

Direct Operated 2/3 Port Isolated Valve

Low Particle
Generation

Oil-free

Metal-free



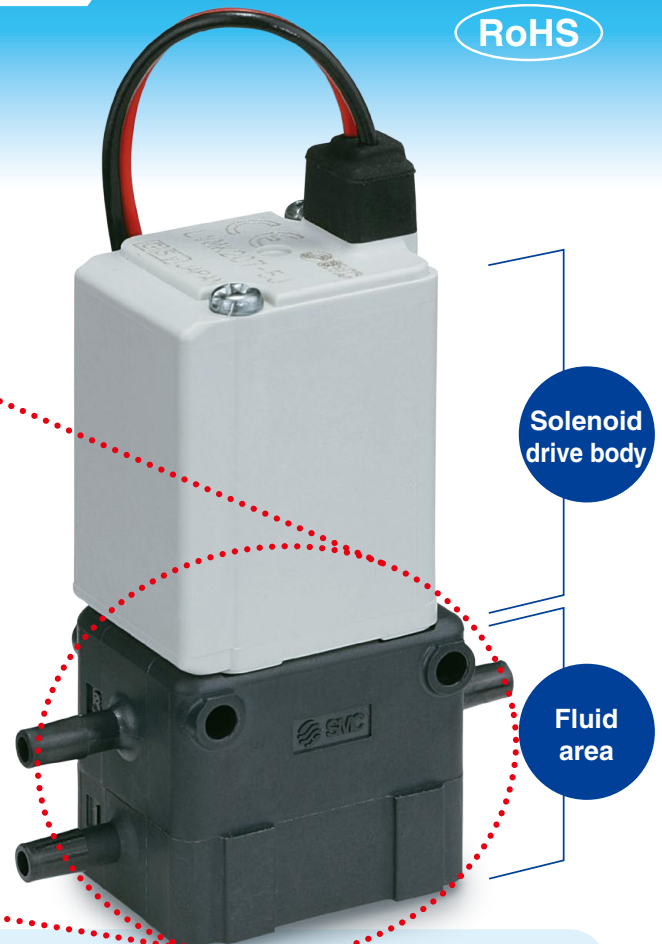
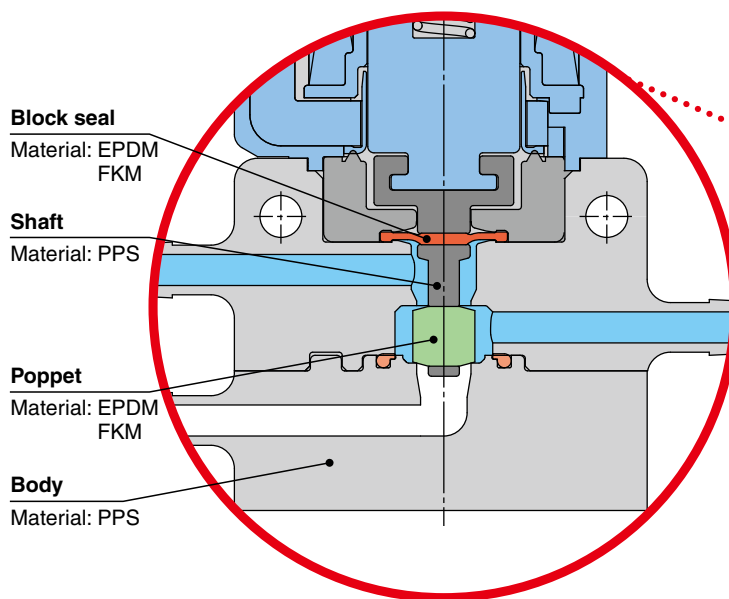
New



RoHS

Isolated Structure

Solenoid drive body is separated from the fluid area by block seal.



