Compact Direct Operated 2/3 Port Solenoid Valve for Chemicals

Series LVM09/090

How to Order

Base Mounted **LVM** **09R3** □ – **5** **A** – □ – □

Symbol

Symbol	Number of ports	Valve type	
09R3	2	N.C.	IN (Symbol 1) OUT (Symbol 2)
09R4	2	N.O.	IN (Symbol 3) OUT (Symbol 2)
095R	3	Universal	1 3 2

Function

Nil	Standard
Y1	With power-saving circuit

Coil voltage

Symbol	Voltage
5	24 VDC
6	12 VDC

Wetted part material

Symbol	Plate	Diaphragm
A	PEEK	EPDM
B	PEEK	FKM
C	PEEK	Kalrez®

Lead wire length

Nil	150 mm
3	300 mm
6	600 mm

∗ Nil cannot be selected in the case of function Y1.

CE compliant

Nil	None
Q	CE compliant

Specifications

Model			Base mounted		
			LVM09R3	LVM09R4	LVM095R
Valve construction			Diaphragm type direct operated poppet (Rocker type)		
Valve type			N.C.	N.O.	Universal
Number of ports			2		3
Fluid Note 1)			Air, Water, Pure water, Diluent, Cleaning solvent		
Operating pressure range			–75 kPa to 0.2 MPa		
Orifice diameter			1.1 mm		
Response time			10 ms or less (at pneumatic pressure)		
Leakage			Zero leakage, either external or internal (at water pressure)		
Proof pressure Note 2)			0.3 MPa		
Ambient temperature			0 to 50°C		
Fluid temperature			0 to 50°C (with no condensation)		
Volume of valve chamber Note 3)			18 μℓ		
Mounting orientation Note 4)			Free		
Enclosure			IP40 or equivalent		
Weight			20 g		
Rated voltage			12, 24 VDC		
Allowable voltage fluctuation Note 5)			±10% of rated voltage		
Type of coil insulation			Class B		
Power consumption (When rated voltage is at 24 V)	Standard		2 W (0.08 A)		
	With power-saving circuit	Inrush	3.3 W (0.14 A)		
		Holding	0.9 W		
Coil switching noise Note 6)			50 dB		

Flow Characteristics

Water		Air	
Av	Cv	C	b
0.43 x 10^{-6}	0.018	0.06	0.2

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

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 pressure which does not generate breakage, cracks or external leakage after a one-minute airtight test.
Note 3) Indicates the volume of clearance inside the valve chamber after the volume of the diaphragm is subtracted.
Note 4) Since the body (orifice shape) is designed to eliminate residual liquid, mounting in a vertical direction with the coil at the top is recommended. When residual liquid is not considered, any mounting orientation is available.
Note 5) When the response speed is regarded as important, prevent negative fluctuation of the voltage by adequate regulation.
Note 6) The value is based on SMC's measurement conditions. The noise level will vary with conditions.
Note 7) Refer to 10 in "Design and Selection" on the back of page 2, if the valve is to be energized continuously for extended periods of time.