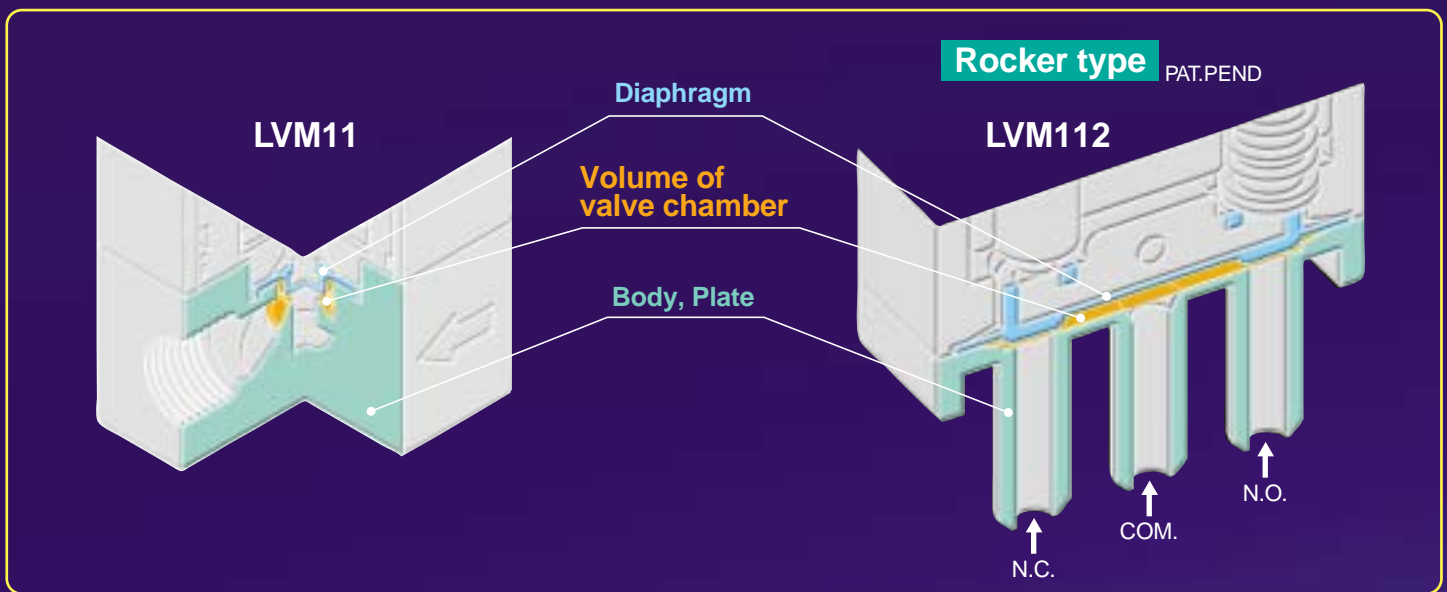




Super Compact Direct Acting 2/3 Port Solenoid Valve for Chemicals

SMC's unique construction reduces residual liquid to a minimum.
Volume of valve chamber is minimized to avoid the waste of reagents.



- **Wetted part material**
Body and plate: PEEK
Diaphragm: EPDM, FKM or FFKM
can be selected.

- **Service life: 10 million cycles or more**

Note) Based on SMC test conditions.



Series **LVM10/100**

Features

Compact

- Special rocker mechanism driven by wedge results in a compact valve.
- 2 & 3 port valve: Width 13mm x Depth 16mm

Light body

- Resin (PEEK) body is standard.
- LVM11 (30g)
- LVM11R, 12R, 13R, 14R, (32g)
- LVM112, 115 (32g)

Easy maintenance & long life

- Improved resistance to chemicals requires less maintenance.
- Operation life: 10 million cycles or more

Superior chemical resistance

- Resin (PEEK: Polyethyl ethel ketone) body and EPDM (Ehylene-propylene rubber) or FKM (Fluoro-rubber) diaphragm include FFKM + PFA