Easy piping

Body ported



Bottom ported

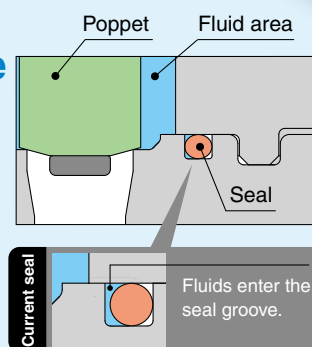
Side ported

Base mounted



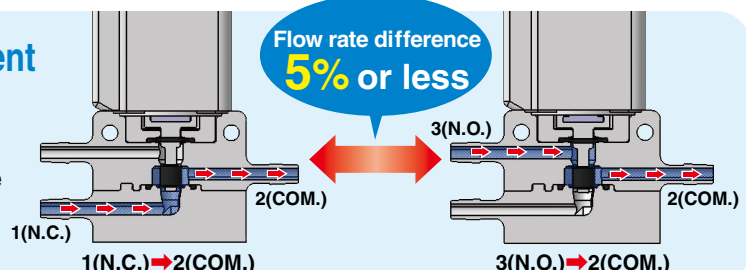
Minimal dead space

No fluids enter the seal groove.



Flow adjustment not required

As the flow rate difference is 5% or less, no flow rate adjustment is required at inlet and outlet side.



LVMK20/200 Series









CAT.ES70-55A

Application Examples

Oil-free, clean, low particle generation applications



Variations

	Model	Valve type	Piping direction	Voltage	Fluid contact material
Body Ported	 LVMK21	N.C.	Bottom ported	24 VDC 12 VDC	Body: PPS Seal: EPDM, FKM
	 LVMK27		Side ported		
	 LVMK202	Universal	Bottom ported		
	 LVMK207		Side ported		
Base Mounted	 LVMK23	N.C.	—		
	 LVMK205	Universal	—		

Direct Operated 2/3 Port Isolated Valve

LVMK20/200 Series

CE RoHS

How to Order

Number of ports/Valve type/Piping direction

Symbol	Number of ports	Valve type	Piping direction	Recommended tubing diameter
21	2	N.C.	Bottom ported	I.D. 2 to 3.2 mm, O.D. after mounting 8 mm or less
27			Side ported	
202	3	Universal	Bottom ported	
207			Side ported	

Body ported

LVMK 202 - 5 J -

Base mounted

LVMK 205 - 5 J -

Number of ports/Valve type

Symbol	Number of ports	Valve type
23	2	N.C.
205	3	Universal

Coil voltage

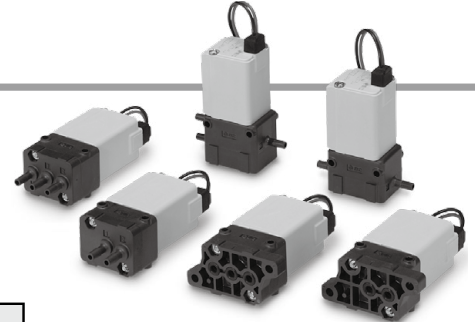
Symbol	Voltage
5	24 VDC
6	12 VDC

Fluid contact material

Symbol	Body	Poppet/Seal
J	PPS	EPDM
K	PPS	FKM

Lead wire length

Nil	300 mm
6	600 mm
10	1000 mm



Specifications

Model	Body ported (Tubing type)				Base mounted	
	LVMK21	LVMK27	LVMK202	LVMK207	LVMK23	LVMK205
Valve construction	Direct operated poppet					
Valve type	N.C.		Universal		N.C.	Universal
Number of ports	2		3		2	3
Fluid*1	Air, Water, Deionized water, Diluent, Cleaning fluid					
Operating pressure range	-90 kPa to 0.2 MPa					
Orifice diameter	2 mm equivalent					
Response time*2	16 ms or less (at pneumatic pressure)					
Leakage	Zero leakage, either external or internal (at water pressure)					
Proof pressure*3	0.3 MPa					
Ambient temperature	5 to 50°C (No condensation)					
Fluid temperature	5 to 50°C					
Mounting orientation*4	Free					
Enclosure	IP40 equivalent					
Weight*7	76 g	77 g	78 g	78 g	76 g	79 g
Rated voltage	12, 24 VDC					
Allowable voltage fluctuation*5	±10% of rated voltage					
Type of coil insulation	Class B					
Power consumption (When rated voltage is at 24 V)	3 W (0.125 A)					
Coil switching noise*6	70 dB (A)					

*1: Be sure to confirm the fluid compatibility in advance.

