

# 4 Port Direct Operated Poppet Solenoid Valve

# Series VQD1000

## How to Order

VQD11 5 1 □ — 5 L — □

### Body

2	Body ported (Single unit)
3	Body ported (Manifold)
5	Base mounted

### Sub-plate port size

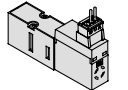
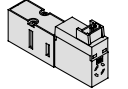
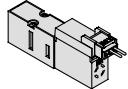
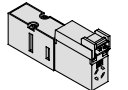
Body ported	M5	M5 thread
Base mounted	—	Without sub-plate (Manifold)
	M5	M5 thread

### Valve option

—	Standard (2W)
V	Vacuum (2W)
U <sup>(1)</sup>	Large flow (4W)
W <sup>(1)</sup>	Large flow, Vacuum (4W)

Note 1) Power saver type

### Electrical entry

<b>L:</b> Plug lead L plug connector, With lead wire and light and surge suppressor	
<b>LO:</b> Plug lead L plug connector, Without lead wire and light and surge suppressor	
<b>M:</b> Plug lead M plug connector, With lead wire and light and surge suppressor	
<b>MO:</b> Plug lead M plug connector, Without lead wire and light and surge suppressor	

### Rated voltage

5	24V DC
6	12V DC

Note) Consult SMC for other voltages.



L plug connector  
Base mounted



L plug connector  
Body ported

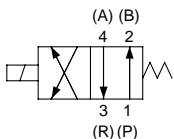


M plug connector  
Base mounted



M plug connector  
Body ported

### JIS Symbol



## Standard Specifications

Item	Model	Standard (2W)		Large flow capacity (4W, Power Saver)		
Valve specifications	<b>Valve structure</b>		4 port direct operated poppet valve			
	<b>Fluid</b>		Air, Inert gas			
	<b>Max. operating pressure</b>		0.7MPa			
	<b>Min. operating pressure/Vacuum</b>		0MPa/−100kPa			
	<b>Effective area (Cv)</b>		0.9mm <sup>2</sup> (Cv0.05)	1.5mm <sup>2</sup> (Cv0.08)		
	<b>Response time<sup>(1)</sup></b>		ON: 4ms, OFF: 2ms			
	<b>Ambient and fluid temperature</b>		−10 to 50°C <sup>(2)</sup>			
	<b>Lubrication</b>		Not required			
	<b>Manual override</b>		Non-locking push style			
	<b>Shock/Vibration resistance</b>		150/30m/s <sup>2</sup> <sup>(3)</sup>			
	<b>Mounting orientation</b>		Free			
Solenoid specifications	<b>Enclosure</b>		Dust proof			
	<b>Weight</b>		34g (Without sub-plate)			
	<b>Coil rated voltage</b>	DC	24V, 12V			
	<b>Allowable voltage</b>		±10% of rated voltage			
	<b>Type of coil insulation</b>		Class B or equivalent			
	<b>Power consumption</b>	DC	2W	4W (Power saving) (Inrush: 4W, Holding: 2W)		
<b>Electrical entry</b>		L plug connector, M plug connector (With light and surge voltage suppressor)				

Note 1) According to JISB8375-1981. Factor: With light and surge suppressor (Subject to clean air). Dispersion accuracy: ±1ms

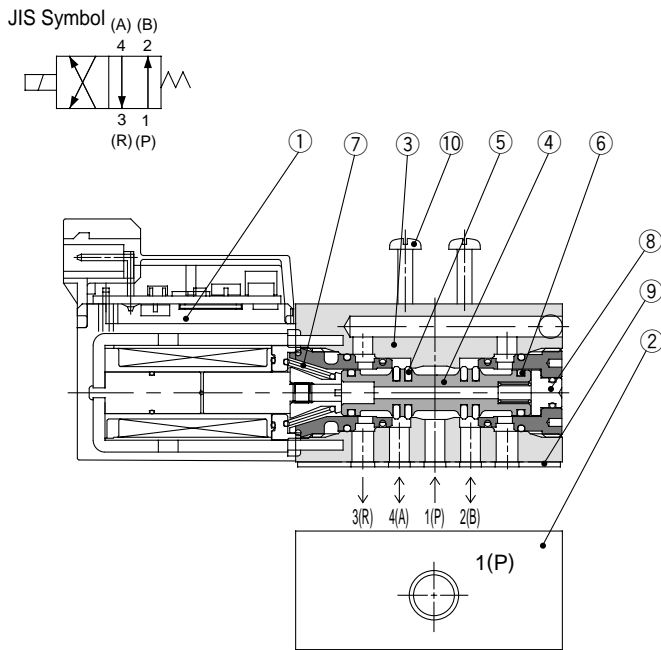
Note 2) Operating the valve at low temperatures may cause condensate to form, therefore dry air must be used.