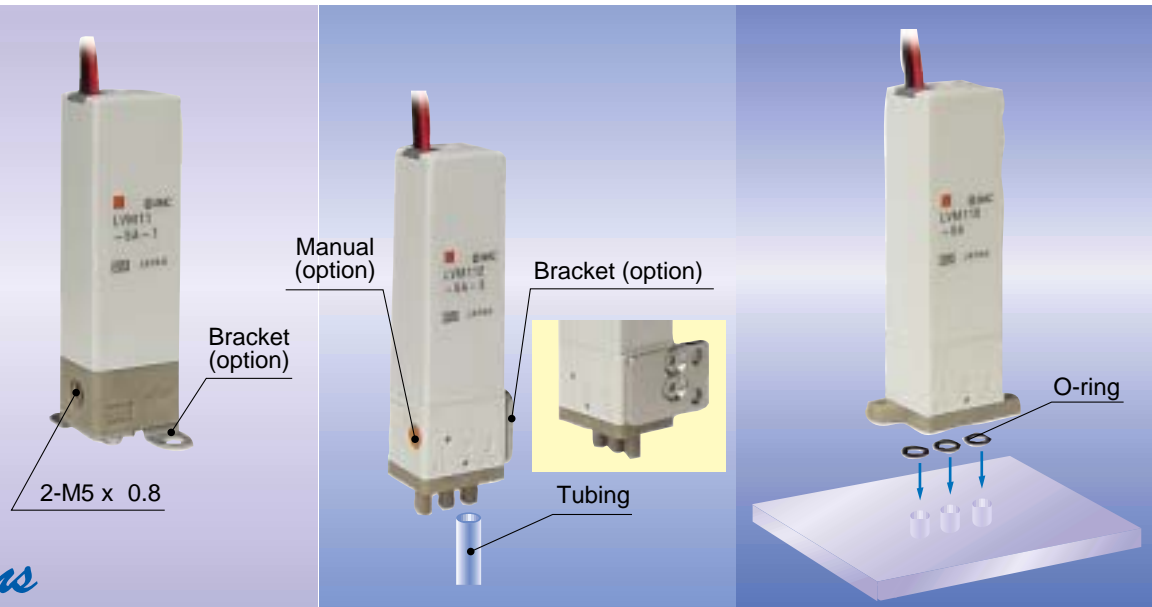
No dead volume

- Internal volume is very small and passages are designed to drain.
 - LVM11: 11 μ or less
 - LVM 11R, 12R, 13R, 14R: 20 μ or less
 - LVM 112, 115: 19 μ or less

Energy saving

- Integrated power saving circuit minimize power and temp rise.
 - LVM11, 1 watt: Coil temp rise 40°C or less
 - LVM 11R, 12R, 13R, 14R, 112, 115, 1.5 watt: Coil temp rise 45°C or less

Variation



Specifications

Model	Body ported type	Tubing type			Base mounted type (O-ring seal)		
	LVM11	LVM11R	LVM12R	LVM112	LVM13R	LVM14R	LVM115
Valve construction	Diaphragm type direct operated poppet	Diaphragm type direct operated poppet (Rocker type)					
Valve type	N.C.	N.C.	N.O.	COM.	N.C.	N.O.	COM.
Number of ports	2	2		3	2		3
Fluid <small>Note 1)</small>	Air, Water, Pure water, Diluent, Cleaning solvent						
Operating pressure range	0 to 0.25MPa	200 Torr to 0.25MPa					
Orifice diameter	1.5mm	1.4mm					
Flow characteristics (Cv)	0.04	0.03					
Response time	10msec or less						
Leakage	Zero leakage, either external or internal (at hydraulic pressure)						
Proof pressure	0.38MPa						
Ambient temperature	0 to 50°C						
Fluid temperature <small>Note 2)</small>	1 to 50°C (with no condensation)						
Volume of valve chamber	11 μ /	20 μ /		19 μ /	20 μ /		19 μ /
Mounting orientation <small>Note 3)</small>	Free						
Enclosure	Equivalent to IP40						
Weight	30g					32g	
Rated voltage	12, 24VDC						
Allowable voltage fluctuation <small>Note 4)</small>	$\pm 10\%$ of rated voltage <small>Note 3)</small>						
Type of coil insulation	Class B						
Power consumption	2.5W at inrush, 1W at holding (with built-in power saving circuit)			1.5W			
Coil switching noise <small>Note 4)</small>	50dB						

Note 1) Select an appropriate material for the wetted part when fluid such as a cleaning solvent is used. Also, be sure to confirm the fluid compatibility in advance.
 Note 2) Indicates the volume of clearance inside the valve chamber after the volume of the diaphragm is subtracted.
 Note 3) Since the body (orifice shape) is designed to eliminate residual liquid, mounting in a vertical direction with the coil at the top is recommended.
 Note 4) When the response speed is regarded as important, prevent negative fluctuation of the voltage by adequate regulation.
 Note 5) The value is based on SMC's measurement conditions. The noise level will vary with conditions.