*2: Based on JIS B 8419-2010 (at ambient and fluid temperature of 25°C, supply pressure of 0.2 MPa, rated voltage, and when N.C. (IN) port is pressurized)
When poppet/seal material is FKM, if ambient temperature and fluid temperature is 10°C or less (guide), the response time will be longer.

*3: Indicates the pressure which does not generate breakage, cracks or external leakage after a one-minute airtight test.

*4: When residual liquid is considered, mounting in a vertical direction with the coil at the top is recommended. When residual liquid is not considered, any mounting orientation is available.

*5: When response ability is prioritized, the voltage should be rated voltage +10%.

*6: The value is based on SMC's measurement conditions. The noise level will vary with conditions.

*7: When lead wire length is 300 mm. For 600 mm, add 3 g, and for 1000 mm, add 7 g.

*: Refer to 10 in "Design / Selection" on page 9, if the valve is to be energized continuously for extended periods of time.

Flow Rate Characteristics

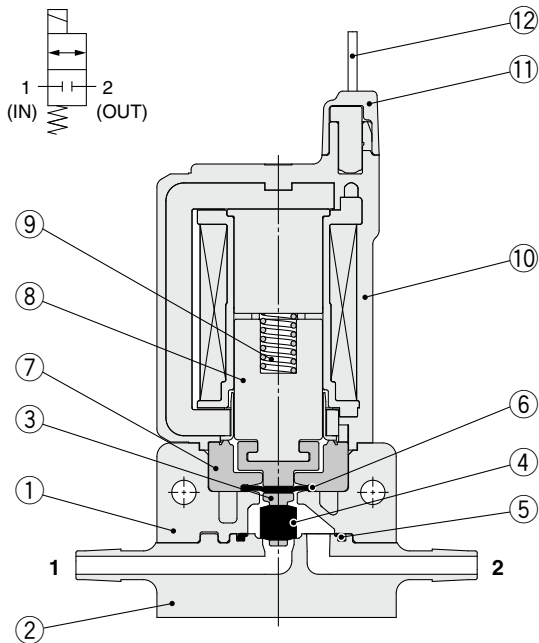
Water		Air	
Kv	Cv	C	b
0.055	0.065	0.23	0.27

*: The values of Kv and Cv are based on JIS B 2005:1995,
C and b are based on JIB B 8390:2000.

