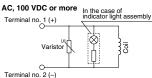
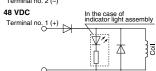


Light/Surge Voltage Suppressor





Electrical Connection

Terminal no. 2 (-)

In the case of DIN terminal and terminal (with light/surge voltage suppressor), the connection is as follows. Connect each to the power supply side.

With DIN terminal With terminal block block

Ground

Terminal no.	1	2
DIN terminal	+	_
Terminal	+	-

How to Change Passage State

NC 0

Ö







N.O External pilot When changing the passage state, confirm that pressure has been removed from the

Unscrew the M4 x 0.7 hexagon socket head cap screw in the changeover plate and match the ◀ mark on the adapter plate with the character on the changeover plate. Piping is as follows.

Mounting Screw Tightening Torques

M4: 1.4 N·m

Piping

valve.

Passage Port	Р	Α	R		
N.C.	Inlet	Outlet	Exhaust side (Plug, in case of 2 port valve)		
N.O.	Exhaust side (Plug, in case of 2 port valve)	Outlet	Inlet		
External	Universal porting (Pining of inlet pressure side is possible anywhere)				

Note 1) In the case of internal pilot, confirm that a plug is inserted to X port. If not, insert a R 1/8 plug.

Note 2) In the case of external pilot, supply air pressure from X port.

Confirm the safety sufficiently and conduct carefully when changing the passage state or restarting after changes.

Specifications

Type of act	uation	In common between N.C. and N.O.		
Operation		Internal pilot type External pilot type		
Operating pressure range		0.2 to 0.9 MPa	-101.2 kPa to 0.9 MPa	
External pilot	Operating pressure -101.2 kPa to 0.2 MPa		0.2 MPa	
pressure	Operating pressure 0.2 to 0.9 MPa	_	Equivalent operating pressure	
Response	time (1)	30 ms or less (at the pressure of 0.5 MPa)		
Max. opera	ting frequency	5 c/s (Min. operating frequency: 1 c/30 days based on JIS B 8374-1		
Ambient ar	nt and fluid temperature -10 to 50°C (No freezing)		°C (No freezing)	
Lubrication		Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)		
Manual ove	Manual override Push type (Non-locking)			
Mounting of	rientation	Unrestricted		
Impact/Vibr	ration resistance (m/s²) (2)	n/s²) (2) 150/50		
Weight		1.1 kg *		

For grommet type

Note 1) Based on dynamic performance test JIS B 8374-1981. (Coil temperature 20°C, at rated voltage, without surge voltage suppressor)

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 1000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Flow Characteristics

		Flow characteristics										
Port size	1 →	2 (P -	A)	2	3 (A -	→ R)	2 →	1 (A -	→ P)	3 →	2 (R -	A)
	C [dm ² /(s-bar)]	b	Cv	C [dm ⁵ /(s-bar)]	b	Cv	C [dm³/(sbar)]	b	Cv	C [dm ² /(s-bar)]	b	Cv
1/2	26	0.38	7.0	27	0.37	7.4	27	0.36	7.3	25	0.37	6.8
3/4	38	0.30	9.8	38	0.32	9.8	40	0.22	9.8	40	0.20	9.6

Port size	Effective area (mm²)				
Port size	$1 \rightarrow 2 (P \rightarrow A)$	$2 \rightarrow 3 (A \rightarrow R)$			
1	210	235			

Pilot Valve Assembly Specifications

Electrical entry			Grommet (G), Grommet terminal (E), Conduit terminal (T), DIN terminal (D)
Lead wire color			100 VAC: Blue, 200 VAC: Red, 24 VDC: Red/Black
Enclosure			Dusttight
Coil rated voltage (V)	AC (50/60 Hz)	100, 200, 110*, 220*, 240*
Con rated voltage (v)		DC	24, 12*
Allowable voltage fluctuation			-15 to +10% of rated voltage
Apparent power VA (Hz)	AC	Inrush	12.7 (50), 10.7 (60)
Apparent power vA (Hz)		Holding	7.6 (50), 5.4 (60)
Power consumption Note)		DC	4.8 W, 5 W (With indicator light)

Semi-standard

Valve Options

Energy-saving type: VG342 -- CQ)

Use "Energy-saving type" if low power consumption is required for electronic control.

Specifications different from standard are as follows.

