimensions



Model	F	FH	FL	FW	H	HA	HR	J	JH	L	LA	M	MM	MA	MB
MX Y6	20	3	12	24	21.5	18	0.5	60	8.5	32	28	M3 x 0.5	4	M5 x 0.8 (Width across flats 2.5)	2
MX Y8	25	4	14	30	25	20.9	3.5	70	10	40	29	M4 x 0.7	5	M6 x 1 (Width across flats 3)	2.5
MX Y12	32	5	18	40	36	30.9	8.5	86	15	52	31	M5 x 0.8	6	M8 x 1 (Width across flats 4)	3

Model	P	PH	PL	PR	Q	QW	R	RH	RL	T	TB	TH	W	WD	WE	WR	Z
MX Y6	13	7	9	11	60	12	3(depth 3)	3(depth 3)	4	2.9	5.1	2.5	30	5	25.5	20	88
MX Y8	19	7	10	13	70	15	3(depth 3)	3(depth 3)	4	3.4	6.1	3	38	6.5	32	25	98
MX Y12	29	7	13	18	90	21	4(depth 4)	4(depth 4)	5	4.5	7.8	4	50	8.5	42	33	114

Model	n								QL							
Stroke	50	100	150	200	250	300	350	400	50	100	150	200	250	300	350	400
MX Y6	2	3	3	4	—	—	—	—	39	34	59	54	—	—	—	—
MX Y8	2	2	3	4	5	5	—	—	39	64	54	44	34	59	—	—
MX Y12	2	2	3	3	4	4	5	5	37	62	42	67	47	72	52	77

Solid-state Auto Switches for Direct Mounting Series D-M9N(V)/D-M9P(V)/D-M9B(V)



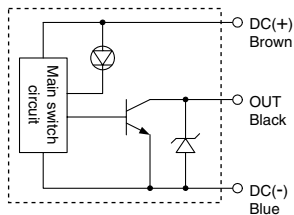
Grommet

- Reduced load currents for two-wire model (2.5 to 40 mA)
- Compliance with lead-free requirements
- Use of UL-approved lead wires (style 2844)

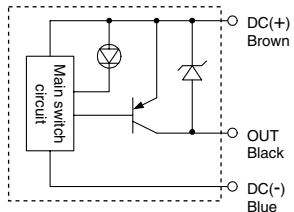


Internal circuits

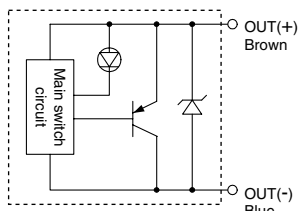
D-M9N/M9NV



D-M9P/M9PV



D-M9B/M9BV



Auto Switch Specifications

PLC: Programmable Logic Controller

D-M9□/D-M9□V (with Indicator light)						
Model number	D-M9N	D-M9NV	D-M9P	D-M9PV	D-M9B	D-M9BV
Electrical entry	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring	Three-wire			Two-wire		
Output	NPN		PNP		—	
Applicable load	Integrated circuit, relay and PLC				24 V DC relay and PLC	
Power voltage	5, 12, or 24 V DC (4.5 to 28 V DC)				—	
Current consumption	10 mA or less				—	
Load voltage	28 V DC or less		—		24 V DC (10 to 28 V DC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less				4 V or less	
Leakage current	100 μA max. at 24 V DC				0.8 mA or less	
Indicator light	Red LED lights when ON.					

- Lead wire: oil-proof heavy-duty vinyl cable
2.7 x 3.2 with elliptic cross-section, 0.15 mm², two cores (D-M9B),
or three cores (D-M9N and D-M9P)

Solid state switch specifications

Leakage current	3-wire: 100 μA or less; 2-wire: 0.8 mA max.
Operating time	1 ms or less
Impact resistance	1000 m/s ²
Insulation resistance	50 MΩ or more at 500 V DC (between lead wire and case)
Withstand voltage	1000 V AC for 1 min. (between lead wire and case)
Ambient temperature	-10°C to 60°C
Enclosure	IEC529 standard IP67, JIS C 0920 watertight construction