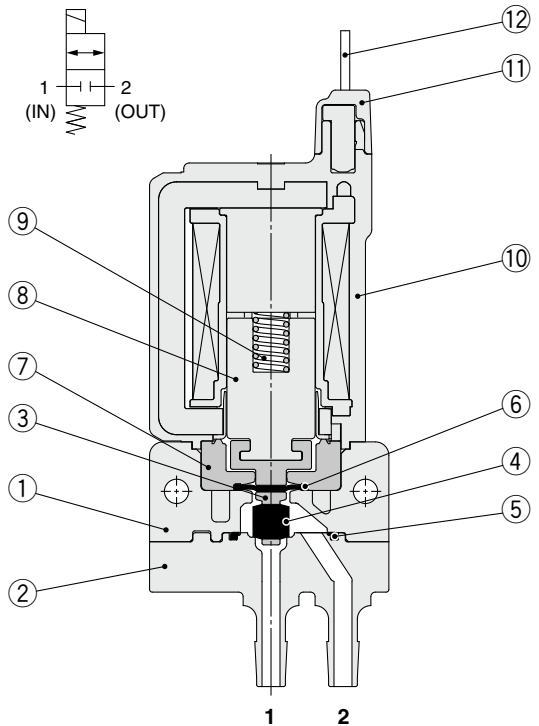
LVMK20/200 Series

Construction: Body Ported

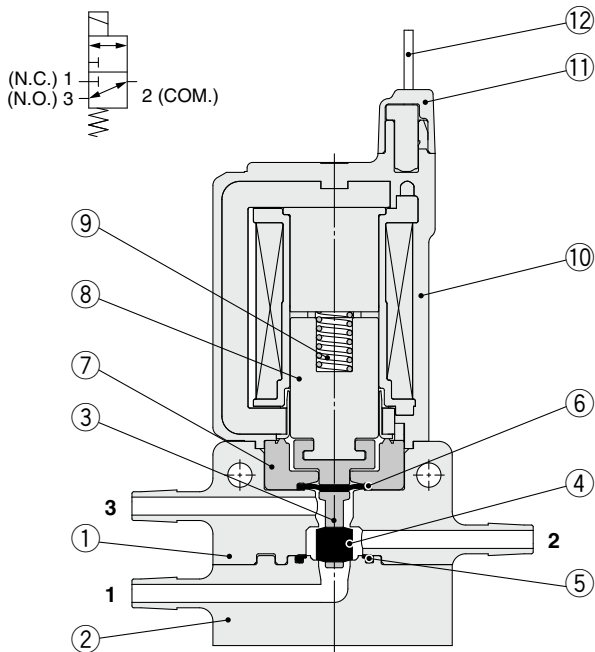
LVMK27



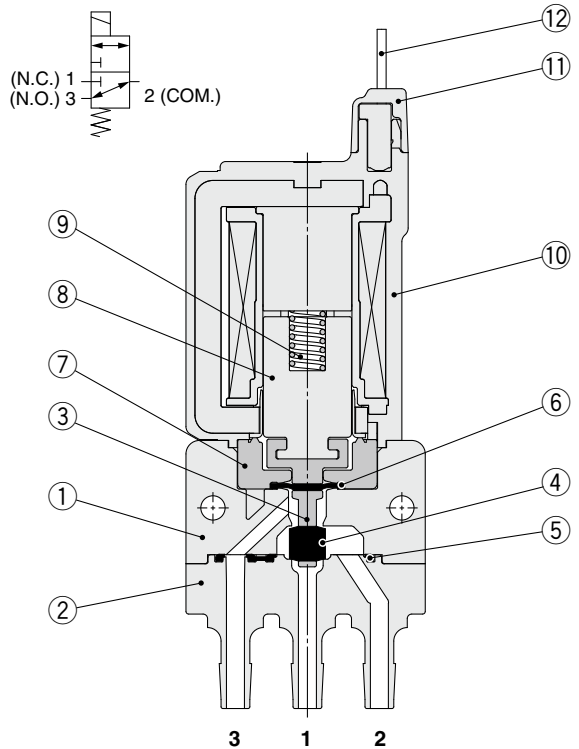
LVMK21



LVMK207



LVMK202



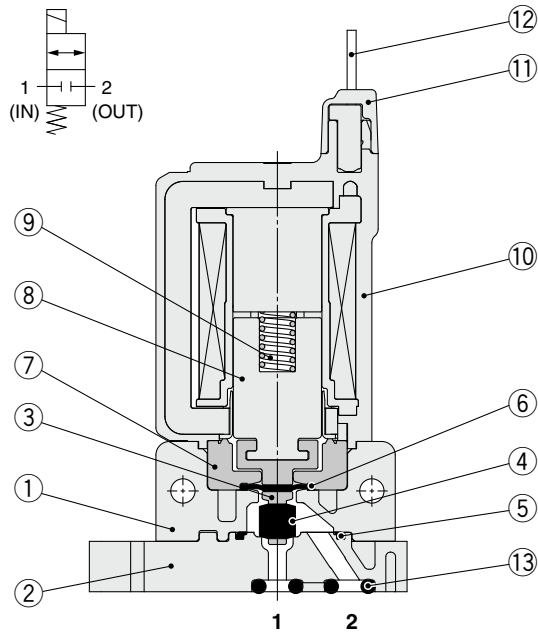
Component Parts

No.	Description	Material
1	Body A	PPS
2	Body B	PPS
3	Shaft	PPS
4	Poppet	EPDM, FKM
5	Seal	EPDM, FKM
6	Block seal	EPDM, FKM