Power consumption 2 W DC, 2.2 W (With indicator light)

Continuous duty type: VG342 -- -- -- (-Q)

Use "Continuous duty type" if energizing the valve for a long time.

Specifications different from standard are as follows.

Apparent power VA (Hz) Note)	AC Inrush Holding	Inrush	7.9 (50), 6.2 (60)	
Apparent power vA (nz)		Holding	5.8 (50), 3.5 (60)	
Power consumption Note)	DC		2 W, 2.2 W (With indicator light)	

Note) At rated voltage

DIN Connector part number

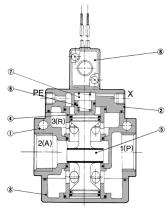
Standard	B1BO9-2A	
CE-compliant	GM209NJ-B17	



Note) At rated voltage

3 Port Solenoid Valve Pilot Operated Poppet Type Series VG342

Construction





Component Parts

Description	Material	Note	
Body			
Adapter plate	Aluminum alloy	Color: Platinum silver	
End plate			
Retainer	Brass		
Poppet valve	Aluminum alloy/NBR		
Piston	Resin		
Spring	Stainless steel		
	Body Adapter plate End plate Retainer Poppet valve Piston	Body Adapter plate End plate Retainer Poppet valve Aluminum alloy Brass Poppet valve Aluminum alloy/NBR Piston Resin	

Component Parts

No.	Description	Material	Part no.
(8)	Pilot valve assembly	_	VO307□-□□□-X84(-Q)*

* For "How to Order Pilot Valve Assembly", refer to page 1863.

△ Caution

⚠ Precautions

Be sure to read before handling.

Refer to front matter 53 for Safety Instructions and pages 3 to 8 for 3/4/5 Port Solenoid Valve Precautions.

Precautions

- 1. Since PE port is the exhaust port of the pilot valve, do not attach a plug or reduce the port diameter.
- 2. X port is the pressure supply port of the pilot valve and PE port is the exhaust port of the pilot valve. Avoid mismatching when piping.
- 3. The manual portion contains a breather hole for the core. Take proper measures to prevent dust or foreign matter from accumulating in this area.

Continuous Duty

If energizing the valve for a long time, use "VG342□-□□□-□□□-E" (Pilot valve assembly: "VO307E-UUU-X84").

- 1. This model is for continuous duty, not for high cycle rates. But even in low cycle rates, if energizing the valve more than once a day, please consult with SMC.
- 2. Make sure to cycle valve at least once every 30 days.

How to Calculate the Flow Rate

For obtaining the flow rate, refer to front matters 42 to 45.

How to Use DIN Terminal

1. Disassembly

- 1) After loosening the screw ①, then if the housing ② is pulled in the direction of the screw, the connector will be removed from the body of equipment (solenoid, etc.).
- Pull the screw ① out of the housing ②.
- 3) On the bottom part of the terminal block 3, there's a cut-off part 9. If a small flat head screwdriver is inserted between the opening in the bottom, terminal block (3) will be removed from the cover ②. (Refer to Figure ①.)
- 4) Remove the cable gland 4 and plain washer (5) and rubber seal (6).

2. Wiring

- 1) Pass them through the cable 7 in the order of cable ground 4, washer 5, rubber seal 6, and then insert into the housing (2).
- 2) From the terminal block 3, loosen the screw 11, then pass the lead wire 10 through, then again tighten the screw

Note 1) Tighten within the tightening torque of 0.5 N·m ±15%.

Note 2) Cable 7 outside diameter: ø6 to ø8 mm

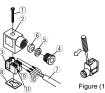
3. Assembly

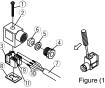
1) Passing through the cable ①, the cable gland 4, plain washer 5, and

- rubber seal 6, housing 2 in this order, and then connect with the terminal block 3. After that, set the terminal block 3 on the housing 2 (Push it down until you hear the click sound.)
- 2) Putting rubber seal 6, plain washer 5, in this order into the cable introducing slit on the housing 2, then further tighten the cable gland 4 securely.
- 3) Insert the gasket ® or between the bottom part of terminal block 3 and a plug attached to equipment, and then screw 1 in from the top of the housing 2 to tighten it.

Note 1) Tighten within the tightening torque of 0.5 N·m ±20%.

Note 2) Connector orientation can be changed by 180 degrees depending on how to assemble the housing 2 and the terminal block 3.







SYJ

VOZ

۷P

VG

VP3

Series VG342

Dimensions