Note 3) Shock resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle direction of the main valve and armature, for both energized and de-energized states.

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz.

Test was performed at both energized and de-energized states to the axis and right angle direction of the main valve and armature. (Value in the initial stage.)

## Construction



## Component Parts

No.	Part name	Material	Note
①	Solenoid coil assembly	—	
②	Sub-plate	Aluminum	VQD1000-S-M5(Base mounted only)
③	Body	ZDC	
④	Spool valve	Aluminum	
⑤	Poppet	NBR	
⑥	Guide ring	Resin	
⑦	Return spring	Stainless steel	
⑧	Manual override	Aluminum	
⑨	Gasket	NBR	VQD1000-9-1
⑩	Round head screw	Steel	AXT632-7-13(M1.7 X 18)

Note) Body cannot be disassembled.

SY

SYJ

SX

VK

VZ

VF

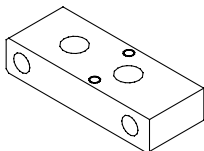
VFR

VP7

VP4

## Valve Single Unit Option

Piping plate assembly  
VQD1000-20A



Manifold style (VQD1131) can be changed to single unit style (VQD1121) by mounting plate assembly.

Note) Plate should be mounted with manifold mounting screws (M1.7 X 20).  
Tightening torque: 0.18 to 0.25Nm