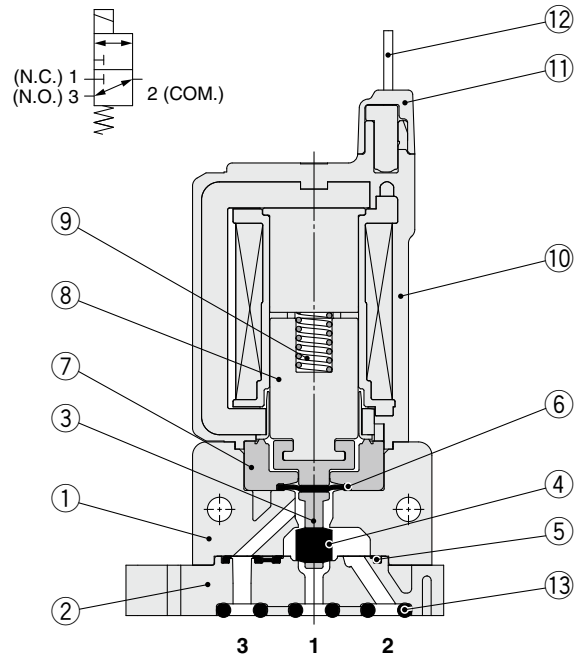
No.	Description	Material
7	Spacer	PBT
8	Armature	—
9	Return spring	Stainless steel
10	Mold coil	Molded material: PBT
11	Cover	NBR
12	Lead wire	—

Construction: Base Mounted

LVMK23



LVMK205



Component Parts

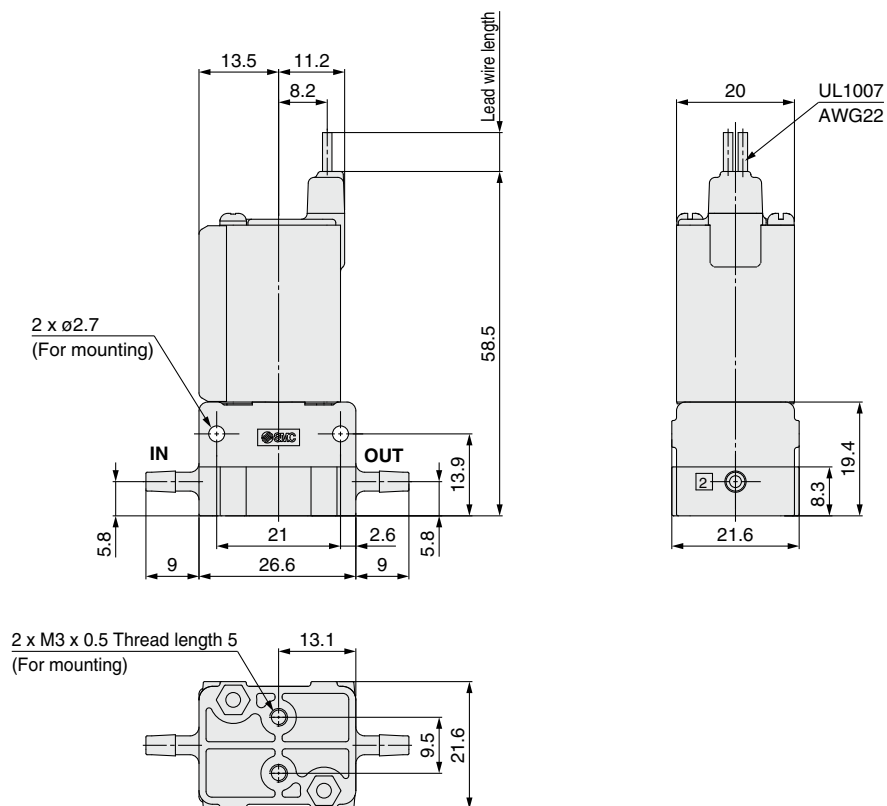
No.	Description	Material
1	Body A	PPS
2	Body B	PPS
3	Shaft	PPS
4	Poppet	EPDM, FKM
5	Seal	EPDM, FKM
6	Block seal	EPDM, FKM
7	Spacer	PBT

No.	Description	Material
8	Armature	—
9	Return spring	Stainless steel
10	Mold coil	Molded material: PBT
11	Cover	NBR
12	Lead wire	—
13	O-ring	EPDM, FKM