How to Order

Special Options

Valve

Symbol	NO. of port	Actuation	Port
11	2 port	N.C.	M5 thread
11R			Inserting tubing
12R	3 port	N.O.	COM.
112			

Option

-	None
1	Bracket
2	Manual override <small>Note)</small>
3	Bracket, Manual override <small>Note)</small>

Note) "2" and "3" are not available for LVM11.

Body ported LVM 11 — 5 — A — 1

Base mounted LVM 115 — 6 — A — 2

- Sub bases

– M6 x 1.0

– 1/4 –28

(PFA and PVDF)

- Locating pin for base mounted "R" type

- High pressure 0.6MPa

Valve

Symbol	No. of port	Actuation
13R	2 port	N.C.
14R		N.O.
115	3 port	COM.

Coil voltage

5	24VDC
6	12VDC
S <small>Note)</small>	5VDC

Note) Optional

Body/Seal material

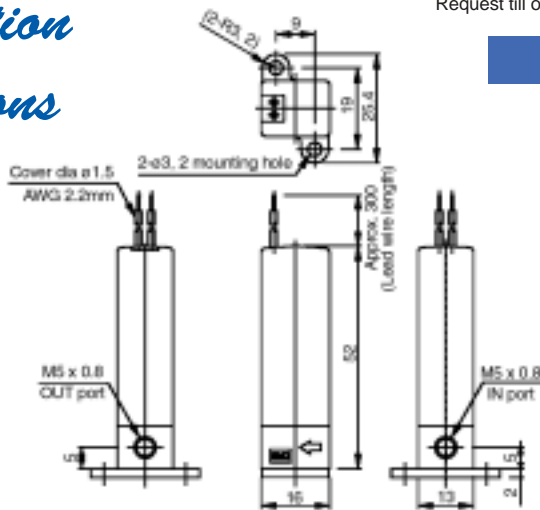
Symbol	Body	Seal
A	PEEK	EPDM
B	PEEK	FKM
C <small>Note)</small>	PEEK	FFKM

Note) Available as Special Order Request till official release

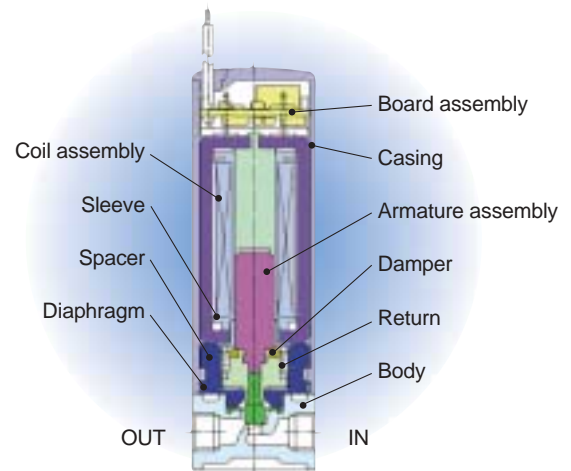
Option

-	None
2	Manual override

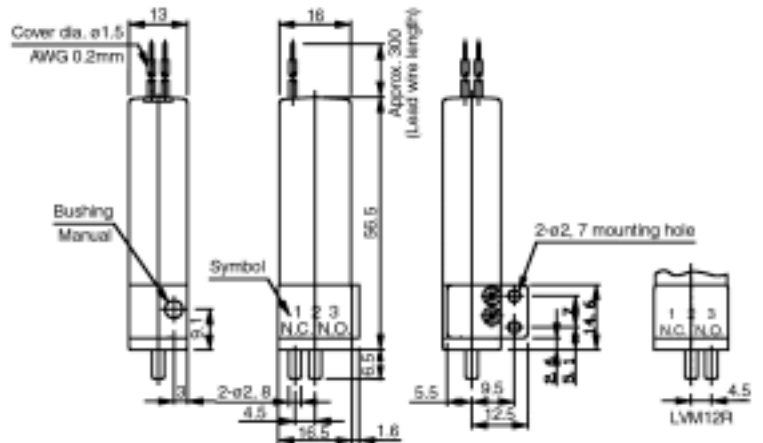
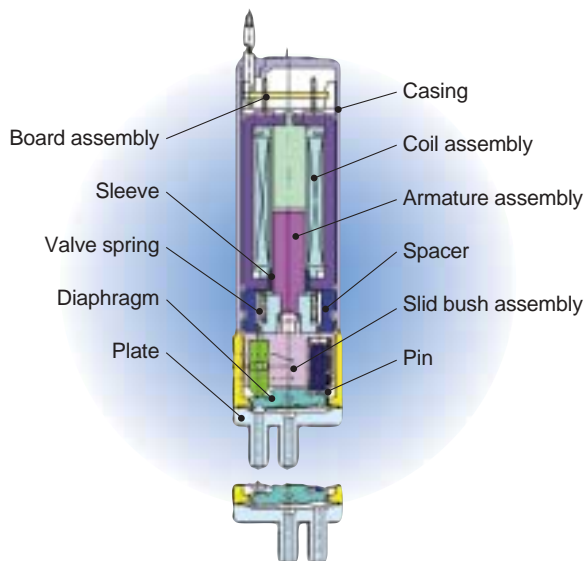
Construction & Dimensions