VQ

VQ4

VQZ

**VQD**

VZS

VFS

VS

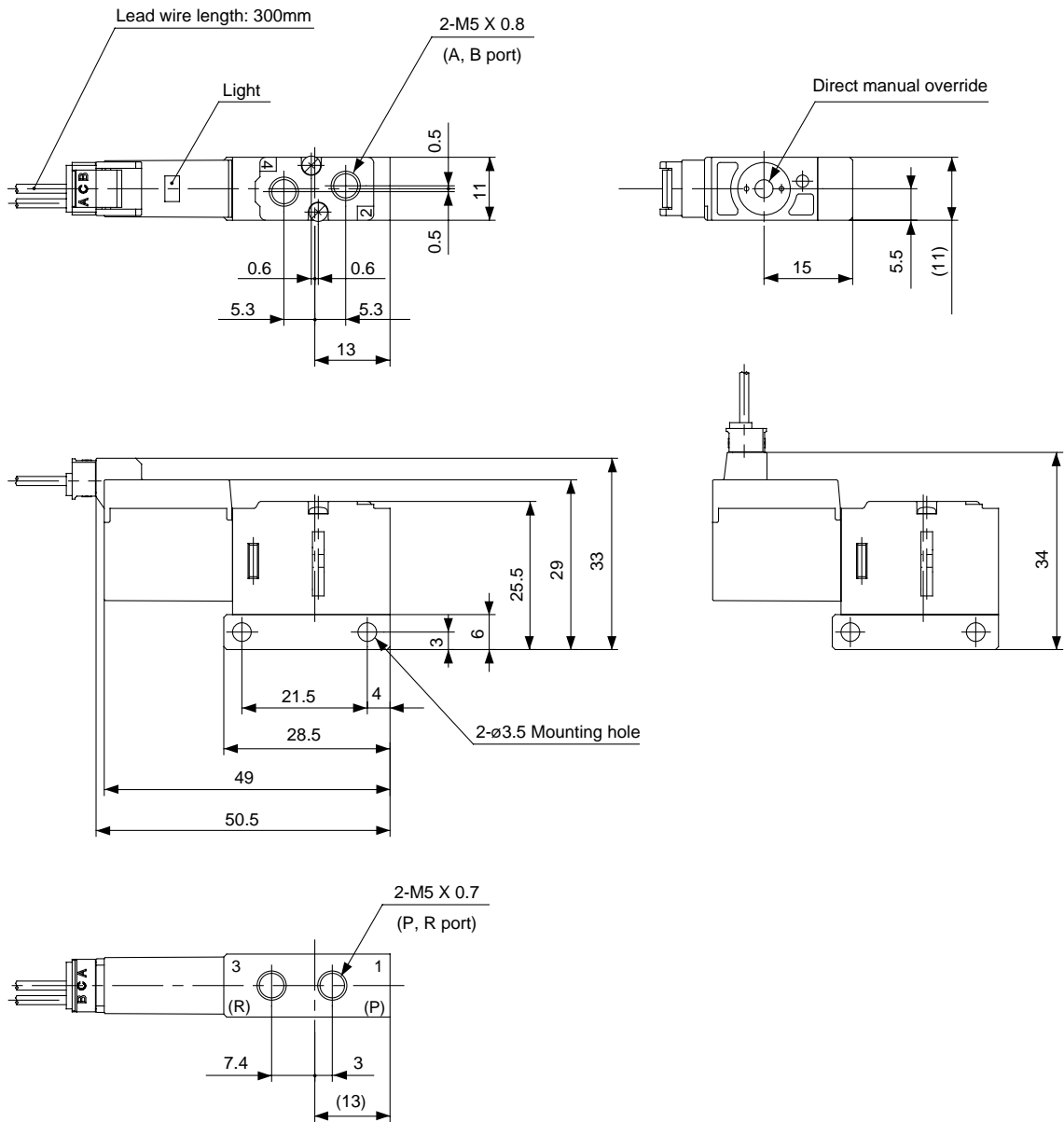
VS7

# Series VQD1000

## Dimensions

L plug connector: VQD1121□-□L-M5

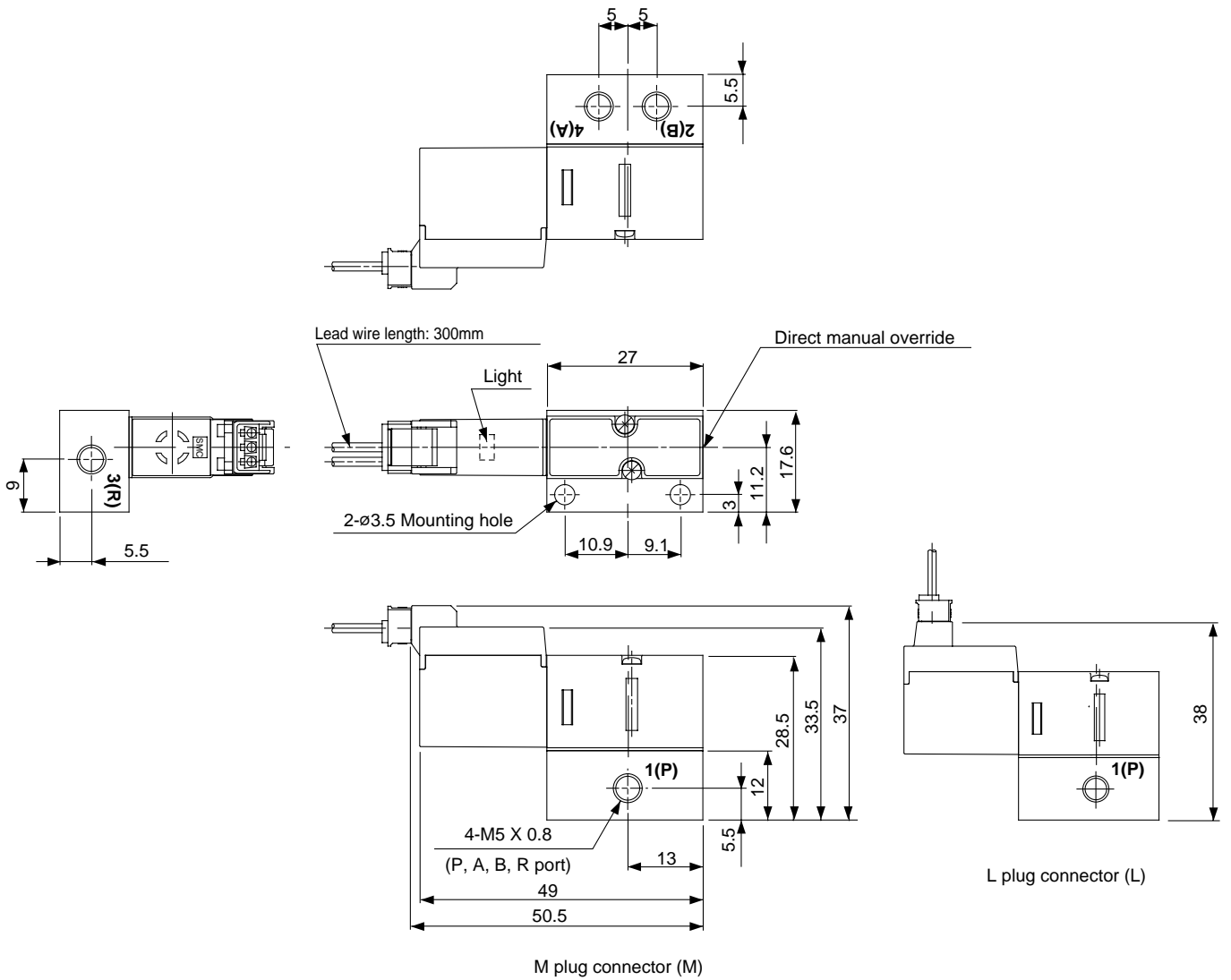
M plug connector: VQD1121□-□M-M5



## Dimenisons

L plug connector: VQD1151□-□L-M5

M plug connector: VQD1151□-□M-M5



- SY
- SYJ
- SX
- VK
- VZ
- VF
- VFR
- VP7
- VP4

- VQ
- VQ4
- VQZ
- VQD**
- VZS
- VFS
- VS
- VS7