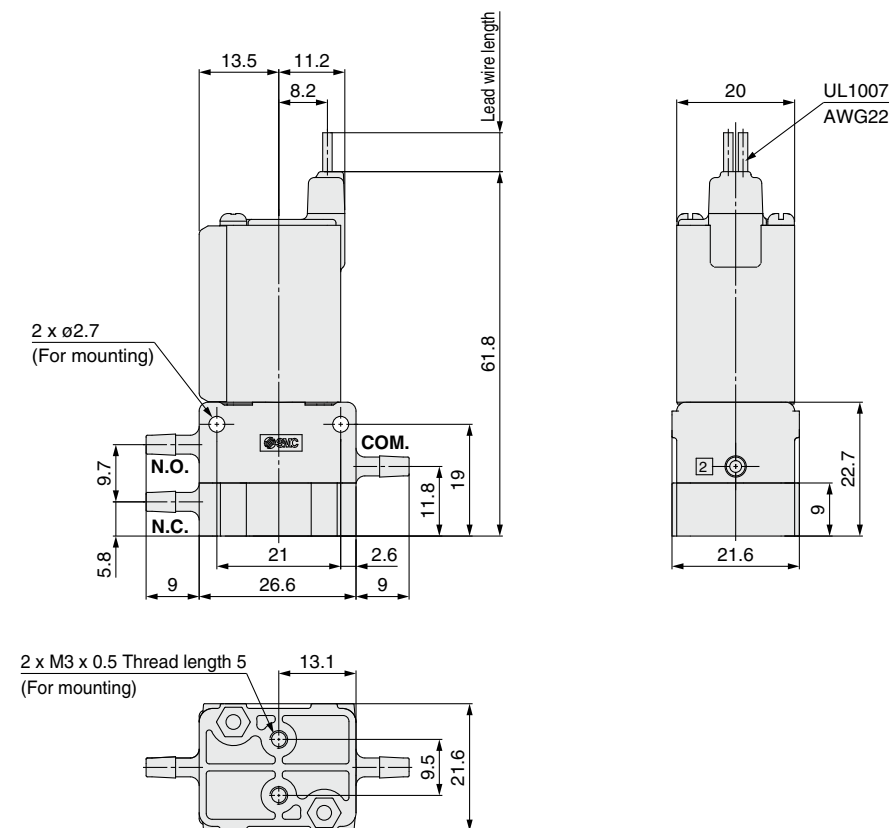
LVMK20/200 Series

Dimensions: Body Ported (Side Ported)

LVMK27-□□-□

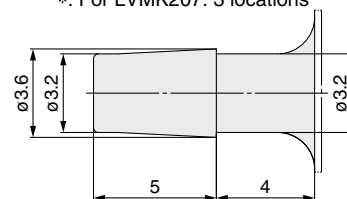


LVMK207-□□-□



Tubing insertion dimension

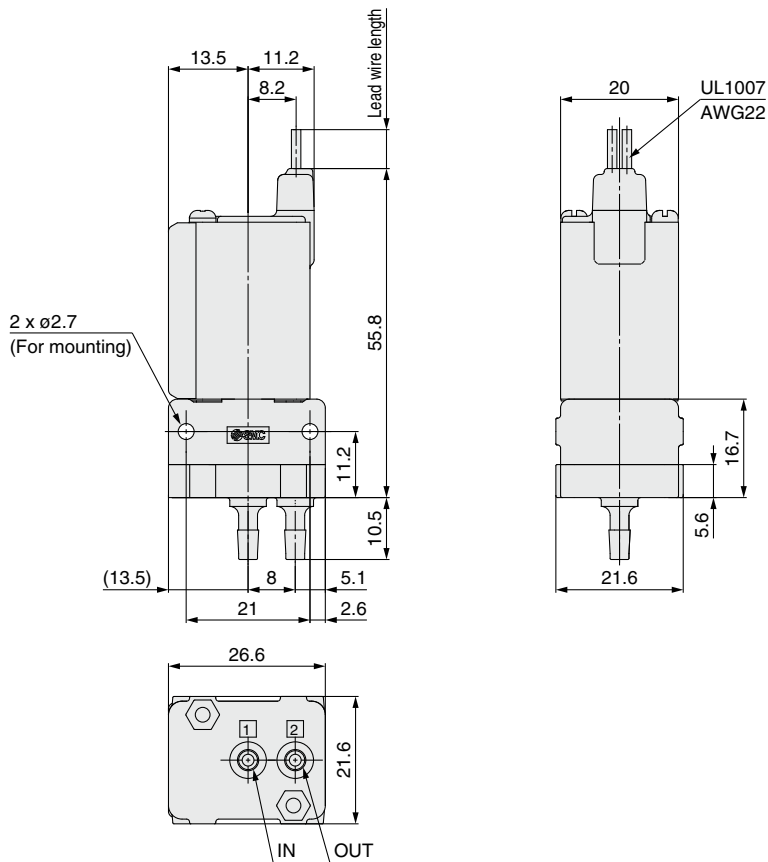
- *: For LVMK27: 2 locations
- *: For LVMK207: 3 locations