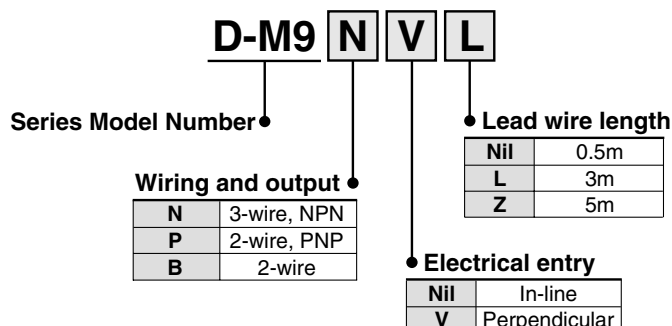
Weight

Unit: g

Model	D-M9N(V)	D-M9P(V)	D-M9B(V)
Lead wire length (m)	0.5	8	7
	3	41	38
	5	68	63

How to Order

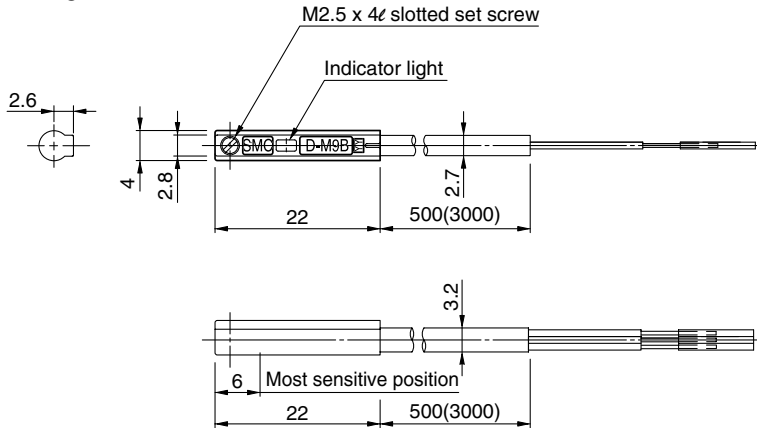
Standard Model Number



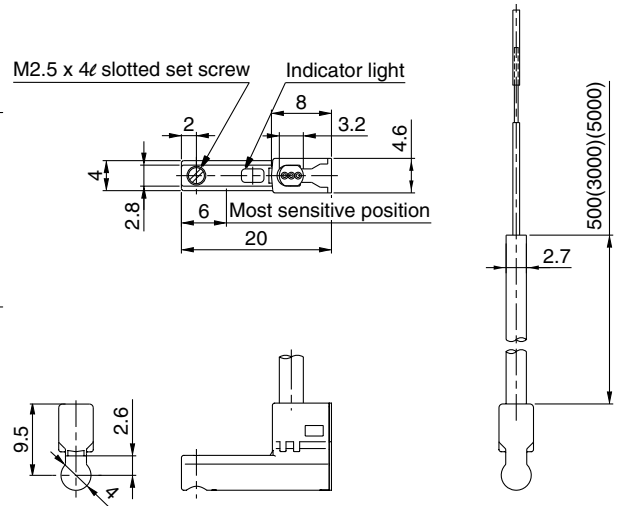
Series D-M9

Auto Switch Dimensions

D-M9□



D-M9□V



⚠ Specific Product Precautions

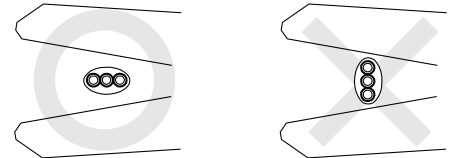
Be sure to read before handling. Contact SMC when the required specification is out of range.

Handling

⚠ Caution

Observe the following precautions when handling the product.

- The D-M9 series of auto switches is not overcurrent-protected. Faulty wiring or short circuit may result in breakage or burning-out of the switch.
- When stripping the cable clad, be careful about the orientation of the cable being stripped. The insulator may be accidentally torn or damaged depending on the orientation, as shown on the right.



- We recommend the following tools

Manufacturer	Product name	Product number
VESSEL	Wire stripper	No 3000G
Tokyo Ideal	Strip master	45-089

* The stripper for the round shape cords (ø2.0) is for a 2-wire style.

- Please do not attach the switch with any other screws than those already attached to the auto switch body.

The operation range is shorter than that of the conventional models.

If the auto switch replaces the conventional model, it may not function depending on its application because the operation range is shorter. Refer to the examples below.

- In an application where at the end, the stopping position shifting range is larger than the operation range. For example, pushing a work against something, or pressing a work into a hole, or clamping a work.
- In an application where the auto switch is used to detect an intermediate stopping position. (Detecting time is shortened.)

Note) Please contact SMC for the operation range details for each actuator.

The switch is damaged instantly when a load is shortened since short circuit protection is not built-in. Pay special attention to avoid reversing the connection of the brown lead of the power supply line and the black output line connection.