LVM11 2 port (Body ported type)

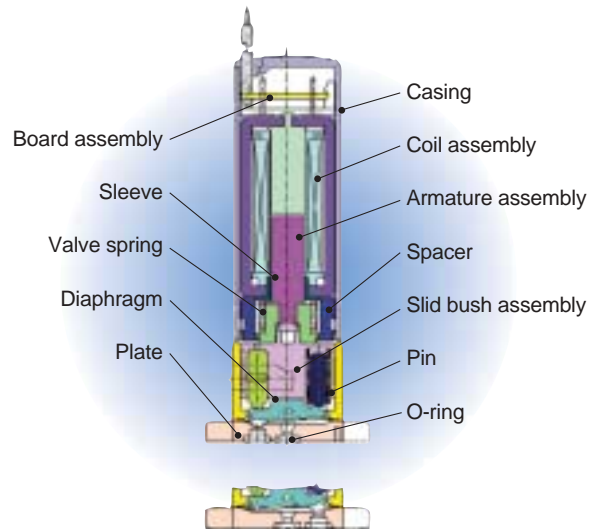
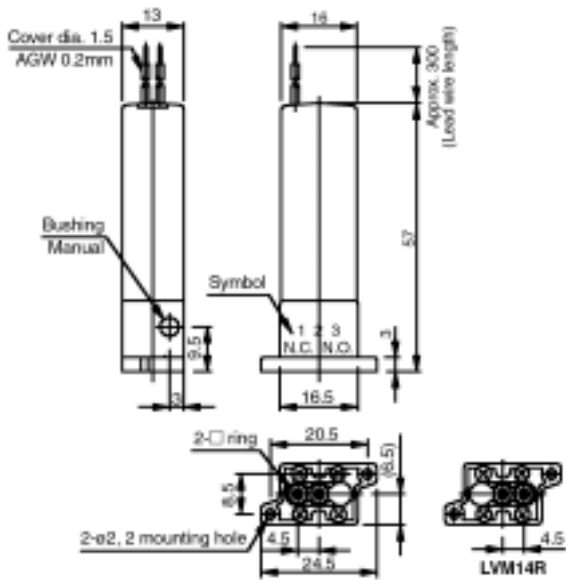


LVM11R, 12R 2 port (Tubing type)

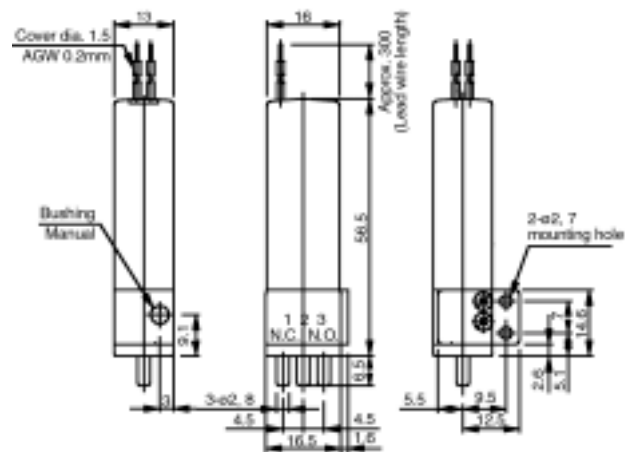
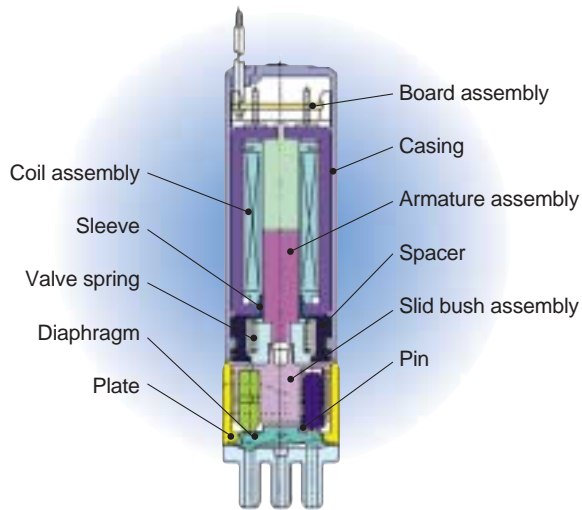