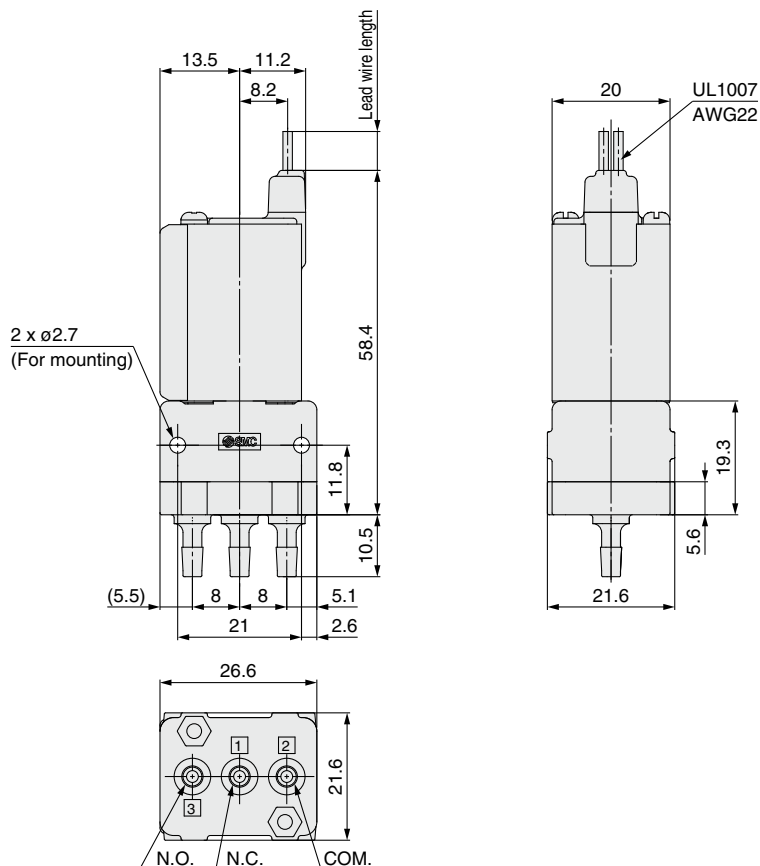
(Recommended tubing diameter:
I.D. $\phi 2$ to $\phi 3.2$, O.D. after mounting
 $\phi 8$ or less
*: Mounting force (holding force) varies depending on the tube material or dimensions, so please check that there is no problem with the leakage and mounting performance before use.)

Dimensions: Body Ported (Bottom Ported)

LVMK21-□□-□

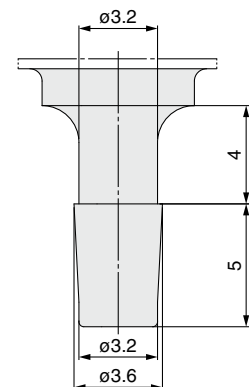


LVMK202-□□-□



Tubing insertion dimension

- *: For LVMK21: 2 locations
- *: For LVMK202: 3 locations

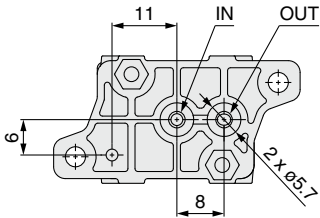
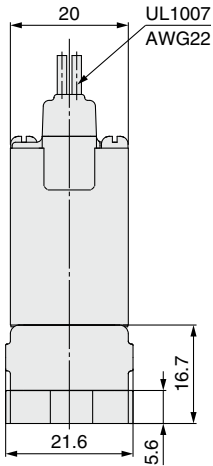
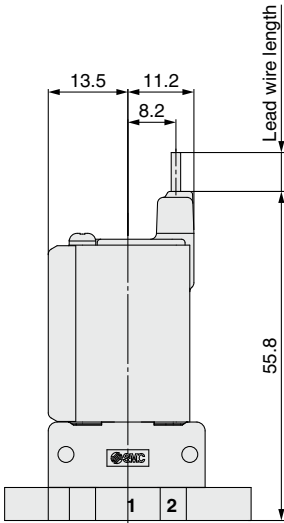
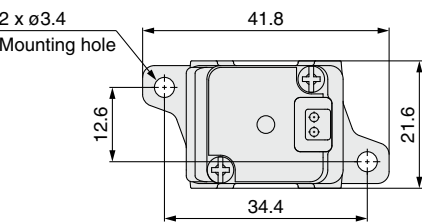


(Recommended tubing diameter:
I.D. $\phi 2$ to $\phi 3.2$, O.D. after mounting
 $\phi 8$ or less
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LVMK20/200 Series

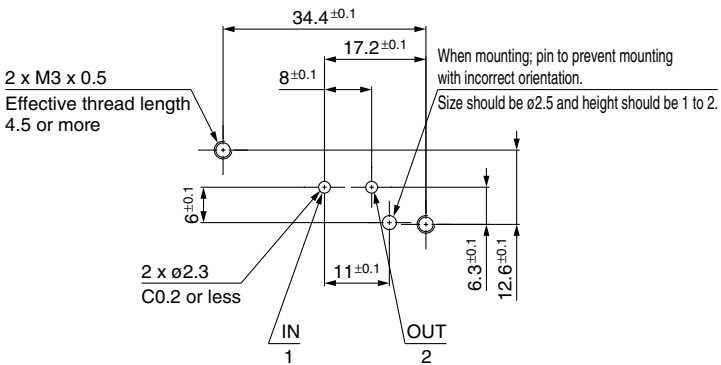
Dimensions: Base Mounted

LVMK23-□□-□



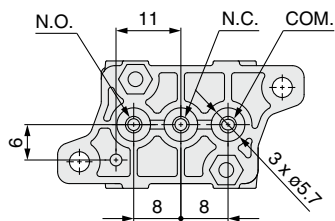
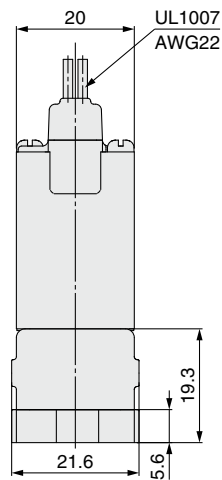
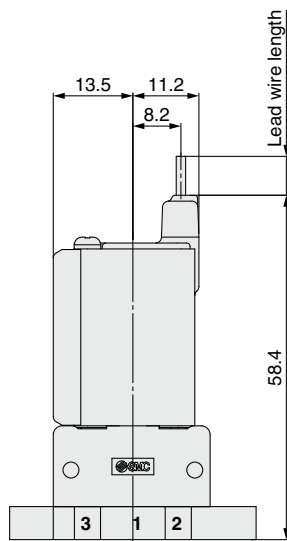
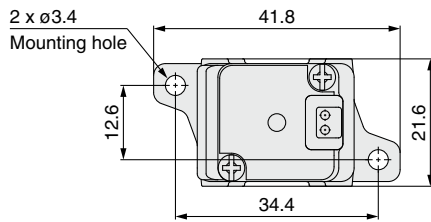
Recommended interface dimension

*: Surface roughness = Rz3.2 or less



Dimensions: Base Mounted

LVMK205-□□-□



Recommended interface dimension

*: Surface roughness = Rz3.2 or less