Construction & Dimensions

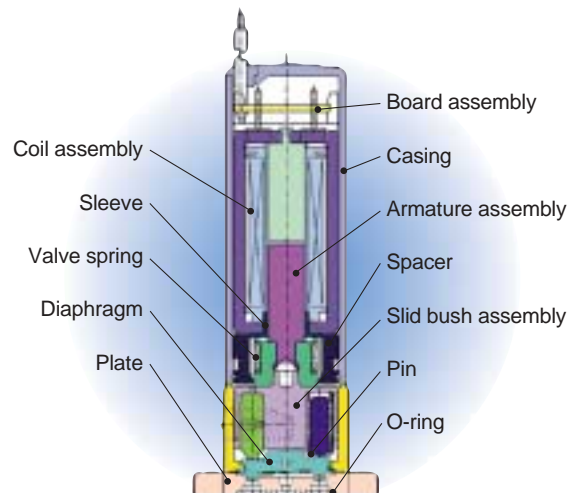
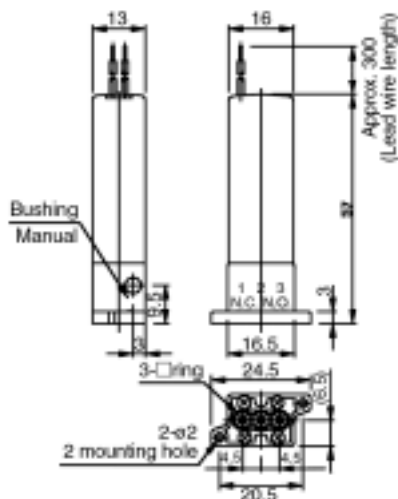
LVM13R, 14R 2 port (Base mounted type)



LVM112 3 port (Tubing type)



LVM115 3 port (Base mounted type)



SMC Products for Medical Equipment

Liquid Valves

Series LVM 20/200



Isolation Liquid 2/3 Port Valve

- Liquids and gases compatible with wetted materials
- Body material : PEEK
- Diaphragm : EPDM, FKM

Series LVM075



Series LVE

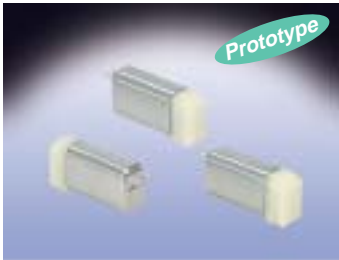


Isolation Liquid 2/3 Port Valve

- Liquids and gases compatible with wetted materials
- Body material : New PFA
- Diaphragm : PTFE

Air Pilot Valves

S070 Ultra Compact Valve V060



3 Port Solenoid Valve

- 7mm width



Series SY100



3 Port Solenoid Valve

- Low power consumption
- Exceedingly long life
- Vacuum applications possible

Series VQ100



3 Port Solenoid Valve

- Compact with large flow capacity
- High speed, stable response
- A wide variation of wiring

Other Products

Series PVQ



Proportional Valve

- Compatible with air, water

Composing Manifolds



Electric Gripper



Series ISE/ZSE



Digital Pressure Switch

- 2 Color Display
- Positive/Vacuum Pressure



Series IDG/ID

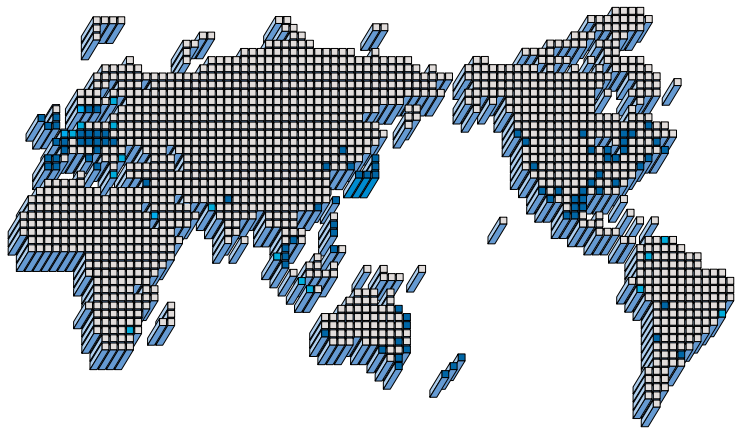


Membrane Air Dryer Heatless Air Dryer

- Space saving
- Compact and light weight without heater and electric control board.



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